

Agenda



County of Inyo Board of Supervisors

Board of Supervisors Room
County Administrative Center
224 North Edwards
Independence, California

All members of the public are encouraged to participate in the discussion of any items on the Agenda. Anyone wishing to speak, please obtain a card from the Board Clerk and indicate each item you would like to discuss. Return the completed card to the Board Clerk before the Board considers the item (s) upon which you wish to speak. You will be allowed to speak about each item before the Board takes action on it.

Any member of the public may also make comments during the scheduled "Public Comment" period on this agenda concerning any subject related to the Board of Supervisors or County Government. No card needs to be submitted in order to speak during the "Public Comment" period.

Public Notices: (1) In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting please contact the Clerk of the Board at (760) 878-0373. (28 CFR 35.102-35.104 ADA Title II). Notification 48 hours prior to the meeting will enable the County to make reasonable arrangements to ensure accessibility to this meeting. Should you because of a disability require appropriate alternative formatting of this agenda, please notify the Clerk of the Board 72 hours prior to the meeting to enable the County to make the agenda available in a reasonable alternative format. (Government Code Section 54954.2). (2) If a writing, that is a public record relating to an agenda item for an open session of a regular meeting of the Board of Supervisors, is distributed fewer than 72 hours prior to the meeting, the writing shall be available for public inspection at the Office of the Clerk of the Board of Supervisors, 224 N. Edwards, Independence, California and is available per Government Code § 54957.5(b)(1).

Note: Historically the Board does break for lunch; the timing of a lunch break is made at the discretion of the Chairperson and at the Board's convenience.

June 11, 2019

8:30 a.m. 1. PUBLIC COMMENT

CLOSED SESSION

2. **CONFERENCE WITH COUNTY'S LABOR NEGOTIATORS [Pursuant to Government Code §54957.6]** – Regarding employee organizations: Deputy Sheriff's Association (DSA); Elected Officials Assistant Association (EOAA); Inyo County Correctional Officers Association (ICCOA); Inyo County Employees Association (ICEA); Inyo County Probation Peace Officers Association (ICPPOA); IHSS Workers; Law Enforcement Administrators' Association (LEAA). Unrepresented employees: all. County designated representatives – Administrative Officer Clint Quilter, Assistant County Administrator Leslie Chapman, Deputy Personnel Director Sue Dishion, County Counsel Marshall Rudolph, Health and Human Services Director Marilyn Mann, and Chief Probation Officer Jeff Thomson.

OPEN SESSION (With the exception of timed items, all open-session items may be considered at any time and in any order during the meeting in the Board's discretion.)

10:00 a.m. PLEDGE OF ALLEGIANCE

3. **REPORT ON CLOSED SESSION**
4. **PUBLIC COMMENT**
5. **COUNTY DEPARTMENT REPORTS** (Reports limited to two minutes)
6. **INTRODUCTIONS** – Jacob Trauscht, Assistant Civil Engineer, Public Works; and Dana Grevenkamp, Research Assistant, Water Department.

DEPARTMENTAL – PERSONNEL ACTIONS

7. **PUBLIC WORKS** – Request Board find that, consistent with the adopted Authorized Position Review Policy: A) the availability of funding for one (1) Building and Maintenance Worker I-II exists in the Building and Maintenance Budget, as certified by the Public Works Director and concurred with by the County Administrator and Auditor-Controller; B) where internal candidates may meet the qualifications for the position, the vacancy could possibly be filled through an internal recruitment, but an open recruitment is more appropriate to ensure qualified applicants apply; and C) authorize the hiring of one (1) Building and Maintenance Worker I, Range 56 (\$3,292 - \$3,994), or II at Range 60 (\$3,612 - \$4,387), depending upon qualifications.

CLERK OF THE BOARD

8. Request Board approve an amendment to the April 16, 2019 minutes and a corresponding Board Order to reflect that the approved Advertising County Resources payments to the Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc. and Lone Pine Chamber of Commerce were to come from the 2017-2018 and 2018-2019 Fiscal Year budgets, respectively.

COUNTY ADMINISTRATOR

9. **Advertising County Resources** – Request Board approve a blanket purchase order in the amount of \$12,360 payable to Inverted Life LLC to create video content for the Inyo County Economic Development Experience Video Project.
10. **Advertising County Resources** – Request Board approve the following final payments from the 2018-19 Fiscal Year Advertising County Resources Budget: \$1,875 to the Bishop Area Chamber of Commerce and Visitors Bureau for the 2019 Blake Jones Trout Derby, and \$3,303 to the Lone Pine Chamber of Commerce for the 2019 Wild Wild West Marathon.
11. **Personnel** – Request Board grant the employee leave-of-absence-without-pay request from June 11, 2019 through September 10, 2019, in accordance with Article X, Leaves, 10.4(a) of the Inyo County Personnel Rules and Regulations.

PLANNING

12. **Yucca Mountain Repository Assessment Office** – Request Board approve Amendment No. 3 to the contract between the County of Inyo and the Hydrodynamics Group, to amend the term to be July 1, 2016 through June 30, 2020, contingent upon the Board's adoption of future budgets, and authorize the Chairperson to sign, contingent upon all appropriate signatures being obtained.
13. **Yucca Mountain Repository Assessment Office** – Request Board approve Amendment No. 3 to the contract between the County of Inyo and Partner Engineering and Science, Inc./Andy Zdon, to amend the term to be July 1, 2016 through June 30, 2020, contingent upon the Board's adoption of future budgets, and authorize the Chairperson to sign, contingent upon all appropriate signatures being obtained.

PUBLIC WORKS

14. Request Board: A) Approve the plans and specifications for the Runway Rehabilitation Project at the Lone Pine/Death Valley Airport; B) authorize the Public Works Director to advertise and bid the project; and C) authorize the Public Works Director to sign the forthcoming Federal Aviation Administration (FAA) Airport Improvement Project (AIP) funding Grant Agreement for the Runway Rehabilitation Project at the Lone Pine/Death Valley Airport.
15. **Road Department** – Request Board approve the agreement between the County of Inyo and Valsoft Corporation, Inc. dba Cascade Software Systems, Inc. for the provision of software maintenance and support services for the Road Department's Cost Accounting Program, in an amount not to exceed \$12,963.03 for the period of July 1, 2019 through June 30, 2020, contingent upon the Board's adoption of the Fiscal Year 2019-2020 Budget, and authorize the Chairperson to sign.

DEPARTMENTAL (To be considered at the Board's convenience)

16. **AG COMMISSIONER** – Request Board receive a presentation of the 2018 Annual Crop and Livestock Report.
17. **WATER DEPARTMENT** – Request Board adopt the Fiscal Year 2019-2020 LORP Annual Work Plan.
18. **WATER DEPARTMENT** – Request Board hear an informal workshop regarding the implications of the Department of Water Resources' release of a draft report reprioritization of the Owens Valley Groundwater Basin.

19. **WATER DEPARTMENT** – Request Board provide direction to the County’s Owens Valley Groundwater Authority representatives in advance of the OVGA meeting scheduled for June 13, 2019 in Bishop.
 20. **PUBLIC WORKS** – Request Board receive an update on commercial air service at the Bishop Airport and regionally.
 21. **COUNTY ADMINISTRATOR – Emergency Services** – Request Board discuss and consider staff’s recommendation regarding continuation of the local emergency known as the “Here It Comes Emergency” that was proclaimed in anticipation of run-off conditions from near-record snowpack posing extreme peril to the safety of property and persons in Inyo County.
 22. **COUNTY ADMINISTRATOR – Emergency Services** – Request Board discuss and consider staff’s recommendation regarding continuation of the local emergency known as the “Rocky Road Emergency” that was proclaimed as the result of flooding, mud, and rock landslides and deep snow drifts over portions of Inyo County caused by an atmospheric river weather phenomena that began January 3, 2017 and continued throughout February.
 23. **CLERK OF THE BOARD** – Request Board approve the minutes from the regular Board of Supervisors meeting of June 4, 2019.
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Note: The agenda items listed below may be considered by the Board at any time during the meeting in the Board’s discretion, including before scheduled timed items.

COMMENT (Portion of the Agenda when the Board takes comment from the public and County staff)

24. ***PUBLIC COMMENT***

BOARD MEMBER AND STAFF REPORTS

CORRESPONDENCE – INFORMATIONAL

25. ***Inyo County Sheriff’s Office*** – Sheriff and Jail Overtime Reports for February, March, and April 2019.
26. ***Department of Alcoholic Beverage Control*** – Application for person-to-person transfer of Off-Sale Beer and Wine license from Deborah Lynn Nikolaus to Big Pine Petroleum, Inc. at Big Pine Shell Station, 109 S. Main St., Big Pine, CA.



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

Consent Departmental Correspondence Action Public Hearing
 Schedule time for Closed Session Informational

For Clerk's Use Only: AGENDA NUMBER 7

FROM: Public Works Department

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Hiring of one (1) Building and Maintenance Worker I/II

DEPARTMENTAL RECOMMENDATIONS:

Request the Board find that consistent with the adopted Authorized Position Review Policy:

1. The availability of funding for the requested Building and Maintenance Worker I/II comes from the Building and Maintenance Budget, as certified by the Public Works Director and concurred with by the County Administrator, and the Auditor-Controller;
2. The position could be filled by an internal recruitment; however, an open recruitment would be appropriate to ensure qualified candidates apply; and
3. Authorize the hiring of one Building and Maintenance Worker I/II Range 56 (\$3,292 - \$3,994) or Range 60 (\$3,612 - \$4,387) depending on qualifications.

CAO RECOMMENDATION:

SUMMARY DISCUSSION:

The Public Works Building and Maintenance Department will be losing one (1) Building and Maintenance Worker I effective June 14, 2019. Filling this position immediately is crucial, as there will be only one (1) Building and Maintenance Worker remaining as well as a Building and Maintenance Lead. This position does routine maintenance and required maintenance on all County Buildings and responds to over one thousand (1,000) work orders each fiscal year. This is a critical position to maintain the daily operations of our facilities.

ALTERNATIVES:

The Board could choose not to approve filling the position of Building and Maintenance Worker, however it is not recommended due to high volume of work orders and required maintenance for all County Buildings.

OTHER AGENCY INVOLVEMENT:

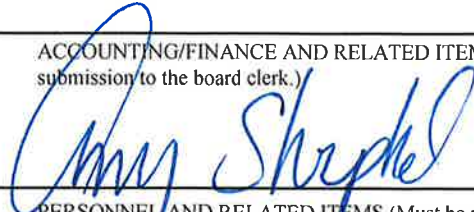
Personnel
Auditor


FINANCING:

This position is currently budgeted in the Building and Maintenance Budget Unit 011100.

APPROVALS

COUNTY COUNSEL: AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by County Counsel prior to submission to the board clerk.)
Approved: _____ Date _____

AUDITOR/CONTROLLER ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor/controller prior to submission to the board clerk.)

Approved: Date 6/3/19

PERSONNEL DIRECTOR PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)

Approved: Date 6/3/19

DEPARTMENT HEAD SIGNATURE: 
(Not to be signed until all approvals are received) _____ Date: 6/3/19



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

8

- Consent
 Departmental
 Correspondence Action
 Public Hearing
 Scheduled Time for
 Closed Session
 Informational

FROM: Darcy Ellis, Assistant Clerk of the Board

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Amending Minutes and Board Order to Correct Error

DEPARTMENTAL RECOMMENDATION: Request Board approve an amendment to the April 16, 2019 minutes and a corresponding Board Order to reflect that the approved Advertising County Resources payments to the Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc. and Lone Pine Chamber of Commerce were to come from the 2017-2018 and 2018-2019 Fiscal Year budgets, respectively.

SUMMARY DISCUSSION: An item was submitted for the April 16, 2019 agenda requesting the following: "Request your Board approve a final payment from the 2017-18 Advertising County Resources Budget to the Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc. for \$1,875 for completing the 2018 Independence Father's Day Fishing Derby; and a final payment from the 2018-19 Advertising County Resources Budget to the Lone Pine Chamber of Commerce for completing the 2019 Early Opener Trout Derby" (emphasis added). The Assistant Clerk of the Board inadvertently left out the reference to Fiscal Year 2018-2019 and, unfortunately, this became the motion made by your Board. The Assistant Clerk of the Board asks that your Board approve an amendment to both the minutes and corresponding Board Order for that agenda item to correct the error.

ALTERNATIVES: N/A

OTHER AGENCY INVOLVEMENT: N/A

FINANCING: N/A

APPROVALS	
COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS <i>(Must be reviewed and approved by county counsel prior to submission to the board clerk.)</i> Approved: _____ Date _____
AUDITOR/CONTROLLER: N/A	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i> Approved: _____ Date _____
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS <i>(Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)</i> Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)

Date: 06-04-19

In the Rooms of the Board of Supervisors

County of Inyo, State of California

I, HEREBY CERTIFY, that at a special meeting of the Board of Supervisors of the County of Inyo, State of California, held in the Hurlbut-Rook Community Center in Tecopa on the 16th day of April 2019 an order was duly made and entered as follows:

**CAO-
Advertising
County
Resources –
Final FY 17-
18 CPSP
Payments**

Moved by Supervisor Tillemans and seconded by Supervisor Kingsley to approve the following final Community Project Sponsorship Program Grant payments from the Fiscal Year 2017-2018 Advertising County Resources budget: \$1,875 to the Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc. for completing the 2018 Independence Father's Day Fishing Derby; and \$1,875 to the Lone Pine Chamber of Commerce for completing the 2019 Early Opener Trout Derby. Motion carried unanimously 4-0, with Supervisor Griffiths absent.

WITNESS my hand and the seal of said Board this 16th
Day of April, 2019



CLINT G. QUILTER
Clerk of the Board of Supervisors

By: 

Routing
CC Purchasing Personnel Auditor CAO Adv. County Resources Other: DATE: April 26, 2019



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER
 10

- X Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: Jon Klusmire, Museum Services Administrator

FOR THE BOARD MEETING OF: April 16, 2019

SUBJECT: Final County of Inyo Community Project Sponsorship Program payments to the Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc. for successfully completing a 2018 Community Project Sponsorship Program grant and the Lone Pine Chamber of Commerce, for successfully completing a 2019 Community Project Sponsorship Program grant.

DEPARTMENTAL RECOMMENDATION: Request your Board approve a final payment from the 2017-18 Advertising County Resources Budget, 011400, to the Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc., for \$1,875 for completing the 2018 Independence Father's Day Fishing Derby (Object Code 5517); and a final payment from the 2018-19 Advertising County Resources Budget, 011400, to the Lone Pine Chamber of Commerce for \$1,875 for completing the 2019 Early Opener Trout Derby (Object Code 5582).


SUMMARY DISCUSSION: The Friends of the Mt. Whitney Fish Hatchery/Independence Fishing Derby, Inc. was awarded a FY 2017-18 County of Inyo Community Project Sponsorship Fishing Derby Grant in the amount of \$7,500 to help sponsor the Independence Father's Day Weekend Fishing Derby. After contracts were finalized, 75 percent the grant funds were disbursed to the Friends. The event organizers have provided staff with sufficient documentation of acceptable expenses for reimbursement for a final payment of \$1,875. The Friends also provided evidence that Inyo County was prominently mentioned as a sponsor of the event in ads and other promotional material.

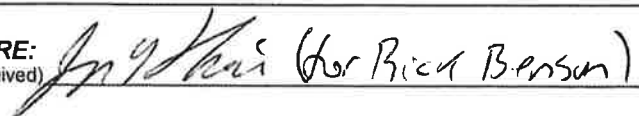
The Lone Pine Chamber of Commerce was awarded a FY 2018-19 County of Inyo Community Project Sponsorship Fishing Derby Grant in the amount of \$7,500 to help sponsor the Lone Pine Early Opener Fishing Derby. After contracts were finalized, 75 percent the grant funds were disbursed to the Chamber. The event organizers have provided staff with sufficient documentation of acceptable expenses for reimbursement for a final payment of \$1,875. The Chamber also provided evidence that Inyo County was prominently mentioned as a sponsor of the event in ads and other promotional material.

ALTERNATIVES: The Board could deny the requests.

OTHER AGENCY INVOLVEMENT: County Administrator's Office, Auditor/Controller.

FINANCING: The Community Project Sponsorship Program is part of the Advertising County Resources budget and is financed from the General Fund. Funds for these grants have been budgeted in the FY 2017-18 and 2018-19 Advertising County Resources Budget (011400) in the Object Codes noted in the Departmental Recommendation.

APPROVALS	
COUNTY COUNSEL:	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS <i>(Must be reviewed and approved by county counsel prior to submission to the board clerk.)</i> Approved: _____ Date _____
AUDITOR/CONTROLLER:	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i>  Approved: <u>yes</u> Date <u>4/2/2019</u>
PERSONNEL DIRECTOR:	PERSONNEL AND RELATED ITEMS <i>(Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)</i> Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:  Date: 4-2-19
 (Not to be signed until all approvals are received)



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

9

- Consent
 Departmental
 Correspondence Action
 Public Hearing
 Scheduled Time for
 Closed Session
 Informational

FROM: County Administration – Economic Development

FOR THE BOARD MEETING: June 11, 2019

SUBJECT: Blanket Purchase Order – Experience Video Project

DEPARTMENTAL RECOMMENDATION:

Approve a blanket purchase order in the amount of \$12,360 for Inverted Life LLC to create video content for the Inyo County Economic Development Experience Video Project.

SUMMARY DISCUSSION:

Inverted Life LLC is one of the videographers utilized by the County this fiscal year to produce video content for the County's Experience Video Project, including, among others, a paragliding video and a fishing video. The work product has been professional and of a quality exceeding what our budget demands. This agenda item is needed because the total amount of payments for pending video projects will slightly exceed the purchasing policy threshold triggering Board approval. Contracts for each video are entered into by the Purchasing Agent for each discrete video project.

FINANCING: Funding is available in the CAO Economic Development Budget 010202.

APPROVALS	
AUDITOR/CONTROLLER:	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i> <div style="text-align: right; margin-top: 20px;"> Approved: <u>[Signature]</u> Date <u>5/31/19</u> </div>

DEPARTMENT HEAD SIGNATURE:

(Not to be signed until all approvals are received)

[Signature]

Date 6/3/19

(The Original plus 14 copies of this document are required)



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

10

- Consent
 Departmental
 Correspondence Action
 Public Hearing
 Scheduled Time for
 Closed Session
 Informational

FROM: Jon Klusmire, Museum Services Administrator
FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Final County of Inyo Community Project Sponsorship Program payments to the Bishop Area Chamber of Commerce and Visitors Bureau for successfully completing one 2019 Non-Competitive--Fishing Derby Community Project Sponsorship Program grant and the Lone Pine Chamber of Commerce for successfully completing one 2019 Non-Competitive Line Item Community Project Sponsorship Program grant.

DEPARTMENTAL RECOMMENDATION: Request your Board approve final payments from the 2018-19 Advertising County Resources Budget, 011400, to the Bishop Area Chamber of Commerce and Visitors Bureau for \$1,875 for the 2019 Blake Jones Trout Derby (Object Code 5513), and to the Lone Pine Chamber of Commerce for \$3,303 for the 2019 Wild Wild West Marathon (Object Code 5587).

SUMMARY DISCUSSION: The Bishop Chamber of Commerce and Visitors Bureau was awarded a FY 2018-19 County of Inyo Community Project Sponsorship Program Fishing Derby Grant in the amount of \$7,500 to help sponsor the Blake Jones Fishing Derby. After contracts were finalized, 75 percent the grant funds were disbursed to the Chamber. As outlined in the County Contract for CPSP Fishing Derbies, the event organizers have provided staff "a final written report to the County that includes an overview of the event or project, a statistical overview of the event or project, number of participants, etc., or other relevant details about the project event." See attached. This is sufficient documentation to award reimbursement for a final payment of \$1,875. The Chamber also provided evidence that Inyo County was prominently mentioned as a sponsor of the event in ads and other promotional material.


The Lone Pine Chamber of Commerce was awarded a FY 2018-19 Non-Competitive Line Item County of Inyo Community Project Sponsorship Grant in the amount of \$6,006 to help sponsor the Wild Wild West Marathon. After contracts were finalized, 50 percent the grant funds were disbursed to the Chamber. The event organizers have provided staff with sufficient documentation of acceptable expenses for reimbursement for a final payment of \$3,303. The Chamber also provided evidence that Inyo County was prominently mentioned as a sponsor of the event in ads and other promotional material.

ALTERNATIVES: The Board could deny the request.

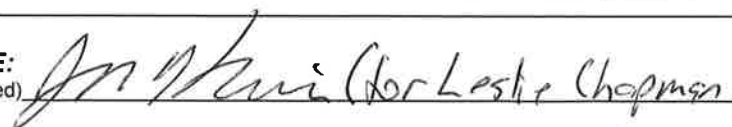
OTHER AGENCY INVOLVEMENT: County Administrator's Office, Auditor/Controller.

FINANCING: The Community Project Sponsorship Program is part of the Advertising County Resources budget and is financed from the General Fund. Funds for these grants have been budgeted in the FY 2018-19 Advertising County Resources Budget (011400) in the Object Code noted in the Departmental Recommendation.

