

APPENDIX D RIL PRELIMINARY COST ESTIMATES

July 1, 2013

tuto Parking	g - Alternate 1				ng - Alternate 1			
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	ineer	's Estimate Item S		
P-100	MOBILIZATION			Oilli Ş		nem ş		
P-100a	Mobilization	LS	1	\$ 82,400	\$	82,400.0		
P-150	PAVEMENT REMOVAL							
P-150a	Pavement Removal (2" - Partial Depth)	SY	16,105	\$ 12.00	\$	193,260.		
P-150b	Pavement Removal (Complete)	SY	500	\$ 15.00	\$	7,500.0		
P-152	EMBANKMENT AND EXCAVATION							
P-152a	Unclassified Excavation	CY	1,900	\$ 16.00	\$	30,400.		
P-152b	Subgrade Preparation (12 -Inches)	SY	4,020	\$ 10.00	\$	40,200.		
P-222	SOIL STERILIZATION			_				
P-222a	Soil Sterilization	SY	4,020	\$ 2.00	\$	8,040.		
P-310	GEOTEXTILE FABRIC							
P-310a	Stabilization Fabric	SY	4,020	\$ 2.50	\$	10,050.		
CDOT 304	AGGREGATE BASE COURSE	CY	1.150	\$ 55.00		(2.250		
CDOT 304a	Aggregate Base Course - Class 6	Ci	1,150	\$ 55.00	\$	63,250.		
CO-401	PLANT MIX PAVEMENTS							
CO-401a	Bituminous Paving Course	TON	1,800	\$ 100.00	\$	180,000.		
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS							
CO-403a	Bituminous Paving Course (Apron)	TON	1,670	\$ 100.00	\$	167,000.		
P-603	BITUMINOUS TACK COAT			_				
P-603a	Tack Coat	GAL	3,500	\$ 1.00	\$	3,500.		
P-620	PAINTING	0.00	0.475			0.025		
P-620a	Temporary Payment Markings	SF	2,675	\$ 3.00		8,025		
P-620b	Permanent Pavement Markings	SF	2,674	\$ 4.00	\$	10,696		
D-701	PIPE FOR STORM DRAINS AND CULVERTS			_				
D-701a	Reinforce Concrete Pipe	LF	500	\$ 100.00		50,000		
D-701b	Reinforced Concrete Pipe - FES	EA	2	\$ 2,000.00	\$	4,000		
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES					0.000		
D-751a	Install Parking Lot Inlet	EA	2	\$ 4,000.00		8,000		
D-751b	Install Aircraft Rated Inlet	EA	1	\$ 10,000.00		10,000		
D-751c	Install Inspection Pit	EA	1	\$ 4,000.00		4,000		
D-751d	Install Underdrain Clean Out	EA	3	\$ 2,000.00	\$	6,000		
T-901 T-901a	SEEDING AND EROSION CONTROL	1.0	2	# 2500.00	s	5,000		
T-901a T-901b	Seeding with Hydromulch Erosion Control	AC LS	2 1	\$ 2,500.00 15,000		15,000		
DIV 16	ELECTRICAL							
Div 16a	Micellaneous Electrical	LS	1	\$ 25,000.00	_	25,000		
				TOTAL	\$	931,321.		
				TINGENCY		93,132.		
	18% ENGINEERING o	f (TOTAL	+ CONT	INGENCY	\$	167,637.		
				TOTAL	. \$	1,192,090.		

ASSUMPTIONS:

- \ast FBO Parking Lot section is 6" CO-401 on 6' of CDOT Crushed Aggregate Base Course. \ast Expanded Apron section is 8" CO-403 on 12" COT Crushed Aggregate Base Course.
- * Soil Sterilization to be sprayed on all paved area subgrade.
- * Class 6 Aggregrate Base course to be utilized under all pavement.
- * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placed under new construction.
- * Aircraft Payment to utilize Aircraft Rated Inlets, parking lot to use standard CDOT Inlets.
- * Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.

RIL-Auto Parking Alt-1.xlsx 1 Auto Parking Alt 1

July 1, 2013

auto Parkin	g - Alternate 2					- Alternate 2		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	ineer	's Estimate Item S		
P-100	MOBILIZATION			Olli Ş		nem y		
P-100a	Mobilization	LS	1	\$ 153,000	\$	153,000.		
P-150	PAVEMENT REMOVAL							
P-150a	Pavement Removal (2" - Partial Depth)	SY	16,105	\$ 12.00	\$	193,260.		
P-150b	Pavement Removal (Complete)	SY	500	\$ 15.00	\$	7,500.		
P-152	EMBANKMENT AND EXCAVATION							
P-152a	Unclassified Excavation	CY	1,900	\$ 16.00	\$	30,400		
P-152b	Subgrade Preparation (12 -Inches)	SY	13,700	\$ 10.00	\$	137,000		
P-222	SOIL STERILIZATION			_				
P-222a	Soil Sterilization	SY	13,700	\$ 2.00	\$	27,400		
P-310	GEOTEXTILE FABRIC	011	42.500	A 0.50	_	24.250		
P-310a	Stabilization Fabric	SY	13,700	\$ 2.50	\$	34,250		
CDOT 304 CDOT 304a	AGGREGATE BASE COURSE	CY	3,450	\$ 55.00	\$	189,750		
JDO1 504a	Aggregate Base Course - Class 6	Cı	3,430	\$ 55.00	à	169,/30		
CO-401	PLANT MIX PAVEMENTS							
CO-401a	Bituminous Paving Course	TON	4,170	\$ 100.00	\$	417,000		
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS							
CO-403a	Bituminous Paving Course (Apron)	TON	3,010	\$ 100.00	\$	301,000		
P-603	BITUMINOUS TACK COAT			_				
P-603a	Tack Coat	GAL	5,500	\$ 1.00	\$	5,500		
P-620	PAINTING	0.00	2.740		_	44.400		
P-620a	Temporary Payment Markings	SF	3,710	\$ 3.00	\$	11,130		
P-620b	Permanent Pavement Markings	SF	3,710	\$ 4.00	\$	14,840		
D-701	PIPE FOR STORM DRAINS AND CULVERTS							
D-701a	Reinforce Concrete Pipe	LF	850	\$ 100.00		85,000		
D-701b	Reinforced Concrete Pipe - FES	EA	2	\$ 2,000.00	\$	4,000		
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES					42.00		
D-751a	Install Parking Lot Inlet	EA	3	\$ 4,000.00		12,000		
D-751b	Install Aircraft Rated Inlet	EA	2	\$ 10,000.00		20,000		
D-751c	Install Inspection Pit	EA	2	\$ 4,000.00		8,000		
D-751d	Install Underdrain Clean Out	EA	6	\$ 2,000.00	\$	12,000		
T-901 T-901a	SEEDING AND EROSION CONTROL	AC	2	¢ 3.500.00	\$	5,000		
T-901a T-901b	Seeding with Hydromulch Erosion Control	LS	1	\$ 2,500.00 15,000	\$ \$	15,000		
DIV 16	ELECTRICAL							
Div 16a	Miscellaneous Electrical	LS	1	\$ 30,000.00	\$	30,000		
				TOTAL	\$	1,713,030.		
				TINGENCY	\$	171,303.		
	18% ENGINEERING o	f (TOTAL	+ CONT		\$	308,345.		
				TOTAL	. \$	2,192,678.		

ASSUMPTIONS:

- *Parking Lot section is 6" CO-401 on 6' of CDOT Crushed Aggregate Base Course.

 * Expanded Apron section is 8" CO-403 on 12" COT Crushed Aggregate Base Course.

 * Soil Sterilant to be sprayed on all paved areas.
- * Class 6 Aggregrate Base course to be utilized under all pavement.
- * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placed under new construction.
- * Aircraft Pavment to utilize Aircraft Rated Inlets, parking lot to use standard CDOT Inlets.
- * Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.

