

Summary Minutes
Meeting of Board of Directors

September 9, 2015

A meeting of the Board of Directors RSAPOA was held on September 9st at the home of Mike and Wendy Magras.

The meeting called to order at 6:10PM Mountain Standard Time.

1. Roll Call

Directors Present:

Wendy Magras (President)
Jerry Hain (Member at Large)
James Lyne (vice-president) (By phone)

Property Owners Present:

Glen and Melody Ballard (116B)
Don DeBelle (169)
Rifka & Carter Boswell (163)
Mike Magras (170)
Holly Smith (174) (By Phone)
Kenneth Spaulding (130B & 142)
Alan & Teresa Williams (126E & 130J)

Directors Absent: None

Others Present:

Dan White (PRE)
Howie Hibbs (ADAM LLC).

2. Welcome and call to audience for comments and presentations.

Don DeBelle read a document he prepared and requested the document be included in the minutes. Don DeBelle also read a letter from Harry Witman (123) and requested the letter be also included in the minutes.

3. Appointment of Replacement Directors

Four property owners volunteered to fill the two vacancies. Volunteers are:

Ken Spaulding
Glen Ballard
Holly Smith
Alan Williams

Motion made by Wendy MAGRAS and seconded by Jerry Hain to appoint Glen Ballard and Ken Spaulding to the Board of Directors. Approved by all.

4. Treasurer's Report

Treasurer's Report presented by Howie Hibbs. Copy of the report attached. Motion made by Wendy Magras and seconded by Jerry Hain to approve the Treasurers Report. Approved by all.

5. Common Area Committee

Dan White, PRE provided an update on the proposed hanger project. Wendy also advised that the Gomez exchange was in the final stages and would close escrow on Friday, September 11, 2015.

6. Approval of August 5, 2015 Meeting Minutes

Motion by Wendy Magras and seconded by Jerry Hain to approve the minutes as written. Approved by all.

7. 2014 Taxes

Motion made and seconded to ask the ADAM the accountant to prepare the 2014 taxes before the 9/15/2015 deadline. Approved by all.

8. Annual Assessments

Motion made by Wendy Magras and seconded by Glen Ballard to change RSPOA assessments from \$1,000 due annually to \$250 due quarterly effective January 1, 2016. Approved by all.

9. Late Fees

Motion made by Wendy Magras and seconded by James Lyne to set Late Fees for delinquent accounts at 10% of Quarterly Assessments (\$25.00) for assessment not received within 30 days of due date. Approved by all.

10. Notification of Delinquent Accounts

Motion made by Wendy Magras and seconded by Glen Ballard to establish the following delinquency policy: send a Friendly Reminder letter to property owners who are more than 30 days delinquent, send a Second Late Notice when the account becomes 60 days delinquent and send a Final Warning at 90 days. Accounts not brought current within 10 days of the Final Notice will be referred to Small Claims Court at the expense of the property owner. Approved by all.

11. To-Do List Review

The Board reviewed all items on To-Do List. Three items marked complete.

12. Status of Mine Issues and Plans

Mike Magras presented information regarding odors and light emissions from the mine. He also provided information regarding the proposed mine expansion. The mine has agreed to work the RSPOA side of the pile only in the daylight hours in an effort to reduce light pollution.

13. Road Maintenance

The Board will continue to look to find ways to maintain the roads in an affordable manner.

14. Landscaping

Association will use of RSPOA owned equipment to mow down the weeds along roadways, taxiways and the runway. Currently a rented Brush Hog is being used to mow weeds.

15. L3 Trespassing

The Board discussed the recent trespassing by L3 Mission Integration on RSPOA property to conduct testing. Wendy presented letter from L3 and her reply. Copies of the letters attached.

16. RSAPOA Main Gate

Glen discussed with Mike Mikels about having calls come to him rather than Barry. Since Mike is regularly on the airpark, he can more easily verify who people are when they come to the gate. Gate code will not be given out unless it is pre-arranged or there are "eyes" on the visitor.

17. Elections

Jerry Hain agreed to serve as the board member on the nominating committee

18. Adjournment

Wendy Magras adjourned the meeting at 8:48 PM.

19. Next Meeting

The next meeting of the Board is scheduled for Saturday, October 15th at 6PM at the home of Mike and Wendy Magras.

APPROVED

To: RSAHOA board

From: Don DeBelle

September 9, 2015

On or about August 10, 2015 I met with Mike in his home and requested to be placed on the next board meeting agenda in lieu of e-mailing such request. Mike advised that he couldn't guarantee such would happen inferring that he never discusses board business with Wendy. I gave Mike a written note to give to Wendy to request to be on the next board meeting agenda referring to a \$4,200 study and the need for Adam. I'm obviously not on the agenda.

ADAM: The board hired a non stakeholder third party to carry out its **elected responsibilities** at a monthly cost of around \$300 several months ago without agenda or board notice or without majority ballot consent of all property owners at RSA. Other than boiler plate minute production format and suggestion that we not contract for weed abatement at an outrageous price, this is what we got for the money. I say if we can afford this specious cost we dump ADAM and reduce the annual tribute \$300. I understand Adam will relieve the board for higher intellectual pursuit. I think it's foolish to let a stranger handle Association money. Would you let a third party pay your bills, etc.?

NEXT: The board has apparently approved a \$4,200 study for a report to the Board of Supervisors to develop tie down and covered hangars without front money deposits from anticipated users. Even if we built the most elegant storage facilities no one in their right mind would park an expensive aircraft with **no security** and a real estate agent that approves 4 wheelers to run amok in the airpark and the specter of more outsiders dumping trash at Harry Whitman's secluded two parcel site. On August 6, 2015 Harry sent me a letter referring to third party management as sounding like a scam and announced he would not pay this year's dues. I'm attaching a copy of Harry's recent letter.

NEXT: I understand an escrow is in process regarding property owned by the board, not the HOA?, and a private party. Is it even steven? Someone recently said neither property has been appraised by an independent appraiser. By the way, I heard that our local Supervisor recently suggested that the board might want to pursue a united message to the County Assessor to reflect the steep overall decline in all property values at the RSA. Is the board equipped to commit to this task or will they try to pay Adam for this correlation process? Not a good idea since I wouldn't give Adam the time of day, let alone personal information.

PROPERTY PARCEL SALES: I believe the board should clearly identify the location in reference to built out lots of all parcels owned by the POA. I request the asking price for each lot be posted in the next board meeting. I believe the board should notice all RSA owners of any property where the board carries back a mortgage or receives full price from a buyer. I heard that one of the board members was a mortgagee to the board? How much did the parcel go for? What was the down payment amount, Interest rate, if any, and term of the mortgage? If so, then this is equivalent to me receiving a mortgage from a bank and holding a seat on the bank's governing board. A never happen conflict. The board doesn't own parcels for sale, we

do! Funds received from the sale of parcels should be used with the advice and consent of property owners

IN CLOSING: I'm not willing to see my annual tribute pooped away by a runaway board. I'm not suggesting we use our limited funds for a local attorney opinion on the questions I raise. If an opinion is solicited we can perhaps get a free opinion from the Arizona Attorney General Office. I hope we can live within our means and reduce Annual Dues. Lastly your last email to "all" stated that any **special assessment** would require a majority vote from the property owners. Why would RSA property owners safely assume they would be consulted about a special assessment when the idea of hiring a property management corp. wasn't even mentioned in agenda or Board minutes until the deed was done? Thanks for listening to me.

By the way, please include my above comments in the minutes of this board meeting. If they are not included please explain in detail why not.

TO RubyStar Airpark

The purpose of this letter is to inform the association & Residents how I feel about the management of the airpark. I made a move to Texas instead of the airpark, the values are less than raw land in the desert.

I was going to pay association dues but I talked to several people & decided to reconsider payment. Why throw away good money on a bad investment, the association is broken. The property owners should get to vote on expenditures other than routine ~~maintenence~~ maintenance. I refuse to pay a hired manager, sounds like a scam. also I want paper minutes & all other business, cannot monitor computers, also want a annual financial statement on paper.

My phone # 520-604-0484

mailing address PO Box 672 @ Burnet Tex. 78611. Put me on mailing list

Thank you Harry Witman

I will contact other vacant property owners

Ruby Star Airpark Property Owners Assoc.

Balance Sheet
As of 09/30/15

ASSETS

Chase Operatin Old Bank	\$ 13,430.08	
Chase Reserve Old Bank	14,692.49	
Alliance Bank - Operating	31,958.99	
	<hr/>	
TOTAL ASSETS		\$ 60,081.56
		=====

LIABILITIES & EQUITY

CURRENT LIABILITIES:

Subtotal Current Liab.	<hr/>	\$.00
------------------------	-------	--------

RESERVES:

Subtotal Reserves	<hr/>	\$.00
-------------------	-------	--------

EQUITY:

Retained Earnings Oper	\$ 80,769.44	
Current Year Net Income/(Loss)	(20,687.88)	
	<hr/>	
Subtotal Equity		\$ 60,081.56
TOTAL LIABILITIES & EQUITY		\$ 60,081.56
		=====

Ruby Star Airpark Property Owners Assoc.

Income/Expense Statement
Period: 09/01/15 to 09/30/15

Account	Description	Current Period			Year-To-Date			Yearly Budget
		Actual	Budget	Variance	Actual	Budget	Variance	
INCOME:								
03010	Owner Assessments	.00	.00	.00	29,293.70	65,141.00	(35,847.30)	65,141.00
03015	Prepaid Assessmt	.00	.00	.00	126.56	.00	126.56	.00
03026	Runway Use	.00	83.33	(83.33)	200.00	749.97	(549.97)	1,000.00
03027	Donation	.00	20.83	(20.83)	250.00	187.47	62.53	250.00
03028	Backhoe Rental	.00	83.33	(83.33)	253.20	749.97	(496.77)	1,000.00
03050	Tie Down Income	.00	83.33	(83.33)	.00	749.97	(749.97)	1,000.00
03180	Interest Earned - Operating	4.15	.00	4.15	16.70	.00	16.70	.00
03230	Interest Earned - Reserve	.00	.00	.00	2.38	.00	2.38	.00
	TOTAL INCOME	4.15	270.82	(266.67)	30,142.54	67,578.38	(37,435.84)	68,391.00
EXPENSES								
FIXED EXPENSES								
04010	Property Tax	.00	333.33	333.33	.00	2,999.97	2,999.97	4,000.00
04015	ACC Reporting	.00	.83	.83	.00	7.47	7.47	10.00
04020	Income Taxes - State/Federal	.00	4.17	4.17	.00	37.53	37.53	50.00
	TOTAL FIXED EXPENSES	.00	338.33	338.33	.00	3,044.97	3,044.97	4,060.00
UTILITIES								
04110	Fuel, labor	170.24	41.67	(128.57)	301.36	375.03	73.67	500.00
04120	Parts Tires Misc	.00	166.67	166.67	.00	1,500.03	1,500.03	2,000.00
	TOTAL UTILITIES	170.24	208.34	38.10	301.36	1,875.06	1,573.70	2,500.00
OPERATING EXPENSES								
04201	Huey/Loan Interest expence	9,000.00	9,000.00	.00	9,000.00	9,000.00	.00	9,000.00
04202	Huey/Loan Debt	6,192.00	6,192.00	.00	6,192.00	6,192.00	.00	6,192.00
04203	Special Events Fly-In	.00	16.67	16.67	.00	150.03	150.03	200.00
04204	Advertising	.00	83.33	83.33	.00	749.97	749.97	1,000.00
04220	Trash Service	.00	250.00	250.00	520.53	2,250.00	1,729.47	3,000.00
	TOTAL OPERATING EXPENSES	15,192.00	15,542.00	350.00	15,712.53	18,342.00	2,629.47	19,392.00
GENERAL REPAIR & MAINT								
04302	General Maintenance	.00	.00	.00	1,229.84	.00	(1,229.84)	.00
04303	Paving Expense	.00	833.33	833.33	.00	7,499.97	7,499.97	10,000.00
04304	Crossing Contruccion/Eng	.00	2,691.58	2,691.58	33,300.00	24,224.22	(9,075.78)	32,299.00
04305	Rental equipment	.00	.00	.00	1,440.15	.00	(1,440.15)	.00
04306	Weed abatement	.00	583.33	583.33	780.00	5,249.97	4,469.97	7,000.00
04307	Erosion Control	.00	166.67	166.67	.00	1,500.03	1,500.03	2,000.00
04309	Gate Maintenance	.00	83.33	83.33	547.29	749.97	202.68	1,000.00

Ruby Star Airpark Property Owners Assoc.