APPROVALS

COUNTY COUNSEL:	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) Approved: _____ Date _____
AUDITOR/CONTROLLER:	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)  Approved: <u>Yes</u> Date <u>5-31-19</u>
PERSONNEL DIRECTOR:	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.) Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:
 (Not to be signed until all approvals are received)

 Date: 5-29-19

2019 BLAKE JONES TROUT DERBY

FINAL REPORT FOR INYO COUNTY & REQUEST FOR REIMBURSEMENT OF PROJECT EXPENSES



THANK YOU for your continued support of this important event! Without the assistance of Inyo County and help from our many co-sponsors & volunteers, the continuation of the Blake Jones Trout Derby might not be possible.

2019 Blake Jones Highlights

- Solid participation and a good mix of local and out of the area participants: 20% from Inyo County and 80% from outside of our region.
- Increased numbers of families fishing together.
- Excellent Fishing Conditions – waters were well stocked which makes for happy customers!
- Great local and out of the area press coverage prior to and following event.
- Maintained impressive level of co-sponsorship of prizes – approximately \$10,000 in donated equipment, merchandise and gift certificates awarded.
- Maintained awesome level of volunteer support – more than 30 individuals donated time to help set-up & clean-up, register & check-in participants, weigh fish & other duties.

The Blake Jones Trout Derby produces an excellent ROI for Inyo County! Many participants stay in Inyo County campgrounds, plus they dine and shop in area businesses from Lone Pine to Bishop. In addition to immediate financial returns, the event serves to encourage year-round visitation to the Eastern Sierra. In 2019, we celebrated the 51ST Blake Jones Trout Derby and we hope to continue to host the event for many years to come.

Once again, thank you!

Wrights Rainbows

16019 N. Hwy 34
Thatcher, Idaho 83283
Phone: (208) 427-6623

INVOICE

INVOICE #[100]
DATE: MARCH 18, 2019

TO: BISHOP CHAMBER OF COMMERCE
690 N. Main Street
Bishop, CA 93514
Phone: Tawni Thomson: 760-873-8405

DESCRIPTION	AMOUNT
1600 lbs. Rainbow Trout (catchable) @ \$5.50	\$8,800.00

BISHOP AREA CHAMBER OF COMMERCE & VISITORS BUREAU

Wrights Rainbows
TOUR: Fish Planting

3/19/2019

17082

8,800.00

PAYMENT
RECORD

ESCB Checking

8,800.00





May 16, 2019

Inyo County Board of Supervisors
Drawer N
Independence CA 93526

Dear Board,

The Lone Pine Chamber is grateful for your participation as a sponsor of the 2019 Wild Wild West Marathon and Ultras.

This year the weather was amazing and we had about 262 runners complete their course, and we didn't lose one.

This is a great race that keeps bringing people from all over the world to our area and we thank you so much for all you do to benefit our communities.

Sincerely,

Kathleen New
President/CEO
Lone Pine Chamber of Commerce



**COUNTY OF INYO
COMMUNITY PROJECT SPONSORSHIP PROGRAM
REIMBURSEMENT REQUEST FORM**

Mail Reimbursement Request To:
County of Inyo
Community Project Sponsorship Program
P. O. Drawer N
Independence, CA 93526

Total Requested \$ 3,033.00
Mid Project Request
(list relevant invoices)
Final Payment Request
(if yes, complete all sections
below)

Grant Recipient Name Lone Pine Chamber of Commerce

Project Name Wild Wild West Marathon and Ultras

EXPENDITURES (LIST ONLY THOSE FOR WHICH INVOICES ARE ATTACHED)			
INVOICE DATE	VENDOR NAME	DESCRIPTION OF SERVICES RENDERED	INVOICE AMOUNT
	See attached		

Invoice Total \$ 13,241.68
Total Reimbursement requested (if different) \$ 3,033.00

CHECK LIST FOR FINAL REIMBURSEMENT

Sample of Promotional Materials Identifying Inyo County as a Sponsor of the Activity Date Project/Event Completed 5/4/2019

Final Report to the Board of Supervisors
Oral Report Report of Eligible Staff Costs
Written Report

Documentation of All Eligible Expenses

I certify that all expenditures associated with this reimbursement request are consistent with the grant agreement between the Grant Recipient named above and the County of Inyo

Signature of Representative _____ Title _____ Date 5/16/2019

Wild Wild West 2019			
Date	Vendor	Purpose	Amount
1/28/2019	ultrarunning Magazine	advertising	\$ 340.00
11/26/2018	ultrarunning Magazine	advertising	\$ 340.00
1/30/2019	Skratch labs	sport hydration	\$ 249.00
2/7/2019	Myron Corp	goodie bag	\$ 1,314.41
3/20/2019	Rainbow Racing	bibs	\$ 134.54
4/29/2019	Philadelphia Insurance	Insurance	\$ 614.60
3/25/22019	Pacifica T Shirt	t shirts	\$ 2,808.45
3/24/2019	Pacifica T Shirt	t shirts	\$ 366.40
4/30/2019	Drew Wickman	trophies	\$ 1,555.00
11/21/3520	BLM	Permit	\$ 1,452.00
1/24/2019	USPO	Postage	\$ 100.00
5/2/2019	Lone Pine Market	water stop supplies	\$ 195.06
4/5/2019	Lone Pine Market	water stop supplies	\$ 141.77
7/24/1914	Lone Pine Market	water stop supplies	\$ 95.46
4/11/2019	Lone Pine Mobil	gas	\$ 50.26
4/25/2019	Grocery Outlet	water stop supplies	\$ 39.80
4/27/2019	Smart and Final	water stop supplies	\$ 99.70
4/25/2019	Smart and Final	water stop supplies	\$ 120.23
5/6/2019	Susan Bobb	water stop supplies	\$ 375.00
5/19/2019	Linda Duarte	90 hrs at 15.00	\$ 1,350.00
5/19/2019	Kathleen New	60 hrs at 25.00	\$ 1,500.00
		Total	\$13,241.68



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

11

- Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: County Administrator – Personnel
FOR THE BOARD MEETING OF June 11, 2019

SUBJECT: Request Leave of Absence without Pay

DEPARTMENTAL RECOMMENDATION:

Request your Board consider and grant the employee leave of absence without pay request from June 11, 2019 through September, 10 2019, in accordance with Article X, Leaves, 10.4(a) of the Inyo County Personnel Rules and Regulations.

SUMMARY DISCUSSION:

Pursuant to Article 10.4 of the Inyo County Personnel Rules and Regulations, any leave of absence without pay in excess of 90 days must be approved by the Board of Supervisors. The Personnel Department has received a request for continued medical leave without pay through September 10, 2019. Personnel staff has reviewed the request and recommends this request be granted.

ALTERNATIVES:


The Board deny this request, but that is not recommended by the Personnel Department.

OTHER AGENCY INVOLVEMENT:



FINANCING:

There are not other costs associated with this action.

APPROVALS

COUNTY COUNSEL:	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) Approved: _____ Date _____
AUDITOR/CONTROLLER:	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.) Approved: _____ Date _____
PERSONNEL DIRECTOR:	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)  Approved: <u>✓</u> Date <u>5/31/19</u>

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)


by 

Date: 5/31/19



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only: AGENDA NUMBER
12

- Consent Departmental Correspondence Action Public Hearing
 Scheduled Time Closed Session Informational

FROM: Planning Department, Yucca Mountain Repository Assessment Office

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Yucca Mountain Oversight, Amendment No. Three to the contract between the County of Inyo and the Hydrodynamics Group LLC.

DEPARTMENTAL RECOMMENDATION:

- Request the Board approve Amendment No. Three to the contract between County of Inyo and the Hydrodynamics Group (Hydrodynamics) to amend Section 2 – Term of the agreement to be July 1, 2016 - June 30, 2020; and, authorize the Chairperson to sign, contingent upon appropriate signatures being obtained and adoption of future budgets.

SUMMARY DISCUSSION: Inyo County has been involved as an Affected Unit of Local Government (AULG) throughout the Yucca Mountain high-level radioactive waste repository proceedings. The Hydrodynamics Group LLC has provided consistent and high quality consulting services for the evaluation and monitoring of groundwater regarding the proposed Yucca Mountain repository during this time.


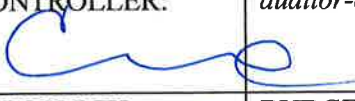

The County had the Hydrodynamics Group LLC under contract from 1997-2013 for professional services regarding groundwater and the proposed Yucca Mountain repository, but let it lapse when the licensing proceedings were halted by the NRC. On June 24, 2014 the County entered into a new sole-source Contract with Hydrodynamics to provide technical expertise in the review and evaluation of the Department of Energy's (DOE) Supplemental Environmental Impact Statement (SEIS) with regard to technical reports, data and information on groundwater impacts of the proposed Yucca Mountain repository and any updates to the 2009 report titled: Analysis of Post Closure Groundwater Impacts for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada. Once this work was completed, this contract also lapsed due to inactivity. The County entered into a new sole-source Contract with Hydrodynamics on July 1, 2016 for further review of the SEIS. The contract was amended on June 27, 2017 extending the time of the contract to end on June 30, 2018 and again on June 5, 2018 to extend it to June 30, 2019. The contract with Hydrodynamics is now proposed to be amended to extend the time of the contract to end on June 30, 2020.

Recent conversations regarding Yucca Mountain indicate that there is still active interest in storing high-level radioactive waste at it and this could open the possibility of the licensing proceedings to restart. It would be in the County's best interest to keep its consultants under contract in case the licensing proceedings or other activities related to Yucca Mountain are to begin again. Funding for Yucca Mountain oversight by the County is funded through money the County receives from the Department of Energy.

ALTERNATIVES: The Board could not approve the amendments. This is not recommended as Hydrodynamics' history and expertise are valuable assets for the County to utilize in reviewing and commenting on activities related to Yucca Mountain.


OTHER AGENCY INVOLVEMENT: The Department of Energy

FINANCING: Projects and oversight of the proposed Yucca Mountain repository are paid with funding through the Department of Energy, and fund balance is available to offset these costs. These amendments do not affect the Yucca Mountain Oversight Budget (620605). If additional funding is required in the future for this work, staff will propose a budget amendment.

APPROVALS	
COUNTY COUNSEL: 	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) yes 5/24/19
AUDITOR/CONTROLLER: 	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.) yes 5/21/2019
PERSONNEL DIRECTOR: 	BUDGET RELATED ITEMS Approved: J Date 5/13/19

DEPARTMENT HEAD SIGNATURE:

(Not to be signed until all approvals are received)

 Date: 5/29/19

Attachments:

- Proposed Contract Amendment for Hydrodynamic No. Three
- Amendments Nos. One and Two
- Original contract

**AMENDMENT NO. THREE TO THE AGREEMENT
BETWEEN THE COUNTY OF INYO AND
THE HYDRODYNAMICS GROUP
FOR THE PROVISION OF PROFESSIONAL SERVICES**

WHEREAS, the County of Inyo (hereinafter referred to as “County”) and The Hydrodynamics Group (hereinafter referred to as Contractor) have entered into an Agreement for the provision of professional services dated June 14, 2016 on County of Inyo Standard Contract No. 156 for the term from July 1, 2016 to June 30, 2017.

WHEREAS, on June 27, 2017 the County and Contractor consented to amend the Agreement at Section 2 - Term to be July 1, 2016 to June 30, 2018.

WHEREAS, on June 5, 2018 the County and Contractor consented to amend the Agreement at Section 2 - Term to be July 1, 2016 to June 30, 2019.

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

County and Contractor hereby amend such Agreement as follows:

- Amend Section 2 - TERM to July 1, 2016 to June 30, 2020

**AMENDMENT NO. THREE TO THE AGREEMENT BETWEEN THE COUNTY
OF INYO AND
THE HYDRODYNAMICS GROUP
FOR THE PROVISION OF PROFESSIONAL SERVICES**

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS
AND SEALS THIS ____ DAY OF _____, _____.

COUNTY

CONTRACTOR

By: _____

By: Michael J. King

Dated: _____


Dated: April 30, 2019

APPROVED AS TO FORM AND LEGALITY:



County Counsel

APPROVED AS TO ACCOUNTING FORM:



County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:



Director of Personnel Services

APPROVED AS TO RISK ASSESSMENT:



County Risk Manager

**AMENDMENT NO. TWO TO THE AGREEMENT
BETWEEN THE COUNTY OF INYO AND
THE HYDRODYNAMICS GROUP
FOR THE PROVISION OF PROFESSIONAL SERVICES**

WHEREAS, the County of Inyo (hereinafter referred to as "County") and The Hydrodynamics Group (hereinafter referred to as Contractor) have entered into an Agreement for the provision of professional services dated June 14, 2016 on County of Inyo Standard Contract No. 156 for the term from July 1, 2016 to June 30, 2017.

WHEREAS, on June 27, 2017 the County and Contractor consented to amend the Agreement at Section 2 - Term to be July 1, 2016 to June 30, 2018.

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

County and Contractor hereby amend such Agreement as follows:

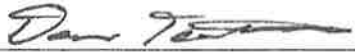
- Amend Section 2 - TERM to July 1, 2016 to June 30, 2019

**AMENDMENT NO. TWO TO THE AGREEMENT BETWEEN THE COUNTY
OF INYO AND
THE HYDRODYNAMICS GROUP
FOR THE PROVISION OF PROFESSIONAL SERVICES**

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS
AND SEALS THIS 5th DAY OF June, 2018.

COUNTY

CONTRACTOR

By: 

By: 


Dated: 6-5-18

Dated: April 19, 2018

APPROVED AS TO FORM AND LEGALITY:


County Counsel

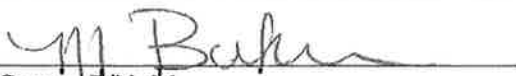
APPROVED AS TO ACCOUNTING FORM:


County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:


Director of Personnel Services

APPROVED AS TO RISK ASSESSMENT:


County Risk Manager

**AMENDMENT NO. ONE TO THE AGREEMENT
BETWEEN THE COUNTY OF INYO AND
THE HYDRODYNAMICS GROUP
FOR THE PROVISION OF PROFESSIONAL SERVICES**

WHEREAS, the County of Inyo (hereinafter referred to as "County") and The Hydrodynamics Group (hereinafter referred to as Contractor) have entered into an Agreement for the provision of professional services dated June 14, 2016 on County of Inyo Standard Contract No. 156 for the term from July 1, 2016 to June 30, 2017.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

County and Contractor hereby amend such Agreement as follows:

Amend Section 2 - TERM to July 1, 2016 to June 30, 2018

AMENDMENT NO. ONE TO THE AGREEMENT BETWEEN THE COUNTY OF
INYO AND
THE HYDRODYNAMICS GROUP
FOR THE PROVISION OF PROFESSIONAL SERVICES

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS
AND SEALS THIS 27th DAY OF June, 2017.

COUNTY

CONTRACTOR

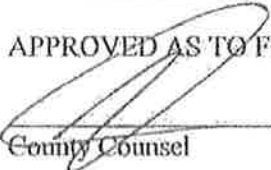
By: Mark Tiller

By: May 30, 2017

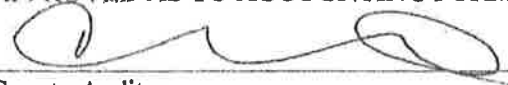
Dated: 6/27/17

Dated: Michael J. King

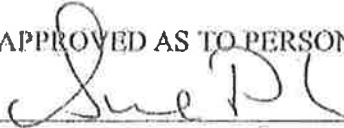
APPROVED AS TO FORM AND LEGALITY:


County Counsel


APPROVED AS TO ACCOUNTING FORM:


County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:


Director of Personnel Services

APPROVED AS TO RISK ASSESSMENT:


County Risk Manager

AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services SERVICES

INTRODUCTION

WHEREAS, the County of Inyo (hereinafter referred to as "County") has the need for the Hydrological Consulting Services services of The Hydrodynamics Group, LLC (hereinafter referred to as "Consultant"), and in consideration of the mutual promises, covenants, terms, and conditions hereinafter contained, the parties hereby agree as follows:

TERMS AND CONDITIONS

1. SCOPE OF WORK.

The Consultant shall furnish to the County, upon its request, those services and work set forth in Attachment A, attached hereto and by reference incorporated herein. Requests by the County to the Consultant to perform under this Agreement will be made by the Inyo County Planning Director. Requests to the Consultant for work or services to be performed under this Agreement will be based upon the County's need for such services. The County makes no guarantee or warranty, of any nature, that any minimum level or amount of services or work will be requested of the Consultant by the County under this Agreement. County by this Agreement incurs no obligation or requirement to request from Consultant the performance of any services or work at all, even if County should have some need for such services or work during the term of this Agreement.

Services and work provided by the Consultant at the County's request under this Agreement will be performed in a manner consistent with the requirements and standards established by applicable federal, state, and County laws, ordinances, regulations, and resolutions. Such laws, ordinances, regulations, and resolutions include, but are not limited to, those which are referred to in this Agreement and, as applicable, as set forth, in Attachment E, attached hereto and incorporated herein.

2. TERM.

The term of this Agreement shall be from July 1, 2016 to June 30, 2017 unless sooner terminated as provided below.

3. CONSIDERATION.

A. Compensation. County shall pay Consultant in accordance with the Schedule of Fees (set forth as Attachment B) for the services and work described in Attachment A which are performed by Consultant at the County's request.

B. Travel and per diem. County shall reimburse Consultant for the travel expenses and per diem which Consultant incurs in providing services and work requested by County under this Agreement. Consultant shall request approval by the County prior to incurring any travel or per diem expenses. Requests by Consultant for approval to incur travel and per diem expenses shall be submitted to the Inyo County Planning Director. Travel and per diem expenses will be reimbursed in accordance with the rates set forth in the Schedule of Travel and Per Diem Payment (Attachment C). County reserves the right to deny reimbursement to Consultant for travel or per diem expenses which are either in excess of the amounts that may be paid under the rates set forth in Attachment C, or which are incurred by the Consultant without the prior approval of the County.

C. No additional consideration. Except as expressly provided in this Agreement, Consultant shall not be entitled to, nor receive, from County, any additional consideration, compensation, salary, wages, or other type of remuneration for services rendered under this Agreement. Specifically, Consultant shall not be entitled, by virtue of this Agreement, to consideration in the form of overtime, health insurance benefits, retirement benefits, disability retirement benefits, sick leave, vacation time, paid holidays, or other paid leaves of absence of any type or kind whatsoever.

D. Limit upon amount payable under Agreement. The total sum of all payments made by the County to Consultant for services and work performed under this Agreement, including travel and per diem expenses, if any, shall not exceed \$20,000 Dollars (hereinafter referred to as "contract limit"). County expressly reserves the right to deny any payment or reimbursement requested by Consultant for services or work performed, including travel or per diem, which is in excess of the contract limit.

E. Billing and payment. Consultant shall submit to the County, once a month, an itemized statement of all hours spent by Consultant in performing services and work described in Attachment A, which were done at the County's request. This statement will be submitted to the County not later than the fifth (5th) day of the month. The statement to be submitted will cover the period from the first (1st) day of the preceding month through and including the last day of the preceding month. This statement will identify the date on which the hours were worked and describe the nature of the work which was performed on each day. Consultant's statement to the County will also include an itemization of any travel or per diem expenses, which have been approved in advance by County, incurred by Consultant during that period. The itemized statement for travel expenses and per diem will include receipts for lodging, meals, and other incidental expenses in accordance with the County's accounting procedures and rules. Upon timely receipt of the statement by the fifth (5th) day of the month, County shall make payment to Consultant on the last day of the month.

F. Federal and State taxes.

- (1) Except as provided in subparagraph (2) below, County will not withhold any federal or state income taxes or social security from any payments made by County to Consultant under the terms and conditions of this Agreement.
- (2) County will withhold California State income taxes from payments made under this Agreement to non-California resident independent Consultant's when it is anticipated that total annual payments to Consultant under this Agreement will exceed one thousand four hundred ninety nine dollars (\$1,499.00).
- (3) Except as set forth above, County has no obligation to withhold any taxes or payments from sums paid by County to Consultant under this Agreement. Payment of all taxes and other assessments on such sums is the sole responsibility of Consultant. County has no responsibility or liability for payment of Consultant's taxes or assessments.
- (4) The total amounts paid by County to Consultant, and taxes withheld from payments to non-California residents, if any, will be reported annually to the Internal Revenue Service and the California State Franchise Tax Board. To facilitate this reporting, Consultant shall complete and submit to the County an Internal Revenue Service (IRS) Form W-9 upon executing this Agreement.

4. WORK SCHEDULE.

Consultant's obligation is to perform, in a timely manner, those services and work identified in Attachment A which are requested by the County. It is understood by Consultant that the performance of these services and work will require a varied schedule. Consultant will arrange his/her own schedule, but will coordinate with County to insure that all services and work requested by County under this Agreement will be performed within the time frame set forth by County.