RIL-Auto Parking Alt-2.xlsx Auto Parking Alt 2

July 1, 2013

Auto Parking	g - Alternate 3				g - Alternate 3		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	jineer's Estimate Item 5		
P-100	MOBILIZATION		•	Om ş		ileili 3	
P-100a	Mobilization	LS	1	\$ 165,800	\$	165,800.00	
						·	
P-150	PAVEMENT REMOVAL	037	46405	40.00		102 240 00	
P-150a P-150b	Pavement Removal (2" - Partial Depth) Pavement Removal (Complete)	SY SY	16,105 500	\$ 12.00 \$ 15.00	\$ \$	193,260.00 7,500.00	
P-150b	Pavement Removal (Complete)	31	300	\$ 15.00	٥	7,500.00	
P-152	EMBANKMENT AND EXCAVATION						
P-152a	Unclassified Excavation	CY	11,500	\$ 16.00	\$	184,000.00	
P-152b	Subgrade Preparation (12 -Inches)	SY	17,500	\$ 10.00	\$	175,000.00	
P-222	SOIL STERILIZATION						
P-222a	Soil Sterilization	SY	17,500	\$ 2.00	\$	35,000.00	
P-310	GEOTEXTILE FABRIC						
P-310a	Stabilization Fabric	SY	4,020	\$ 2.50	\$	10,050.00	
CDOT 304	AGGREGATE BASE COURSE						
CDOT 304a	Aggregate Base Course - Class 6	CY	1,150	\$ 55.00	\$	63,250.00	
CO-401 P-401a	PLANT MIX PAVEMENTS Bituminous Paving Course	TON	6,900	\$ 100.00	s	690,000.00	
1-4014	Didnimous Laving Codisc	1010	0,200	¥ 100.00	Ÿ	070,000.00	
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS						
CO-403a	Bituminous Paving Course (Apron)	TON	1,100	\$ 100.00	\$	110,000.00	
P-603	BITUMINOUS TACK COAT						
P-603a	Tack Coat	GAL	5,400	\$ 1.00	\$	5,400.00	
P-620	PAINTING						
P-620a	Temporary Pavment Markings	SF	3,710	\$ 3.00	\$	11,130.00	
P-620b	Permanent Pavement Markings	SF	3,710	\$ 4.00	\$	14,840.00	
D-701	PIPE FOR STORM DRAINS AND CULVERTS						
D-701a	Reinforce Concrete Pipe	LF	700	\$ 100.00	\$	70,000.00	
D-701b	Reinforced Concrete Pipe - FES	EA	2	\$ 2,000.00	\$	4,000.00	
D-705	PIPE UNDERDRAINS FOR AIRPORTS						
D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	750	\$ 30.00	\$	22,500.00	
D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	150	\$ 30.00	\$	4,500.00	
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES						
D-751a	Install Parking Lot Inlet	EA	3	\$ 4,000.00	\$	12,000.00	
D-751b	Install Aircraft Rated Inlet	EA	1	\$ 10,000.00	\$	10,000.00	
D-751c	Install Inspection Pit	EA	1	\$ 4,000.00	\$	4,000.00	
D-751d	Install Underdrain Clean Out	EA	2	\$ 2,000.00	\$	4,000.00	
T-901	SEEDING AND EROSION CONTROL						
T-901a	Seeding with Hydromulch	AC	5	\$ 2,500.00	\$	12,500.00	
T-901b	Erosion Control	LS	1	15,000	\$	15,000.00	
DIV 16	ELECTRICAL						
Div 16a	Entrance Road Lighting and Miscellaneous Electrical	LS	1	\$ 100,000.00	\$	100,000.00	
				TOTAL	\$	1,923,730.00	
		1	0% CON	TINGENCY	\$	192,373.00	
	18% ENGINEERING of	f (TOTAL	+ CONT	INGENCY)	\$	34,627.14	
				TOTAL	\$	2,150,730.14	

- * Parking Lot and Entrance Road section is 6" CO-401 on 6' of CDOT Crushed Aggregate Base Course.

- * Parking Lot and Entrance Road section is 6" CO-401 on 6' of CDOT Crushed Aggregate B

 * Entrance Road assumes approximate 2' of cut entire length.

 * Expanded Apron section is 8" CO-403 on 12" COT Crushed Aggregate Base Course.

 * Class 6 Aggregrate Base course to be utilized under all pavement.

 * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.

 * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placd under new construction.

 * Aircraft Pavement to tutilize Aircraft Rated Inlets, parking lot to use standard CDOT Inlets.

 * Aircraft Pavement to have underdrains and associated structures.
- $\ensuremath{^{*}}$ Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications. * Entrance Road to be lighted.

July 2, 2013

JA Develop	ment - Alternate 1		G		ent - Alternate 1 ineer's Estimate		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	ineer	Item \$	
P-100	MOBILIZATION			Jiiii Ç		nom ¢	
P-100a	Mobilization	LS	1	\$ 393,500	\$	393,500.0	
P-150	PAVEMENT REMOVAL						
P-150a	Pavement Removal (2" - Partial Depth)	SY	980	\$ 12.00	\$	11,760.0	
P-152	EMBANKMENT AND EXCAVATION						
P-152a	Unclassified Excavation	CY	28,000	\$ 14.00	\$	392,000.0	
P-152b	Subgrade Preparation (12 -Inches)	SY	41,600	\$ 8.00	\$	332,800.0	
P-222	SOIL STERILIZATION						
P-222a	Soil Sterilization	SY	41,600	\$ 1.00	\$	41,600.0	
P-310	GEOTEXTILE FABRIC						
P-310a	Stabilization Fabric	SY	41,600	\$ 2.50	\$	104,000.0	
1-310a	Stabilization 1 abite	31	71,000	ş 2.50	9	104,000.	
CDOT 304	AGGREGATE BASE COURSE						
CDOT 304a	Aggregate Base Course - Class 6	CY	13,900	\$ 55.00	\$	764,500.0	
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS						
CO-403a	Bituminous Paving Course (Apron)	TON	18,100	\$ 100.00	\$	1,810,000.0	
D (01	DVIIIVA VA VO VIO III OV OO III						
P-603 P-603a	BITUMINOUS TACK COAT Tack Coat	GAL	12,500	\$ 1.00	\$	12,500.0	
r-003a	Tack Coat	GAL	12,300	ş 1.00	9	12,300.0	
P-620	PAINTING						
P-620a	Temporary Pavment Markings	SF	2,500	\$ 3.00	\$	7,500.0	
P-620b	Permanent Pavement Markings	SF	2,500	\$ 4.00	\$	10,000.0	
P-640	AIRCRAFT TIE DOWN ANCHORS						
P-640a	Install Aircraft Tie Downs	EA	60	\$ 500.00	\$	30,000.0	
D-701	PIPE FOR STORM DRAINS AND CULVERTS						
D-701a	Reinforce Concrete Pipe	LF	2,800	\$ 100.00	\$	280,000.0	
D-701b	Reinforced Concrete Pipe - FES	EA	6	\$ 2,000.00	\$	12,000.0	
D 505	DIDE UNIDERDRAING FOR AIRPORTS						
D-705 D-705a	PIPE UNDERDRAINS FOR AIRPORTS Perforated Polyetyhlene Pipe (6 -Inch)	LF	1,800	\$ 30.00	\$	54,000.0	
D-705a D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	300	\$ 30.00	\$	9,000.0	
	, , ,			,		<u> </u>	
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES						
D-751a	Install Inspection Pit	EA	3	\$ 4,000.00	\$	12,000.0	
D-751b D-751c	Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA	8	\$ 2,000.00 \$ 10,000.00	\$	16,000.	
D-/51c	Install Aircraft Rated Inlet	EA	0	\$ 10,000.00			
T-901	SEEDING AND EROSION CONTROL						
T-901a	Seeding with Hydromulch	AC	4	\$ 2,500.00	\$	10,000.	
T-901b	Erosion Control	LS	1	25,000	\$	25,000.	
L-125	AIRFIELD ELECTRICAL						
L-125a	Install Airfield Lighting	LS	1	\$ 110,000.00	\$	110,000.0	
				TOTAL	\$	4,438,160.0	
		1	0% CONT	INGENCY	\$	443,816.0	
	18% ENGINEERING o	f (TOTAL	+ CONT	INGENCY)	\$	79,886.8	
		`		TOTAL	\$	4,961,862.8	
				101111	Ψ	1,701,002.0	

- \ast Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- * Class 6 Aggregrate Base course to be utilized under all pavement.
- * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placed under new construction.
- * Aircraft Payment to sheet flow to north for drainage
- $\ensuremath{^{*}}$ Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.
- * Tie down anchors not include in associated costs.