Income/Expense Statement
Period: 09/01/15 to 09/30/15

Account	Description	Current Period			Year-To-Date			Yearly Budget
		Actual	Budget	Variance	Actual	Budget	Variance	
04310	Gate Electricity	18.05	19.17	1.12	146.66	172.53	25.87	230.00
	TOTAL GENERAL REPAIR & MAINT	18.05	4,377.41	4,359.36	37,443.94	39,396.69	1,952.75	52,529.00
LANDSCAPING EXPENSES								
04605	Attorney Fees	.00	250.00	250.00	1,206.00	2,250.00	1,044.00	3,000.00
04610	Insurance - Runway	.00	91.67	91.67	1,100.00	825.03	(274.97)	1,100.00
04615	Insurance - Association	.00	416.67	416.67	4,348.55	3,750.03	(598.52)	5,000.00
04620	Lot Sales Expense	.00	145.83	145.83	.00	1,312.47	1,312.47	1,750.00
04625	Tie Downs Expense	.00	166.67	166.67	92.45	1,500.03	1,407.58	2,000.00
04630	Fence Repair/Maintenance	653.66	83.33	(570.33)	653.66	749.97	96.31	1,000.00
04650	Erosion Control RUNWAY	.00	83.33	83.33	.00	749.97	749.97	1,000.00
04655	Special Projects	2,290.00	.00	(2,290.00)	1,865.00	.00	(1,865.00)	.00
	TOTAL LANDSCAPING EXPENSES	2,943.66	1,237.50	(1,706.16)	9,265.66	11,137.50	1,871.84	14,850.00
ADMINISTRATIVE EXPENSES								
04705	Accounting/Tax Preparation	200.00	41.67	(158.33)	200.00	375.03	175.03	500.00
04710	Management Fees	284.00	284.00	.00	1,136.00	2,556.00	1,420.00	3,408.00
04715	Postage	.00	12.50	12.50	5.00	112.50	107.50	150.00
04720	Copies	15.50	.00	(15.50)	20.00	.00	(20.00)	.00
04735	Legal Expense	.00	.00	.00	911.50	.00	(911.50)	.00
04751	Bank Fees	.00	.00	.00	6.49	.00	(6.49)	.00
04790	Miscellaneous Expense	.00	.00	.00	518.61	.00	(518.61)	.00
	TOTAL ADMINISTRATIVE EXPEN	499.50	338.17	(161.33)	2,797.60	3,043.53	245.93	4,058.00
	TOTAL EXPENSES	18,823.45	22,041.75	3,218.30	65,521.09	76,839.75	11,318.66	97,389.00
RESERVE INCOME								
	TOTAL RESERVE INCOME	.00	.00	.00	.00	.00	.00	.00
RESERVE EXPENSES								
	TOTAL RESERVE EXPENSES	.00	.00	.00	.00	.00	.00	.00
	Current Year Net Income / Los	(18,819.30)	(21,770.93)	2,951.63	(35,378.55)	(9,261.37)	(26,117.18)	(28,998.00)
		=====						

TAX PARCELS # 303-21-1500 & 1520
SECTION 33, TOWNSHIP 17 SOUTH, RANGE 12E
PIMA COUNTY ARIZONA



AUGUST 26, 2015

PRELIMINARY FEASIBILITY STUDY

RUBY STAR AIRPARK COMMON AREA HANGAR PROJECT

SUBMITTED TO:
RUBY STAR PROPERTY OWNER'S ASSOCIATION
HC 70 BOX 4164
SAHUARITA, ARIZONA 85629

PREPARED BY:
PHYSICAL RESOURCE ENGINEERING, INC.
P.O. BOX 36985
TUCSON, ARIZONA 85740

PRE

1.0 INTRODUCTION

The Ruby Star Property Owner's Association (RSPOA) is endeavoring to generate additional revenue from the construction of hangars at the Ruby Star Airpark. Recognizing the importance of alternative sources of income to maintain existing infrastructure, RSPOA commissioned Physical Resource Engineering, Inc. (PRE) in July, 2015 with the approval of the board of directors to engage in a preliminary study to provide some cash flow information based on preliminary cost estimates and conceptual designs.

In order to achieve the goals of the study, the scope of work was sufficiently restrictive so that a report could be prepared within the limits of a modest budget. Assumptions used in this study included the following amenities:

- Seven pre-manufactured 35'X40' hangars with manually operated doors – each connected and partitioned creating a structure nominally 35' wide and 280' long. Hangars are new and are not constructed from materials on site.
- Sufficient ramp and taxiway to provide runway access.
- Site drainage infrastructure.
- No electricity, water or sewer/septic service.

It was thought best to develop the cost model using the cost of a pre-engineered building as opposed to the existing dismantled hangars so that some conservative numbers can be developed for the cost of construction.

The scope of the study included:

1. Prepare a concept plan to serve as the basis for a cost estimate;
2. Soliciting vendor quotes for a pre-manufactured hangar;
3. Preparing cost estimates for paving, grading, drainage, concrete, steel erection, permitting and engineering;
4. Preparing estimates of annual maintenance;
5. Develop a cash flow model which may be used to estimate revenue and return; and
6. Prepare a letter report of findings.

The purpose of this report is to provide the results of this study.

2.0 IMPROVEMENTS

Concept Plan

A concept plan and drainage statement were prepared and submitted to Pima County as part of a supplemental study. The site plan is shown on Figures 1 and 2. A drainage statement is provided in Appendix A. The 9,800 square foot hangar was configured along the north property line of the common area, remaining just outside the 150-foot runway protection zone as shown on the drawing. It is so located to meet County setback requirements, enable efficient use of space, minimize stormwater disturbance, and permit further expansion of the project to the west and south. A 50' wide entrance from the existing taxiway and a 30' wide parking apron are provided in front of the hangars. The 50' wide entrance can easily be extended south to access the interior of the common area. The concept is so designed to minimize grading and site work. The entrance and parking apron are assumed to be chip seal as a measure to reduce costs.

The drainage report and drainage design route stormwater flow under the entrance using a 24" culvert. However, flows from the north are not channelized. A provision is also made to increase the outflow from the drop-inlet by adding another 24" pipe from the drop-inlet just east of the proposed hangar to the east property line.

Hangar Design

The conceptual hangar design assumes that a new pre-engineered building will be constructed rather than rehabilitating the existing hangar. The intent was to provide a conservative cost estimate while providing for a facility similar to what the HOA may ultimately use.

The hangar will have seven sliding doors and partitions between units. The door height is nominally 10 feet which could accommodate most single engine and small twin engine planes.

Anchoring of the structure is accomplished with steel reinforced concrete piers, each nominally 2.5 feet in diameter and 10 feet deep.

Conceptual structural drawings as prepared by SSE are provided in Figures 3 and 4.

3.0 PERMITTING

Early communications with Pima County indicate that the County will not require an amendment to the Conditional Use Permit. At this juncture it is not clear what the submittal requirements might be. However, it is known that the architectural plans will need to be reviewed and permits issued. Permit fees are based on the size and type of construction. The International Building Code designate aircraft hangars as type S-1 structures.

4.0 CAPITAL AND OPERATING COSTS

Capital Costs

Capital costs for this undertaking are based mostly on vendor quotes which have been checked with general rules of thumb. Other costs such as engineering and some site work are based on our best estimate of construction costs using cost estimation documents. Cost assumptions include the use of chip seal in preference to asphaltic concrete, no improvements to the drop-inlet immediately east of the proposed hangars, and no off site improvements.

In some instances there was a disparity between the vendor quote and those costs that would be considered appropriate. We have selected numbers that were consistent with industry practices.

Refer to the attached itemization for a cost breakdown of the work from engineering, to permitting through construction, Table 1. This estimate pre-supposes that the HOA will appoint a “construction manager” from within the organization whose responsibility is to coordinate the trades and ensure that pay requests and change-orders are handled.

Operating Costs

Operating costs are those sustaining costs that will be recurring throughout the life of the hangars. These are considered a necessary part of the facility. This includes taxes, insurance, waste disposal, and maintenance. We have assumed that a porta-potty will be located on the site which is regularly serviced by the provider. There is no provision for water, electricity, communication, fire suppression, heating/cooling at the site and it is assumed that each tenant would be responsible for any amenities they might wish for their individual units. The HOA would provide weed control and routine maintenance of the hangar exterior and the grounds.

**TABLE 1
CAPITAL COST SCHEDULE**

Ruby Star Common Area Project Construct 7 New Hangars Budgetary Cost Estimate			
Description	Units	Quantity	Costs
Engineering			
Permit Fees	LS	1	\$6,000.00
Structural Engineering	LS	1	\$1,500.00
Site Engineering	LS	1	\$2,500.00
Construction Support			
Permit Fees	LS	1	\$1,000.00
Surveying	LS	1	\$2,000.00
Quality Control	LS	1	\$2,000.00
Construction Direct			
Steel Building	LS	1	\$77,560.00
Steel Erection	LS	1	\$39,200.00
Foundation	LS	1	\$50,000.00
Site Work			
Grading	LS	1	\$14,250.00
Paving	LS	1	\$20,800.00
Drainage	LS	1	\$4,000.00

\$220,810.00

**TABLE 2
OPERATING COST SCHEDULE**

Ruby Star Common Area Project Construct 7 New Hangars Annual Operating Cost Estimate			
Description	Units	Quantity	Costs
General Maintenance	LS	1	\$2,200.00
Property Taxes	LS	1	\$1,600.00
Insurance	LS	1	\$1,150.00
Sanitation	LS	1	\$1,050.00

\$6,000.00

Operating costs are summarized Table 2. These are annual costs which are based on vendor quotes, and County fees. Annual maintenance is assumed at 1% of construction cost.

5.0 CASH FLOW MODEL

The cash flow model uses the capital and operating costs to provide some insights about likely return on investment, present value and annual cash flow to the HOA originating from the development.