5. REQUIRED LICENSES, CERTIFICATES, AND PERMITS.

A. Any licenses, certificates, or permits required by the federal, state, county, or municipal governments for Consultant to provide the services and work described in attachment A must be procured by Consultant and be valid at the time Consultant enters into this Agreement or as otherwise may be required. Further, during the term of this Agreement, Consultant must maintain such licenses, certificates, and permits in full force and effect. Licenses, certificates, and permits may include, but are not limited to, driver's licenses, professional licenses or certificates, and business licenses. Such licenses, certificates, and permits will be procured and maintained in force by Consultant at no expense to the County. Consultant will provide County, upon execution of this Agreement, with evidence of current and valid licenses, certificates and permits which are required to perform the services identified in Attachment A. Where there is a dispute between Consultant and County as to what licenses, certificates, and permits are required to perform the services identified in Attachment A, County reserves the right to make such determinations for purposes of this Agreement.

B. Consultant warrants that it is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in covered transactions by any federal department or agency. Consultant also warrants that it is not suspended or debarred from receiving federal funds as listed in the List of Parties Excluded from Federal Procurement or Non-procurement Programs issued by the General Services Administration available at: <http://www.sam.gov>.

6. OFFICE SPACE, SUPPLIES, EQUIPMENT, ETC.

Consultant shall provide such office space, supplies, equipment, vehicles, reference materials, and telephone service as is necessary for Consultant to provide the services identified in Attachment A to this Agreement. County is not obligated to reimburse or pay Consultant, for any expense or cost incurred by Consultant in procuring or maintaining such items. Responsibility for the costs and expenses incurred by Consultant in providing and maintaining such items is the sole responsibility and obligation of Consultant.

7. COUNTY PROPERTY.

A. Personal Property of County. Any personal property such as, but not limited to, protective or safety devices, badges, identification cards, keys, etc. provided to Consultant by County pursuant to this Agreement are, and at the termination of this Agreement remain, the sole and exclusive property of County. Consultant will use reasonable care to protect, safeguard and maintain such items while they are in Consultant's possession. Consultant will be financially responsible for any loss or damage to such items, partial or total, which is the result of Consultant's negligence.

B. Products of Consultant's Work and Services. Any and all compositions, publications, plans, s, specifications, blueprints, maps, formulas, processes, photographs, slides, video tapes, computer programs, computer disks, computer tapes, memory chips, soundtracks, audio recordings, films, audio-visual presentations, exhibits, reports, studies, works of art, inventions, patents, trademarks, copyrights, or intellectual properties of any kind which are created, produced, assembled, compiled by, or are the result,

product, or manifestation of, Consultant's services or work under this Agreement are, and at the termination of this Agreement remain, the sole and exclusive property of the County. At the termination of the Agreement, Consultant will convey possession and title to all such properties to County.

8. INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICES.

For the duration of this Agreement Consultant shall procure and maintain insurance of the scope and amount specified in Attachment D and with the provisions specified in that attachment.

9. STATUS OF CONSULTANT.

All acts of Consultant, its agents, officers, and employees, relating to the performance of this Agreement, shall be performed as independent Consultant's, and not as agents, officers, or employees of County. Consultant, by virtue of this Agreement, has no authority to bind or incur any obligation on behalf of County. Except as expressly provided in Attachment A, Consultant has no authority or responsibility to exercise any rights or power vested in the County. No agent, officer, or employee of the Consultant is to be considered an employee of County. It is understood by both Consultant and County that this Agreement shall not under any circumstances be construed or considered to create an employer-employee relationship or a joint venture. As an independent Consultant:

A. Consultant shall determine the method, details, and means of performing the work and services to be provided by Consultant under this Agreement.

B. Consultant shall be responsible to County only for the requirements and results specified in this Agreement, and except as expressly provided in this Agreement, shall not be subjected to County's control with respect to the physical action or activities of Consultant in fulfillment of this Agreement.

C. Consultant, its agents, officers, and employees are, and at all times during the term of this Agreement shall, represent and conduct themselves as independent Consultant's, and not as employees of County.

10. DEFENSE AND INDEMNIFICATION.

For professional services rendered under this Contract, Consultant agrees to indemnify, including the cost to defend County and its officers, officials, employees, and volunteers from and against any and all claims, demands, costs, or liability that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant and its employees or agents in the performance of professional services under this contract, but this indemnity does not apply to liability for damages arising from the sole negligence, active negligence, or willful acts of the County.

Contractor shall hold harmless, defend, and indemnify County and its officers, officials, employees, and volunteers from and against all claims, damages, losses, and expenses including attorney fees arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission of the Consultant, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the County.

Consultant's obligation to defend, indemnify, and hold the County, its agents, officers, and employees harmless under the provisions of this paragraph is not limited to, or restricted by, any requirement in this Agreement for Consultant to procure and maintain a policy of insurance. If the Consultant maintains higher limits than the minimum required on the Insurance attachment to this Agreement, the County requires and shall be entitled to coverage for the higher limits maintained by the Consultant.

To the extent permitted by law, County shall defend, indemnify, and hold harmless Consultant, its agents, officers, and employees from and against all claims, damages, losses, judgments, liabilities,

expenses, and other costs, including litigation costs and attorney's fees, arising out of, or resulting from, the active negligence, or wrongful acts of County, its officers, or employees.

11. RECORDS AND AUDIT.

A. Records. Consultant shall prepare and maintain all records required by the various provisions of this Agreement, federal, state, and municipal law, ordinances, regulations, and directions. Consultant shall maintain these records for a minimum of four (4) years from the termination or completion of this Agreement. Consultant may fulfill its obligation to maintain records as required by this paragraph by substitute photographs, microphotographs, or other authentic reproduction of such records.

B. Inspections and Audits. Any authorized representative of County shall have access to any books, documents, papers, records, including, but not limited to, financial records of Consultant, which County determines to be pertinent to this Agreement, for the purposes of making audit, evaluation, examination, excerpts, and transcripts during the period such records are to be maintained by Consultant. Further, County has the right, at all reasonable times, to audit, inspect, or otherwise evaluate the work performed or being performed under this Agreement.

12. NONDISCRIMINATION.

During the performance of this Agreement, Consultant, its agents, officers, and employees shall not unlawfully discriminate in violation of any federal, state, or local law, against any employee, or applicant for employment, or person receiving services under this Agreement, because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age, or sex. Consultant and its agents, officers, and employees shall comply with the provisions of the Fair Employment and Housing Act (Government Code section 12900, et seq.), and the applicable regulations promulgated thereunder in the California Code of Regulations. Consultant shall also abide by the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, and all administrative rules and regulations issued pursuant to said act.

13. CANCELLATION.

This Agreement may be canceled by County without cause, and at will, for any reason by giving to Consultant thirty (30) days written notice of such intent to cancel. Consultant may cancel this Agreement without cause, and at will, for any reason whatsoever by giving thirty (30) days written notice of such intent to cancel to County.

14. ASSIGNMENT.

This is an agreement for the services of Consultant. County has relied upon the skills, knowledge, experience, and training of Consultant as an inducement to enter into this Agreement. Consultant shall not assign or subcontract this Agreement, or any part of it, without the express written consent of County. Further, Consultant shall not assign any monies due or to become due under this Agreement without the prior written consent of County.

15. DEFAULT.

If the Consultant abandons the work, or fails to proceed with the work and services requested by County in a timely manner, or fails in any way as required to conduct the work and services as required by County, County may declare the Consultant in default and terminate this Agreement upon five (5) days written notice to Consultant. Upon such termination by default, County will pay to Consultant all amounts owing to Consultant for services and work satisfactorily performed to the date of termination.

16. WAIVER OF DEFAULT.

Waiver of any default by either party to this Agreement shall not be deemed to be waiver of any subsequent default. Waiver or breach of any provision of this Agreement shall not be deemed to be a waiver of any other or subsequent breach, and shall not be construed to be a modification of the terms of this Agreement unless this Agreement is modified as provided in paragraph twenty-two (22) below.

17. CONFIDENTIALITY.

Consultant further agrees to comply with the various provisions of the federal, state, and county laws, regulations, and ordinances providing that information and records kept, maintained, or accessible by Consultant in the course of providing services and work under this Agreement, shall be privileged, restricted, or confidential. Consultant agrees to keep confidential all such information and records. Disclosure of such confidential, privileged, or protected information shall be made by Consultant only with the express written consent of the County. Any disclosure of confidential information by Consultant without the County's written consent is solely and exclusively the legal responsibility of Consultant in all respects.

Notwithstanding anything in the Agreement to the contrary, names of persons receiving public social services are confidential and are to be protected from unauthorized disclosure in accordance with Title 45, Code of Federal Regulations Section 205.50, the Health Insurance Portability and Accountability Act of 1996, and Sections 10850 and 14100.2 of the Welfare and Institutions Code, and regulations adopted pursuant thereto. For the purpose of this Agreement, all information, records, and data elements pertaining to beneficiaries shall be protected by the provider from unauthorized disclosure.

18. CONFLICTS.

Consultant agrees that it has no interest, and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of the work and services under this Agreement.

19. POST AGREEMENT COVENANT.

Consultant agrees not to use any confidential, protected, or privileged information which is gained from the County in the course of providing services and work under this Agreement, for any personal benefit, gain, or enhancement. Further, Consultant agrees for a period of two years after the termination of this Agreement, not to seek or accept any employment with any County, association, corporation, or person who, during the term of this Agreement, has had an adverse or conflicting interest with the County, or who has been an adverse party in litigation with the County, and concerning such, Consultant by virtue of this Agreement has gained access to the County's confidential, privileged, protected, or proprietary information.

20. SEVERABILITY.

If any portion of this Agreement or application thereof to any person or circumstance shall be declared invalid by a court of competent jurisdiction, or if it is found in contravention of any federal, state, or county statute, ordinance, or regulation, the remaining provisions of this Agreement, or the application thereof, shall not be invalidated thereby, and shall remain in full force and effect to the extent that the provisions of this Agreement are severable.

21. FUNDING LIMITATION.

The ability of County to enter this Agreement is based upon available funding from various sources. In the event that such funding fails, is reduced, or is modified, from one or more sources, County has the option to cancel, reduce, or modify this Agreement, or any of its terms within ten (10) days of its notifying Consultant of the cancellation, reduction, or modification of available funding. Any reduction or modification of this Agreement made pursuant to this provision must comply with the requirements of paragraph twenty-two (22) (Amendment).

22. AMENDMENT.

This Agreement may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties hereto, if such amendment or change is in written form and executed with the same formalities as this Agreement, and attached to the original Agreement to maintain continuity.

23. NOTICE.

Any notice, communication, amendments, additions, or deletions to this Agreement, including change of address of either party during the terms of this Agreement, which Consultant or County shall be required, or may desire, to make, shall be in writing and may be personally served, or sent by prepaid first class mail to, the respective parties as follows:

County of Inyo:	
Inyo County Planning Department	Department
PO Drawer L	Address
Independence, CA 93526	City and State

Consultant:	
The Hydrodynamics Group, LLC	Name
18711 76th Avenue West	Address
Edmonds, WA 98626	City and State

24. ENTIRE AGREEMENT.

This Agreement contains the entire agreement of the parties, and no representations, inducements, promises, or agreements otherwise between the parties not embodied herein or incorporated herein by reference, shall be of any force or effect. Further, no term or provision hereof may be changed, waived, discharged, or terminated, unless the same be in writing executed by the parties hereto.


///

///

AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services SERVICES

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS AND SEALS THIS
DAY OF _____

COUNTY OF INYO

By: 
Dated: 6-14-16

CONSULTANT

By: Michael J. King
Signature
Michael J. King
Print or Type Name
Dated: May 11, 2016

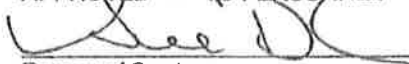
APPROVED AS TO FORM AND LEGALITY:


County Counsel

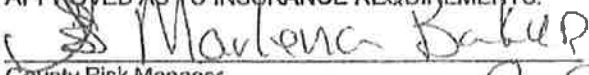

APPROVED AS TO ACCOUNTING FORM:


County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:


Personnel Services

APPROVED AS TO INSURANCE REQUIREMENTS:


County Risk Manager


ATTACHMENT A

**AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services **SERVICES****

TERM:

FROM: July 1, 2016

TO: June 30, 2017

SCOPE OF WORK:

1. Contractor shall assist the County in the review and evaluation of the Final Supplemental Environmental Impact Statement (SEIS) that was prepared by the U.S. Nuclear Regulatory Commission (NRC) addressing the post closure impacts of the proposed Yucca Mountain nuclear waste repository on groundwater resources, for the level and quality of the NRC responses to the County's comments on the Draft SEIS. This work shall include, but not be limited to, a review to ensure that the NRC responded to each of the County's comments on the DRAFT SEIS; an evaluation of the responses to ensure the County's concerns have been addressed appropriately; provide a written summary of these findings; and be prepared to assist the County in supporting its exiting contentions or crafting new contentions based on the comments and concerns the County has submitted to the NRC. This work may also include evaluating any new models or information introduced by the NRC in the Final SEIS.
2. Contractor shall receive direction as to the scope of the work to be performed from the Inyo County Planning Department and/or the Inyo County County Counsel.
3. Contractor shall provide all secretarial and clerical support reasonably and customarily necessary to perform the services described in this Agreement.
4. Contractor shall maintain and retain files and materials on cases and other matters upon which he/she is working. Once completed, Contractor may deliver the files and materials to the Inyo County Planning Department for storage.

ATTACHMENT B

**AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services SERVICES**

TERM:

FROM: July 1, 2016

TO: June 30, 2017

SCHEDULE OF FEES:

1. COMPENSATION:

County shall pay to Contractor for the work and services as described in Attachment A which are performed by the Contractor at County's request, at a rate not to exceed \$20,000.

2. INCIDENTAL EXPENSES:

County shall reimburse Contractor for those incidental expenses which are necessarily incurred by Contractor in providing the services and work under this Agreement. Reimbursement for incidental expenses shall not be paid in excess of the amount of Compensation (\$20,000).

ATTACHMENT C

**AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services SERVICES**

TERM:

FROM: July 1, 2016 **TO:** June 30, 2017

SCHEDULE OF TRAVEL AND PER DIEM PAYMENT:

Contractor will be compensated only for expenses incurred while performing tasks specified in the Scope of Work. Travel and Per Diem expenses will be paid out of the \$20,000 total cost of the contracted work and travel only for tasks included in the Scope of Work will be reimbursed.

ATTACHMENT D

**AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services **SERVICES****

TERM:

FROM: July 1, 2016 **TO:** June 30, 2017

SEE ATTACHED INSURANCE PROVISIONS

ATTACHMENT E

AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services SERVICES

TERM:

FROM: July 1, 2016

TO: June 30, 2017

FEDERAL FUNDS ADDENDUM

1. Section 11, Part B, *Inspections and Audits*, of the contract is amended to read:

"Any authorized representative of the County, or of a federal, or state agency shall have access to any books, documents, papers, records, including, but not limited to, financial records of the Consultant, which the County or federal or state agency determines to be pertinent to this Agreement, for the purposes of making audit, evaluation, examination, excerpts, and transcripts during the period such records are to be maintained by Consultant. Further, the County or federal or state agency has the right, at all reasonable times, to audit, inspect, or otherwise evaluate the work performed or being performed under this Agreement. Copies of any of these records shall be furnished, if requested."
2. **Covenant Against Contingent Fees.** The Consultant warrants that he/she has not employed or retained any company or person, other than a bona fide employee working for the consultant, to solicit or secure this agreement, and that he/she has not paid or agreed to pay any company or person other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award, or formation of this agreement. For breach or violation of this warranty, the local agency shall have the right to annul this agreement without liability, or at its discretion; to deduct from the agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.
3. **Delays and Extensions.** The term of the contract may be extended in the case of unavoidable delays, changes in the scope of work or level of effort required to meet the project objectives, and for consideration of corresponding warranted adjustments in payment. An extension of contract time is granted as described in Section 23, *Amendment*, of the contract.
4. **Termination or Abandonment.** The provisions of Section 15, *Default*, will also apply if the contract is terminated because of circumstances beyond the control of the consultant. The provisions of the section entitled "County Property" Section 7.B., shall apply to any partially completed work if the contract is terminated or abandoned.
5. **General Compliance with Laws and Wage Rates.** The consultant shall comply with the State of California's General Prevailing Wage Rate requirements in accordance with California Labor Code, Section 177, and all federal, state, and local laws and ordinances applicable to the work.

Any subcontract entered into as a result of this contract if for more than \$25,000 for public works construction or more than \$15,000 for the alteration, demolition, repair, or maintenance of public works, shall contain all of the provisions of this Article.

ATTACHMENT E - Continued

AGREEMENT BETWEEN COUNTY OF INYO
AND The Hydrodynamics Group, LLC
FOR THE PROVISION OF Hydrological Consulting Services SERVICES

TERM:

FROM: July 1, 2016

TO: June 30, 2017

FEDERAL FUNDS ADDENDUM

6. **Consultant's Endorsement on PS&E/Other Data.** The consultant's responsible engineer shall sign all plans, specifications, estimates (PS&E) and engineering data furnished by him/her, and where appropriate, indicate his/her California registration number.
7. **Disadvantaged Business Enterprise Considerations.** Consultants must give consideration to DBE firms as specified in 23 CFR 172.5(b), 49 CFR, Part 26. The Consultant shall comply with the applicable provisions of Exhibit 10-I, "Notice to Proposers Disadvantaged Business Enterprise Information," and Exhibit 10-J, "Standard Agreement for Subcontractor/DBE Participation," that were included in the Request for Statements of Qualifications,
8. **Safety.** The consultant shall comply with OSHA regulations applicable to the Consultant regarding necessary safety equipment or procedures. The Consultant shall comply with safety instructions issued by the county's project manager and other county representatives. Consultant personnel shall wear hard hats and safety vests at all time when working on the construction project site.

Pursuant to the authority contained in Section 591 of the Vehicle Code, the county has determined that such areas are within the limits of the project and are open to public traffic. The Consultant shall comply with all of the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. The consultant shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.

Any subcontract entered into as a result of this contract shall contain all of the provisions of the Article.

9. **Certifications.** Exhibits 10-F "Certification of Consultant, Commissions & Fees" and 10-G, "Certification of Agency" are included as attachments to the contract and made a part of.



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

13

- Consent Departmental Correspondence Action Public Hearing
 Scheduled Time Closed Session Informational

FROM: Planning Department, Yucca Mountain Repository Assessment Office

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Yucca Mountain Oversight Budget Amendment: Amendment No. Three to the contract between the County of Inyo and Partner Engineering and Science Inc. /Andy Zdon.

DEPARTMENTAL RECOMMENDATION:

- Request the Board approve Amendment No. Three to the contract between County of Inyo and Partner Engineering and Science Inc. /Andy Zdon to amend Section 2 - Term of the agreement to be July 1, 2016 - June 30, 2020; and, authorize the Chairperson to sign, contingent upon appropriate signatures being obtained and adoption of future budgets.

SUMMARY DISCUSSION: Inyo County has been involved as an Affected Unit of Local Government (AULG) throughout the Yucca Mountain high-level radioactive waste repository proceedings. Andy Zdon has provided consistent and high quality consulting services for the evaluation and monitoring of groundwater regarding the proposed Yucca Mountain repository since 2015.




On May 19, 2015 the Board entered into a contract with Andy Zdon and Associates to review reports and other information relevant to the draft SEIS and to provide assistance to the County in preparing comments on it. Mr. Zdon is a former employee of the Inyo County Water Department, and is very familiar with the hydrology in the vicinity of Yucca Mountain, as well as with the groundwater models used by the DOE and NRC in developing the SEIS. Mr. Zdon has been reviewing the groundwater models being used by the DOE in the SEIS evaluations as well as new ground water models that are under development. Mr. Zdon's contract expired on June 30, 2016. The County and Partner Engineering and Science Inc. / Andy Zdon entered into a new, sole-source, contract on July 1, 2016 for the term of July 1 2016 – June 30, 2017 for further review of the SEIS. The contract was amended on June 27, 2017 extending the time of the contract to end on June 30, 2018 and changed the name of the Contractor to Partner Engineering and Science Inc. / Andy Zdon and was amended again on June 5, 2018 to extend the contract to June 30, 2019. The contract is now proposed to be amended to extend the time of the contract to end June 30, 2020.

Recent conversations regarding Yucca Mountain indicate that there is still active interest in storing high-level radioactive waste at it and this could open the possibility of the licensing proceedings to restart. It would be in the County's best interest to keep its consultants under contract in case the licensing proceedings or other activities related to Yucca Mountain are to begin again. Funding for Yucca Mountain oversight by the County is funded through money the County receives from the Department of Energy.

ALTERNATIVES: The Board could not approve the amendments. This is not recommended as Hydrodynamics' and Zdon's history and expertise are valuable assets for the County to utilize in reviewing and commenting on activities related to Yucca Mountain.

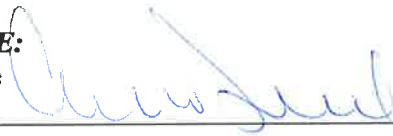
OTHER AGENCY INVOLVEMENT: The Department of Energy

FINANCING: Projects and oversight of the proposed Yucca Mountain repository are paid with funding through the Department of Energy, and fund balance is available to offset these costs. These amendments do not affect the Yucca Mountain Oversight Budget (620605). If additional funding is required in the future for this work, staff will propose a budget amendment.