July 2, 2013

JA Developi	ment - Alternate 2		G		ent - Alternate 2 gineer's Estimate		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	ineer	Item \$	
P-100	MOBILIZATION			Jiiii Ç		nom ¢	
P-100a	Mobilization	LS	1	\$ 408,400	\$	408,400.0	
P-150	PAVEMENT REMOVAL						
P-150a	Pavement Removal (2" - Partial Depth)	SY	980	\$ 12.00	\$	11,760.0	
P-152	EMBANKMENT AND EXCAVATION						
P-152a	Unclassified Excavation	CY	28,400	\$ 14.00	\$	397,600.0	
P-152b	Subgrade Preparation (12 -Inches)	SY	42,600	\$ 8.00	\$	340,800.0	
P-222	SOIL STERILIZATION						
P-222a	Soil Sterilization	SY	42,600	\$ 1.00	\$	42,600.	
P-310	GEOTEXTILE FABRIC	_					
P-310a	Stabilization Fabric	SY	42,600	\$ 2.50	\$	106,500.0	
1-310a	Stabilization 1 abite	31	72,000	ş 2.50	9	100,500.0	
CDOT 304	AGGREGATE BASE COURSE						
CDOT 304a	Aggregate Base Course - Class 6	CY	13,900	\$ 55.00	\$	764,500.0	
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS						
CO-403a	Bituminous Paving Course (Apron)	TON	19,200	\$ 100.00	\$	1,920,000.0	
D 600	DVIIVA (DVOVIO III OV OO AII						
P-603 P-603a	BITUMINOUS TACK COAT Tack Coat	GAL	12,800	\$ 1.00	\$	12,800.0	
r-003a	rack Coat	GAL	12,000	ş 1.00	٩	12,800.	
P-620	PAINTING						
P-620a	Temporary Pavment Markings	SF	2,450	\$ 3.00	\$	7,350.	
P-620b	Permanent Pavement Markings	SF	2,450	\$ 4.00	\$	9,800.0	
P-640	AIRCRAFT TIE DOWN ANCHORS						
P-640a	Install Aircraft Tie Downs	EA	104	\$ 500.00	\$	52,000.0	
D-701	PIPE FOR STORM DRAINS AND CULVERTS						
D-701a	Reinforce Concrete Pipe	LF	2,800	\$ 100.00	\$	280,000.0	
D-701b	Reinforced Concrete Pipe - FES	EA	6	\$ 2,000.00	\$	12,000.0	
D 505	DIDE UNIDERDRADIC FOR AIRPORTS						
D-705 D-705a	PIPE UNDERDRAINS FOR AIRPORTS Perforated Polyetyhlene Pipe (6 -Inch)	LF	1,800	\$ 30.00	\$	54,000.0	
D-705a D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	300	\$ 30.00	\$	9,000.	
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D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES						
D-751a	Install Inspection Pit	EA	3	\$ 4,000.00	\$	12,000.	
D-751b D-751c	Install Underdrain Clean Out Install Aircraft Rated Inlet	EA EA	8 6	\$ 2,000.00 \$ 10,000.00	\$	16,000.	
D-/31C	install Aircraft Rated filet	EΛ	0	\$ 10,000.00			
T-901	SEEDING AND EROSION CONTROL						
T-901a	Seeding with Hydromulch	AC	4	\$ 2,500.00	\$	10,000.	
T-901b	Erosion Control	LS	1	25,000	\$	25,000.	
L-125	AIRFIELD ELECTRICAL						
L-125a	Install Airfield Lighting	LS	1	\$ 110,000.00	\$	110,000.	
				TOTAL	\$	4,602,110.0	
		1	0% CONT	INGENCY	\$	460,211.0	
	18% ENGINEERING o	f (TOTAL	+ CONT	INGENCY)	\$	82,837.9	
		•		TOTAL	\$	5,145,158.9	

- \ast Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- * Class 6 Aggregrate Base course to be utilized under all pavement.
- * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placed under new construction.
- * Aircraft Payment to sheet flow to north for drainage
- $\ensuremath{^{*}}$ Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.
- * Tie down anchors not include in associated costs.

April 7, 2014

Helipad Dev	relopment		Heli			- Alternate 1	
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit S	gineer's Estimate		
P-100	MOBILIZATION			July 4		nom ¢	
P-100a	Mobilization	LS	1	\$ 10,200	\$	10,200.0	
P-150	PAVEMENT REMOVAL	077		20.00	_	4.200.0	
P-150a	Pavement Removal (2" - Partial Depth)	SY	60	\$ 20.00	\$	1,200.0	
P-152	EMBANKMENT AND EXCAVATION						
P-152a	Unclassified Excavation	CY	240	\$ 14.00	\$	3,360.0	
P-152b	Subgrade Preparation (12 -Inches)	SY	300	\$ 8.00	\$	2,400.0	
P-222	SOIL STERILIZATION						
P-222a	Soil Sterilization	SY	300	\$ 1.50	\$	450.0	
P-310	GEOTEXTILE FABRIC						
P-310a	Stabilization Fabric	SY	300	\$ 2.50	\$	750.0	
CDOT 304	AGGREGATE BASE COURSE						
CDOT 304a	Aggregate Base Course - Class 6	CY	100	\$ 65.00	\$	6,500.0	
						,	
P-403	BITUMINOUS TACK COAT				_		
P-403a P-403b	Bituminous Paving Course (Butt Joint) Bituminous Asphalt Binder	Tons Tons	35 2.5	\$ 150.00 \$ 250.00	\$ \$	5,250.0 625.0	
r-4030	Ditummous Aspnat Dinger	10118	2.3	\$ 250.00	þ	023.0	
P603	BITUMINOUS TACK COAT						
P-603a	Tack Coat	GAL	30	\$ 5.00	\$	150.0	
P-610	PORTLAND CEMENT CONCRETE						
P-610a	6" Structural Portland Cement Concrete (Concrete Hard Stand)	SY	300	\$ 150.00	\$	45,000.0	
P-620	PAINTING						
P-620a	Temporary Pavment Markings	SF	270	\$ 5.00	\$	1,350.0	
P-620b	Permanent Pavement Markings	SF	270	\$ 4.00	\$	1,080.0	
D-705	PIPE UNDERDRAINS FOR AIRPORTS						
D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	150	\$ 50.00	\$	7,500.0	
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES						
D-751a	Install Inspection Pit	EA	3	\$ 4,000.00	\$	12,000.0	
D-751b	Install Underdrain Clean Out	EA	1	\$ 2,000.00		2,000.0	
D-751c	Install Aircraft Rated Inlet	EA	1	\$ 10,000.00	\$	10,000.0	
T-901	SEEDING AND EROSION CONTROL				-		
T-901a	Seeding with Hydromulch	AC	0.5	\$ 2,500.00	\$	1,250.0	
T-901b	Erosion Control	LS	1	\$ 1,500.00	\$	1,500.0	
L-107	INSTALLATION OF AIRPORT 8-FOOT WIND CONES						
L-107a	Installation of Airport 8-foot Wind Cones and Segmented Circle	EA	1	\$ 7,000.00	\$	7,000.0	
Y 40-	AVADENTA DE LA COMPAGNA						
L-125 L-125a	AIRFIELD ELECTRICAL Install Airfield Lighting associated with Helipad	LS	1	\$ 10,000.00	\$	10,000.0	
11 1204	mount rather against novement with religion	110		TOTAL		129,565.00	
		1	0% CON	INGENCY	-	12,956.50	
	18% ENGINEERING o				_	25,653.87	
	10/V ETIGHTEEMITO	(231111	55111	TOTAL		168,175.37	

- * Helipad size is the minimum of 50' length by 50' width * Helipad section is 6" P-610 on 12" CDOT Crushed Aggregate Base Course.
- * Class 6 Aggregrate Base course to be utilized under all pavement.
- * Stabilization Fabric to be placd under new construction.
- * Aircraft Payment to have 2.0% max gradient flow
- * Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.
- * Tie down anchors not include in associated costs.