Assumptions used in the development of this cash flow model are:

- No annual escalation of either costs or revenue due to inflation.
- Interest on borrowed capital at 6% per year.
- Hangar revenue at \$300/month per unit.
- Seven units available for rent.
- Full build-out in Year 1.
- Construction period 6 months.
- Hangar occupancy at 50% during Year 1.
- Hangar life of 30 years.
- Hangars financed for a period of 15 years, financing \$200,000.

Annual costs and revenue originating from the project are provided in Table 3. At a discount rate of 6% the net present value of the project is \$38,096. During the 30 year life of the project net revenue is estimated at \$238,935. Although this would seemingly lend credence to the project being financially robust, it is important to recognize that until the loan is paid fully in Year 15, cash flow is slightly negative for 13 of the 15 years. RSHOA fully intends to rely on the project to supplement revenue in the near-term. This exercise would not indicate that this is possible without:

- Reducing capital costs
- Reducing operating costs
- Possibly self financing
- Increasing hangar revenue
- An alternative approach to hangar leasing

Although it is possible to explore multiple financing scenarios and sensitivities to costs, this is beyond the scope of this study.

**TABLE 3
RUBY STAR
LIFE OF PROJECT CASH FLOW**

Ruby Star Common Area Project											
Construct 7 New Hangars											
Life of Project Cash Flow											
Description	YEAR	1	2	3	4	5	6	7	8	9	10
Revenue		\$6,300	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200
Expenses											
Capital											
Down Payment		\$20,810									
Principal		\$8,443	\$9,007	\$9,562	\$10,182	\$10,778	\$11,443	\$12,148	\$12,898	\$13,693	\$14,538
Interest		\$11,809	\$11,245	\$10,690	\$10,070	\$9,474	\$8,809	\$8,104	\$7,354	\$6,559	\$5,714
Operating											
Maintenance		\$1,100	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200
Property Taxes					\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600
Insurance		\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150
Sanitation		\$525	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050
NET REVENUE	SUM	-\$43,805	-\$37,537	\$548	\$548	-\$1,052	-\$1,052	-\$1,052	-\$1,052	-\$1,052	-\$1,052
Present Value	SUM	-\$41,759	-\$37,537	\$517	\$488	-\$883	-\$833	-\$786	-\$742	-\$700	-\$660
Construct 7 New Hangars											
Life of Project Cash Flow											
Description	YEAR	11	12	13	14	15	16	17	18	19	20
Revenue		\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200
Expenses											
Capital											
Down Payment											
Principal		\$15,435	\$16,386	\$17,397	\$18,481	\$19,609					
Interest		\$4,817	\$3,866	\$2,855	\$1,771	\$643					
Operating											
Maintenance		\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200
Property Taxes		\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600
Insurance		\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150
Sanitation		\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050
NET REVENUE	SUM	\$46,935	-\$1,052	-\$1,052	-\$1,052	-\$1,052	-\$1,052	\$19,200	\$19,200	\$19,200	\$19,200
Present Value	SUM	-\$8,610	-\$587	-\$554	-\$523	-\$493	-\$465	\$8,011	\$7,558	\$7,130	\$6,727
Life of Project Cash Flow											
Description	YEAR	21	22	23	24	25	26	27	28	29	30
Revenue		\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200
Expenses											
Capital											
Down Payment											
Principal											
Interest											
Operating											
Maintenance		\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200
Property Taxes		\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600
Insurance		\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150
Sanitation		\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050
NET REVENUE	SUM	\$238,935	\$19,200	\$19,200	\$19,200	\$19,200	\$19,200	\$19,200	\$19,200	\$19,200	\$19,200
Present Value	SUM	\$38,096	\$5,987	\$5,648	\$5,328	\$5,027	\$4,742	\$4,474	\$4,220	\$3,981	\$3,756

6.0 CONCLUSIONS AND RECOMMENDATIONS

Within preceding sections of this report we have endeavored to provide some insight about likely project costs and cash flow given the design and operating assumptions contained herein. The intent of this exercise was to provide a snap-shot of one scenario recognizing the limitations of not “looking outside the box”.

Further work is necessary to investigate possible ways to improve upon the cash flow numbers contained herein. This might include:

1. Explore the possibility of constructing and selling the hangars. This could generate revenue from the hangar sale and subsequent lease of the land.
2. Explore the possibility of rehabilitating the existing hangars and renting or selling in accordance with (1) above.
3. Explore costs for T-hangars which should enable better utilization of space and positively affect capital costs.
4. Explore alternative methods of financing that might enable rates lower than 6%.
5. Refine construction numbers once plans have been prepared and approved.
6. Consider partnering with an organization that might provide the cash for construction.

It is our opinion that the hangar project can add value to the airpark and provide for additional revenue needed for airpark maintenance and improvements. Issues presented herein are not insurmountable, however additional work is needed to come up with the best opportunities for the airpark. It is hoped that this brief report does highlight many of the issues and present a logical approach to the evaluation of the project.

FIGURES

IMPROVEMENT PLAN FOR RUBY STAR AIRPARK PROPERTY OWNERS ASSOCIATION HANGAR BUILDING ADDITION PIMA COUNTY, ARIZONA

GENERAL NOTES

1. THE GROSS AREA OF THIS PROJECT IS 32 ACRES.
2. THE AREA OF DISTURBANCE IS 0.65 ACRES.
3. ASSESSOR'S TAX PARCEL NUMBER IS 303-21-1490.
4. EXISTING ZONING IS RH.
5. MCGEE RANCH ROAD IS THE NEAREST PAVED ACCESS MAINTAINED BY PIMA COUNTY WHICH SERVES THE RUBY STAR AIRPARK.
6. TOTAL MILES OF NEW PRIVATE STREET IS 0 MILES NEEDED.
7. ANY RELOCATION, MODIFICATION, ETC., OF THE EXISTING UTILITIES AND/OR PUBLIC IMPROVEMENTS REQUIRED BY THIS PLAN WILL BE AT NO EXPENSE TO THE PUBLIC.
8. ACCESS WILL BE PROVIDED TO THIS PROJECT OFF OF MCGEE RANCH ROAD THRU RUBY AIRPARK DRIVE.
9. MCGEE RANCH ROAD IS POSTED WITH A SPEED LIMIT OF 45 M.P.H.
10. THE RUBY STAR AIRPARK DOES NOT SATISFY FEDERAL AVIATION ADMINISTRATION CRITERIA AND THEREFORE IS A PRIVATE RUNWAY, PIMA COUNTY IS NOT RESPONSIBLE FOR ITS OPERATION.
11. IN ACCORDANCE WITH A MEETING HELD ON JANUARY 23, 2012, THESE PLANS HAVE BEEN SUBMITTED TO PIMA COUNTY STAFF FOR A CURSORY REVIEW AND INFORMATIONAL PURPOSES ONLY. THE RUBY STAR AIRPARK PROPERTY OWNERS ASSOCIATION SHALL HOLD PIMA COUNTY AND PIMA COUNTY FLOOD CONTROL DISTRICT, ITS SUCCESSORS AND ASSIGNEES, HARMLESS IN THE EVENT OF FLOODING.
12. THE RUBY STAR AIRPARK PROPERTY OWNERS ASSOCIATION SHALL HOLD PIMA COUNTY, ITS SUCCESSORS AND ASSIGNEES, HARMLESS FOR ANY ACCIDENTS OR OTHER ACTIVITIES/EVENTS ASSOCIATED WITH THE RUNWAY OR AIRPARK.

GRADING NOTES

1. ALL CONSTRUCTION & TEST METHODS SHALL BE IN CONFORMANCE WITH CITY OF TUCSON, PIMA COUNTY STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SSPI).
2. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES WITH THE APPROPRIATE ORGANIZATIONS. CONTACT "BLUE STAKE" AT 1-800-782-5348 TWO FULL WORKING DAYS PRIOR TO CONSTRUCTION.
3. ASPHALTIC CONCRETE SHALL CONFORM TO THE SSPI SPECIFICATIONS AS AMENDED.
4. REMOVAL OF ALL CACTI AND NATIVE PLANTS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE "ARIZONA NATIVE PLANT LAW", A.R.S. CHAPTER 7.
5. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, IN PARTICULAR, SHORING OF TRENCHES.
6. ALL GRADING WORK SHALL CONFORM TO SSPI SPECIFICATIONS.
7. REMOVE AND RELOCATE, AS DIRECTED BY THE ENGINEER, ALL MAILBOXES, FENCES, GATES, SIGNS, POSTS, PILES, ETC., WITHIN THE RIGHT-OF-WAY AND CONSTRUCTION EASEMENT AREAS.
8. ALL REVISIONS TO THESE PLANS MUST BE ACCEPTED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
9. ~~CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY ALL GOVERNMENTAL AGENCIES~~
10. AGGREGATE BASE COURSE SHALL CONFORM TO THE SSPI SPECIFICATIONS UNLESS OTHERWISE NOTED.
11. ALL CONCRETE SHALL COMPLY WITH THE SSPI SPECIFICATIONS.
12. UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THE WORK IS COMPLETED. TRAFFIC CONTROL MUST BE APPROVED BY THE ENGINEER AND ADHERE TO MUTCD SPECIFICATIONS.
13. THE CONTRACTOR SHALL PRESERVE ALL STAKES SET FOR THE LINES, LEVELS OR LOCATIONS OF EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY STAKES WHICH THE CONTRACTOR OR HIS SUBORDINATES MAY HAVE FAILED TO PRESERVE. SHALL BE CHARGED TO THE CONTRACTOR.
14. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL REGULATIONS AND REQUESTS BY PIMA COUNTY REGARDING DUST CONTROL.
15. THE CONTRACTOR SHALL GIVE FORTY-EIGHT (48) HOURS NOTICE WHEN HE SHALL REQUIRE THE SERVICES OF THE ENGINEER OR ANY OTHER PERSON PROPERLY AUTHORIZED FOR SUCH PURPOSE FOR LAYING OUT ANY PORTION OF THE WORK. HE SHALL ALSO DIG ALL STAKE HOLES NECESSARY TO GIVE LINE AND LEVELS AND SHALL PROVIDE ASSISTANCE CALLED FOR BY THE ENGINEER OR HIS ASSISTANTS UPON ANY PART OF THE WORK WHENEVER SO REQUESTED.
16. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH HAIL AND APPLY ALL WATER REQUIRED FOR COMPACTION AND FOR THE CONTROL OF DUST FROM CONSTRUCTION ACTIVITY.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CONSTRUCTION WATER, AVAILABLE WITHIN FOUR (4) MILES OF SITE.
18. GRADING BOUNDARIES SHALL BE CLEARLY MARKED AND ALL WORK WILL BE CONFINED TO THE PROJECT LIMITS.
19. THE SOILS ENGINEER SHALL OBSERVE, INSPECT AND TEST ALL EARTHWORK OPERATIONS INCLUDING, BUT NOT LIMITED TO, CLEARING, GRUBBING, SUBGRADE PREPARATION, STRUCTURAL AND TRENCH EXCAVATION, BACK FILL, PLACEMENT AND COMPACTION.
20. IN THE EVENT OF ANY DISPUTE BETWEEN THESE PLANS AND THE SSPI STANDARD SPECIFICATION, THE SSPI SPECIFICATION SHALL PREVAIL.
21. ALL ELEVATIONS SHOWN ARE FINISHED PAVING UNLESS OTHERWISE NOTED.
22. UTILITIES HAVE BEEN SHOWN PER THE BEST AVAILABLE DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY LOCATIONS PRIOR TO START OF CONSTRUCTION.
23. ALL MATERIALS FROM DEMOLITION SHALL BE STORED OR DISPOSED OF AT THE DISCRETION OF THE OWNER AND/OR ENGINEER OF RECORD.
24. IF UNEXPECTED CONDITIONS ARE ENCOUNTERED OR IF ANY LINES OR GRADES ON THIS PLAN APPEAR SUSPECT, CONTRACTOR SHALL CONTACT THE ENGINEER WITHIN 24 HOURS FOR CLARIFICATION.