APPROVALS	
COUNTY COUNSEL: 	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS <i>(Must be reviewed and approved by county counsel prior to submission to the board clerk.)</i> yes 5/24/19
AUDITOR/CONTROLLER: 	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i> yes 5/21/2019
PERSONNEL DIRECTOR: 	BUDGET RELATED ITEMS Approved: J Date 5/13/19

DEPARTMENT HEAD SIGNATURE:

(Not to be signed until all approvals are received)



Date: **5/29/19**

Attachments:

- Proposed Contract Amendment for Hydrodynamics No. Three
- Amendments No. One and Two
- Original contract

AMENDMENT NO. THREE TO THE AGREEMENT
BETWEEN THE COUNTY OF INYO AND
PARTNER ENGINEERING AND SCIENCE INC. /ANDY
ZDON, FOR THE PROVISION OF PROFESSIONAL
SERVICES

WHEREAS, the County of Inyo (hereinafter referred to as “County”) and Partner Engineering and Science Inc. / Andy Zdon (hereinafter referred to as Contractor) have entered into an Agreement for the provision of professional services dated June 14, 2016 on County of Inyo Standard Contract No. 156 for the term from July 1, 2016 to June 30, 2017 for an amount not to exceed \$20,000 (“Agreement”).

WHEREAS, on June 27, 2017 the County and Contractor consented to amend the Agreement at Section 2 - Term to be July 1, 2016 to June 30, 2018 and consented to amend the contractors title to Partner Engineering and Science Inc. / Andy Zdon (“Amendment No. One”). Said Amendment No. One was erroneously titled “Amendment No. Three” based on amendments made to a related, but separate, agreement between County and Contractor dated May 19, 2015, for the term June 1, 2015 through June 30, 2016; and Amendment No. One erroneously identified the term of the Agreement to begin July 1, 2015, instead of July 1, 2016.

WHEREAS, on June 5, 2018 the County and Contractor consented to amend the Agreement at Section 2 - Term to be July 1, 2016 to June 30, 2019.

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

County and Contractor hereby amend such Agreement as follows:

- Amend Section 2- TERM to July 1, 2016 to June 30, 2020

**AMENDMENT NO. THREE TO THE AGREEMENT BETWEEN THE COUNTY
OF INYO AND
PARTNER ENGINEERING AND SCIENCE INC. /ANDY ZDON
FOR THE PROVISION OF PROFESSIONAL SERVICES**

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS
AND SEALS THIS ___ DAY OF _____, _____.

COUNTY

CONTRACTOR

By: _____

By: A. Zdon

Dated: _____

Dated: 5/9/2019

APPROVED AS TO FORM AND LEGALITY:

[Signature]
County Counsel

APPROVED AS TO ACCOUNTING FORM:

[Signature]
County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:

[Signature]
Director of Personnel Services

APPROVED AS TO RISK ASSESSMENT:

[Signature]
County Risk Manager

**AMENDMENT NO. TWO TO THE AGREEMENT
BETWEEN THE COUNTY OF INYO AND
PARTNER ENGINEERING AND SCIENCE INC. / ANDY
ZDON, FOR THE PROVISION OF PROFESSIONAL
SERVICES**

WHEREAS, the County of Inyo (hereinafter referred to as "County") and Partner Engineering and Science Inc. / Andy Zdon (hereinafter referred to as Contractor) have entered into an Agreement for the provision of professional services dated June 14, 2016 on County of Inyo Standard Contract No. 156 for the term from July 1, 2016 to June 30, 2017 for an amount not to exceed \$20,000 ("Agreement").

WHEREAS, on June 27, 2017 the County and Contractor consented to amend the Agreement at Section 2 - Term to be July 1, 2016 to June 30, 2018 and consented to amend the contractors title to Partner Engineering and Science Inc. / Andy Zdon ("Amendment No. One"). Said Amendment No. One was erroneously titled "Amendment No. Three" based on amendments made to a related, but separate, agreement between County and Contractor dated May 19, 2015, for the term June 1, 2015 through June 30, 2016; and Amendment No. One erroneously identified the term of the Agreement to begin July 1, 2015, instead of July 1, 2016.

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

County and Contractor hereby amend such Agreement as follows:

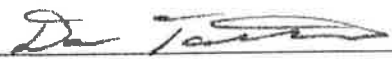
- Amend Section - TERM to July 1, 2016 to June 30, 2019

AMENDMENT NO. TWO TO THE AGREEMENT BETWEEN THE COUNTY OF
INYO AND
PARTNER ENGINEERING AND SCIENCE INC. /ANDY ZDON
FOR THE PROVISION OF PROFESSIONAL SERVICES

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS
AND SEALS THIS 5th DAY OF June, 2018.

COUNTY

CONTRACTOR

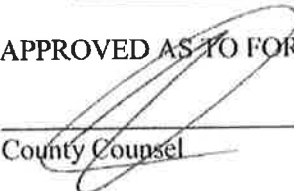
By: 

By: Andrew Zdon - partner esi

Dated: 6-5-18

Dated: 4/19/2018

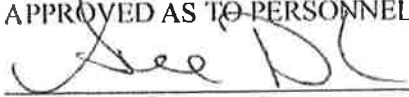
APPROVED AS TO FORM AND LEGALITY:


County Counsel


APPROVED AS TO ACCOUNTING FORM:


County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:


Director of Personnel Services

APPROVED AS TO RISK ASSESSMENT:


County Risk Manager

ONE
AMENDMENT NO. ~~THREE~~ TO THE AGREEMENT
BETWEEN THE COUNTY OF INYO AND
ANDY ZDON FOR THE PROVISION OF PROFESSIONAL
SERVICES

WHEREAS, the County of Inyo (hereinafter referred to as "County") and Andy Zdon and Associates (hereinafter referred to as Contractor) have entered into an Agreement for the provision of professional services dated June 14, 2015 on County of Inyo Standard Contract No. 156 for the term from July 1, 2015 to June 30, 2016.

WHEREAS, on October 15, 2015 the County and Contractor consented to amend the Agreement at Section 3(D) (Limit Upon Amount Payable under Agreement) to increase the total sum of all payments made by the County to Consultant for services and work performed under agreement to \$75,000.

WHEREAS, on June 7, 2016 the County and Contractor consented to amend the Agreement at Section 1 Scope of Work to include: #5 Contractor shall assist County in reviewing the Final supplemental environmental impact statement prepared by the U.S. Nuclear Regulatory Commission that addresses the post closure impacts of the proposed Yucca Mountain nuclear waste repository on groundwater resources to evaluate the adequacy of the NRC staff's responses to the County's comments on the draft version. Contractor shall provide a written summary of this evaluation to the County.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

WHEREAS, such Agreement provides that it may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties thereto, if such amendment or change is in written form, and executed with the same formalities as such Agreement, and attached to the original Agreement to maintain continuity.

WHEREAS, County and Contractor do desire to consent to amend such Agreement as set forth below.

County and Contractor hereby amend such Agreement as follows:

- Amend the contractor's title to Partner Engineering and Science Inc./Andy Zdon
- Amend Section 2 - TERM to July 1, 2015 to June 30, 2018

ONE
~~THREE~~
AMENDMENT NO. ~~0007~~ TO THE AGREEMENT BETWEEN THE COUNTY OF
INYO AND
PARTNER ENGINEERING AND SCIENCE, INC.
FOR THE PROVISION OF PROFESSIONAL SERVICES

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS
AND SEALS THIS 27th DAY OF June, 2017.

COUNTY

CONTRACTOR

By: Mark Telle

By: Andrew Zdon ANDREW ZDON

Dated: 6/27/17

Dated: June 8, 2017

APPROVED AS TO FORM AND LEGALITY:

[Signature]
County Counsel

APPROVED AS TO ACCOUNTING FORM:

[Signature]
County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:

[Signature]
Director of Personnel Services

APPROVED AS TO RISK ASSESSMENT:

[Signature]
County Risk Manager

AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services **SERVICES**

INTRODUCTION

WHEREAS, the County of Inyo (hereinafter referred to as "County") has the need for the Hydrological Consulting Services services of Andy Zdon and Associates, Inc. (hereinafter referred to as "Consultant"), and in consideration of the mutual promises, covenants, terms, and conditions hereinafter contained, the parties hereby agree as follows:

TERMS AND CONDITIONS

1. SCOPE OF WORK.

The Consultant shall furnish to the County, upon its request, those services and work set forth in Attachment A, attached hereto and by reference incorporated herein. Requests by the County to the Consultant to perform under this Agreement will be made by the Inyo County Planning Director. Requests to the Consultant for work or services to be performed under this Agreement will be based upon the County's need for such services. The County makes no guarantee or warranty, of any nature, that any minimum level or amount of services or work will be requested of the Consultant by the County under this Agreement. County by this Agreement incurs no obligation or requirement to request from Consultant the performance of any services or work at all, even if County should have some need for such services or work during the term of this Agreement.

Services and work provided by the Consultant at the County's request under this Agreement will be performed in a manner consistent with the requirements and standards established by applicable federal, state, and County laws, ordinances, regulations, and resolutions. Such laws, ordinances, regulations, and resolutions include, but are not limited to, those which are referred to in this Agreement and, as applicable, as set forth, in Attachment E, attached hereto and incorporated herein.

2. TERM.

The term of this Agreement shall be from July 1, 2016 to June 30, 2017 unless sooner terminated as provided below.

3. CONSIDERATION.

A. Compensation. County shall pay Consultant in accordance with the Schedule of Fees (set forth as Attachment B) for the services and work described in Attachment A which are performed by Consultant at the County's request.

B. Travel and per diem. County shall reimburse Consultant for the travel expenses and per diem which Consultant incurs in providing services and work requested by County under this Agreement. Consultant shall request approval by the County prior to incurring any travel or per diem expenses. Requests by Consultant for approval to incur travel and per diem expenses shall be submitted to the Inyo County Planning Director. Travel and per diem expenses will be reimbursed in accordance with the rates set forth in the Schedule of Travel and Per Diem Payment (Attachment C). County reserves the right to deny reimbursement to Consultant for travel or per diem expenses which are either in excess of the amounts that may be paid under the rates set forth in Attachment C, or which are incurred by the Consultant without the prior approval of the County.

C. No additional consideration. Except as expressly provided in this Agreement, Consultant shall not be entitled to, nor receive, from County, any additional consideration, compensation, salary, wages, or other type of remuneration for services rendered under this Agreement. Specifically, Consultant shall not be entitled, by virtue of this Agreement, to consideration in the form of overtime, health insurance benefits, retirement benefits, disability retirement benefits, sick leave, vacation time, paid holidays, or other paid leaves of absence of any type or kind whatsoever.

D. Limit upon amount payable under Agreement. The total sum of all payments made by the County to Consultant for services and work performed under this Agreement, including travel and per diem expenses, if any, shall not exceed \$20,000 _____ Dollars (hereinafter referred to as "contract limit"). County expressly reserves the right to deny any payment or reimbursement requested by Consultant for services or work performed, including travel or per diem, which is in excess of the contract limit.

E. Billing and payment. Consultant shall submit to the County, once a month, an itemized statement of all hours spent by Consultant in performing services and work described in Attachment A, which were done at the County's request. This statement will be submitted to the County not later than the fifth (5th) day of the month. The statement to be submitted will cover the period from the first (1st) day of the preceding month through and including the last day of the preceding month. This statement will identify the date on which the hours were worked and describe the nature of the work which was performed on each day. Consultant's statement to the County will also include an itemization of any travel or per diem expenses, which have been approved in advance by County, incurred by Consultant during that period. The itemized statement for travel expenses and per diem will include receipts for lodging, meals, and other incidental expenses in accordance with the County's accounting procedures and rules. Upon timely receipt of the statement by the fifth (5th) day of the month, County shall make payment to Consultant on the last day of the month.

F. Federal and State taxes.

- (1) Except as provided in subparagraph (2) below, County will not withhold any federal or state income taxes or social security from any payments made by County to Consultant under the terms and conditions of this Agreement.
- (2) County will withhold California State income taxes from payments made under this Agreement to non-California resident independent Consultant's when it is anticipated that total annual payments to Consultant under this Agreement will exceed one thousand four hundred ninety nine dollars (\$1,499.00).
- (3) Except as set forth above, County has no obligation to withhold any taxes or payments from sums paid by County to Consultant under this Agreement. Payment of all taxes and other assessments on such sums is the sole responsibility of Consultant. County has no responsibility or liability for payment of Consultant's taxes or assessments.
- (4) The total amounts paid by County to Consultant, and taxes withheld from payments to non-California residents, if any, will be reported annually to the Internal Revenue Service and the California State Franchise Tax Board. To facilitate this reporting, Consultant shall complete and submit to the County an Internal Revenue Service (IRS) Form W-9 upon executing this Agreement.

4. WORK SCHEDULE.

Consultant's obligation is to perform, in a timely manner, those services and work identified in Attachment A which are requested by the County. It is understood by Consultant that the performance of these services and work will require a varied schedule. Consultant will arrange his/her own schedule, but will coordinate with County to insure that all services and work requested by County under this Agreement will be performed within the time frame set forth by County.

5. REQUIRED LICENSES, CERTIFICATES, AND PERMITS.

A. Any licenses, certificates, or permits required by the federal, state, county, or municipal governments for Consultant to provide the services and work described in attachment A must be procured by Consultant and be valid at the time Consultant enters into this Agreement or as otherwise may be required. Further, during the term of this Agreement, Consultant must maintain such licenses, certificates, and permits in full force and effect. Licenses, certificates, and permits may include, but are not limited to, driver's licenses, professional licenses or certificates, and business licenses. Such licenses, certificates, and permits will be procured and maintained in force by Consultant at no expense to the County. Consultant will provide County, upon execution of this Agreement, with evidence of current and valid licenses, certificates and permits which are required to perform the services identified in Attachment A. Where there is a dispute between Consultant and County as to what licenses, certificates, and permits are required to perform the services identified in Attachment A, County reserves the right to make such determinations for purposes of this Agreement.

B. Consultant warrants that it is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in covered transactions by any federal department or agency. Consultant also warrants that it is not suspended or debarred from receiving federal funds as listed in the List of Parties Excluded from Federal Procurement or Non-procurement Programs issued by the General Services Administration available at: <http://www.sam.gov>.

6. OFFICE SPACE, SUPPLIES, EQUIPMENT, ETC.

Consultant shall provide such office space, supplies, equipment, vehicles, reference materials, and telephone service as is necessary for Consultant to provide the services identified in Attachment A to this Agreement. County is not obligated to reimburse or pay Consultant, for any expense or cost incurred by Consultant in procuring or maintaining such items. Responsibility for the costs and expenses incurred by Consultant in providing and maintaining such items is the sole responsibility and obligation of Consultant.

7. COUNTY PROPERTY.

A. Personal Property of County. Any personal property such as, but not limited to, protective or safety devices, badges, identification cards, keys, etc. provided to Consultant by County pursuant to this Agreement are, and at the termination of this Agreement remain, the sole and exclusive property of County. Consultant will use reasonable care to protect, safeguard and maintain such items while they are in Consultant's possession. Consultant will be financially responsible for any loss or damage to such items, partial or total, which is the result of Consultant's negligence.

B. Products of Consultant's Work and Services. Any and all compositions, publications, plans, s, specifications, blueprints, maps, formulas, processes, photographs, slides, video tapes, computer programs, computer disks, computer tapes, memory chips, soundtracks, audio recordings, films, audio-visual presentations, exhibits, reports, studies, works of art, inventions, patents, trademarks, copyrights, or intellectual properties of any kind which are created, produced, assembled, compiled by, or are the result,

product, or manifestation of, Consultant's services or work under this Agreement are, and at the termination of this Agreement remain, the sole and exclusive property of the County. At the termination of the Agreement, Consultant will convey possession and title to all such properties to County.

8. INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICES.

For the duration of this Agreement Consultant shall procure and maintain insurance of the scope and amount specified in Attachment D and with the provisions specified in that attachment.

9. STATUS OF CONSULTANT.

All acts of Consultant, its agents, officers, and employees, relating to the performance of this Agreement, shall be performed as independent Consultant's, and not as agents, officers, or employees of County. Consultant, by virtue of this Agreement, has no authority to bind or incur any obligation on behalf of County. Except as expressly provided in Attachment A, Consultant has no authority or responsibility to exercise any rights or power vested in the County. No agent, officer, or employee of the Consultant is to be considered an employee of County. It is understood by both Consultant and County that this Agreement shall not under any circumstances be construed or considered to create an employer-employee relationship or a joint venture. As an independent Consultant:

A. Consultant shall determine the method, details, and means of performing the work and services to be provided by Consultant under this Agreement.

B. Consultant shall be responsible to County only for the requirements and results specified in this Agreement, and except as expressly provided in this Agreement, shall not be subjected to County's control with respect to the physical action or activities of Consultant in fulfillment of this Agreement.

C. Consultant, its agents, officers, and employees are, and at all times during the term of this Agreement shall, represent and conduct themselves as independent Consultant's, and not as employees of County.

10. DEFENSE AND INDEMNIFICATION.

For professional services rendered under this Contract, Consultant agrees to indemnify, including the cost to defend County and its officers, officials, employees, and volunteers from and against any and all claims, demands, costs, or liability that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant and its employees or agents in the performance of professional services under this contract, but this indemnity does not apply to liability for damages arising from the sole negligence, active negligence, or willful acts of the County.

Contractor shall hold harmless, defend, and indemnify County and its officers, officials, employees, and volunteers from and against all claims, damages, losses, and expenses including attorney fees arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission of the Consultant, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, except where caused by the **active negligence**, sole negligence, or willful misconduct of the County.

Consultant's obligation to defend, indemnify, and hold the County, its agents, officers, and employees harmless under the provisions of this paragraph is not limited to, or restricted by, any requirement in this Agreement for Consultant to procure and maintain a policy of insurance. If the Consultant maintains higher limits than the minimum required on the Insurance attachment to this Agreement, the County requires and shall be entitled to coverage for the higher limits maintained by the Consultant.

To the extent permitted by law, County shall defend, indemnify, and hold harmless Consultant, its agents, officers, and employees from and against all claims, damages, losses, judgments, liabilities,

expenses, and other costs, including litigation costs and attorney's fees, arising out of, or resulting from, the active negligence, or wrongful acts of County, its officers, or employees.

11. RECORDS AND AUDIT.

A. Records. Consultant shall prepare and maintain all records required by the various provisions of this Agreement, federal, state, and municipal law, ordinances, regulations, and directions. Consultant shall maintain these records for a minimum of four (4) years from the termination or completion of this Agreement. Consultant may fulfill its obligation to maintain records as required by this paragraph by substitute photographs, microphotographs, or other authentic reproduction of such records.

B. Inspections and Audits. Any authorized representative of County shall have access to any books, documents, papers, records, including, but not limited to, financial records of Consultant, which County determines to be pertinent to this Agreement, for the purposes of making audit, evaluation, examination, excerpts, and transcripts during the period such records are to be maintained by Consultant. Further, County has the right, at all reasonable times, to audit, inspect, or otherwise evaluate the work performed or being performed under this Agreement.

12. NONDISCRIMINATION.

During the performance of this Agreement, Consultant, its agents, officers, and employees shall not unlawfully discriminate in violation of any federal, state, or local law, against any employee, or applicant for employment, or person receiving services under this Agreement, because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age, or sex. Consultant and its agents, officers, and employees shall comply with the provisions of the Fair Employment and Housing Act (Government Code section 12900, et seq.), and the applicable regulations promulgated thereunder in the California Code of Regulations. Consultant shall also abide by the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, and all administrative rules and regulations issued pursuant to said act.

13. CANCELLATION.

This Agreement may be canceled by County without cause, and at will, for any reason by giving to Consultant thirty (30) days written notice of such intent to cancel. Consultant may cancel this Agreement without cause, and at will, for any reason whatsoever by giving thirty (30) days written notice of such intent to cancel to County.

14. ASSIGNMENT.

This is an agreement for the services of Consultant. County has relied upon the skills, knowledge, experience, and training of Consultant as an inducement to enter into this Agreement. Consultant shall not assign or subcontract this Agreement, or any part of it, without the express written consent of County. Further, Consultant shall not assign any monies due or to become due under this Agreement without the prior written consent of County.

15. DEFAULT.

If the Consultant abandons the work, or fails to proceed with the work and services requested by County in a timely manner, or fails in any way as required to conduct the work and services as required by County, County may declare the Consultant in default and terminate this Agreement upon five (5) days written notice to Consultant. Upon such termination by default, County will pay to Consultant all amounts owing to Consultant for services and work satisfactorily performed to the date of termination.

16. WAIVER OF DEFAULT.

Waiver of any default by either party to this Agreement shall not be deemed to be waiver of any subsequent default. Waiver or breach of any provision of this Agreement shall not be deemed to be a waiver of any other or subsequent breach, and shall not be construed to be a modification of the terms of this Agreement unless this Agreement is modified as provided in paragraph twenty-two (22) below.

17. CONFIDENTIALITY.

Consultant further agrees to comply with the various provisions of the federal, state, and county laws, regulations, and ordinances providing that information and records kept, maintained, or accessible by Consultant in the course of providing services and work under this Agreement, shall be privileged, restricted, or confidential. Consultant agrees to keep confidential all such information and records. Disclosure of such confidential, privileged, or protected information shall be made by Consultant only with the express written consent of the County. Any disclosure of confidential information by Consultant without the County's written consent is solely and exclusively the legal responsibility of Consultant in all respects.