April 4, 2014

Runway Rel	nabilitation - Alternate 1			Auto			ternate 1
ITEM	ITEM DESCRIPTION	LIMIT	Quantity			neer	s Estimate
		OIVII	Quality		Unit \$		Item \$
P-100	MOBILIZATION						
P-100a	Mobilization	LS	1	\$	368,500	\$	368,500.00
P-140	PAVEMENT REMOVAL	27.7		_	4.000		
P-140a	Pavement Removal (2" - Partial Depth)	SY	88,250	\$	12.00	\$	1,059,000.00
P-310	GEOTEXTILE FABRIC	07.7					
P-310a	Paving Fabric	SY	88,250	\$	2.50	\$	220,625.00
P-401	PLANT MIX PAVEMENTS						
P-401a	Bituminous Paving Course	TON	9,925		100.00	\$	992,500.00
P-401b	Modified Bituminous Binder	TON	645	\$	250.00	\$	161,250.00
P-601	CRACK REPAIR						
P-603a	Minor Crack Repair	LF	14,500		5.00	\$	72,500.00
P-603b	Major Crack Repair	LF	14,500	\$	15.00	\$	217,500.00
P-603	BITUMINOUS TACK COAT						
P-603a	Tack Coat	GAL	8,825		2.00	\$	17,650.00
P-603b	Fog Seal	SY	88,250	\$	2.00	\$	176,500.00
P-620	PAINTING					_	
P-620a	Temporary Pavment Markings	SF SF	96,700	\$	3.00	\$	290,100.00
P-620b	Permanent Pavement Markings	SF	96,700	\$	4.00	\$	386,800.00
P-650a T-901a	GROOVING	SY	65.450		1.00	Φ.	ZE 450.00
1-901a	Sawcut Grooving	SY	65,150	\$	1.00	\$	65,150.00
DIV 16	ELECTRICAL				*** 000 5		
Div 16a	Micellaneous Electrical	LS	1	\$	25,000.00	\$	25,000.00
					TOTAL	\$	4,053,075.00
			0% CONT			\$	405,307.50
	18% ENGINEERING o	f (TOTAL	+ CONT				729,553.50
					TOTAL	\$	5,187,936.00

- * Existing pavement will require a Geosynthetic Pavement Fabric
- * Existing runway grades are to be retained
- * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- $\ensuremath{^{*}}$ Tack Coat placed at 0.15 gal/sy.
- * Temporary and Permanent Paint to be applied in two applications.
- *Runway will be grooved 10' out from edge of pavement
- *No taxiways or taxiway connectors to be accounted for as a part of this project

June 28, 2013

	6 - 500' Extension with no Parallel Taxiway					y 26 Extension neer's Estimate		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$		Item \$		
P-100	MOBILIZATION							
P-100a	Mobilization	LS	1	\$ 1,071,100	\$	1,071,100.		
P-140	PAVEMENT REMOVAL							
P-140a	Asphalt Removal (Full Depth)	SY	3,120	\$ 10.00	s	31,200		
P-140b	2" Butt Joint - 10' Wide	SY	115	\$ 8.00	\$	920		
1-1400	2 Butt Johnt • 10 wide	31	113	\$ 8.00	٥	720		
P-152	EXCAVATION AND EMBANKMENT							
P-152a	Subgrade Preparation	SY	8,667	\$ 10.00	\$	86,666		
P-152b	Embankment (In Place) - Finish Grading Necessary	CY	1,589,000	\$ 3.00	\$	4,767,000		
P-164	REINFORCED SOIL SLOPE, COMPLETE							
P-164a	Reinforced Soil Slope, Complete	VFF	78,150	\$ 50.00	\$	3,907,500		
P-222	SOIL STERILIZATION	077	0.445		_	40.000		
P-222a	Soil Sterilization	SY	8,667	\$ 1.50	\$	13,000		
P-209	CRUSHED AGGREGATE BASE COURSE							
P-209a	Crushed Aggregate Base Course (12 Inches)	TON	4,800	\$ 55.00	\$	264,000		
D 210	GEOTEXTILE FABRIC							
P-310 P-310a	Stabilization Fabric	SY	8,667	\$ 3.00	\$	26,000		
1 5104	Submaton Fabric	01	0,007	9 5.00	,	,		
P-401	BITUMINOUS PAVING COURSE							
P-401a	Bituminous Paving Course	TON	3,200	\$ 100.00	\$	320,000		
P-603	BITUMINOUS TACK COAT							
P-603a	Tack Coat	GAL	2,140	\$ 1.00	\$	2,140		
			-					
P-609	POLYMER MODIFIED PAVEMENT SEALER AND REJUVENATOR					445.000		
P-609a	Asphalt Rejuvenator with Sand (GSB-88)	SY	78,000	\$ 1.50	\$	117,000		
P-650	RUNWAY GROOVING							
P-650a	Runway Grooving	SY	7,225	\$ 3.00	\$	21,675		
P-620	RUNWAY TAXIWAY PAINTING							
P-620a	Temporary Pavment Markings	SF	112,500	\$ 1.50	\$	168,750		
P-620b	Permanent Pavement Markings	SF	112,500	\$ 2.00	\$	225,000		
P-620c	Permanent Paint Obliteration	SF	105,000	\$ 2.50	\$	262,500		
D-701	PIPE FOR STORM DRAINS AND CULVERTS							
D-701 D-701a	Reinforced Concrete Pipe - Class V	LF	500	\$ 100.00	\$	50,000		
D-701a D-701b	Reinforced Concrete Pipe - Flared End Section	EA	4	\$ 2,000.00	\$	8,000		
2 7012	removed control type. I med and occion	1311	·	2,000.00	Ÿ	0,000		
D-705	PIPE UNDERDRAINS FOR AIRPORTS							
D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	1,000	\$ 30.00	\$	30,000		
D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	500	\$ 30.00	\$	15,000		
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES							
D-705a	Aircraft Rated Inlet - Type 1	EA	4	\$ 10,000.00	\$	40,000		
D-705b	Inspection Pit	EA	2	\$ 4,000.00	\$	8,000		
D-705c	Underdrain Clean Out	EA	8	\$ 2,000.00	\$	16,000		
T-901	SEEDING AND EROSION CONTROL							
T-901 T-901a	Seeding with Hydromulch	AC	5	\$ 2,500.00	\$	12,500		
T-901b	Temporary Erosion Control	LS	5	\$ 50,000.00	\$	250,000		
L-108	AIRPORT LIGHTING	LS	1	\$ 100,000.00	\$	100,000		
L-108a	Installation of Airfield Electrical System	1.5	1	\$ 100,000.00	ş	100,000		
				TOTAL	\$	11,813,951.		
		1	0% CONT	INGENCY	\$	1,181,395.		
	18% ENGINEERING o	f (TOTAL	+ CONT	INGENCY)	\$	2,126,511.		
				TOTAL		15,121,858.		
				TOTAL	φ	15,121,858.		

^{*}The term "vff" will references to the square foot of vertical finish face.

This measurement applies to the Reinforced. Soil Slope and Mechanically

Stabilized Earth wall. The method of measurement is the projected vertical

elevation difference multiplied by the horizontal length.