BASIS OF BEARING

THE NORTH LINE OF THE COMMON AREA LANDING STRIP OF RUBY STAR AIRPARK IS BEARING A TYPICAL 17° 17' 15" INCLINED BEARING. THE FOUNDATION IS BEARING W/ L.S. 15933, SAD BEARING BEING N6927'45"E

ENGINEER

PHYSICAL RESOURCE ENGINEERING, INC.
P.O. BOX 36985
4655 N. FLOWING WELLS ROAD
TUCSON, AZ 85705
PH: (520) 699-1669
ATTN: DAN WHITE, P.E.

SHEET INDEX

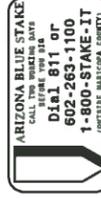
COVER SHEET SHEET 1
GRADING/DRAINAGE SHEET 2

BASIS OF ELEVATION

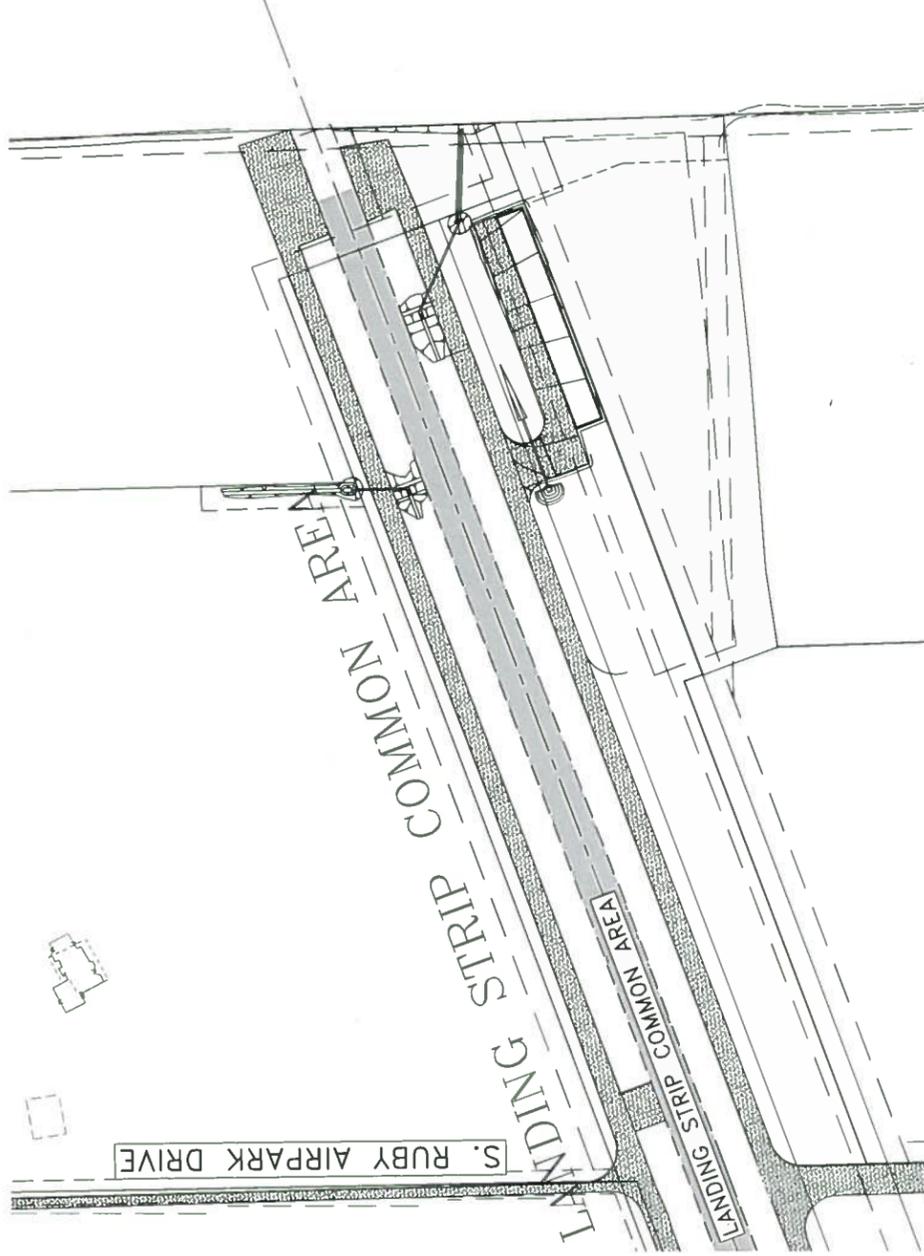
THE FOUND 1-1/2" ACP AT THE NORTHEAST SECTION CORNER IN SEC. 33, T 17 S, R 12 E, SAD ELEVATION BEING 3667.14, NVD 29

OWNER

RUBY STAR AIRPARK PROPERTY OWNERS ASSOC
HC 70 BOX 4164
SAHJARITA, AZ 85629
ATTN: GLEN LYON
PH: (520) 258-9803

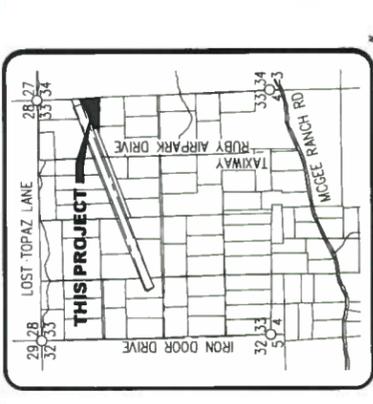


Know what's below.
Call before you dig.



SITE MAP

SCALE: 1"=100'



LOCATION MAP

SCALE: 3"=1 MILE
SECTION 33, T17S, R12E
CASASRAM, PIMA COUNTY, ARIZONA

LEGEND

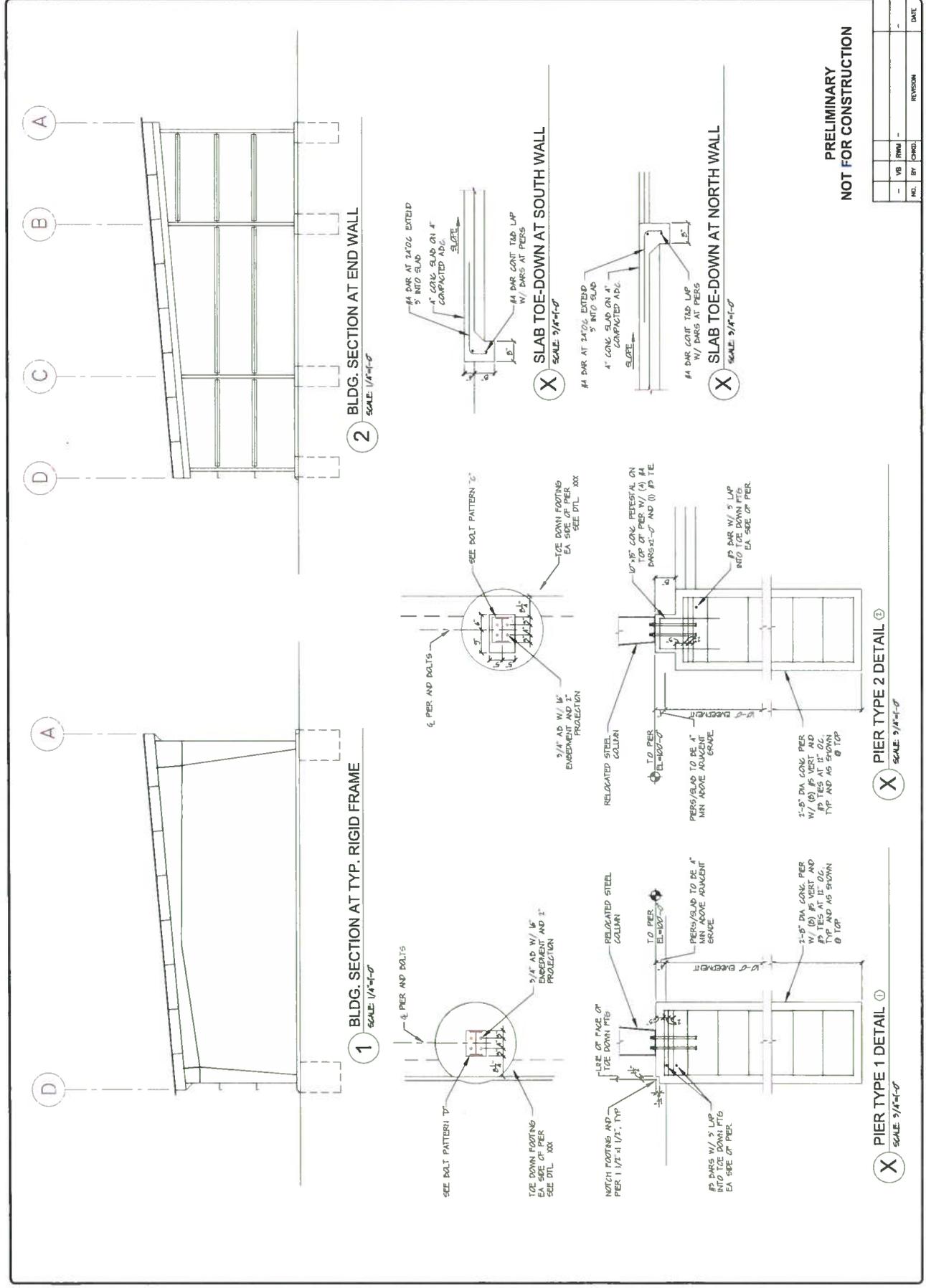
- FOUND 1-1/2" ACP CAPPED "ALS 15933" UNLESS OTHERWISE NOTED
- 116D PIMA COUNTY ASSESSOR PARCEL FOUR DIGIT LOT NUMBER
- PROPERTY BOUNDARY
- LOT LINE
- PUBLIC RIGHT-OF-WAY
- STREET CENTERLINE
- SECTION LINE
- EASEMENT
- EXISTING PAVEMENT (AS NOTED)
- EXISTING DIRT ROAD
- EXISTING LANDING STRIP (AS NOTED)
- EXISTING VEGETATION
- EXISTING DRAINAGE FLOW
- WSEL EXISTING 100-YEAR WATER SURFACE ELEVATION
- 100-YEAR FLOODPLAIN LINE
- DRAINAGE FLOW
- PROPOSED SLOPE
- ① KEYNOTE NUMBER
- HYDRAULIC CONCENTRATION POINT
- FINISH SURFACE ELEVATION
- ▨ LIMITS OF RE-PAVING SEE DETAIL A, SHEET 3
- ◆ BORE LOCATION