Notwithstanding anything in the Agreement to the contrary, names of persons receiving public social services are confidential and are to be protected from unauthorized disclosure in accordance with Title 45, Code of Federal Regulations Section 205.50, the Health Insurance Portability and Accountability Act of 1996, and Sections 10850 and 14100.2 of the Welfare and Institutions Code, and regulations adopted pursuant thereto. For the purpose of this Agreement, all information, records, and data elements pertaining to beneficiaries shall be protected by the provider from unauthorized disclosure.

18. CONFLICTS.

Consultant agrees that it has no interest, and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of the work and services under this Agreement.

19. POST AGREEMENT COVENANT.

Consultant agrees not to use any confidential, protected, or privileged information which is gained from the County in the course of providing services and work under this Agreement, for any personal benefit, gain, or enhancement. Further, Consultant agrees for a period of two years after the termination of this Agreement, not to seek or accept any employment with any County, association, corporation, or person who, during the term of this Agreement, has had an adverse or conflicting interest with the County, or who has been an adverse party in litigation with the County, and concerning such, Consultant by virtue of this Agreement has gained access to the County's confidential, privileged, protected, or proprietary information.

20. SEVERABILITY.

If any portion of this Agreement or application thereof to any person or circumstance shall be declared invalid by a court of competent jurisdiction, or if it is found in contravention of any federal, state, or county statute, ordinance, or regulation, the remaining provisions of this Agreement, or the application thereof, shall not be invalidated thereby, and shall remain in full force and effect to the extent that the provisions of this Agreement are severable.

21. FUNDING LIMITATION.

The ability of County to enter this Agreement is based upon available funding from various sources. In the event that such funding fails, is reduced, or is modified, from one or more sources, County has the option to cancel, reduce, or modify this Agreement, or any of its terms within ten (10) days of its notifying Consultant of the cancellation, reduction, or modification of available funding. Any reduction or modification of this Agreement made pursuant to this provision must comply with the requirements of paragraph twenty-two (22) (Amendment).

22. AMENDMENT.

This Agreement may be modified, amended, changed, added to, or subtracted from, by the mutual consent of the parties hereto, if such amendment or change is in written form and executed with the same formalities as this Agreement, and attached to the original Agreement to maintain continuity.

23. NOTICE.

Any notice, communication, amendments, additions, or deletions to this Agreement, including change of address of either party during the terms of this Agreement, which Consultant or County shall be required, or may desire, to make, shall be in writing and may be personally served, or sent by prepaid first class mail to, the respective parties as follows:

County of Inyo:	
Inyo County Planning Department	Department
PO Drawer L	Address
Independence, CA 93526	City and State

Consultant:	
Andy Zdon and Associates, Inc.	Name
2121 N. California Blvd., Suite 29	Address
Wainut Creek, CA 94596	City and State

24. ENTIRE AGREEMENT.

This Agreement contains the entire agreement of the parties, and no representations, inducements, promises, or agreements otherwise between the parties not embodied herein or incorporated herein by reference, shall be of any force or effect. Further, no term or provision hereof may be changed, waived, discharged, or terminated, unless the same be in writing executed by the parties hereto.

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**AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.**
FOR THE PROVISION OF Hydrological Consulting Services **SERVICES**

IN WITNESS THEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS AND SEALS THIS
DAY OF _____, _____

COUNTY OF INYO

By: [Signature]
Dated: 06-14-16

CONSULTANT

By: [Signature]
Signature
Andrew Eden, President, AEI
Print of Type Name
Dated: 05/11/2016

APPROVED AS TO FORM AND LEGALITY:

[Signature]
County Counsel

APPROVED AS TO ACCOUNTING FORM:

[Signature]
County Auditor

APPROVED AS TO PERSONNEL REQUIREMENTS:

[Signature]
Personnel Services

APPROVED AS TO INSURANCE REQUIREMENTS:

[Signature]
County Risk Manager
[Signature]

ATTACHMENT A

**AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services SERVICES**

TERM:

FROM: July 1, 2016

TO: June 30, 2017

SCOPE OF WORK:

1. Contractor shall assist the County in the continued review and evaluation of the Final Supplemental Environmental Impact Statement (SEIS) that was prepared by the U.S. Nuclear Regulatory Commission (NRC) addressing the post closure impacts of the proposed Yucca Mountain nuclear waste repository on groundwater resources, for the level and quality of the NRC responses to the County's comments on the Draft SEIS. This work shall include, but not be limited to, a review to ensure that the NRC responded to each of the County's comments on the DRAFT SEIS; an evaluation of the responses to ensure the County's concerns have been addressed appropriately; provide a written summary of these findings; and be prepared to assist the County in supporting its exiting contentions or crafting new contentions based on the comments and concerns the County has submitted to the NRC. This work may also include running the Death Valley Regional Groundwater model to assess the impacts of groundwater pumping on the proposed Yucca Mountain Repository and evaluating any new models or information introduced by the NRC in the Final SEIS.
2. Contractor shall receive direction as to the scope of the work to be performed from the Inyo County Planning Department and/or the Inyo County County Counsel.
3. Contractor shall provide all secretarial and clerical support reasonably and customarily necessary to perform the services described in this Agreement.
4. Contractor shall maintain and retain files and materials on cases and other matters upon which he/she is working. Once completed, Contractor may deliver the files and materials to the Inyo County Planning Department for storage.

ATTACHMENT B

**AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services SERVICES**

TERM:

FROM: July 1, 2016 **TO:** June 30, 2017

SCHEDULE OF FEES:

1. COMPENSATION:

County shall pay to Contractor for the work and services as described in Attachment A which are performed by the Contractor at County's request, at a rate not to exceed \$20,000.

2. INCIDENTAL EXPENSES:

County shall reimburse Contractor for those incidental expenses which are necessarily incurred by Contractor in providing the services and work under this Agreement. Reimbursement for incidental expenses shall not be paid in excess of the amount of \$20,000.

ATTACHMENT C

**AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services SERVICES**

TERM:

FROM: July 1, 2016

TO: June 30, 2017

SCHEDULE OF TRAVEL AND PER DIEM PAYMENT:

Contractor will be compensated only for expenses incurred while performing tasks specified in the Scope of Work. Travel and Per Diem expenses will be paid out of the \$20,000 total cost of the contracted work and travel only for tasks included in the Scope of Work will be reimbursed.

ATTACHMENT D

AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services **SERVICES**

TERM:

FROM: July 1, 2016 **TO:** June 30, 2017

SEE ATTACHED INSURANCE PROVISIONS

ATTACHMENT E

AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services SERVICES

TERM:

FROM: July 1, 2016

TO: June 30, 2017

FEDERAL FUNDS ADDENDUM

1. Section 12, Part B, *Inspections and Audits*, of the contract is amended to read;

"Any authorized representative of the County, or of a *federal, or state agency* shall have access to any books, documents, papers, records, including, but not limited to, financial records of the Consultant, which the County or *federal or state agency* determines to be pertinent to this Agreement, for the purposes of making audit, evaluation, examination, excerpts, and transcripts during the period such records are to be maintained by Consultant. Further, the County or *federal or state agency* has the right, at all reasonable times, to audit, inspect, or otherwise evaluate the work performed or being performed under this Agreement. Copies of any of these records shall be furnished, if requested."
2. **Covenant Against Contingent Fees.** The Consultant warrants that he/she has not employed or retained any company or person, other than a bona fide employee working for the consultant, to solicit or secure this agreement, and that he/she has not paid or agreed to pay any company or person other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award, or formation of this agreement. For breach or violation of this warranty, the local agency shall have the right to annul this agreement without liability, or at its discretion; to deduct from the agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.
3. **Delays and Extensions.** The term of the contract may be extended in the case of unavoidable delays, changes in the scope of work or level of effort required to meet the project objectives, and for consideration of corresponding warranted adjustments in payment. An extension of contract time is granted as described in Section 23, *Amendment*, of the contract.
4. **Termination or Abandonment.** The provisions of Section 15, *Default*, will also apply if the contract is terminated because of circumstances beyond the control of the consultant. The provisions of the section entitled "**County Property**" Section 7.B., shall apply to any partially completed work if the contract is terminated or abandoned.
5. **General Compliance with Laws and Wage Rates.** The consultant shall comply with the State of California's General Prevailing Wage Rate requirements in accordance with California Labor Code, Section 177, and all federal, state, and local laws and ordinances applicable to the work.

Any subcontract entered into as a result of this contract if for more than \$25,000 for public works construction or more than \$15,000 for the alteration, demolition, repair, or maintenance of public works, shall contain all of the provisions of this Article.

ATTACHMENT E - Continued

AGREEMENT BETWEEN COUNTY OF INYO
AND Andy Zdon and Associates, Inc.
FOR THE PROVISION OF Hydrological Consulting Services SERVICES

TERM:

FROM: July 1, 2016 TO: June 30, 2017

FEDERAL FUNDS ADDENDUM

6. **Consultant's Endorsement on PS&E/Other Data.** The consultant's responsible engineer shall sign all plans, specifications, estimates (PS&E) and engineering data furnished by him/her, and where appropriate, indicate his/her California registration number.
7. **Disadvantaged Business Enterprise Considerations.** Consultants must give consideration to DBE firms as specified in 23 CFR 172.5(b), 49 CFR, Part 26. The Consultant shall comply with the applicable provisions of Exhibit 10-I, "Notice to Proposers Disadvantaged Business Enterprise Information," and Exhibit 10-J, "Standard Agreement for Subcontractor/DBE Participation," that were included in the Request for Statements of Qualifications,
8. **Safety.** The consultant shall comply with OSHA regulations applicable to the Consultant regarding necessary safety equipment or procedures. The Consultant shall comply with safety instructions issued by the county's project manager and other county representatives. Consultant personnel shall wear hard hats and safety vests at all time when working on the construction project site.

Pursuant to the authority contained in Section 591 of the Vehicle Code, the county has determined that such areas are within the limits of the project and are open to public traffic. The Consultant shall comply with all of the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. The consultant shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.

Any subcontract entered into as a result of this contract shall contain all of the provisions of the Article.

9. **Certifications.** Exhibits 10-F "Certification of Consultant, Commissions & Fees" and 10-G, "Certification of Agency" are included as attachments to the contract and made a part of.



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only: AGENDA NUMBER 14

- Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: Public Works Department

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Approval of Plans and Specification for the Runway Rehabilitation Project at the Lone Pine/Death Valley Airport

DEPARTMENTAL RECOMMENDATION: Request that your Board:

- A) Approve the plans and specifications for the Runway Rehabilitation Project at the Lone Pine/Death Valley Airport;
- B) Authorize the Public Works Director to advertise and bid the project;
- C) Authorize the Public Works Director to sign the forthcoming Federal Aviation Administration (FAA) Airport Improvement Project (AIP) funding Grant Agreement for the Runway Rehabilitation Project at the Lone Pine/Death Valley Airport.

CAO RECOMMENDATION:

SUMMARY DISCUSSION: The overall objective of the project is rehabilitation Runway 16-34. More specifically, the project consists of culvert replacement, Full Depth Reclamation of the existing asphalt, a 3 inch asphalt overlay, shoulder grading and pavement markings.

The project will be partially funded by an FAA grant, but the grant is not yet in place. FAA procedures require that bids for the project be opened and approved for funding prior to finalizing grant funding; the construction contract will not be awarded until the grant is executed.

The construction contract, construction engineering, and construction management costs are ninety percent (90%) reimbursable by the anticipated FAA AIP Grant Agreement. After the FAA Grant Agreement is in place, the Public Works Department will apply for a California Division of Aeronautics matching grant, which will fund five percent (5%) of the FAA Grant Agreement amount, which is four and one-half percent (4.5%) of the entire project. The County must pay the remainder of the match, which is five and one-half percent (5.5%) of the entire project.

ALTERNATIVES: Your Board could choose not to approve the plans and specifications and advertising for bids for the Runway Rehabilitation Project at the Lone Pine/Death Valley Airport. This is not recommended because a FAA Grant Agreement for construction needs to be executed by July 30, 2019 to capture as much discretionary funds as possible. If the FAA timeline for grant award is not met, the County may not receive adequate funding to carry out the full construction project.

OTHER AGENCY INVOLVEMENT: County, FAA, Counsel (for review and approval of the bid procedures, bid documents, and contract).

FINANCING: The project will be funded by the FAA's AIP, which will reimburse the County for ninety percent (90%) of the construction cost of the project, and by the CDA's matching grant program, which will reimburse the County for four and one-half percent (4.5%) of the construction cost of the project. The reimbursable costs will be paid through budget unit 150504, Lone Pine/Death Valley Airport Pavement, object codes 5700, Construction in Progress and 5265, Professional Services.

APPROVALS

COUNTY COUNSEL:

J. Chuchla

AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS *(Must be reviewed and approved by county counsel prior to submission to the board clerk.)*

Approved: yes Date 6/6/19

DEPARTMENT HEAD SIGNATURE:

M. Errante by B. Velums

Date: 6/10/19

CONTRACT DOCUMENTS FOR THE CONSTRUCTION OF

**RUNWAY REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**A COUNTY OF INYO AVIATION FACILITY
LONE PINE, CALIFORNIA**



**AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

JUNE 2019

WADELL ENGINEERING CORPORATION



AIRPORT PLANNING □ ENGINEERING □ MANAGEMENT CONSULTANTS

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**PLANS AND CONTRACT DOCUMENTS
FOR THE CONSTRUCTION OF
RUNWAY REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**A COUNTY OF INYO AVIATION FACILITY
LONE PINE, CALIFORNIA**

**AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**



**A COUNTY OF INYO PROJECT
WITH FINANCIAL AID FROM
THE FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM**

APPROVED BY:

**MICHAEL J. ERRANTE, P.E.
DIRECTOR OF PUBLIC WORKS**

**WADDELL ENGINEERING CORPORATION
AIRPORT PLANNING □ ENGINEERING □ MANAGEMENT CONSULTANTS
Burlingame, California (650) 348-5010**

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BID PACKAGE



**RUNWAY PAVEMENT REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**A COUNTY OF INYO AVIATION FACILITY
LONE PINE, CALIFORNIA**

**AIRPORT IMPROVEMENT PROGRAM
FAA AIP DESIGN GRANT NO. #3-06-0126-013-2018
FAA AIP CONSTRUCTION GRANT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

Inyo County Public Works Department

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**RUNWAY PAVEMENT REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0024-21-2019
COUNTY PROJECT NO: TR-19-004**

Sections:

NOTICE INVITING BIDS
BID PROPOSAL FORMS
CONTRACT AND BONDS
COUNTY PROVISIONS
FEDERAL PROVISIONS
GENERAL PROVISIONS
SPECIAL PROVISIONS
TECHNICAL SPECIFICATIONS
PLANS

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COUNTY OF INYO
PUBLIC WORKS DEPARTMENT
NOTICE INVITING BIDS
FAA PROJECT NO. 3-06-0126-014-2019
COUNTY PROJECT NO. TR-19-004

The Inyo County Public Works Department is soliciting bids for:

RUNWAY PAVEMENT REHABILITATION PROJECT

At The LONE PINE/DEATH VALLEY AIRPORT

1900 S Main St, Lone Pine, California 93514

Bid Packages, which include the Notice Inviting Bids, Bid Proposal Forms, Contract and Bond Forms, Special Provisions, and Plans may be obtained from the Inyo County Public Works Department, 168 North Edwards Street, P.O. Drawer Q, Independence, CA 93526, Telephone (760) 878-0201. A nonrefundable fee of \$100.00 will be charged for each Bid Package. Checks shall be made out to *Inyo County Public Works Department*. The Bid Package may be viewed at the department offices during regular business hours and on the County of Inyo website at www.inyocounty.us.

Bidders must purchase bid documents and register as plan holders to be able to submit a bid. Only registered plan holders will receive any addenda to the bid packages. If a bidder does not acknowledge any and all addenda in the bid, the bid proposal may be rejected.

To expedite shipping, fax to (760) 878-2001 a copy of (1) your mailed check, (2) your bidder contact information, and (3) your FedEx number for shipping. Checks are to be made out to *Inyo County Public Works Department*.

Bids must be delivered in a sealed envelope clearly marked thereon with the bidder's name and address, the word BID, and the project title:

RUNWAY PAVEMENT REHABILITATION PROJECT

To be considered, **bids must be received by the Assistant Clerk of the Inyo County Board of Supervisors, 224 N. Edwards Street (mailing address: P.O. Box N), Independence, CA 93526 at or before 3:30 P.M., on June 14, 2019** after said time they will be publicly opened and read aloud. No oral, telegraphic, telephonic, or fax proposals or modifications will be accepted.

General Work Description:

The consists of Full Depth Reclamation and overlay of Runway 16-34 at the Lone Pine/Death Valley Airport, and includes the replacement of the existing culverts with reinforced concrete pipe, shoulder grading and pavement markings.

Bids shall conform to and be responsive to the contract documents, which include the notice inviting bids, bid proposal forms, contract and bond forms, general, County, Federal, special, and technical provisions, and any other documents incorporated therein by reference. Bids are required for the entire work described in the contract documents. Each bid must be submitted on the bid proposal forms furnished as part of the bid package.

Contract award, if awarded, will be based on lowest responsible bid total price for the Base Bid and selected Bid Additives, whichever is in the best interests of the County of Inyo.

The work in the contract is included in Airport Improvement Program Project No. 03-06-0126-014-2019 which is being undertaken and accomplished by the County of Inyo in accordance with the terms and conditions of a financial grant agreement between the County and the United States, under the Airport and Airway Safety and Capacity Expansion Act of 1987.

Prime contractors and subcontractors may attend a pre-bid meeting scheduled for June 26, 2019 at 10:00 a.m. Attendees shall meet at the Lone Pine/Death Valley Airport Terminal Building, located at 1900 S Main

St. After the meeting interested attendees may participate in an optional field walk of the entire work areas until 12:00 PM.

Each bid must be accompanied by a cashier's check, a certified check, or a bidder's bond from an admitted corporate surety on the form provided in the bid package, in an amount not less than 10% of the amount of the bid, and made payable to the County of Inyo. If the notice inviting bids and bid proposal forms require or permit each bid to include additive item prices, the amount of the bid bond or check must be not less than 10% of the amount of the bid plus all of the additive bid items. The check or bidder's bond shall be given as security that the bidder will enter into the contract with the County and furnish the required labor and materials payment bond, faithful performance bond, certificates of insurance, or other required documents, if the bid is accepted. The check or bond will be forfeited to the County if the bidder fails to timely enter into said contract or furnish the required bonds, certificates of insurance, or other required documents. The check or bidder's bond may be retained by the County for sixty (60) days or until the contract is fully executed by the successful bidder and the County, whichever occurs first.

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the County of Inyo to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals.

Award of this contract will be conditioned upon satisfying the requirements of this section. These requirements apply to all bidders/offerors, including those who qualify as a disadvantaged business enterprise (DBE). There is no stated DBE contract goal for this contract. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to subcontract to DBE firms, as defined in 49 CFR Part 26.

- The apparent successful competitor will be required to submit the following information:
- The names and addresses of DBE firms that will participate in the contract;
- A description of the work that each DBE firm will perform;
- The dollar amount of the participation of each DBE firm participating;
- Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
- Written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4);

Each bidder must complete, sign, and furnish, with his bid, a "Certification of Nonsegregated Facilities", a statement entitled "Bidders Statement on Previous Contracts Subject to EEO Clause", and "Assurance of Disadvantaged Business Enterprise Participation", all addendum, etc., as contained in the Bid Proposal, and Statement of Good Faith Effort for Local Hire. Each bidder must supply all the information required by the bid documents and specifications.

The successful bidder shall be required to furnish a faithful performance bond and a labor and materials payment bond on the forms provided in the bid package in the amount of 100% of the maximum contract amount.

This is a Federal Aid Project and all bids must be based upon rates and wages at least as high as the minimum rates established by the Secretary of Labor as included in the Specifications. Prevailing wage rates for California shall be paid to all classifications of labor as required by the laws of the State of California. The proposed Contract is under and subject to Executive Order 11246 of September 24, 1965, and to the Equal Opportunity Clause. The EEO requirements, labor provisions and wage rates are included in the specifications and bid documents and are available for inspection at the Department of Public Services.

Pursuant to **Section 1773 of the Labor Code**, to which this contract is subject, the prevailing wage per diem rates in Inyo County have been determined by the Director of the State Department of Industrial Relations. These wage rates appear in the Department of Transportation publication entitled *General Prevailing Wage Rates* in effect at the time the project is advertised. Future effective wage rates, which have been predetermined and are on file with the State Department of Industrial Relations, are referenced, but not printed, in said publication. Such rates of wages are also on file with the State Department of Industrial Relations and the offices of the Public Works Department of the County of Inyo and are available to any interested party upon request.

Pursuant to Section 1725.5 of the Labor Code, the bidder is required to certify that they, and all subcontractors listed on the submitted Bid Form documents, are registered with the CA Department of Industrial Relations.

Attention is directed to the federal minimum wage rate requirements of this project. If there is a difference between the minimum wage rates predetermined by the U.S. Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The County will not accept lower state wage rates not specifically included in the federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the federal wage determinations. Where federal wage determinations do not contain the state wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the federal minimum wage rate that most closely approximates the duties of the employees in question.