*The EMBANKMENT quantity was calculated by applying a 20% contingency factor to the raw earthwork number. This calculation also assumes that a Mechanically

Stabilized Earth wall will be utilized on the north side of the runway extension.

^{*}RW 8/26 is a CII category runway

^{*}Polymer Modified Pavement to be applied to Runway Surface after obliteration to rejuvenate surface.

^{*15%} of pavement area will require painting and obliteration.

^{*}Tack Coat to be applied at 0.15 gal/sy. 2 applications on runway and 1 application on blast pad.

^{* 8} inch of runway asphalt section, 4 inch blast pad section with unit weight of 150 lb/cy for asphalt.

June 28, 2013

	26 - 500' Extension and Parallel Taxiway			gineer's Estimate		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	I	Item \$
P-100 P-100a	MOBILIZATION Mobilization	LS	1	\$ 1,148,900	\$	1,148,900.0
P-140	PAVEMENT REMOVAL					
P-140a	Asphalt Removal (Full Depth)	SY	3,120	\$ 10.00	\$	31,200.0
P-140b	2" Butt Joint - 10' Wide	SY	115	\$ 8.00	\$	920.0
P-152 P-152a	EXCAVATION AND EMBANKMENT Subgrade Preparation	SY	14,040	\$ 8.00	\$	112,320.0
P-152b	Embankment (In Place) - Finish Grading Necessary	CY	1,589,000	\$ 3.00	\$	4,767,000.0
P-164	REINFORCED SOIL SLOPE, COMPLETE					
P-164a	Reinforced Soil Slope, Complete	VFF	78,150	\$ 50.00	\$	3,907,500.0
P-222 P-222a	SOIL STERILIZATION Soil Sterilization	SY	14,040	\$ 1.50	\$	21,060.0
		51	14,040	9 1.50	Ÿ	21,000.0
P-209 P-209a	CRUSHED AGGREGATE BASE COURSE Crushed Aggregate Base Course (12 Inches)	TON	9,475	\$ 55.00	\$	521,125.0
P-310	GEOTEXTILE FABRIC					
P-310a	Stabilization Fabric	SY	14,040	\$ 3.00	\$	42,120.0
P-401	BITUMINOUS PAVING COURSE	TON	5.620	e 100.00	e	562,000.0
P-401a	Bituminous Paving Course	TON	5,620	\$ 100.00	\$	302,000.0
P-603	BITUMINOUS TACK COAT					
P-603a	Tack Coat	GAL	3,800	\$ 1.00	\$	3,800.
P-609	POLYMER MODIFIED PAVEMENT SEALER AND REJUVENATOR		=0.000			
P-609a	Asphalt Rejuvenator with Sand (GSB-88)	SY	78,000	\$ 1.50	\$	117,000.0
P-620 P-620a	RUNWAY TAXIWAY PAINTING Temporary Pavment Markings	SF	113,500	\$ 1.50	\$	170,250.
P-620b	Permanent Pavement Markings	SF	113,500	\$ 2.00	\$	227,000.
P-620c	Permanent Paint Obliteration	SF	105,000		\$	262,500.
D-701	PIPE FOR STORM DRAINS AND CULVERTS					
D-701a D-701b	Reinforced Concrete Pipe - Class V Reinforced Concrete Pipe - Flared End Section	LF EA	750 4	\$ 100.00 \$ 2,000.00	\$ \$	75,000. 8,000.
	PIPE UNDERDRAINS FOR AIRPORTS			" 1		
D-705 D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	2,650	\$ 30.00	\$	79,500.
D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	1,000	-	\$	30,000.
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES					
D-705a D-705b	Aircraft Rated Inlet - Type 1	EA	6	\$ 10,000.00 \$ 4,000.00	\$	60,000 16,000
D-7056 D-705c	Inspection Pit Underdrain Clean Out	EA EA	4 16	\$ 4,000.00 \$ 2,000.00	\$ \$	32,000
T-901	SEEDING AND EROSION CONTROL	-				
T-901a	Seeding with Hydromulch	AC	10	\$ 2,500.00		25,000
T-901b	Temporary Erosion Control	LS	5	\$ 50,000.00	\$	250,000
L-108 L-108a	AIRPORT LIGHTING Installation of Airfield Electrical System	LS	1	\$ 200,000.00	\$	200,000
	·			TOTAL		12,670,195.0
		1	0% CONT	INGENCY		1,267,019.5
	18% ENGINEERING o					2,280,635.1
	10 / U ENGINEERING O	. (101AL	CONT	TOTAL	_	16,217,849.6
				TOTAL	φ	10,217,049.0

ASSUMPTIONS:

RIL-RW 8-26 EXTENSION.xlsx 1 500' RW Ext-EW QTY

^{*}The term "vff" will references to the square foot of vertical finish face.

This measurement applies to the Reinforced. Soil Slope and Mechanically

Stabilized Earth wall. The method of measurement is the projected vertical $% \left(1\right) =\left(1\right) \left(1\right)$

elevation difference multiplied by the horizontal length.

^{*}The EMBANKMENT quantity was calculated by applying a 20% contingency

factor to the raw earthwork number. This calculation also assumes that a Mechanically

Stabilized Earth wall will be utilized on the north side of the runway extension.

^{*}RW 8/26 is a CII category runway

^{*}Polymer Modified Pavement to be applied to Runway Surface after obliteration to rejuvenate surface.

^{*15%} of pavement area will require painting and obliteration.

^{*}Tack Coat to be applied at 0.15 gal/sy. 2 applications on runway and 1 application on blast pad.

st 8 inch of runway asphalt section, 4 inch blast pad section with unit weight of 150 lb/cy for asphalt.