Figure 1: Common Area Development

DESIGNED BY: DW
DRAWN BY: ALB
DATE: 7/17/15
JOB NO.: 15055
SCALE: AS NOTED

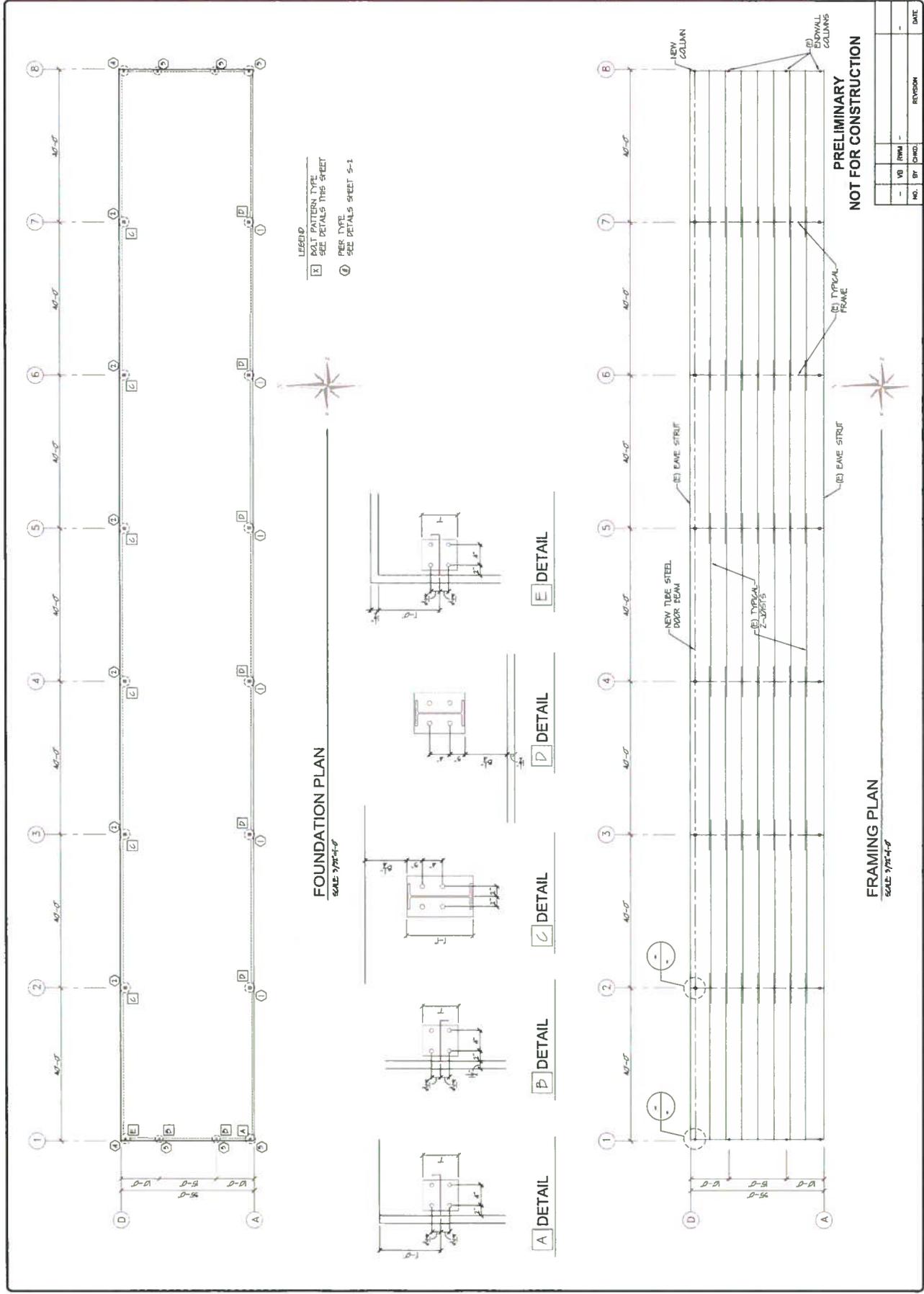
SHEET 1 OF 2
RUBY STAR AIRPARK PROPERTY OWNERS ASSOC
NEW HANGER AND TARMAC
A PORTION OF SEC 33, T 17 S, R12 E
G&SRM, PIMA COUNTY, ARIZONA

PRE PHYSICAL RESOURCE ENGINEERING, INC.
P.O. BOX 36985
4655 N. FLOWING WELLS
TUCSON, AZ 85705
PHONE (520) 699-1669
FAX (520) 699-1769



NO.	BY	CHKD.	REVISION	DATE
-	VB	RNM	-	-

Figure 3: Hangar Detail Showing End Walls & Piers



NO.	BY	CHKD.	REVISION	DATE
-	VB	RWM	-	-

Figure 4: Hangar Detail Foundation and Framing Plan

APPENDIX A
Drainage Statement

PRE-CEG

4655 North Flowing Wells Road
Tucson, Arizona 85705

July 27, 2015

Pima County
Development Services
Regional Flood Control District
201 North Stone Avenue
Tucson, AZ 85701

SUBJECT: RUBY STAR AIR PARK - Drainage Statement
CEG JN: 15-054

This drainage statement is prepared in support of the proposed Hangar addition for the above mentioned project site. The project site is a private runway that belongs to the Ruby Star Property Owner's Association (RSPOA), which property limits cover about 1 square mile in Pima County. This private runway is located within Section 33 Township 17 South, Range 12 East. The drainage conditions of the project site have been previously described within a drainage Report (Hydrology/Hydraulic Report for Ruby Star Air Park Runway Maintenance; March 08, 2012).

As per this report, the project site is located within Watershed 6. More specifically, within the northerly portion of Watershed 6 delineated as Watershed 6B; south and downstream of Watershed 5D. A copy of the Drainage Concept and the hydrologic data sheets for Watersheds 5D and 6B, from the mentioned drainage report, are attached to the Appendix of this drainage statement. Based on this plan, the Existing design flows are summarized as follows:

	Area	Q100
Watershed	Acres	cfs
5D	2.5	20
6B	4.0	27

Duplicates of each of the hydrologic data sheets were completed using the new version of the PC Hydro (Ver 6.0 Online) Pima County Software. The duplicate Existing design flows are summarized as follows:

	Area	Q100
Watershed	Acres	Cfs
5D	2.5	26
6B	4.0	38

The Rainfall Values and Runoff Coefficients used within the latest software version (Online PC Hydro v6) are higher than the Rainfall values used within the drainage report. Therefore, the duplicate design flows (From the new PC Hydro version) are 6 and 11 cfs higher than the design flows for CP 5D and 6B, respectively. Conservatively, the higher design flows will be used for design purposes within this drainage statement.

The proposed improvements consists of a (35' wide; 280lf) row of Hangar buildings; together with the associated taxi lane and drainage improvements. Therefore, the proposed improvements increases the impervious surfaces by 0.51 acres

The Hydrologic Data Sheet (Duplicate) for 6B was revised to depict the proposed conditions. A copy of the Proposed Drainage Concept and the hydrologic data sheet, are attached to the Appendix of this drainage statement. Based on this plan, the proposed design flow is summarized as follows:

	Area	Q100
Watershed	Acres	cfs
6B	4.0	39

The existing drainage structure at CP 6B consists of a catch basin (Pima County SD 304 Type 4) discharging into a culvert (1 24-inch cmp). Important to note is that this 24-inch culvert also routes the flow from CP 5D. The Hydrologic Data Sheet Duplicate for 5D provides a discharge flow of (Q100=) 26 cfs; however, the capacity for the culvert (Also a 1 24-inch cmp) at CP D is (Q100=) 15 cfs with (Q100=) 11 cfs overtopping to the northeast. As a result, the exiting culvert downstream of CP 6B is running full. Therefore, another catch basin (ADOT SD C15.90) is proposed at CP 6B with a (1) 24-inch cmp to route the total flow(Q=54 cfs) , which consists of CP 5D (Qculv=15 cfs) plus the flow at CP 6B(Q=39 cfs) northeasterly.

The grate inlet capacities for required headwater for the catch basin is provided within the previous report and a new hydraulic model for the 30-inch cmp is provided within this drainage statement. The hydraulic models are summarized in the following table

	Qcap	HW	WSEL	Elev
	Cfs	ft		Min
Catch Basin	39	1	87.82	88.20
30-Culvert	43	5.5	88.31	88.20

Per the previous table the capacity for CP 6B is (Q100=) 43 cfs (Contained within the proposed 2-24-inch culverts) with (Q100=) 11 cfs overtopping east. Important to note is that the proposed improvements increase the design flow by only 1 cfs during the 100-year event; which is 2.5% of the existing design flow. Moreover, one 24" cmp is proposed about 250lf upstream of CP6B to route the flow under the proposed taxiway.

In summary, the increase in impervious surfaces within the property limits increase less than 1 percent and the runoff exiting at the specific project site concentration point (6B) increase by only 1 cfs. A new catch basin and culvert is proposed to handle the flow from the project site without significantly impacting the downstream area. In addition, another 24" cmp and a concrete header are proposed along the proposed taxiway perpendicular to the existing south taxiway to safeguard the mentioned proposed lane against local scour.

We understand that this drainage statement will receive a cursory review by Pima County Staff for informational purposes only. The drainage concept within this letter is intended to be in general compliance with Pima County Guidelines. Although every effort has been expended in limiting flood damage to the project area; this firm assumes no responsibility for any damage originating from storm water flows. The owner is expected to provide a program of maintenance and storm water clean up to enable regular serviceability of the runway and appurtenances.

Sincerely;

Nathan Cottrell, P.E.



APPENDIX A
FIGURES AND EXHIBITS

PRE PHYSICAL RESOURCE
ENGINEERING, INC.

HYDROLOGY/HYDRAULIC REPORT
FOR
RUBY STAR AIR PARK
RUNWAY MAINTENANCE

March 8, 2012

Prepared for:
Ruby Star Property Owner's Association
Attention: Glen Lyon
HC 70 BOX 4164
SAHUARITA, AZ 85629

PRE JOB #11134

PHYSICAL RESOURCE ENGINEERING
4655 N. FLOWING WELLS ROAD
P.O. BOX 36985
TUCSON, AZ 85705



William John Strang

HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

(PC-HYDRO Version 3.0)
Arroyo Engineering, Inc.

Client: Ruby Star Prepared by: _____
 Project Name: Ruby Star Date: 2/3/2012
 Concentration Point: 5D West End Revised Job #: _____
 Watershed Area: 2.5 ac Watershed Type: Suburban-Foothills

Watercourse Data By Reach				
Reach No.	Height (Hi)	Length (Li)	Slope (Si)	Basin Factor (Nb)
1	44.0	1,500	0.0293	.020

Length of Watercourse (Lc): 1,500 feet Mean Slope: 0.0293
 Length to Cen. of Gravity (Lca): 750 feet Weighted Basin Fac.: 0.020
 Veg. Cover Type(s): Desert Brush Veg. Cover Density: 15 %

RETURN PERIOD: 100-years

Rainfall Values					
	1-hour	2-hour	3-hour	6-hour	24-hour
Point Values (in)	2.78	3.14	3.37	3.82	4.81
Areal Values (in)	2.78	3.14	3.37	3.82	4.81

Soils Data				
Soil Type	Percent	Curve # (CN)	Adj. Curve # (CN*)	Runoff Coef. (C)
B	0	.	.	0.000
C	73	85.	88.79	0.607
D	27	91.	93.37	0.748
Imp.	51	99.	99.	0.958

Weighted Runoff Coef. (Cw): 0.804
 Time of Concentration: 5.0 min
 Rainfall Intensity (i) @ Tc: 9.69 in/hr
 Runoff Supply Rate (q) @ Tc: 7.79 in/hr

Lesser Return Periods		
Return Period	Ratio	Qpeak
2-year	0.25	4.9
10-year	0.55	10.7

PEAK DISCHARGE: 19.5 cfs

HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

(PC-HYDRO Version 3.0)

Arroyo Engineering, Inc.