November 11, 2013

unway 8/2	26 and Taxiway Shoulder Widening		Runv	way			lening to RSA		Taxiv	way :			lening to RSA
ITEM	ITEM DESCRIPTION	UNIT	Quantity	┝	Eng Unit S	ineer	s Estimate Item 5	UNIT	Quantity	Ь.	Engi	neer'	s Estimate Item S
P-100	MOBILIZATION			┿	Oilli Ş		nem y			Ŭ	ı <i>y</i>		iieiii y
P-100a	Mobilization	LS	1	\$	236,200	\$	236,200.00	LS	1	s	204,200	\$	204,200.0
P-140 P-140aa	PAVEMENT REMOVAL	SY	3,380	s	16.00	s	54,080.00	SY	3,150	s	16.00	s	50,400.0
P-140aa	Butt Joint (2')	51	3,380	3	16.00	ې	54,080.00	51	3,150	3	16.00	ې	50,400.00
P-152	EXCAVATION AND EMBANKMENT												
P-152a	Subgrade Preparation	SY	33,600	\$	8.00	\$	268,800.00	SY	29,500	\$	8.00	\$	236,000.00
P-152b	Unclassified Excavation	CY	12,000	\$	18.00	\$	216,000.00	CY	10,000	\$	18.00	\$	180,000.0
P-222	SOIL STERILIZATION			t									
P-222a	Soil Sterilization	SY	33,600	\$	1.50	\$	50,400.00	SY	29,500	\$	1.50	\$	44,250.0
P-209	CRUSHED AGGREGATE BASE COURSE			+-									
P-209a	Crushed Aggregate Base Course (8 Inches)	CY	7,500	s	55.00	s	412,500.00	CY	6,600	s	55,00	s	363,000.00
	, ,		.,						.,				
P-310	GEOTEXTILE FABRIC	27.7					400,000,00					•	00.500.0
P-310a	Stabilization Fabric	SY	33,600	\$	3.00	\$	100,800.00	SY	29,500	\$	3.00	\$	88,500.00
P-401	BITUMINOUS PAVING COURSE			t									
P-401a	Bituminous Paving Course (4 Inches)	TON	8,000	\$	55.00	\$	440,000.00	TON	7,000	\$	55.00	\$	385,000.0
P-401b	Bituminous Binder	TON	520	\$	800.00	\$	416,000.00	TON	455	\$	800.00	\$	364,000.00
P-603	BITUMINOUS TACK COAT			H									
P-603a	Tack Coat	GAL	5,500	\$	1.00	\$	5,500.00	GAL	5,000	\$	1.00	\$	5,000.0
P-620	RUNWAY TAXIWAY PAINTING	-		+									
P-620b	Permanent Pavement Markings	SF	42,000	\$	2.00	\$	84,000.00	SF	2,500	s	4.00	\$	10,000.00
	-		,	Ľ									
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES			Ι.									
D-751a D-751b	Adjust Inspection Pit Adjust Underdrain Clean Out	EA EA	10 35	\$ \$	2,000.00 1,000.00	\$ \$	20,000.00 35,000.00	EA EA	10 35		2,000.00 1,000.00	\$ \$	20,000.00 35,000.00
D-/51b	Adjust Underdrain Clean Out	EA	33	3	1,000.00	ې	33,000.00	EA	33	3	1,000.00	ې	33,000.00
T-901	SEEDING AND EROSION CONTROL												
T-901a	Seeding with Hydromulch	AC	3.5	\$	2,500.00	\$	8,750.00	AC	3		2,500.00	\$	7,500.00
Г-901Ь	Temporary Erosion Control	LS	1	\$	50,000.00	\$	50,000.00	LS	1	\$ 5	0,000.00	\$	50,000.0
L-108	UNDERGROUND POWER CABLE FOR AIRPORTS			t									
L-108a	L-824C #8 AWG 5000V Wire	LF	2,500	\$	2.00		5,000.00	LF	2,500	\$	2.00	\$	5,000.0
L-108b	#6 AWG Bare Couterpoise Wire	LF	15,300	\$	3.00	\$	45,900.00	LF	14,200	\$	3.00	\$	42,600.0
L-110	AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS			╁									
L-110a	Instal 1 - 2" Schedule 40 Conduit (DEB)	LF	1,500	\$	15.00	\$	22,500.00	LF	1	\$	15.00	\$	15.00
L-110b	Extend Existing Duct Banks	LF	1,000	\$	50.00	\$	50,000.00	LF	1,000	\$	50.00	\$	50,000.0
L-125	AIRPORT LIGHTING	-		╁				-					
L-125a	Adjust Runway/ Taxiway Edge Lights	EA	117	s	650.00	\$	76,050.00	EA	172	s	650.00	\$	111,800.0
L-125b	Remove and Install Guidance Sign on New Base	EA	10	\$	5,500.00	\$	55,000.00	EA	8	s	5,500.00	\$	44,000.0
			L	<u> </u>	TOTAL	\$	2,652,480.00					\$	2,296,265.00
		1	0% CON	ΓIN			265,248.00					\$	229,626.50
	18% ENGINEERING of						477,446.40					\$	413,327.70
	10% ENGINEERING OF	(101AL	CONT	117									
					TOTAL	\$	3,395,174.40					\$	2,939,219.20

- Shoulders shall tie to existing pavement with 2' Butt Joint.
 Quanity for Unclassified Excavation is the volume of the pavement section and include grading out 10 feet from edge of pavement.
- Subgrade to be prepared to a depth of 12 inches.
- Dry unit weight of aggregate for P-401 is 150 lb/cy. Percent Bituminous Binder assumed to be 6.5% og aggregate weight. Tack Coat applicatio rate is 0.15 gal/sy.
- Runway edge stripes and hold short markings will be required to be repainted with a permannet application rate only.
- Underdrain structures will require adjustment. Assumed clean outs every 400 feet and inspection pits every 1200 feet.
 Seeding shall be from edge of pavement out 10 feet.
 Assume some cable will need to be rehabed, but the goal is use existing cable.

- Assume all bare counterpoise will be replaced in pavement section.
 Conduit will need to be replaced in various locations and used to extend signs. The goal is to use existing conduit for runway edge lighting.
 Duct banks extending underneath paved sections will be extended out from underneath widened pavements.

- Existing Runway/Taxiway edge lights will be raised with extensions.

 All guidance signs within limits of shoulder widening will be removed and relocated using the existing sign on a new concrete base.

May 12, 2014

	Development - Alternate 1			lopment - Alternate 1 gineer's Estimate		
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	Item \$	
P-100	MOBILIZATION					
P-100a	Mobilization	LS	1	\$ 172,100	\$ 172,100.	
P-150	PAVEMENT REMOVAL					
P-150a	Pavement Removal (2" - Partial Depth)	SY	250	\$ 12.00	\$ 3,000.	
P-152	EMBANKMENT AND EXCAVATION					
P-152a	Unclassified Excavation	CY	8,000	\$ 18.00	\$ 144,000.	
P-152b	Subgrade Preparation (12 -Inches)	SY	13,000	\$ 10.00	\$ 130,000	
P-222	SOIL STERILIZATION					
P-222a	Soil Sterilization	SY	13,000	\$ 1.00	\$ 13,000	
P-310	GEOTEXTILE FABRIC					
P-310a	Stabilization Fabric	SY	12,000	\$ 2.50	\$ 30,000	
CDOT 304	AGGREGATE BASE COURSE					
CDOT 304a	Aggregate Base Course - Class 6	CY	4,200	\$ 55.00	\$ 231,000	
CO-401	PLANT MIX PAVEMENTS					
CO-401a	Bituminous Paving Course	TON	400	\$100.00	\$ 40,000	
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS					
CO-403a	Bituminous Paving Course (Apron)	TON	3,450	\$ 100.00	\$ 345,000	
P-501	PORTLAND CEMENT CONCRETE PAVEMENT	OV.				
P-501a	6" Portland Cement Concrete Pavment	SY	4,325	\$ 110.00	\$ 475,750	
P-603	BITUMINOUS TACK COAT	CH	2.000	4.00	2 (00	
P-603a	Tack Coat	GAL	3,600	\$ 1.00	\$ 3,600.	
P-620	PAINTING	OF.	4.200		2 (00	
P-620a P-620b	Temporary Pavment Markings Permanent Pavement Markings	SF SF	1,200 1,200	\$ 3.00 \$ 4.00	\$ 3,600 \$ 4,800	
D 701				-		
D-701 D-701a	PIPE FOR STORM DRAINS AND CULVERTS Reinforce Concrete Pipe	LF	1,500	\$ 100.00	\$ 150,000	
D-701b	Reinforced Concrete Pipe - FES	EA	2	\$ 2,000.00	\$ 4,000	
D-705	PIPE UNDERDRAINS FOR AIRPORTS					
D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	1,000	\$ 30.00	\$ 30,000	
D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	20	\$ 30.00	\$ 600	
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES					
D-751a	Install Inspection Pit	EA	2	\$ 4,000.00	\$ 8,000	
D-751b	Install Underdrain Clean Out	EA	6	\$ 2,000.00	\$ 12,000	
D-751c	Install Aircraft Rated Inlet	EA	6	\$ 10,000.00	\$ 60,000	
T-901	SEEDING AND EROSION CONTROL					
T-901a T-901b	Seeding with Hydromulch Erosion Control	AC	3	\$ 2,500.00	\$ 7,500	
1-9010	Erosion Control	LS	1	25,000	\$ 25,000	
L-125	AIRFIELD ELECTRICAL					
L-125a	Install Airfield Lighting	LS	1	\$ 100,000.00	\$ 100,000	
U-100	UTILITIES	T.0		4 400 000 00		
U-101a	Hangar Utilities	LS	1	\$ 100,000.00 TOTAL	\$ 100,000 \$ 2,092,950.	
		1	0% CONT	INGENCY	. , ,	
	18% ENGINEERING o				\$ 37,673.	
	IX% FINITINE FRINIT A				3 3/13/3	

1

- **ASSUMPTIONS:

 * Hangar pavement section to be 6" PCCP on 12" CDOT Crushed Aggregate Base Course.

 * Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.

 * Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.

 * Class 6 Aggregrate Base course to be utilized under all pavement.

 * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.

 * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placd under new construction.

 * Aircraft Pavement to have underdrains and associated structures.

 * Temporary and Permanent Paint to be applied in two applications.

 * Utilites include gas, power, water, and sanitary.

July 2, 2013

E Hangar I	Development - Alternate 1		SE Ha	SE Hangar Development - Alternate 1 Engineer's Estimate				
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	Ineer's Estimate			
P-100	MOBILIZATION			Om Ş	nem ş			
P-100a	Mobilization	LS	1	\$ 252,500	\$ 252,500			
P-150	PAVEMENT REMOVAL							
P-150a	Pavement Removal (2" - Partial Depth)	SY	250	\$ 12.00	\$ 3,000			
P-152	EMBANKMENT AND EXCAVATION							
P-152a	Unclassified Excavation	CY	12,000	\$ 16.00	\$ 192,000			
P-152b	Subgrade Preparation (12 -Inches)	SY	20,300	\$ 10.00	\$ 203,000			
	0 1 ()		,		,			
P-222	SOIL STERILIZATION							
P-222a	Soil Sterilization	SY	20,300	\$ 1.00	\$ 20,300			
P-310	GEOTEXTILE FABRIC	-						
P-310a	Stabilization Fabric	SY	20,300	\$ 2.50	\$ 50,750			
1 3104		01	20,500	2.30	30,730			
CDOT 304	AGGREGATE BASE COURSE							
CDOT 304a	Aggregate Base Course - Class 6	CY	8,789	\$ 55.00	\$ 483,395			
CO-401	PLANT MIX PAVEMENTS	TON	2.750	6100.00	6 417.000			
CO-401a	Bituminous Paving Course	TON	2,750	\$100.00	\$ 417,000			
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS							
CO-403a	Bituminous Paving Course (Apron)	TON	5,423	\$ 100.00	\$ 542,300			
P-603	BITUMINOUS TACK COAT							
P-603a	Tack Coat	GAL	3,000	\$ 1.00	\$ 3,000			
P-620	PAINTING							
P-620a	Temporary Payment Markings	SF	2,000	\$ 3.00	\$ 6,000			
P-620b	Permanent Pavement Markings	SF	2,000	\$ 4.00	\$ 8,000			
	*							
D-701	PIPE FOR STORM DRAINS AND CULVERTS							
D-701a	Reinforce Concrete Pipe	LF	2,000	\$ 100.00	\$ 200,000			
D-701b	Reinforced Concrete Pipe - FES	EA	3	\$ 2,000.00	\$ 6,000			
D-705	PIPE UNDERDRAINS FOR AIRPORTS							
D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	4,000	\$ 30.00	\$ 120,000			
D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	600	\$ 30.00	\$ 18,000			
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES	F-4	2		40.000			
D-751a D-751b	Install Inspection Pit Install Underdrain Clean Out	EA EA	3 20	\$ 4,000.00 \$ 2,000.00	\$ 12,000 \$ 40,000			
D-7516 D-751c	Install Aircraft Rated Inlet	EA	16	\$ 10,000.00	\$ 160,000			
D-751c	motal Alletate Nated Thet	1271	10	9 10,000.00	100,000			
T-901	SEEDING AND EROSION CONTROL							
T-901a	Seeding with Hydromulch	AC	6	\$ 2,500.00	\$ 15,000			
T-901b	Erosion Control	LS	1	25,000	\$ 25,000			
7 407	ADDITION DESCRIPTION							
L-125	AIRFIELD ELECTRICAL	TC	4	¢ 100,000,00	g 100.000			
L-125a	Install Airfield Lighting	LS	1	\$ 100,000.00	\$ 100,000			
U-100	UTILITIES							
U-101a	Hangar Utilities	LS	1	\$ 100,000.00	\$ 100,000			
				TOTAL				
		1	0% CONT	INGENCY	\$ 297,724.			
			0,000111	111011101	Ψ Δ <i>J</i> 1,127.			
	18% ENGINEERING o	f (TOTAL	+ CONT	INICENICYA	\$ 53,590			

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- * Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.

 * Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.

 * Class 6 Aggregate Base course to be utilized under all pavement.

 * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.

- * Tack Coat placed at 0.15 gal/sy.
- * Stabilization Fabric to be placd under new construction.
- * Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.
 * Utilities include gas, power, water, and sanitary.

July 2, 2013

Ü	Development - Alternate 2		JE Hu			t - Alternate 2 s Estimate
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$	illeer .	Item \$
P-100	MOBILIZATION					·
P-100a	Mobilization	LS	1	\$ 347,300	\$	347,300.0
P-150	PAVEMENT REMOVAL					
P-150a	Pavement Removal (2" - Partial Depth)	SY	200	\$ 12.00	\$	2,400.0
P-152	EMBANKMENT AND EXCAVATION				_	
P-152a P-152b	Unclassified Excavation Subgrade Preparation (12 -Inches)	CY SY	18,400 19,600	\$ 16.00 \$ 10.00	\$ \$	294,400. 196,000.
1 1020	outguite reputation (12 meteo)	0.1	12,000	¥ 10.00	Ÿ	170,000.
P-222 P-222a	SOIL STERILIZATION Soil Sterilization	SY	19,600	\$ 1.00	\$	10.600
P-222a	Son Sternization	31	19,000	\$ 1.00	à	19,600.
P-310	GEOTEXTILE FABRIC					
P-310a	Stabilization Fabric	SY	19,600	\$ 2.50	\$	49,000.
CDOT 304	AGGREGATE BASE COURSE					
CDOT 304a	Aggregate Base Course - Class 6	CY	11,800	\$ 55.00	\$	649,000.
CO-401	PLANT MIX PAVEMENTS					
CO-401a	Bituminous Paving Course	TON	3,200	\$100.00	\$	417,000.0
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS					
CO-403a	Bituminous Paving Course (Apron)	TON	13,800	\$ 100.00	\$	1,380,000.
P-603	BITUMINOUS TACK COAT					
P-603a	Tack Coat	GAL	10,600	\$ 1.00	\$	10,600.
P-620	PAINTING			_		
P-620a P-620b	Temporary Pavment Markings Permanent Pavement Markings	SF SF	900 900	\$ 3.00 \$ 4.00	\$ \$	2,700. 3,600.
F-020D	remainent ravement markings	31	200	\$ 4.00	ş	3,000.
D-701	PIPE FOR STORM DRAINS AND CULVERTS		•			•
D-701a D-701b	Reinforce Concrete Pipe Reinforced Concrete Pipe - FES	LF EA	2,000 4	\$ 100.00 \$ 2,000.00	\$ \$	200,000. 8,000.
				. ,		
D-705 D-705a	PIPE UNDERDRAINS FOR AIRPORTS Perforated Polyetyhlene Pipe (6 -Inch)	LF	800	\$ 30.00	\$	24,000.
D-705a D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	200	\$ 30.00	\$	6,000.
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES	_				
D-751a	Install Inspection Pit	EA	2	\$ 4,000.00	\$	8,000
D-751b	Install Underdrain Clean Out	EA	4	\$ 2,000.00	\$	8,000
D-751c	Install Aircraft Rated Inlet	EA	16	\$ 10,000.00	\$	160,000.
T-901	SEEDING AND EROSION CONTROL					
T-901a	Seeding with Hydromulch	AC	4	\$ 2,500.00	\$	10,000
T-901b	Erosion Control	LS	1	25,000	\$	25,000
L-125	AIRFIELD ELECTRICAL			_	_	
L-125a	Install Airfield Lighting	LS	1	\$ 75,000.00	\$	75,000.
U-100	UTILITIES					400,000
U-101a	Hangar Utilities	LS	1	\$ 100,000.00 TOTAL	\$ \$	3,895,600.0
	10% CONTINGENC					389,560.0
18% ENGINEERING of (TOTAL + CONTINGENCY)					\$	70,120.8
TOTAL						70,12010

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- * Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.

 * Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.

 * Class 6 Aggregate Base course to be utilized under all pavement.

 * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.