Client: Ruby Star Prepared by: _____
 Project Name: Ruby Star Date: 2/3/2012
 Concentration Point: 6B West End 100 Year Job #: _____
 Watershed Area: 4.0 ac Watershed Type: Suburban-Foothills

Watercourse Data By Reach				
<u>Reach No.</u>	<u>Height (Hi)</u>	<u>Length (Li)</u>	<u>Slope (Si)</u>	<u>Basin Factor (Nb)</u>
1	43.0	1,440	0.0299	.020

Length of Watercourse (Lc): 1,440 feet Mean Slope: 0.0299
 Length to Cen. of Gravity (Lca): 420 feet Weighted Basin Fac.: 0.020
 Veg. Cover Type(s): Herbaceous Veg. Cover Density: 15 %

RETURN PERIOD: 100-years

Rainfall Values					
	<u>1-hour</u>	<u>2-hour</u>	<u>3-hour</u>	<u>6-hour</u>	<u>24-hour</u>
Point Values (in)	2.78	3.14	3.37	3.82	4.81
Areal Values (in)	2.78	3.14	3.37	3.82	4.81

Soils Data				
<u>Soil Type</u>	<u>Percent</u>	<u>Curve # (CN)</u>	<u>Adj. Curve # (CN*)</u>	<u>Runoff Coef. (C)</u>
B	0	.	.	0.000
C	73	85.	88.79	0.607
D	27	91.	93.37	0.748
Imp.	16	99.	99.	0.958

Weighted Runoff Coef. (Cw): 0.695
 Time of Concentration: 5.0 min
 Rainfall Intensity (i) @ Tc: 9.69 in/hr
 Runoff Supply Rate (q) @ Tc: 6.73 in/hr
PEAK DISCHARGE: 27.1 cfs

Lesser Return Periods		
<u>Return Period</u>	<u>Ratio</u>	<u>Qpeak</u>
2-year	0.25	6.8
10-year	0.55	14.9

SD 5D

Culvert Calculator Report SD 5D 1-24" Pipe

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	89.10 ft	Headwater Depth/Height	1.17
Computed Headwater Elev.	89.10 ft	Discharge	14.78 cfs
Inlet Control HW Elev.	88.93 ft	Tailwater Elevation	84.00 ft
Outlet Control HW Elev.	89.10 ft	Control Type	Entrance Control

Grades			
Upstream Invert	86.77 ft	Downstream Invert	82.82 ft
Length	122.00 ft	Constructed Slope	0.032377 ft/ft

Hydraulic Profile			
Profile	S2	Depth, Downstream	1.20 ft
Slope Type	Steep	Normal Depth	1.20 ft
Flow Regime	Supercritical	Critical Depth	1.39 ft
Velocity Downstream	7.52 ft/s	Critical Slope	0.021330 ft/ft

Section			
Section Shape	Circular	Mannings Coefficient	0.024
Section Material	CMP	Span	2.00 ft
Section Size	24 inch	Rise	2.00 ft
Number Sections	1		

Outlet Control Properties			
Outlet Control HW Elev.	89.10 ft	Upstream Velocity Head	0.63 ft
Ke	0.50	Entrance Loss	0.31 ft

Inlet Control Properties			
Inlet Control HW Elev.	88.93 ft	Flow Control	Unsubmerged
Inlet Type	Headwall	Area Full	3.1 ft ²
K	0.00780	HDS 5 Chart	2
M	2.00000	HDS 5 Scale	1
C	0.03790	Equation Form	1
Y	0.69000		

Culvert Calculator Report SD 5D CP6B 2-24" Pipe

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	86.00 ft	Headwater Depth/Height	1.59
Computed Headwater Elev.	86.00 ft	Discharge	15.38 cfs
Inlet Control HW Elev.	85.07 ft	Tailwater Elevation	83.00 ft
Outlet Control HW Elev.	86.00 ft	Control Type	Outlet Control

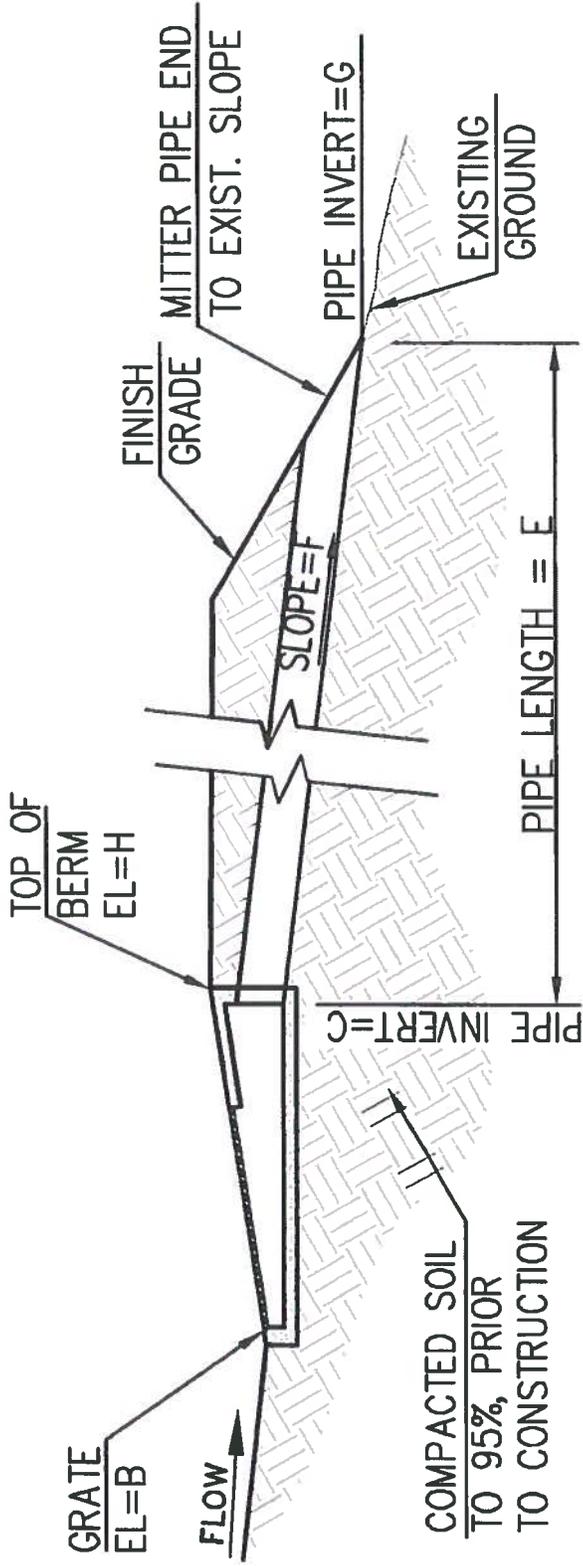
Grades			
Upstream Invert	82.82 ft	Downstream Invert	82.00 ft
Length	113.00 ft	Constructed Slope	0.007257 ft/ft

Hydraulic Profile			
Profile	CompositeM2PressureProfile	Depth, Downstream	1.41 ft
Slope Type	Mild	Normal Depth	N/A ft
Flow Regime	Subcritical	Critical Depth	1.41 ft
Velocity Downstream	6.48 ft/s	Critical Slope	0.021911 ft/ft

Section			
Section Shape	Circular	Mannings Coefficient	0.024
Section Material	CMP	Span	2.00 ft
Section Size	24 inch	Rise	2.00 ft
Number Sections	1		

Outlet Control Properties			
Outlet Control HW Elev.	86.00 ft	Upstream Velocity Head	0.37 ft
Ke	0.50	Entrance Loss	0.19 ft

Inlet Control Properties			
Inlet Control HW Elev.	85.07 ft	Flow Control	Unsubmerged
Inlet Type	Headwall	Area Full	3.1 ft ²
K	0.00780	HDS 5 Chart	2
M	2.00000	HDS 5 Scale	1
C	0.03790	Equation Form	1
Y	0.69000		



2 TYPICAL CATCH BASIN

N.T.S.

PER ADOT STD DTL C-15.90

TYPICAL IN 2 PLACES

* SEE TABLE 'B', SHEET 5

TABLE 'B' CATCH BASIN & PIPE DATA									
CP #	A	B	C	D	E	F	G	H	
5D	2.33'	87.52	86.77	1-24"	122.00	L.F.	3.24%	82.82	89.10



HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

Generated using methods provided by Pima County Regional Flood Control District

Client:	Ruby Star	Prepared by:	DL
Project Name:	Ruby Star	Date:	07/20/2015
Concentration Point:	Existing CP 5D Duplicate	Job #	15-054
Watershed Area:	2.5 Acres	Watershed Type	Suburban Foothills

Watercourse Data By Reach

Reach No.	Height (Hi)	Length (Li)	Slope (Si)	Basin Factor (Nb)
1	44	1500	0.0293	0.02

Length of Watercourse (Lc):	1500	feet	Mean Slope:	0.0293
Length to Cen. of Gravity (Lca):	750	feet	Weighted Basin Fac:	0.02
Veg. Cover Type(s):	Herbacious		Veg. Cover Density:	15

RETURN PERIOD: 100-years

Rainfall Depths:	NOAA Atlas 14 (90% UCL) @					Latitude: 31.911	Longitude: -111.1154				
Duration:	5-min	10-min	15-min	30-min	1-hr	2-hr	3-hr	6-hr	12-hr	24-hr	
Point Values (in):	1.04	1.58	1.96	2.63	3.26	3.63	3.75	4.2	4.68	4.99	

Soil Type	Percent	Curve # (CN)	Adj. Curve # (CN*)	Runoff Coef. (C)
B	-	-	-	-
C	73	85	89.55	0.67
D	27	91	93.9	0.795
Imp.	51	99	99	0.964

Weighted Runoff Coef. (Cw):	0.836	
Time of Concentration:	5	min
Rainfall Intensity (i) @ Tc:	12.48	in/hr
Runoff Supply Rate (q) @ Tc:	10.43	in/hr
PEAK DISCHARGE:	26.3	cfs

Lesser Return Periods		
Return Period	Ratio	Qpeak
2-year	.15	3.9
5-year	.28	7.4
10-year	.40	10.5
25-year	.60	15.8
50-year	.80	21



HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

Generated using methods provided by Pima County Regional Flood Control District

Client:	Ruby Star	Prepared by:	DL
Project Name:	Ruby Star	Date:	07/20/2015
Concentration Point:	Existing CP 6B Duplicate	Job #	15-054
Watershed Area:	4 Acres	Watershed Type	Suburban Foothills