- * Tack Coat placed at 0.15 gal/sy.
- * Stabilization Fabric to be placd under new construction.
- * Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.
 * Utilities include gas, power, water, and sanitary.

July 2, 2013

	Development - Alternate 3				t - Alternate 3 Estimate	
ITEM	ITEM DESCRIPTION	UNIT	Quantity	Unit \$		Item \$
P-100	MOBILIZATION					
P-100a	Mobilization	LS	1	\$ 373,700	\$	373,700.00
P-150	PAVEMENT REMOVAL					
P-150a	Pavement Removal (2" - Partial Depth)	SY	200	\$ 12.00	\$	2,400.00
P-152	EMBANKMENT AND EXCAVATION	-				
P-152a	Unclassified Excavation	CY	18,300	\$ 16.00	\$	292,800.00
P-152b	Subgrade Preparation (12 -Inches)	SY	39,650	\$ 10.00	\$	396,500.00
P-222	SOIL STERILIZATION					
P-222a	Soil Sterilization	SY	39,650	\$ 1.00	\$	39,650.00
P-310	GEOTEXTILE FABRIC					
P-310a	Stabilization Fabric	SY	39,650	\$ 2.50	\$	99,125.00
CDOT 304	AGGREGATE BASE COURSE					
CDOT 304a	Aggregate Base Course - Class 6	CY	11,700	\$ 55.00	\$	643,500.00
CO-401	PLANT MIX PAVEMENTS	-				
CO-401a	Bituminous Paving Course	TON	3,100	\$100.00	\$	417,000.00
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS					
CO-403a	Bituminous Paving Course (Apron)	TON	13,800	\$ 100.00	\$	1,380,000.00
P-603	BITUMINOUS TACK COAT					
P-603a	Tack Coat	GAL	10,600	\$ 1.00	\$	10,600.00
P-620	PAINTING					
P-620a	Temporary Pavment Markings	SF	900	\$ 3.00	\$	2,700.00
P-620b	Permanent Pavement Markings	SF	900	\$ 4.00	\$	3,600.00
D-701	PIPE FOR STORM DRAINS AND CULVERTS					
D-701a	Reinforce Concrete Pipe	LF	2,000	\$ 100.00	\$	200,000.00
D-701b	Reinforced Concrete Pipe - FES	EA	4	\$ 2,000.00	\$	8,000.00
D-705	PIPE UNDERDRAINS FOR AIRPORTS					
D-705a D-705b	Perforated Polyetyhlene Pipe (6 -Inch) Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF LF	800 200	\$ 30.00 \$ 30.00	\$ \$	24,000.00 6,000.00
	* * * * * * * * * * * * * * * * * * * *	2.7	200	9 30.00	Ÿ	0,000.00
D-751 D-751a	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES Install Inspection Pit	EA	2	\$ 4,000.00	\$	8,000.00
D-751a D-751b	Install Underdrain Clean Out	EA	4	\$ 2,000.00	\$	8,000.00
D-751c	Install Aircraft Rated Inlet	EA	16	\$ 10,000.00	\$	160,000.00
T-901	SEEDING AND EROSION CONTROL					
T-901a	Seeding with Hydromulch	AC	4	\$ 2,500.00	\$	10,000.00
T-901b	Erosion Control	LS	1	25,000	\$	25,000.00
L-125	AIRFIELD ELECTRICAL					
L-125a	Install Airfield Lighting and Electrical	LS	1	\$ 75,000.00	\$	75,000.00
U-100	UTILITIES					
U-101a	Hangar Utilities	LS	1	\$ 100,000.00	\$	100,000.00
	LAND ACQUISTION					
	Acquire . 26 acres	LS	1		\$	85,000.00
	TOTAL					4,370,575.00
10% CONTINGENCY 18% ENGINEERING of (TOTAL + CONTINGENCY)					\$	437,057.50
					\$	78,670.35
TOTAL						4,886,302.85

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- * Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.

 * Parking Lot section is 6" CO-401 on 6" CDOT Crushed Aggregate Base Course.

 * Class 6 Aggregrate Base course to be utilized under all pavement.

 * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.

 * Tack Coat placed at 0.15 gal/sy.

 * Stabilization Fabric to be placd under new construction.

 * Aircraft Pavement to have underdrains and associated structures.

 * Temporary and Permanent Paint to be applied in two applications.

 * Utilites include gas, power, water, and sanitary.

July 1, 2013

Transient Hangar Expansion		Tı	an		ngar Expansion			
ITEM	ITEM DESCRIPTION	UNIT	Quantity				r's Estimate	
		V	qounny		Unit \$		Item \$	
P-100 P-100a	MOBILIZATION Mobilization	LS	1	\$	177,500	\$	177 500 00	
F-100a	MODILIZACION	Lo	1	ф	177,300	ې	177,500.00	
P-150	PAVEMENT REMOVAL							
P-150a	Pavement Removal (2" - Partial Depth)	SY	675	\$	12.00	\$	8,100.00	
P-152	EMBANKMENT AND EXCAVATION							
P-152a	Unclassified Excavation	CY	12,643		16.00	\$	202,288.00	
P-152b	Subgrade Preparation (12 -Inches)	SY	19,000	\$	10.00	\$	190,000.00	
P-222	SOIL STERILIZATION							
P-222a	Soil Sterilization	SY	19,000	\$	2.00	\$	38,000.00	
P-310	GEOTEXTILE FABRIC							
P-310a	Stabilization Fabric	SY	19,000	\$	2.50	\$	47,500.00	
CDOT 304	AGGREGATE BASE COURSE							
CDOT 304a	Aggregate Base Course - Class 6	CY	6,325	\$	55.00	\$	347,875.00	
CO-403	COLORADO MODIFIED PLANT MIX ASPHALT PAVEMENTS							
CO-403a	Bituminous Paving Course (Apron)	TON	8,635	\$	100.00	\$	863,500.00	
P-603	BITUMINOUS TACK COAT							
P-603a	Tack Coat	GAL	5,700	\$	1.00	\$	5,700.00	
P-620	PAINTING							
P-620a	Temporary Payment Markings	SF	1,000		3.00	\$	3,000.00	
P-620b	Permanent Pavement Markings	SF	1,000	\$	4.00	\$	4,000.00	
D-705	PIPE UNDERDRAINS FOR AIRPORTS							
D-705a	Perforated Polyetyhlene Pipe (6 -Inch)	LF	1,000	\$	30.00	\$	30,000.00	
D-705b	Non-Perforated Polyetyhlene Pipe (6 -Inch)	LF	200	\$	30.00	\$	6,000.00	
D-751	MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES							
D-751a	Install Inspection Pit	EA	1	\$	4,000.00		4,000.00	
D-751b	Install Underdrain Clean Out	EA	5	\$	2,000.00	\$	10,000.00	
T-901	SEEDING AND EROSION CONTROL							
T-901a	Seeding with Hydromulch	AC	2	\$	2,500.00	\$	5,000.00	
T-901b	Erosion Control	LS	1		10,000	\$	10,000.00	
L-125	AIRFIELD ELECTRICAL							
L-125a	Airfield Lighting	LS	1	\$	40,000.00	\$	40,000.00	
					TOTAL	\$	1,992,463.00	
10% CONTINGENCY					\$	199,246.30		
18% ENGINEERING of (TOTAL + CONTINGENCY)					\$	35,864.33		
TOTAL					\$	2,227,573.63		

- * Expanded Apron section is 8" CO-403 on 12" CDOT Crushed Aggregate Base Course.
- * Class 6 Aggregrate Base course to be utilized under all pavement.
- * Soil Sterilant to be place on all areas to be paved.
- * Unit Weight for Asphalt Cement assumed to be 150 lb/cf.
- * Tack Coat placed at 0.15 gal/sy.
- * Stabilization Fabric to be placd under new construction.
- * Aircraft Payment to sheet flow to north for drainage
- * Aircraft Pavement to have underdrains and associated structures.
- * Temporary and Permanent Paint to be applied in two applications.
- * Tie down anchors not include in associated costs.