Watercourse Data By Reach

Reach No.	Height (Hi)	Length (Li)	Slope (Si)	Basin Factor (Nb)
1	43	1440	0.0299	0.02

Length of Watercourse (Lc):	1440	feet	Mean Slope:	0.0299
Length to Cen. of Gravity (Lca):	420	feet	Weighted Basin Fac:	0.02
Veg. Cover Type(s):	Herbacious		Veg. Cover Density:	15

RETURN PERIOD: 100-years

Rainfall Depths:	NOAA Atlas 14 (90% UCL) @ Latitude: 31.9108 Longitude: -111.1153									
Duration:	5-min	10-min	15-min	30-min	1-hr	2-hr	3-hr	6-hr	12-hr	24-hr
Point Values (in):	1.04	1.58	1.96	2.63	3.26	3.63	3.75	4.2	4.68	4.99

Soil Type	Percent	Curve # (CN)	Adj. Curve # (CN*)	Runoff Coef. (C)
B	-	-	-	-
C	73	85	89.55	0.67
D	27	91	93.9	0.795
Imp.	16	99	99	0.964

Weighted Runoff Coef. (Cw):	0.745
Time of Concentration:	5 min
Rainfall Intensity (i) @ Tc:	12.48 in/hr
Runoff Supply Rate (q) @ Tc:	9.3 in/hr
PEAK DISCHARGE:	37.5 cfs

Lesser Return Periods		
Return Period	Ratio	Qpeak
2-year	.15	5.6
5-year	.28	10.5
10-year	.40	15
25-year	.60	22.5
50-year	.80	30



HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

Generated using methods provided by Pima County Regional Flood Control District

Client:	Ruby Star	Prepared by:	DL
Project Name:	Ruby Star	Date:	07/20/2015
Concentration Point:	Proposed CP 6B	Job #	15-054
Watershed Area:	4 Acres	Watershed Type	Suburban Foothills

Watercourse Data By Reach

Reach No.	Height (Hi)	Length (Li)	Slope (Si)	Basin Factor (Nb)
1	43	1440	0.0299	0.02

Length of Watercourse (Lc):	1440	feet	Mean Slope:	0.0299
Length to Cen. of Gravity (Lca):	420	feet	Weighted Basin Fac:	0.02
Veg. Cover Type(s):	Herbacious		Veg. Cover Density:	15

RETURN PERIOD: 100-years

Rainfall Depths:	NOAA Atlas 14 (90% UCL) @ Latitude: 31.9108 Longitude: -111.1153									
Duration:	5-min	10-min	15-min	30-min	1-hr	2-hr	3-hr	6-hr	12-hr	24-hr
Point Values (in):	1.04	1.58	1.96	2.63	3.26	3.63	3.75	4.2	4.68	4.99

Soil Type	Percent	Curve # (CN)	Adj. Curve # (CN*)	Runoff Coef. (C)
B	-	-	-	-
C	73	85	89.55	0.67
D	27	91	93.9	0.795
Imp.	16	99	99	0.964

Weighted Runoff Coef. (Cw):	0.745
Time of Concentration:	5 min
Rainfall Intensity (i) @ Tc:	12.48 in/hr
Runoff Supply Rate (q) @ Tc:	9.3 in/hr
PEAK DISCHARGE:	37.5 cfs

Lesser Return Periods		
Return Period	Ratio	Qpeak
2-year	.15	5.6
5-year	.28	10.5
10-year	.40	15
25-year	.60	22.5
50-year	.80	30

Hydraulic Analysis Report

Project Data

Project Title: 15054 Ruby Star Airpark

Designer:

Project Date: Monday, July 13, 2015

Project Units: U.S. Customary Units

Notes:

Curb and Gutter Analysis: Proposed Grate Inlet 3x10

Notes:

Gutter Input Parameters

Longitudinal Slope of Road: 0.1000 ft/ft

Cross-Slope of Pavement: 0.1000 ft/ft

Uniform Gutter Geometry

Manning's n: 0.0220

Gutter Width: 15.0000 ft

Design Flow: 39.0000 cfs

Gutter Result Parameters

Width of Spread: 7.6206 ft

Gutter Depression: 0.0000 in

Area of Flow: 2.9037 ft²

E_o (Gutter Flow to Total Flow): 1.0000

Gutter Depth at Curb: 9.1447 in

Inlet Input Parameters

Inlet Location: Inlet in Sag

Percent Clogging: 50.0000 %

Inlet Type: Grate

Grate Type: P - 1-7/8 - 4

Grate Width: 8.0000 ft

Grate Length: 10.0000 ft

Local Depression: 0.0000 in

Inlet Result Parameters

Perimeter: 26.0000 ft

Effective Perimeter: 13.0000 ft

Area: 64.0000 ft²

Effective Area: 32.0000 ft²

Depth at center of grate: 1.0000 ft

Computed Width of Spread at Sag: 14.0000 ft

Flow type: Weir Flow

Efficiency: 1.0000

HY-8 Culvert Analysis Report

Culvert Data Summary - 6B-24inch

Barrel Shape: Circular
Barrel Diameter: 2.00 ft
Barrel Material: Corrugated Steel
Embedment: 0.00 in
Barrel Manning's n: 0.0240
Culvert Type: Straight
Inlet Configuration: Beveled Edge (1:1)
Inlet Depression: NONE

Site Data - 6B-24inch

Site Data Option: Culvert Invert Data
Inlet Station: 0.00 ft
Inlet Elevation: 82.82 ft
Outlet Station: 113.00 ft
Outlet Elevation: 82.00 ft
Number of Barrels: 2

Table 1 - Culvert Summary Table: 6B-24inch

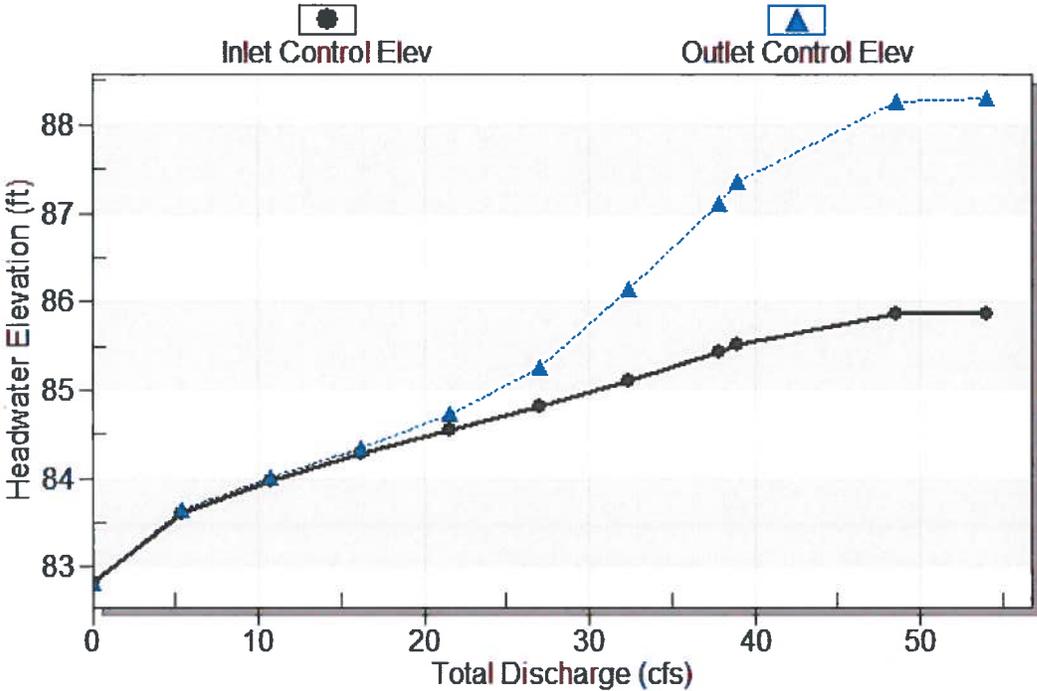
Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	82.82	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
5.40	5.40	83.64	0.774	0.818	2-M2c	0.626	0.569	0.569	0.159	3.668	1.578
10.80	10.80	84.01	1.144	1.195	2-M2c	0.926	0.817	0.817	0.238	4.475	2.028
16.20	16.20	84.34	1.455	1.517	2-M2c	1.204	1.013	1.013	0.301	5.073	2.337
21.60	21.60	84.74	1.722	1.921	2-M2c	2.000	1.175	1.175	0.356	5.629	2.579
27.00	27.00	85.27	1.987	2.451	7-M2c	2.000	1.320	1.320	0.404	6.139	2.781
32.40	32.40	86.15	2.280	3.325	7-M2c	2.000	1.446	1.446	0.448	6.660	2.955
37.80	37.80	87.12	2.619	4.298	7-M2c	2.000	1.562	1.562	0.489	7.178	3.108
39.00	39.00	87.36	2.702	4.543	7-M2c	2.000	1.586	1.586	0.497	7.300	3.140
48.60	43.45	88.27	3.031	5.450	7-M2c	2.000	1.665	1.665	0.563	7.774	3.370
54.00	43.62	88.31	3.045	5.486	7-M2c	2.000	1.668	1.668	0.597	7.792	3.486

Straight Culvert
Inlet Elevation (invert): 82.82 ft, Outlet Elevation (invert): 82.00 ft
Culvert Length: 113.00 ft, Culvert Slope: 0.0073

Culvert Performance Curve Plot: 6B-24inch

Performance Curve

Culvert: 6B-24inch



Water Surface Profile Plot for Culvert: 6B-24inch

Crossing - Proposed CP6B, Design Discharge - 39.0 cfs

Culvert - 6B-24inch, Culvert Discharge - 39.0 cfs

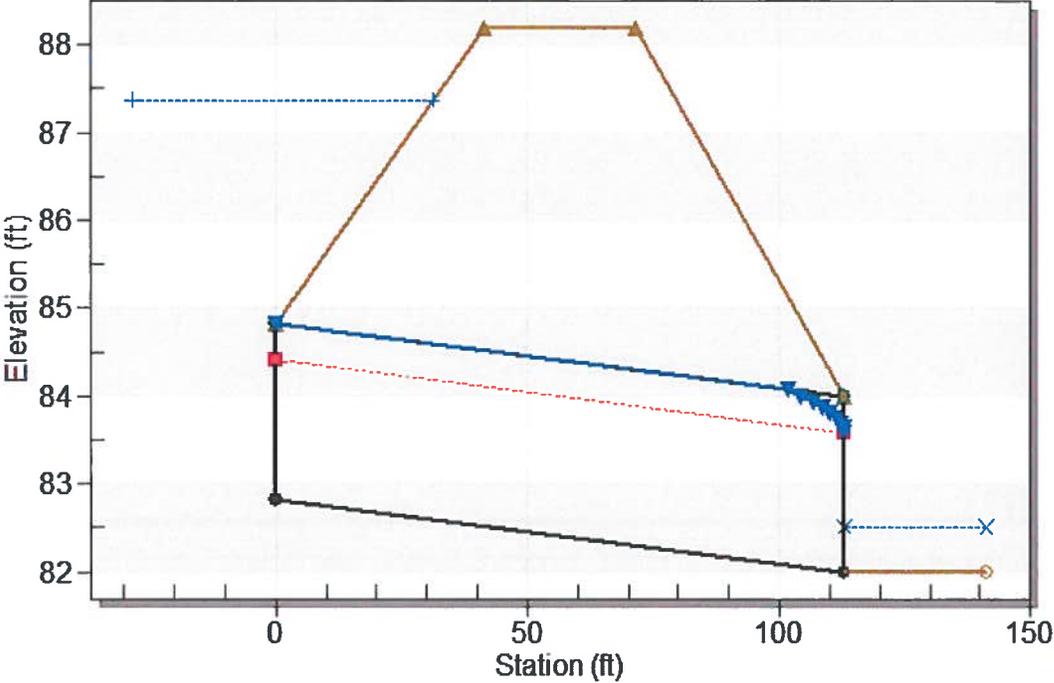


Table 2 - Downstream Channel Rating Curve (Crossing: Proposed CP6B)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)	Velocity (ft/s)	Shear (psf)	Froude Number
0.00	82.00	0.00	0.00	0.00	0.00
5.40	82.16	0.16	1.58	0.07	0.72
10.80	82.24	0.24	2.03	0.10	0.77
16.20	82.30	0.30	2.34	0.13	0.80
21.60	82.36	0.36	2.58	0.16	0.82
27.00	82.40	0.40	2.78	0.18	0.83
32.40	82.45	0.45	2.95	0.20	0.85
37.80	82.49	0.49	3.11	0.21	0.86
39.00	82.50	0.50	3.14	0.22	0.86
48.60	82.56	0.56	3.37	0.25	0.87
54.00	82.60	0.60	3.49	0.26	0.88

Tailwater Channel Data - Proposed CP6B

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 20.00 ft

Side Slope (H:V): 10.00 (1:1)

Channel Slope: 0.0070

Channel Manning's n: 0.0220

Channel Invert Elevation: 82.00 ft

Roadway Data for Crossing: Proposed CP6B

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 100.00 ft

Crest Elevation: 88.20 ft

Roadway Surface: Paved

Roadway Top Width: 30.00 ft

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

Design Flow: 39 cfs

Maximum Flow: 54 cfs

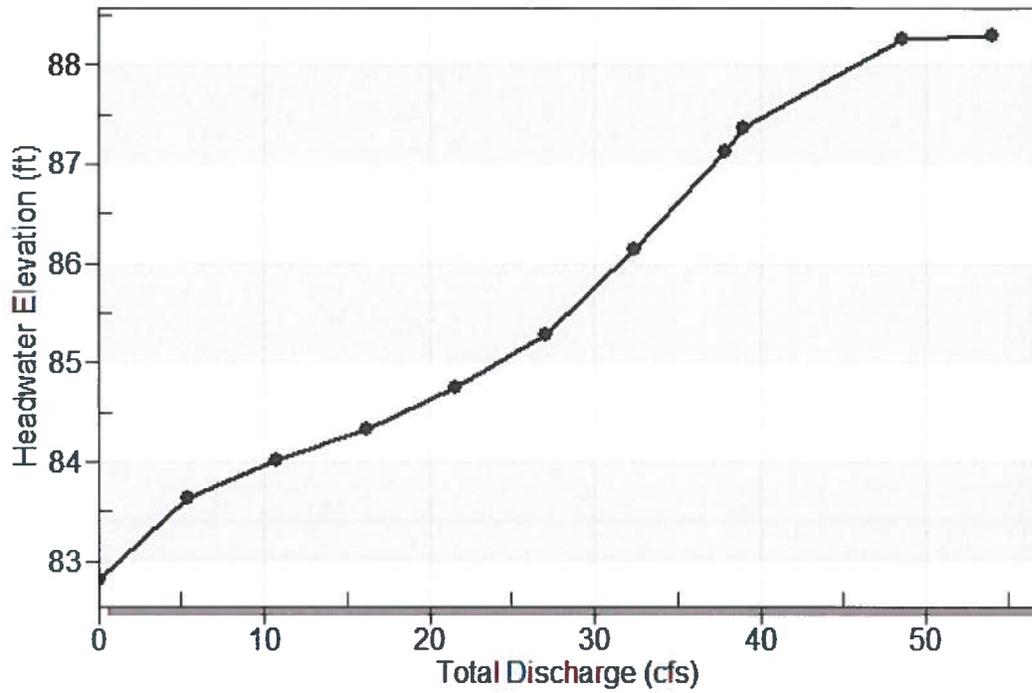
Table 3 - Summary of Culvert Flows at Crossing: Proposed CP6B

Headwater Elevation (ft)	Total Discharge (cfs)	6B-24inch Discharge (cfs)	Roadway Discharge (cfs)	Iterations
82.82	0.00	0.00	0.00	1
83.64	5.40	5.40	0.00	1
84.01	10.80	10.80	0.00	1
84.34	16.20	16.20	0.00	1
84.74	21.60	21.60	0.00	1
85.27	27.00	27.00	0.00	1
86.15	32.40	32.40	0.00	1
87.12	37.80	37.80	0.00	1
87.36	39.00	39.00	0.00	1
88.27	48.60	43.45	5.05	9
88.31	54.00	43.62	10.17	4
88.20	43.16	43.16	0.00	Overtopping

Rating Curve Plot for Crossing: Proposed CP6B

Total Rating Curve

Crossing: Proposed CP6B





Mission Integration

10001 Jack Finney Blvd
Greenville, Texas 75402

07 July 2015

To whom it may concern,

I am participating in an L-3 Mission Integration surveillance demonstration in support of the US Customs and Border Protection agency. I am part of a 20-person team from L-3 Mission Integration based in Greenville, Texas. We are currently operating out of Million Air Aviation at the Tucson International Airport conducting a week-long demonstration of aerial surveillance capability. This demonstration requires several actors on foot and in vehicles as targets to be tracked by a demonstrator surveillance aircraft. My fellow actors and I are acting as targets for that aircraft.

We are conducting a fictional scenario that may appear unusual or suspicious. However, we are in no manner conducting illegal or dangerous operations. If additional clarification or explanation is required, you may contact any of the following individuals listed below or visit them at Million Air Aviation at the Tucson International Airport.

Thank you.

Mr. Brian Solomon	Director, Tactical ISR	214-794-2901
Mr. Larry Gurgainous	Program Manager, Tactical ISR	903-456-2673
Mr. Kristian Wright	Test Director	903-456-5008
Ms. Amanda Levine	Project Engineer	903-274-6624

August 13, 2015

Dear Mr. Gurgainous;

I am following up on our conversation of July 23, 2015. I promised to research and relate to you what occurred during the week of July 15th. Here are my findings:

Your team showed up at Ruby Star's gate and called the number listed there. The call went through to the Association's Realtor, Barry DiSimone. The person who called said that he wanted to look around the airpark. Barry assumed that this person wanted to look at property listed for sale and gave him the gate code. Barry had no idea that your team was going to pursue a commercial activity on Association property. Your team then proceeded to drive around with several vehicles. They then unloaded an ATV from a trailer being pulled by a truck. The ATV proceeded to run around the airpark, apparently at high speeds, in coordination with aircraft flying overhead, in furtherance of L-3's development of a commercial product. Your team encountered other residents who questioned their presence. The response your team members gave to the residents made it sound as if they had obtained approval to conduct their operations. Of course, they had no such approval, which could only have been granted by the facility's owner, Ruby Star Airpark Property Owners Association (RSAPOA). Residents report that your team conducted operations on Association property on three separate days, Sunday (7/12), Monday (7/13), and Thursday (night operations, 7/16).

It is very disturbing that a well-regarded company such as L-3 acted so unprofessionally. To conduct commercial operations on private property requires a contract establishing permission from the owner to do so; and no such approval was obtained. In addition, when asked, the L3 team appeared to intentionally obfuscate the situation and inferred that they had obtained such approval. The airpark roadways, taxiways, runway, and common areas on which the L-3 team operated are valuable assets that are owned and administrated by the RSAPOA. Other companies that have used these assets for commercial activities have done so under a license agreement with the Association; the Association's standard daily charge is \$5000. The RSAPOA hereby demands compensation of \$15,000 fee for L-3's three-day use of Association facilities.

Once this fee is paid, the Association is amenable to considering future commercial operations by L-3 at Ruby Star, if such activities are properly contracted in writing and in advance with the Association.

I look forward to your prompt response and remittance.

Sincerely,
Wendy Magras, President
Ruby Star Airpark Property Owners Association

520-248-6617.



Mission Integration

10001 Jack Finney Blvd., Greenville, TX 75402
P.O. Box 6056, Greenville, TX 75403-6056
Tel: (903) 457-2736

September 03, 2015

L-3 Response to Ruby Star

Ms. Magras,

First, let me apologize for any misunderstanding that may have occurred during the time in question. There was no intent on behalf of L3 or any member of our team to misrepresent our purpose. Your letter dated 13 August 2015 contains different and conflicting details as you described to me during our phone conversation. In response to your letter which called into question the integrity of our employees, we conducted interviews with each person involved to ascertain how they represented themselves. Here are the relevant facts as we see them, not as a point of argument, but simply to reassure you that nobody attempted to be deceitful in this matter and the integrity of our employees is not in question.

- 1. One of our employees first spoke to Barry DiSimone on the phone Sat, 11 July. Mr. DiSimone identified himself as a current HOA board member and the realtor for the airport. We identified ourselves as L-3 and described what we were planning to do in a similar fashion as to what is written in the attached Letter of Intent. Our employee fully described our intent and specified that we would not be landing any aircraft on the property. This resulted in Mr. DiSimone providing us access to the community with no discussion of charges or fees. Based on the discussion with Mr. DiSimone, we did not pursue nor were we asked to pursue a written agreement at anytime. Had the matter of compensation been raised, we would have discussed and pursued a fair and reasonable agreement in writing and the associated compensation.*
- 2. During the days that we were onsite, we made contact with Jerry Hain (identified himself as a current HOA Board Member), Carl Taylor (identified himself as a former HOA Board Member) & Ken Spaulding (identified himself as a former HOA Board President). All three were provided with the attached Letter of Intent, and all three acknowledged that there were no issues with our presence or our activities. Jerry Hain even stated that if anyone had any issues with our presence, we could use his property.*
- 3. Our team obeyed all requests by Mr. DiSimone and the other individuals they encountered to not land our aircraft, cross the active runway, or damage any property. Our only activity was driving vehicles on the road ways and at no time did our team drive on the runway or taxiways.*

We wish to resolve your concerns in a fair and amicable manner and keep open the opportunity to use your property in the future. Our team was on site for 4-6 hours per day utilizing the roads for driving purposes only. For this activity, \$5,000 per day is excessive. Had we been asked to pay this fee upfront, we would have declined use of the property.

We have reviewed your website which references a \$400 annual fee. Given the facts stated above and that our only activity was driving on the road way, we believe that the yearly fee of \$400 would be

fair and reasonable compensation. If you will provide us with an application for the annual fee, we will submit the application along with \$400 payment. In the future, should we desire the use of the property; we will certainly coordinate with the current President of the HOA and have a written agreement in place prior to any activity.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Gurgainous". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Larry Gurgainous
Senior Program Manager
ISR Systems