The bidder must be licensed as required by law at the time the contract is awarded. Failure of the bidder to obtain proper and adequate licensing for an award of a contract shall constitute a failure to execute the contract and shall result in the forfeiture of the security of the bidder. The State of California contractor license classification required for this project work is an "A" or a combination of all of the specialty classifications that will be required for the complete performance of all of the work in accordance with the contract documents. In addition, the Bidder, if a joint venture, must have a current joint venture license at the time of award of the contract in accordance with **Business and Professions Code Section 7029.1**.

The Bidder is further advised, pursuant to Public Contract Code Section 20103.5, that the first payment for work or material under this Contract shall not be made unless and until the Registrar of Contractors verifies to the County that the records of the Contractors' State License Board indicate that the Contractor was properly licensed at the time the contract was awarded. Any bidder or contractor not so licensed shall be subject to all legal penalties imposed by law, including, but not limited to, any appropriate disciplinary action by the Contractors' State License Board.

The Bidder is further advised of the Federal Requirements, attached hereto as Notice Inviting Bids Attachment A: Information to Bidders, and shall comply with such requirements.

Inyo County reserves the right at any stage of these proceedings to reject any or all bids or to waive any immaterial defect in any bid if it is deemed to be in the best interest of the County.

Each bidder must supply all the information required by the contract documents, special provisions and the standard specifications.

County of Inyo
Public Works Department

Michael J. Errante P.E.
Director of Public Works

Dated: June 2019

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BID PROPOSAL FORMS

RUNWAY PAVEMENT REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT

1900 S Main St, Lone Pine, California 93514

June 2019

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BID PROPOSAL FORM

To: COUNTY OF INYO
224 N. Edwards Street
Independence, California 93526
(Herein called the "Owner")

From: _____

(Herein called the "Contractor")

**FOR: RUNWAY PAVEMENT REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

(Herein called "Project")

Bids will be opened at 3:30 P.M., on July 3, 2019 at the assistant clerk to the Inyo County Board of Supervisor's office, 224 N. Edwards Street, Independence, CA 93526.

This bid includes all costs for all labor, materials, tools, taxes, insurance, transportation, and other related functions to perform all work as required by, and in accordance with, the contract documents for the RUNWAY PAVEMENT REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT. The bidder must submit a total bid for all of the items included in the bid schedule.

In submitting this bid, it is understood that:

1. The notice inviting bids; these bid proposal forms; the contract and bond forms; the general, County, special, and technical provisions; the project plans; including any documents incorporated therein, are to be considered complementary and are incorporated herein by reference and made a part hereof with like force and effect as if all of said documents were set forth in full herein. All of said documents, which include these bid proposal forms, are referred to collectively as the contract documents and shall constitute the contract between the parties that will come into full force and effect upon acceptance, approval, and execution by the Inyo County Board of Supervisors.
2. The contract for the RUNWAY PAVEMENT REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT requires the contractor to perform a complete and finished project. Anything necessary to complete this work properly and in accordance with the law and lawful governmental regulations, shall be performed by the contractor, whether set out specifically in the contract documents or not.
3. The contractor, if its or his/her bid is accepted, will furnish the required bonds and certificates of insurance and other required documents as described in the contract documents.

Contractor agrees in submitting this bid to perform all work under the base bid, in accordance with the contract documents, within 60 calendar days from the date of notice to proceed. The undersigned has/have checked carefully the following figures and understand(s) that the County of Inyo will not be responsible for any errors or omissions on the part of the undersigned in making this bid.

Attached as a part of this bid is: (Note selection by placing an "X" in space provided) a bid bond from an admitted corporate surety on the form provided in the bid package (), or a certified or cashier's check (), in an amount not less than 10% of the amount of the bid submitted, either of which it is agreed, pursuant to the notice inviting bids and the bid proposal forms, shall be forfeited to or retained by the County of Inyo if the undersigned fails to execute the contract, or furnish the required bonds, certificates of insurance, and other required documents within ten (10) calendar days after receiving the contract documents.

The bidder is required to submit a bid for all the items included in the bid schedule.

The amount of the bid bond or check must be not less than 10% of the amount of the bid submitted for the base bid schedule (the total bid) plus all additive bid items.

Also attached as a part of this bid is the bid proposal form; bid item list; designation of subcontractors; Certification Regarding Equal Employment Opportunity; Public Contract Code Section 10285.1 Statement; Public Contract Code Section 10162 Questionnaire; Public Contract Code Section 10232 Statement; non-collusion affidavit; Contractor's Labor Code Certification; and either (a) cashier's or certified check form, or (b) bid bond form. These documents have been completed and signed as required on the forms provided in the bid package. The bidder's signature on this proposal constitutes an endorsement and execution of each and every certification and declaration that is contained in these documents, and bidder's promise to perform and abide by the terms of these documents.

ACCEPTANCE:

The County reserves the right to reject this bid. However, this bid shall remain open and shall not be withdrawn for a period of sixty (60) calendar days from the date set for its opening. County reserves the right to reject any and all Bids, or any part of any Bid, to postpone the scheduled Bid deadline dates(s), to make an award in its own best interest, and to waive any informalities or technicalities that do not significantly affect or alter the substance of an otherwise responsible Bid and that would not affect a Bidder's ability to perform the work adequately as specified. This solicitation in no way obligates the County to award a Bid Contract described herein, nor will County assume any liability for the costs incurred in the preparation and transmittal of Bids in response to this solicitation. County reserves the right to not accept any Bid, to reject any or all Bids, to reject any part of any Bid proposal, to negotiate and modify any Bid, and to waive any defects or irregularities in any Bid at County's sole discretion. Furthermore, County shall have the sole discretion to award a Bid Contract as it may deem appropriate to best serve the interests of County. In this regard, County may consider demonstrated quality of work, responsiveness, comparable experience, professional qualifications, references, and proposed fees. Awards will not be based on cost alone. County does not guarantee a minimum or maximum dollar value for any Contract(s) resulting from this solicitation. However, this bid shall remain open and shall not be withdrawn for a period of sixty (60) calendar days from the date set for its opening.

If written notice of the acceptance of this bid is mailed or delivered to the undersigned within sixty (60) calendar days after the date set for its opening, or at any other time thereafter before it is withdrawn, the undersigned will execute and deliver the contract, bonds, certificates of insurance, and other required documents, to the owner within ten (10) calendar days after receipt of the notification of acceptance of this bid (notification of award of contract).

The bidder shall set forth for each unit basis item of work an item price and a total for the item; and for each lump sum item, a total for the item; all in clearly legible figures in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Total" column shall be the extension of the item price bid based on the estimated quantity for the item. The amount of the bid for comparison purposes will be the total of all items listed in the base bid schedule.

In case of discrepancy between the item unit price and the total set forth for a unit basis item, the item price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as an item price is unreadable or otherwise unclear, or is omitted, or is the same amount as the entry in the item "Total" column, then the amount set forth in the "Total" column for the item shall prevail and shall be divided by the estimated quantity for the item and the unit price thus obtained shall be the item price.

(b) (Decimal Errors): If the product of the entered item price and the estimated item quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc., from the entered item total, the discrepancy will be resolved by using the entered item price or item total, whichever most closely approximates percentage-wise the item price or item total in the engineer's estimate.

The undersigned, as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he/she has carefully examined the location of the proposed work, the contract and bond forms, and the plans therein referred to; and he/she proposes, and agrees if this proposal is accepted, that he/she will contract with the County of Inyo, on the contract form provided in the bid package, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the engineer as therein set forth; and that he/she will take in full payment therefor the following item prices:

**RUNWAY PAVEMENT REHABILITATION PROJECT
LONE PINE / DEATH VALLEY AIRPORT
AIP PROJECT NO. 3-06-0126-13-2018 DESIGN
AIP PROJECT NO. 3-06-0126-14-2019 CONSTRUCTION
COUNTY PROJECT NO. TR-19-004
BID FORM**

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT OF MEASURE	CONTRACTOR BID	
				UNIT PRICE	ITEM TOTAL
SCHEDULE A: AIRFIELD PAVEMENT REHABILITATION					
1	Mobilization (M-105) (5% Max of This Schedule)	1	LS		\$
2	Contractor Quality Control Program (C-100)	1	LS		\$
3	Culvert Removal & Replacement Station 10+19 (D-701)	1	LS		\$
4	Culvert Removal & Replacement Station 20+13 (D-701)	1	LS		\$
5	Culvert Removal & Replacement Station 24+64 (D-701)	1	LS		\$
6	Culvert Removal & Replacement Station 28+42 (D-701)	1	LS		\$
7	Culvert Removal & Replacement Station 33+61 (D-701)	1	LS		\$
8	FDR Existing Pavement (P-207)	26,620	SY		\$
9	5% Cement for FDR Processing (P-207)	550	TON		\$
10	0.25' Plant Mix Bituminous Pavement (P-403)	4,800	TON		\$
11	Shoulder Grading Pavement Edge To Lights (10' +/-) with Native Material 95% (P-152)	9,400	SY		\$
12	Airfield White Pavement Marking With Beads (P-620)	11,250	SF		\$
13	Airfield Yellow Pavement Marking With Beads (P-620)	30	SF		\$
14	Airfield Black Pavement Marking With No Beads (P-620)	3,800	SF		\$
TOTAL SCHEDULE A: AIRFIELD PAVEMENT REHABILITATION					\$

CONTRACTOR'S BID

TOTAL BID (IN NUMBERS) _____

TOTAL BID (IN WORDS) _____

REVIEWED AND CHECKED BY: _____

(For County Use)

TIME OF COMPLETION:

The undersigned further specifically agrees to complete all work within 60 (sixty) calendar days from the date of notice to proceed

BID SECURITY:

The required ten percent (10%) Bid Security for this bid is attached in the form of:

(Note: Check and complete one of the following items)

Bid bond issued by _____,
an admitted corporate surety on the form provided in the bid package.

Certified/cashier's check No. _____ issued by _____

ADDENDA:

The undersigned acknowledges receipt of the following addenda and has provided for all addenda changes in this bid.

(Fill in addendum numbers and dates addenda were received. If none have been received, enter "NONE".)

WARNING:

IF ADDENDA WERE ISSUED BY THE COUNTY AND ARE NOT NOTED ABOVE AS BEING RECEIVED BY THE BIDDER, THIS PROPOSAL MAY BE REJECTED.

BIDDER'S BUSINESS INFORMATION:

IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation and names of the president, secretary, treasurer, and manager thereof; if a copartnership or joint venture, state the true name of the firm or joint venture and the names, current addresses, and telephone numbers of all individual co-partners or joint venturers composing the partnership or joint venture; if bidder or other interested person is an individual, state first and last names in full. If an LLC, state the true name of the LLC and the names, current addresses, and telephone numbers of all managing members.

A. Individual (), Partnership (), Joint Venture (): Corporation (): Limited Liability Company (LLC) ():

Personal Name: _____

Business Name: _____

Address: _____

_____ Zip Code _____

Telephone: (_____) _____

Federal Identification No. _____

Contractor's License No. _____, State of _____, Type _____

License Expiration Date _____

(The above address will be used to send notice of acceptance or requests for additional information)

THE UNDERSIGNED HEREBY DECLARES, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA, THAT THE STATEMENTS MADE IN THIS BID PROPOSAL FORM, INCLUDING ALL OF THE ATTACHED STATEMENTS, DESIGNATIONS, CERTIFICATES, AND AFFIDAVITS, ARE TRUE AND CORRECT, AND THAT THEY ARE THE INDIVIDUAL, MANAGING MEMBER, OR CORPORATE OFFICER, DULY AUTHORIZED BY LAW TO MAKE THIS BID ON BEHALF OF CONTRACTOR, AND BY SIGNING BELOW DO MAKE THIS BID ON BEHALF OF CONTRACTOR ACCORDING TO ALL OF THE TERMS AND CONDITIONS SET FORTH OR REFERENCED HEREIN.

(Signature of Authorized Person) (Title)

(Printed Name) (Date)

DESIGNATION OF SUBCONTRACTORS

In compliance with the provisions of the **Subletting and Subcontracting Fair Practices Act (Section 4100 et. seq. of the Public Contract Code of the State of California)**, the undersigned bidder has set forth below the full name, and the location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications to which the attached bid is responsive, and the portion of the work that will be done by each subcontractor for each subcontract in excess of one-half of one percent of the prime contractor's total bid, or \$10,000.00, whichever is greater.

The bidder understands that if he fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent of his bid, or \$10,000.00, whichever is greater, he shall be deemed to have agreed to perform such portion himself, and that he shall not be permitted to sublet or subcontract that portion of the work except in cases of public emergency or necessity, and then only after a finding, reduced to writing as a public record of the awarding authority, setting forth the facts constituting the emergency or necessity. No subcontractor other than those listed below will be allowed to perform work under this contract.

If no subcontractors are to be employed on the project, enter the word "NONE".

(Use additional pages if necessary)

BID ITEM NO.	DESCRIPTION OF WORK	% OF TOTAL CONTRACT	SUBCONTRACTOR'S NAME, ADDRESS, AND PHONE NO.	LICENSE NUMBER & TYPE & DUNS #	AGR*

*AGR – Annual Gross Receipts
 Enter 1 for less than \$500,000
 Enter 2 for more than \$500,000 to \$1,000,000

Enter 3 for more than \$1,000,000 to \$2,000,000
 Enter 4 for more than \$2,000,000 to \$5,000,000
 Enter 5 for more than \$5,000,000

 (Signature of Authorized Person)

 (Title)

 (Printed Name)

 (Date)

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

RUNWAY PAVEMENT REHABILITATION PROJECT

AT THE

LONE PINE/DEATH VALLEY AIRPORT

AIRPORT IMPROVEMENT PROGRAM

FAA AIP PROJECT NO. #3-06-0126-014-2019

COUNTY PROJECT NO: TR-19-004

In accordance with **Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985)**, the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder (**CHECK ONE**)

has (____), has not (____) been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of any public works contract, as defined in **Public Contract Code Section 1101**, with any public entity, as defined in **Public Contract Code Section 1100**, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in **Section 10285.1**.

NOTE: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above statement is part of the proposal. Signing this proposal on the signature portion thereof shall also constitute signature of this statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

RUNWAY PAVEMENT REHABILITATION PROJECT

AT THE

LONE PINE/DEATH VALLEY AIRPORT

AIRPORT IMPROVEMENT PROGRAM

FAA AIP PROJECT NO. #3-06-0126-014-2019

COUNTY PROJECT NO: TR-19-004

In accordance with **Public Contract Code Section 10162**, the bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

By bidder's signature on the proposal, bidder certifies, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements in accordance with **Public Contract Code Section 10162** are true and correct.

PUBLIC CONTRACT CODE SECTION 10232 STATEMENT

RUNWAY PAVEMENT REHABILITATION PROJECT

AT THE

LONE PINE/DEATH VALLEY AIRPORT

AIRPORT IMPROVEMENT PROGRAM

FAA AIP PROJECT NO. #3-06-0126-014-2019

COUNTY PROJECT NO: TR-19-004

In accordance with **Public Contract Code Section 10232**, the contractor hereby states, under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the contractor within the immediately preceding two year period because of the contractor's failure to comply with an order of a federal court that orders the contractor to comply with an order of the National Labor Relations Board.

By bidder's signature on the bid proposal form, bidder certifies, under penalty of perjury under the laws of the State of California, that the foregoing statements in accordance with **Public Contract Code Section 10232** are true and correct.

(Name and Title of Signer)

Signature Date

Company Name _____

Business Address _____

CONTRACTOR'S LABOR CODE CERTIFICATION

(Labor Code Section 3700 et seq.)

RUNWAY PAVEMENT REHABILITATION PROJECT

AT THE

LONE PINE/DEATH VALLEY AIRPORT

AIRPORT IMPROVEMENT PROGRAM

FAA AIP PROJECT NO. #3-06-0126-014-2019

COUNTY PROJECT NO: TR-19-004

I am aware of the provisions of **Section 3700** and following of the labor code that requires every employer to be insured against liability for worker's compensation or to undertake self- insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

(Name and Title of Signer)

Signature Date

Company Name _____

Business Address _____

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____, proposed subcontractor _____, hereby certifies that he has _____, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts that are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

The contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

Noncollusion Affidavit

(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the COUNTY of INYO
DEPARTMENT OF PUBLIC WORKS.

In accordance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Noncollusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, and manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.

The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

BIDDER'S STATEMENT OF FINANCIAL RESPONSIBILITY, TECHNICAL ABILITY, AND EXPERIENCE

(This form must be completed and submitted with this bid)

The bidder is required to state what work of a similar character to that included in the proposed contract he has successfully performed and give references which will enable the owner to judge his responsibility, experience, skill, and business standing.

The undersigned submits herewith a statement of his financial responsibility.

The undersigned submits below a statement of the work of a similar character to that included in the proposed contract which he has successfully performed within the last three years. (Include the type of work, name, and phone number of all references, and the amount of contact.) Attached supplemental pages as necessary.

As noted in **General Provisions Section 20-2, *Qualification of Bidders***, bidders may submit evidence that they are prequalified with the California Department of Transportation (Caltrans) and are on their current "bidder's list" in lieu of completing this form.

Type	Name and Phone Number Contract	Amount of
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

SIGN HERE _____
Signature of Bidder Date

ASSURANCE OF DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Award of this contract will be conditioned upon satisfying the requirements of this section. These requirements apply to all bidders/offerors, including those who qualify as a DBE. No DBE contract goal has been established for this contract. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to subcontract to disadvantaged business enterprises (DBE), as defined in 49 CFR Part 26.

The apparent successful competitor will be required to submit the following information:

1. The names and addresses of DBE firms that will participate in the contract;
2. A description of the work that each DBE firm will perform;
3. The dollar amount of the participation of each DBE firm participating;
4. Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
5. Written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4);

To meet the mandated requirements of the United States Department of Transportation, 49 CFR Part 26, the assurance below shall be signed by the bidder and submitted with his bid. The bidder's execution of the signature portion of this proposal shall also constitute execution of this assurance.

Bidder's Assurance of Compliance With Title 49 CFR Part 26 Relating To Disadvantaged Business Enterprise Participation

The Bidder hereby gives assurance pursuant to the requirements of Title 49 CFR Part 26 that bidder has made a reasonable effort to meet the goals for DBE participation specified for the contract for which this proposal is submitted and that bidder, if the contract is awarded to bidder, will have a DBE participation for DBEs owned and controlled by women of * _____ percent of the amount of this bid, for DBEs owned and controlled by minorities of * _____ percent of the amount of this bid and for DBEs owned and controlled by other disadvantaged persons of * _____ percent of the amount of this bid.

SIGN HERE _____
Signature of Bidder Date

- Bidder shall insert the percentage for women participation, minority participation, and other DBE participation even if the percentages are less than the contract goal.

The bidder/offeror shall submit items #1, 2, 3, 4, and 6 as a condition of bid responsiveness. Items #5 must be submitted prior to commitment of the Owner to award of contract to the apparent successful bidder/offeror

DESIGNATION OF DBE AND MINORITY SUBCONTRACTORS

The following are the names and the principal places of business of all subcontractors who will perform work or labor, or render service to the bidder in or about the work, together with a statement of the portion and dollar value of the work to be done by each subcontractor.

A. WOMEN-OWNED AND CONTROLLED BUSINESS ENTERPRISES:

CONTRACT ITEM OF WORK AND DESCRIPTION	DOLLAR VALUE OF WORK	SUBCONTRACTOR'S NAME, ADDRESS, AND PHONE NO.	DUNS #	AGR*

*AGR – Annual Gross Receipts

Enter 1 for less than \$500,000

Enter 2 for more than \$500,000 to \$1,000,000

Enter 3 for more than \$1,000,000 to \$2,000,000

Enter 4 for more than \$2,000,000 to \$5,000,000

Enter 5 for more than \$5,000,000

B. MINORITY-OWNED AND CONTROLLED BUSINESS ENTERPRISES:

CONTRACT ITEM OF WORK AND DESCRIPTION	DOLLAR VALUE OF WORK	SUBCONTRACTOR'S NAME, ADDRESS, AND PHONE NO.	DUNS #	AGR*

*AGR – Annual Gross Receipts

Enter 1 for less than \$500,000

Enter 2 for more than \$500,000 to \$1,000,000

Enter 3 for more than \$1,000,000 to \$2,000,000

Enter 4 for more than \$2,000,000 to \$5,000,000

Enter 5 for more than \$5,000,000

C. OTHER DBE-OWNED BUSINESS ENTERPRISES:

CONTRACT ITEM OF WORK AND DESCRIPTION	DOLLAR VALUE OF WORK	SUBCONTRACTOR'S NAME, ADDRESS, AND PHONE NO.	DUNS #	AGR*

*AGR – Annual Gross Receipts

Enter 1 for less than \$500,000

Enter 2 for more than \$500,000 to \$1,000,000

Enter 3 for more than \$1,000,000 to \$2,000,000

Enter 4 for more than \$2,000,000 to \$5,000,000

Enter 5 for more than \$5,000,000

Certificate of Buy American Compliance for Manufactured Products

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter "X".

- Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States;
 - b) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
 2. To faithfully comply with providing U.S. domestic product.
 3. To furnish U.S. domestic product for any waiver request that the FAA rejects
 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
- The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:
1. To submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.
 2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
 3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the "item". The required documentation for a Type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.

- c) Percentage of non-domestic component and subcomponent cost as compared to total “item” component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

- a) Detailed cost information for total project using U.S. domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

RUNWAY PAVEMENT REHABILITATION PROJECT

AT THE

LONE PINE/DEATH VALLEY AIRPORT

AIRPORT IMPROVEMENT PROGRAM

FAA AIP PROJECT NO. #3-06-0126-014-2019

COUNTY PROJECT NO: TR-19-004

CASHIER'S OR CERTIFIED CHECK FORM

(Not required if bid bond accompanies the bid)

A cashier's or certified check in the required amount and made payable to the County of Inyo is attached below:

[]

ATTACH CHECK HERE

[]

Bidder (print name): _____

**RUNWAY PAVEMENT REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT
AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

BID BOND

(BID PROPOSAL GUARANTEE)

(Not required if certified or cashier's check accompanies the bid)

KNOW ALL MEN BY THESE PRESENTS: That we, _____
_____ as Principal, and
(Name of Bidder)

(Name of Corporate Surety)

as Corporate Surety admitted to issue such bonds in the State of California, are held and firmly bound unto the County of Inyo, State of California, in the sum of _____
_____ dollars (\$ _____)

for the payment whereof we hereby bind ourselves, our successors, heirs, executors, and administrators, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that whereas the above bounded Principal is about to submit to the Board of Supervisors of the County of Inyo a bid for the construction of the **RUNWAY PAVEMENT REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT**, in compliance with the contract therefor:

Now, if the bid of the Principal shall be accepted and the contract awarded to the Principal by said Board of Supervisors, and if the Principal shall fail or neglect to enter into the contract therefor in accordance with the terms of the Principal's bid and the terms set forth in the bid package, or to furnish the required Faithful Performance and Labor and Materials Payment Surety Bonds, certificates of insurance, and other required documents, to the satisfaction of the Board of Supervisors of said County, no later than **EIGHT (8) WORKING DAYS** after the Principal has received notice from the County that the contract has been awarded to the Principal, then the sum guaranteed by this bond is forfeited to the County of Inyo.

It is expressly agreed and understood that any errors, clerical, mathematical, or otherwise, in the bid shall not be or constitute a defense to a forfeiture of this bond.

WITNESS our hands and seals this _____ day of _____, 20 ____

Principal

(SEAL) By _____

(Name & Title of Authorized Person)

(Address for Notices to be Sent)

Surety

(SEAL) By _____

(Name & Title of Authorized Person)

(Address for Notices to be Sent)

NOTE:

THE SIGNATURES OF THE PRINCIPAL (BIDDER) AND SURETY MUST EACH BE ACKNOWLEDGED BY A NOTARY AND THE ACKNOWLEDGMENTS MUST BE ATTACHED TO THIS BOND. The bid bond must be executed on this form by a corporate surety admitted to issue such bonds in the State of California. No substitutions will be accepted. If an attorney-in-fact signs for the surety, an acknowledged statement from the surety appointing and empowering the attorney-in-fact to execute such bonds in such amounts on behalf of the surety, must accompany the bid bond.

ADDRESS OF COUNTY FOR NOTICES TO BE SENT:

County of Inyo (Attn.: Public Works Director)

224 North Edwards Street, P.O. Box Q

Independence, California 93526

DISPUTES RELATING TO PROPOSAL PROCESS AND AWARD

In the event a dispute arises concerning the bid process prior to the award of any contract, the party wishing resolution of the dispute shall submit a written request to County Director of Purchasing. Bidder may appeal the recommended award or denial of award, provided the following stipulations are met:

1. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
2. Appeal must be in writing. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address and telephone number of the person representing the protesting bidder if different from the protesting bidder.
3. A copy of the protest and all supporting documents must also be transmitted by fax or by e-mail, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
4. Must be submitted within ten (10) calendar days of the date of the recommended award or denial of award letters.
5. An appeal of a denial of award can only be brought on the following grounds:
 - a. Failure to follow the selection procedures and adhere to requirements specified in the RFB/RFP or any addenda or amendments.
 - b. There has been a violation of conflict of interest as provided by California Government Code section 87100 et seq.
 - c. A violation of State or Federal law.
6. Appeals will not be accepted for any other reasons than those stated above. All appeals must be sent to:

Clint Quilter, Director
County of Inyo
Purchasing Department
224 N. Edwards St.
Independence, CA 93526

County's Purchasing Director shall make a decision concerning the appeal, and notify the Proposer making the appeal, within a reasonable timeframe prior to the tentatively scheduled date for awarding the contract. The decision of the County's Purchasing Director shall be deemed final.

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CONTRACT AND BOND FORMS FOR

**RUNWAY PAVEMENT REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT
AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

June 2019

ENCLOSURES:

Contract

Faithful Performance Bond

Labor and Material Payment Bond

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**AGREEMENT
BETWEEN THE COUNTY OF INYO AND**

for

**RUNWAY REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

THIS CONTRACT is awarded by the COUNTY OF INYO to CONTRACTOR on and made and entered into effective, _____, 20 ____, by and between the COUNTY OF INYO, a political subdivision of the State of California, (hereinafter referred to as "COUNTY"), and _____ (hereinafter referred to as for the construction or removal of _____ PROJECT (hereinafter referred to as "PROJECT")), which parties agree, for and in consideration of the mutual promises, as follows:

- I. **SERVICES TO BE PERFORMED:** CONTRACTOR agrees at its own expense to furnish all labor, materials, methods, processes, implements, tools, machinery, equipment, transportation, permits, services, utilities, and all other items, and related functions necessary to COUNTY to construct the Project in accordance with the terms of the Grant, as detailed in the COUNTY's REQUEST FOR BIDS *sub nom* "CONTRACT DOCUMENTS", portions of which are attached hereto as Attachment A and all of which is incorporated herein by this reference, as well as in the CONTRACTOR's Response to the Request for Bids, which is attached hereto as Attachment B and incorporated herein by this reference, and complete all work within the time for completion set forth in Attachment A.
- II. **TIME OF COMPLETION:** Project work shall begin within ____ calendar days after receipt of the Notice to Proceed (NTP) (or on the start of work date identified in the NTP) and shall continue until all requested services are completed. Said services shall be completed no later than the Time of Completion as noted in the Project's Special Provisions. Procedures for any extension of time shall be complied with as noted in the Project's Special Provisions.
- III. **COMPENSATION / CONSIDERATION:** Compensation to be paid to CONTRACTOR for performance of such work shall be in accordance with the schedules for payment set forth in Attachment "B" to this contract. Any payment by COUNTY shall not be deemed a waiver of defects, even if such defects were known to the COUNTY at the time of payment.
- IV. **METHOD OF PAYMENT:** CONTRACTOR shall bill by invoice directed to the Director of Public Works or designee describing the work, the charge for the work, and date the work was performed. CONTRACTOR shall provide COUNTY a completed IRS form W-9 before payments will issue from COUNTY. COUNTY will pay the invoice within 30 days of the receipt following normal claims handling procedures.
- V. **STANDARD OF PERFORMANCE:** CONTRACTOR represents that he/she is qualified and licensed

RUNWAY REHABILITATION PROJECT AT THE
LONE PINE/DEATH VALLEY AIRPORT
AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004

to perform the work to be done as required in this Contract. COUNTY relies upon the representations of CONTRACTOR regarding professional and/or trade training, licensing, and ability to perform the services as a material inducement to enter into this Contract. Acceptance of work by the COUNTY does not operate to release CONTRACTOR from any responsibility to perform work to professional and/or trade standards. CONTRACTOR shall provide properly skilled professional and technical personnel to perform all services under this Contract. CONTRACTOR shall perform all services required by this Contract in a manner and according to the standards observed by a competent practitioner of the profession. All work products of whatsoever nature delivered to the COUNTY shall be prepared in a manner conforming to the standards of quality normally observed by a person practicing in CONTRACTOR'S profession and/or trade.

- VI. INDEPENDENT CONTRACTOR:** Nothing contained herein or any document executed in connection herewith, shall be construed to create an employer-employee, partnership or joint venture relationship between COUNTY and CONTRACTOR nor to allow COUNTY to exercise discretion or control over the manner in which CONTRACTOR performs the work or services that are the subject matter of this Agreement; provided, however, the work or services to be provided by CONTRACTOR shall be provided in a manner consistent with reaching the COUNTY'S objectives in entering this Agreement. CONTRACTOR is an independent CONTRACTOR, not an employee of COUNTY or any of its subsidiaries or affiliates. CONTRACTOR will not represent itself to be nor hold itself out as an employee of COUNTY. CONTRACTOR acknowledges that it shall not have the right or entitlement in or to any of the pension, retirement or other benefit programs now or hereafter available to COUNTY's employees. The consideration set forth in Sections IV and V above shall be the sole consideration due CONTRACTOR for the services rendered hereunder. It is understood that COUNTY will not withhold any amounts for payment of taxes from CONTRACTOR'S compensation hereunder. Any and all sums due under any applicable state, federal or municipal law or union or professional and/or trade guild regulations shall be CONTRACTOR'S sole responsibility. CONTRACTOR shall indemnify and hold COUNTY harmless from any and all damages, claims and expenses arising out of or resulting from any claims asserted by any third party, including but not limited to a taxing authority, as a result of or in connection with payments due it from CONTRACTOR'S compensation.
- VII. ASSIGNMENT AND SUBCONTRACTING.** The parties recognize that a substantial inducement to County for entering into this Contract is the professional reputation, experience and competence of Contractor. Assignments of any and/or all rights, duties or obligations of the Contractor under this Contract will be permitted only with the express consent of the County. Contractor shall not subcontract any portion of the work to be performed under this Contract without the written authorization of the County. If County consents to such subcontract, Contractor shall be fully responsible to County for all acts or omissions of the subcontractor. Nothing in this Contract shall create any contractual relationship between County and subcontractor, nor shall it create any obligation on the part of the County to pay any monies due to any such subcontractor, unless otherwise required by law.
- VIII. CLAIMS RESOLUTION:** Pursuant to **Section 9204 of the Public Contract Code**, any and all claims submitted by the CONTRACTOR to COUNTY will follow the provisions as set forth in the Project's County Provisions section.
- IX. INSURANCE INDEMNIFICATION.** Contractor shall hold harmless, defend and indemnify County and its officers, officials, employees and volunteers from and against all claims, damages, losses, and expenses, including attorney fees arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the County.

- X. POLITICAL REFORM ACT.** Contractor is not a designated employee within the meaning of the Political Reform Act because Contractor:
1. Will conduct research and arrive at conclusions with respect to his/her rendition of information, advice, recommendation or counsel independent of the control and direction of the County or of any County official, other than normal Contract monitoring; and
 2. Possesses no authority with respect to any County decision beyond rendition of information, advice, recommendation or counsel [FPPC Reg. 18700(a)(2)].
- XI. COMPLIANCE WITH ALL LAWS.** Contractor shall use the standard of care in its profession and/or trade to comply with all applicable federal, state and local laws, codes, ordinances and regulations that relate to the work or services to be provided pursuant to this Contract.
1. **Safety Training:** Contractor shall provide such safety and other training as needed to assure work will be performed in a safe and healthful manner "in a language" that is understandable to employees receiving the training. The training shall in all respects be in compliance with CAL OSHA. Contractor working with employees shall maintain a written Injury and Illness Prevention (IIP) Program, a copy of which must be maintained at each worksite or at a central worksite identified for the employees, if the Contractor has non-fixed worksites. Contractor using subcontractors with the approval of the County to perform the work which is the subject of this Contract shall require each subcontractor working with employees to comply with the requirements of this section.
 2. **Child, Family and Spousal Support Reporting Obligations:** Contractor shall comply with the state and federal child, family and spousal support reporting requirements and with all lawfully served wage and earnings assignment orders or notices of assignment relating to child, family and spousal support obligations.
 3. **Nondiscrimination:** Contractor shall not discriminate in employment practices or in the delivery of services on the basis of membership in a protected class which includes any class recognized by law and not limited to race, color, religion, sex (gender), sexual orientation, marital status, national origin (Including language use restrictions), ancestry, disability (mental and physical, including HIV and Aids), medical Conditions (cancer/genetic characteristics), age (40 and above) and request for family care leave. Contractor represents that it is in compliance with federal and state laws prohibiting discrimination in employment and agrees to stay in compliance with the Americans with Disabilities Act of 1990 (42 U.S.C. sections 12101, et. seq.), Age Discrimination in Employment Act of 1975 (42 U.S.C. 5101, et. seq.), Title VII (42 U.S.C. 2000, et. seq.), the California Fair Employment Housing Act (California Government Code sections 12900, et. seq.) and regulations and guidelines issued pursuant thereto.
- XII. LICENSES:** CONTRACTOR represents and warrants to COUNTY that it has all licenses, permits, qualifications, insurance and approvals of whatsoever nature which are legally required of CONTRACTOR to practice its trade and/or profession. CONTRACTOR represents and warrants to COUNTY that CONTRACTOR shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Contract, any licenses, permits, insurance and approvals which are legally required of CONTRACTOR to practice its and/or profession.
- XIII. PREVAILING WAGE:** Pursuant to Section 1720 et seq. of the Labor Code, CONTRACTOR agrees to comply with the Department of Industrial Relations regulations, to which this Contract is subject, the

prevailing wage per diem rates in Inyo County have been determined by the Director of the State Department of Industrial Relations. These wage rates appear in the Department publication entitled "General Prevailing Wage Rates," in effect at the time the project is advertised. Future effective wage rates, which have been predetermined and are on file with the State Department of Industrial Relations are referenced but not printed in said publication. Such rates of wages are also on file with the State Department of Industrial Relations and the offices of the Public Works Department of the County of Inyo and are available to any interested party upon request. CONTRACTOR agrees to submit certified payroll to COUNTY and comply with the Department of Industrial Relations regulations in submitting the certified payroll.

XIV. CONTROLLING LAW VENUE: This Contract is made in the County of Inyo, State of California. The parties specifically agree to submit to the jurisdiction of the Superior Court of California for the County of Inyo.

XV. WRITTEN NOTIFICATION: Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing and either served personally or sent prepaid, first class mail. Any such notice, demand, et cetera, shall be addressed to the other party at the address set forth herein below. Either party may change its address by notifying the other party of the change of address. Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

If to COUNTY: County of Inyo
Public Works Department
Attn: Ashley Helms
168 N. Edwards
PO Drawer Q Independence, CA 93526

If to CONTRACTOR: _____

XVI. AMENDMENTS. This Contract may be modified or amended only by a written document executed by both Contractor and County and approved as to form by Inyo County Counsel.

XVII. WAIVER. No failure on the part of either party to exercise any right or remedy hereunder shall operate as a waiver of any other right or remedy that party may have hereunder.

XVIII. TERMINATION. This Contract may be terminated for the reasons stated below:

1. Immediately for cause, if either party fails to perform its responsibilities under this Contract in a timely and professional manner and to the satisfaction of the other party or violates any of the terms or provisions of this Contract. If termination for cause is given by either party to the other and it is later determined that the other party was not in default or default was excusable, then the notice of termination shall be deemed to have been given without cause pursuant to paragraph "b" of this section; or
2. By either party without cause upon fifteen (15) days' written notice of termination. Upon termination, Contractor shall be entitled to compensation for services performed up to the effective date of termination; or
3. By County upon oral notice from the Board of Supervisors based on funding ending or

being materially decreased during the term of this Contract.

XIX. SEVERABILITY. If any provision of this Contract is held to be invalid, void or unenforceable, the remainder of the provision and/or provisions shall remain in full force and effect and shall not be affected, impaired or invalidated.

XX. CONTRACT SUBJECT TO APPROVAL BY BOARD OF SUPERVISORS. It is understood and agreed by the parties that this Contract is subject to the review and approval by the Inyo County Board of Supervisors upon Notice and Public Hearing. In the event that the Board of Supervisors declines to enter into or approve said Contract, it is hereby agreed to that there is, in fact, no binding agreement, either written or oral, between the parties herein.

XXI. TIME IS OF THE ESSENCE. Time is of the essence for every provision in this Agreement.

XXII. ALL PROVISIONS SET FORTH HEREIN: CONTRACTOR and COUNTY agree that this Contract shall include and consist of:

1. All provisions set forth expressly herein;
2. The Bid Proposal Forms, the Faithful Performance Bond, and the Labor and Materials Payment Bond, all of which are incorporated herein and made a part of this contract by reference; and
3. All other contract documents, as described in **Section 5-1.02, "Contract Components"**; for the purpose of this Contract, Special Provisions includes:
 - a. County Provisions;
 - b. General Provisions;
 - c. Federal Provisions;
 - d. Special Provisions; and
 - e. Technical Specifications.

XXIII. EXECUTION. This Contract may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties. In approving this Contract, it shall not be necessary to produce or account for more than one such counterpart.

XXIV. REQUIRED FEDERAL PROVISIONS

A. ACCESS TO RECORDS AND REPORTS: The CONTRACTOR must maintain an acceptable cost accounting system. The CONTRACTOR agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the CONTRACTOR which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The CONTRACTOR agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

B. BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the CONTRACTOR or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide CONTRACTOR written notice that describes the nature of the breach and corrective actions the CONTRACTOR must undertake in order to avoid termination of the contract. Owner reserves

the right to withhold payments to CONTRACTOR until such time the CONTRACTOR corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the CONTRACTOR must correct the breach. Owner may proceed with termination of the contract if the CONTRACTOR fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

C. GENERAL CIVIL RIGHTS PROVISIONS

The CONTRACTOR agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the CONTRACTOR and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

D. CIVIL RIGHTS – TITLE VI ASSURANCE

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the CONTRACTOR, for itself, its assignees, and successors in interest (hereinafter referred to as the "CONTRACTOR"), agrees as follows:

1. **Compliance with Regulations:** The CONTRACTOR (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The CONTRACTOR, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The CONTRACTOR will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the CONTRACTOR for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the CONTRACTOR of the CONTRACTOR's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The CONTRACTOR will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish the information, the CONTRACTOR will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a CONTRACTOR's noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the CONTRACTOR under the contract until the CONTRACTOR complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The CONTRACTOR will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The CONTRACTOR will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the CONTRACTOR becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the CONTRACTOR may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the CONTRACTOR may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the CONTRACTOR, for itself, its assignees, and successors in interest (hereinafter referred to as the "CONTRACTOR") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and CONTRACTORS, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;

- The Federal Aviation Administration's Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

E. CLEAN AIR AND WATER POLLUTION CONTROL

CONTRACTOR agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 1251-1387). The CONTRACTOR agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

CONTRACTOR must include this requirement in all subcontracts that exceeds \$150,000.

F. CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. **Overtime Requirements:** No CONTRACTOR or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; Liability for Unpaid Wages; Liquidated Damages:** In the event of any violation of the clause set forth in paragraph (1) of this clause, the CONTRACTOR and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such CONTRACTOR and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.
3. **Withholding for Unpaid Wages and Liquidated Damages:** The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the CONTRACTOR or subcontractor under any such contract or any other Federal contract with the same prime CONTRACTOR, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime CONTRACTOR, such sums as may be determined to be necessary to satisfy any liabilities of such CONTRACTOR or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph

(2) of this clause.

4. **Subcontractors:** The CONTRACTOR or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime CONTRACTOR shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

G. COPELAND "ANTI-KICKBACK" ACT

CONTRACTOR must comply with the requirements of the Copeland "Anti-Kickback" Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. CONTRACTOR and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The CONTRACTOR and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

H. DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the CONTRACTOR and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided* that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the CONTRACTOR and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the CONTRACTOR and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the CONTRACTOR, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the CONTRACTOR shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the CONTRACTOR does not make payments to a trustee or other third person, the CONTRACTOR may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program: *Provided* that the Secretary of Labor has found, upon the written request of the CONTRACTOR, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the CONTRACTOR to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the CONTRACTOR under this contract or any other Federal contract with the same prime CONTRACTOR, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime CONTRACTOR, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the CONTRACTOR or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the CONTRACTOR, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the CONTRACTOR during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the CONTRACTOR shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and that show the costs anticipated or the actual costs incurred in providing such benefits. CONTRACTORS employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The CONTRACTOR shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the CONTRACTOR will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.* the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime CONTRACTOR is responsible for the submission of copies of payrolls by all subcontractors. CONTRACTORS and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the CONTRACTOR will submit them to the applicant, sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the CONTRACTOR, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime CONTRACTOR to require a subcontractor to provide addresses and social security numbers to the prime CONTRACTOR for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the CONTRACTOR or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) The payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;

(2) Each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;

(3) Each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the CONTRACTOR or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The CONTRACTOR or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the CONTRACTOR or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the CONTRACTOR, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the CONTRACTOR as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a CONTRACTOR is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the CONTRACTOR's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the CONTRACTOR will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the CONTRACTOR will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The CONTRACTOR shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The CONTRACTOR or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime CONTRACTOR shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a CONTRACTOR and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include

disputes between the CONTRACTOR (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

- (i) By entering into this contract, the CONTRACTOR certifies that neither it (nor he or she) nor any person or firm who has an interest in the CONTRACTOR's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC 1001.

I. TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the CONTRACTOR to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The CONTRACTOR must include the substance of this clause in all sub-tier contracts exceeding \$3,500 that involve driving a motor vehicle in performance of work activities associated with the project.

J. ENERGY CONSERVATION REQUIREMENTS

CONTRACTOR and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201et seq).

K. EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the CONTRACTOR agrees as follows:

- (1) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identify, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) The CONTRACTOR will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the CONTRACTOR's commitments under this section and

shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The CONTRACTOR will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the CONTRACTOR's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The CONTRACTOR will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

L. CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

M. PROHIBITION OF SEGREGATED FACILITIES

- (a) The CONTRACTOR agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The CONTRACTOR agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.
- (b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
- (c) The CONTRACTOR shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

N. OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

O. PROCUREMENT OF RECOVERED MATERIALS

CONTRACTOR and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the CONTRACTOR and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- 1) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- 2) The CONTRACTOR has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the CONTRACTOR can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

P. CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- 1) The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is () is not () a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Q. TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the CONTRACTOR. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the CONTRACTOR shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. CONTRACTOR must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay CONTRACTOR for:

- 3) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
- 4) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
- 5) reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
- 6) reasonable and substantiated expenses to the CONTRACTOR directly attributable to Owner's termination action.

Owner will not pay CONTRACTOR for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

R. VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the CONTRACTOR and all sub-tier CONTRACTORS must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

XXV. ENTIRE AGREEMENT: This Contract, including the Contract Documents and all other documents which are incorporated herein by reference, constitutes the complete and exclusive agreement between the County and Contractor. All prior written and oral communications, including correspondence, drafts, memoranda, and representations, are superseded in total by this Contract. If any provision of this agreement is held to be invalid, void or unenforceable, the remainder of the provision and/or provisions shall remain in full force and effect and shall not be affected, impaired or invalidated.

XXVI. ATTACHMENTS: All attachments referred to are incorporated and made a part of this agreement. Attachments include:

Attachment "A:" COUNTY OF INYO RELVANT PORTIONS OF REQUEST FOR BIDS

Attachment "B:" RESPONSE TO COUNTY OF INYO REQUEST FOR BIDS

Attachment "C:" INSURANCE PROVISIONS

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IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first written above.

COUNTY OF INYO

CONTRACTOR

Rick Pucci, Board Chair

[_____], Title

APPROVED AS TO FORM
AND LEGALITY

ATTEST: CLINT QUILTER
County Clerk
Board of Supervisors

By _____
Inyo County Counsel

By: _____

APPROVEE AS TO INSURANCE
REQUIREMENTS:

By _____
Inyo County Risk Manager

Attachment "A"

RELEVANT PORTIONS OF REQUEST FOR BID

Attachment "B"

RESPONSE TO REQUEST FOR BID

Attachment "C"

INSURANCE PROVISIONS

**COUNTY OF INYO
DEPARTMENT OF PUBLIC WORKS**

**RUNWAY REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

**FAITHFUL PERFORMANCE BOND
(100% OF CONTRACT AMOUNT)**

KNOW ALL MEN BY THESE PRESENTS, that _____
(Name of Contractor)

as Principal, hereinafter called Contractor, and, _____
(Name of Corporate Surety)

as Corporate Surety, hereinafter called Surety, are held and firmly bound unto the County of Inyo as
Obligee, hereinafter called Owner, in the amount of _____

_____ (\$ _____), for the payment

whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and
assignees, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written Contract, dated _____ entered into
an agreement with Owner for the Construction of the **RUNWAY REHABILITATION PROJECT AT
THE LONE PINE/DEATH VALLEY AIRPORT**, to be constructed in accordance with the contract
for the **RUNWAY REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY
AIRPORT**, which contract is by reference incorporated herein and is hereinafter referred to as the
"Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and is declared by Owner to be, in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly either:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a Bid or Bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible Bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible Bidder, arrange for a Contract between such Bidder and Owner, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price", as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due, or the date on which any warranty or guarantee period expires, whichever is later.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators, or successors of the Owner.

Signed and sealed this _____ day of _____, 20 ____.

(Name of Corporate Surety)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

(Name of Contractor)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

NOTE:

THE SIGNATURES OF THE CONTRACTOR AND THE SURETY MUST EACH BE ACKNOWLEDGED BY A NOTARY AND THE ACKNOWLEDGMENTS MUST BE ATTACHED TO THIS BOND. The Faithful Performance Bond must be executed by a corporate surety on this form. No substitutions will be accepted. If an attorney-in-fact signs for the surety, an acknowledged statement from the surety appointing and empowering the attorney-in-fact to execute such bonds in such amounts on behalf of the surety must accompany the Faithful Performance Bond.

ADDRESS OF OWNER FOR NOTICES TO BE SENT:

**County of Inyo (attn: Public Works Director)
224 North Edwards Street, P.O. Box N
Independence, California 93526**

**COUNTY OF INYO
DEPARTMENT OF PUBLIC WORKS**

**RUNWAY REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

**LABOR AND MATERIALS PAYMENT BOND
(100% OF CONTRACT AMOUNT)**

KNOW ALL MEN BY THESE PRESENTS, that _____
(Name of Contractor)

as Principal, hereinafter called **CONTRACTOR**, and _____
(Name of Corporate Surety)

as Corporate Surety, hereinafter called **SURETY**, are held and firmly bound unto the County of Inyo as Obligee, hereinafter called **Owner**, for the use and benefit of claimants as hereinafter defined in the amount of _____ (\$ _____)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assignees, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written contract dated, _____ entered into an agreement with County for the construction of the **RUNWAY REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT** (hereinafter referred to as "PROJECT"), to be constructed in accordance with the terms and conditions set forth in the contract for the **RUNWAY REHABILITATION PROJECT AT THE LONE PINE/DEATH VALLEY AIRPORT** which contract is by reference incorporated herein, and is hereinafter referred to as the "CONTRACT".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Contractor, or with a Subcontractor of the Contractor, for labor, materials, or both, used or reasonably required for use in performance of the Contract. Labor and material is construed to include, but not limited to, that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Contractor and Surety hereby jointly agree with the County that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) calendar days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this Bond for the benefit of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The County shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contract with the Contractor, shall have given written notice to any two of the following: the Contractor, the County, or the Surety above named, within ninety (90) calendar days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in any envelope addressed to the Contractor, County, or Surety, at the address below, or at any place where an office is regularly maintained for the transaction of their business. Such notice may also be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which County accepted the work done under the Contract. However, if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a State Court of competent jurisdiction in and for the County or other political subdivision of the state in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed or recorded against said Project, whether or not claim for the amount of such lien be presented under and against this Bond.

Signed and sealed this _____ day of _____, 20 ____.

(Name of Contractor)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

(Name of Corporate Surety)

By: _____
(Signature)

(SEAL)

(Title of Authorized Person)

(Address for Notices to be Sent)

NOTE:

THE SIGNATURES OF THE CONTRACTOR AND THE SURETY MUST EACH BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC (OR OTHER OFFICER AUTHORIZED UNDER CALIFORNIA LAW) AND THE ACKNOWLEDGMENTS MUST BE ATTACHED TO THIS BOND. The Labor and Materials Payment Bond must be executed by a corporate surety on this form. No substitutions will be accepted. If an attorney-in-fact signs for the surety, an acknowledged statement from the surety appointing and empowering the attorney-in-fact to execute such bonds in such amounts on behalf of the surety, must accompany the Labor and Materials Payment Bond.

ADDRESS OF COUNTY FOR NOTICES TO BE SENT:

**County of Inyo (attn: Public Works Director)
224 N. Edwards, P.O. Box N
Independence, California 93526**



COUNTY PROVISIONS

RUNWAY REHABILITATION PROJECT

AT THE

LONE PINE/DEATH VALLEY AIRPORT

A COUNTY OF INYO AVIATION FACILITY

LONE PINE, CALIFORNIA

AIRPORT IMPROVEMENT PROGRAM

FAA AIP PROJECT NO. #3-06-0126-014-2019

COUNTY PROJECT NO: TR-19-004

Inyo County Public Works Department

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**RUNWAY REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

**AIRPORT IMPROVEMENT PROGRAM
FAA AIP PROJECT NO. #3-06-0126-014-2019
COUNTY PROJECT NO: TR-19-004**

COUNTY PROVISIONS

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SECTION 1. INSURANCE, DEFENSE, AND INDEMNIFICATION.

Bidders' attention is directed to the insurance requirements indicated below. It is highly recommended that bidders confer with their respective insurance carriers or brokers to determine the availability of insurance certificates and endorsements as prescribed and provided herein in advance of bid submission. If an apparent low bidder fails to comply strictly with the insurance requirements, that bidder may be disqualified from award of the Contract.

Contractor shall procure and maintain, for the duration of the contract, insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder and the results of that work by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's Bid.

1.01 MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, bodily injury, property damage, and personal and advertising injury, with no exclusion for work performed at airport, with limits no less than **\$10,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. If CGL policy has exclusion/s for work performed at airport, then a separate airport liability policy must also be maintained with the same limits and specifications stated in this paragraph.
2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than **\$5,000,000** per accident for bodily injury and property damage.
3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than **\$1,000,000** per accident for bodily injury or disease.
4. **Builder's Risk** (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.
5. **Surety Bonds** as described below.
6. **Professional Liability** (if Design-Build or Construction Management), with limits no less than **\$2,000,000** per occurrence or claim, and **\$2,000,000** policy aggregate.
7. **Contractor's Pollution Legal Liability** with limits no less than **\$2,000,000** per occurrence or claim.

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the Entity requires and shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the County.

1.02 SELF-INSURED RETENTIONS

Self-insured retentions must be declared to and approved by the Entity. At the option of the Entity, either: the contractor shall cause the insurer shall reduce or eliminate such self-insured retentions as respects Inyo County, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Entity guaranteeing payment of losses and related investigations, claim

administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Inyo County.

1.03 OTHER INSURANCE PROVISIONS

The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. **Inyo County, its officers, officials, employees, and volunteers are to be covered as additional insureds** on the CGL policy with respect to liability arising out of with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 forms if later revisions used).
2. For any claims related to this project, the **Contractor's insurance coverage shall be primary** insurance as respects Inyo County, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by Inyo County, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to Inyo County.

1.04 BUILDER'S RISK (COURSE OF CONSTRUCTION) INSURANCE

Contractor may submit evidence of Builder's Risk insurance in the form of Course of Construction coverage. Such coverage shall **name Inyo County as a loss payee** as their interest may appear.

If the project does not involve new or major reconstruction, at the option of the Entity, an Installation Floater may be acceptable. For such projects, a Property Installation Floater shall be obtained that provides for the improvement, remodel, modification, alteration, conversion or adjustment to existing buildings, structures, processes, machinery and equipment. The Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the Work, including during transit, installation, and testing at the Entity's site.

1.05 CLAIMS MADE POLICIES

If any coverage required is written on a claims-made coverage form:

1. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.
4. A copy of the claims reporting requirements must be submitted to the Entity for review.

If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

1.06 ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to Inyo County.

1.07 WAIVER OF SUBROGATION

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation** in favor of Inyo County for all work performed by the Contractor, its employees, agents and subcontractors.

1.08 VERIFICATION OF COVERAGE

Contractor shall furnish Inyo County with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable insurance language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Inyo County before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. Inyo County reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

1.09 SUBCONTRACTOR

Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Inyo County is an additional insured on insurance required from subcontractors. For CGL coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

1.10 SURETY BONDS

Contractor shall provide the following Surety Bonds:

1. Bid bond
2. Performance bond
3. Payment bond
4. Maintenance bond

The Payment Bond and the Performance Bond shall be in a sum equal to the contract price. If the Performance Bond provides for a one-year warranty a separate Maintenance Bond is not necessary. If the warranty period specified in the contract is for longer than one year a Maintenance Bond equal to 10% of the contract price is required. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California.

1.11 SPECIAL RISKS OR CIRCUMSTANCES

Inyo County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

1.12 DEFENSE AND INDEMNIFICATION

Contractor shall defend, indemnify and hold harmless the County, its agents, officers, employees, and volunteers from and against all claims, damages, losses, judgments, liabilities, expenses and other costs, including attorney's fees, arising out of the performance of the work described herein, caused in whole or

in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the County.

Contractor's obligation to defend, indemnify and hold the County, its agents, officers, employees, and volunteers harmless under the provisions of this paragraph is not limited to or restricted by any requirement in this Contract for the Contractor to procure and maintain a policy of insurance coverage.

1.13 CONTRACTOR'S LIABILITY NOT LIMITED BY INSURANCE

Nothing contained in the insurance requirements applicable to the Contractor pursuant to this Contract shall be construed as limiting the liability of the Contractor or the Contractor's Sureties.

SECTION 2 MINIMUM WAGES

2.01 CALIFORNIA MINIMUM WAGES

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. No contractor or subcontractor may be listed on a bid proposal or be awarded a contract for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

The project requires payments of not less than the general prevailing rates for per diem wages, overtime work, legal holidays, other employee payments, and travel & subsistence if applicable, in the locality in which the work is to be performed for each craft, classification, or type of worker needed as required in the California Labor Code. Such rates of wages are on file with the Department of Industrial Relations and in the office of the District and are available to any interested party upon request.

Contractors shall promptly notify the County in writing, about any classifications of labor not listed in the prevailing wage determination but necessary for the performance of the work. Contractors will post a copy of the determination of prevailing rates at the job site/s.

If the contract totals \$30,000 or more and requires 20 or more working days, the prime contractor will comply with and be responsible for compliance with all applicable provisions of Labor Code section 1777.5 for all apprenticeable occupations. The prime contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement).

Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that is made under penalty of perjury. The County requires hard copies of these records for verification, prior to making related payments to the contractor (this is in addition to the electronic reporting required by the DIR).

By signing below the contractor attests that he has read and understands this document, that he is aware of the public work and prevailing wage requirements as set forth in the California Labor Code Sections 1720 et seq.; that he is an owner, officer, or other duly authorized representative of the firm; that he and each of his subcontractors is registered with the California DIR; and that he is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and will comply with such provisions before commencing the performance of the work of this contract.

2.02 FEDERAL MINIMUM WAGES

If there is a difference between the minimum wage rates predetermined by the U.S. Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, **the Contractor and subcontractors shall pay not less than the higher wage rate.** The County will not accept lower state wage rates not specifically included in the federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the federal wage determinations. Where federal wage determinations do not contain the state wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the federal minimum wage rate, which most closely approximates the duties of the employees in question.

General Decision Number: CA190020 02/15/2019 CA20

Superseded General Decision Number: CA20180031

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Inyo, Kern and Mono Counties in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work);

HEAVY CONSTRUCTION PROJECTS (does not include water well drilling);

HIGHWAY CONSTRUCTION PROJECTS.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Visit <https://www.wdol.gov/wdol/scafiles/davisbacon/ca20.dvb> for the complete list of wage determinations.

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**RUNWAY REHABILITATION PROJECT
AT THE
LONE PINE/DEATH VALLEY AIRPORT**

FEDERAL PROVISIONS

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1. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION to ENSURE EQUAL EMPLOYMENT OPPORTUNITY

- A. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- B. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade:	24.5%
Goals for female participation in each trade:	6.9%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- C. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As used in this notice and in the contract resulting from this solicitation, the "covered area" is Inyo County, CA.

2. TITLE VI SOLICITATION NOTICE

The County of Inyo, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to

submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

3. CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

4. CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

- a. Checking the System for Award Management at website: <http://www.sam.gov>.
- b. Collecting a certification statement similar to the Certification of Offerer /Bidder Regarding Debarment, above.
- c. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

5. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. "Minority" includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such

individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or female sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items, with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally), the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions

hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

6. FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

7. TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

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Federal Provisions

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

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General Contract Provisions
Runway Pavement Rehabilitation Project
Lone Pine/Death Valley Airport

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.

Paragraph Number	Term	Definition
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	<p>A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment.</p> <p>The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.</p>
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.

Paragraph Number	Term	Definition
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.

Paragraph Number	Term	Definition
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	<p>a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis.</p> <p>b. Owner Force Account - Work performed for the project by the Owner's employees.</p>
10-31	Intention of Terms	<p>Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner.</p> <p>Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.</p>
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.

Paragraph Number	Term	Definition
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is the County of Inyo.
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.

Paragraph Number	Term	Definition
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill

Paragraph Number	Term	Definition
		instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None.

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). See the Notice to Bidders as published by the Owner.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to 5 percent of the total project cost.

If so stated in the advertisement, a prebid conference is planned for this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements. The date, time and location and attendance requirement is stated in the advertisement, if a prebid conference is planned.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.

d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern. Prices should generally be written in whole dollars and cents. The extended total amount of each item should not be rounded.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than 10 days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within 60 days but not more than 120 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Section 40 Scope of Work

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work

covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

- a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the RPR; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If

any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions. The Special Provisions are included in a separate section of these contract documents titled "Special Provisions".

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications printed in color. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): paper copy and point file (point, northing, easting, elevation & description delimited digital file).

Construction Staking and Layout includes but is not limited to:

- a. Clearing and Grubbing perimeter staking
- b. Rough Grade slope stakes at 100-foot (30-m) stations
- c. Drainage Swales slope stakes and flow line blue tops at 50-foot (15-m) stations

Subgrade blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

- a. Runway – minimum five (5) per station
- b. Taxiways – minimum three (3) per station
- c. Holding apron areas – minimum three (3) per station
- d. Roadways – minimum three (3) per station

Base Course blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

- a. Runway – minimum five (5) per station
- b. Taxiways – minimum three (3) per station
- c. Holding apron areas – minimum three (3) per station

Pavement areas:

- a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100-foot (30-m) stations.
- b. Between Lifts at 25-foot (7.5-m) stations for the following section locations:
 - (1) Runways – each paving lane width
 - (2) Taxiways – each paving lane width
 - (3) Holding areas – each paving lane width
- c. After finish paving operations at 50-foot (15-m) stations:
 - (1) All paved areas – Edge of each paving lane prior to next paving lot
- d. Shoulder and safety area blue tops at 50-foot (15-m) stations and at all break points with maximum of 50-foot (15-m) offsets.
- e. Fence lines at 100-foot (30-m) stations minimum.
- f. Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, Visual Approach Slope Indicators (VASIs), Precision Approach Path Indicators (PAPIs), Runway End Identifier Lighting (REIL), Wind Cones, Distance Markers (signs), pull boxes and manholes.
- g. Drain lines, cut stakes and alignment on 25-foot (7.5-m) stations, inlet and manholes.
- h. Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting).

i. Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet (120 m) per pass (that is, paving lane).

The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor.

Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed

immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

The Contractor shall pay particular attention when sections of existing airfield pavements will be used as haul routes to assure that existing pavements are not overloaded. The Contractor shall to preserve or rehabilitate any access roads or haul routes to the bid documents. Construction traffic should be kept off airport pavements to the extent possible.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as

being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-17 Value Engineering Cost Proposal. NOT USED.

END OF SECTION 50

Section 60 Control of Materials

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests. The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “or equal,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed “or equal” is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. Not Used

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor’s plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner’s permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows: None

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is included within the set of project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the

Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any

public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport manager a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that

location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. Insurance requirements are presented in the contract forms section of this bid document.

END OF SECTION 70

Section 80 Execution and Progress

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least 30 percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 24 in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner. The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows: runways, parallel taxiways and primary apron access.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for

consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar days stated in the proposal and contract shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Base Bid	\$3,000.00 per day	60 Calendar Days
Bid Additives	\$3,000.00 per day	None

The maximum construction time allowed will be the sum of the time allowed for individual schedules but not more than 60 days. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard may be weighed, and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles

Term	Description
	shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	<p>Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.</p> <p>Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted.</p>

Term	Description
	<p>In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%.</p> <p>In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.</p> <p>Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.</p> <p>Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.</p> <p>All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.</p>
Rental Equipment	<p>Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i>.</p>
Pay Quantities	<p>When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.</p>

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

Retention shall be as follows:

a. From the total of the amount determined to be payable on a partial payment, 5% percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-03. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount

not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

- a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.
- b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.
- d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.
- e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within 7 days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturer's warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

END OF DOCUMENT

SPECIAL PROVISIONS
RUNWAY PAVEMENT REHABILITATION
LONE PINE/DEATH VALLEY AIRPORT
FAA AIP PROJECT NO. #3-06-0126-013-2018 DESIGN
FAA AIP PROJECT NO. #3-06-0126-014-2019 CONSTRUCTION
COUNTY PROJECT NO. TR-19-004

1. **LOCATION AND GENERAL DESCRIPTION OF THE WORK.** The work to be done under this contract is located at the Lone Pine/Death Valley Airport, Lone Pine, California. The overall objective of the work is rehabilitation of the airport runway.

More specifically, the project consists of subgrade preparation and compaction, full depth reclamation (FDR) of the existing asphalt pavements and base, asphalt surface course, paint marking, and culvert removal and replacement.

The scope of the work is shown on the "Construction Layout Plan".

The paved and dirt runways will be closed during construction. The apron and helicopter area will remain open.

2. **TIME OF COMPLETION, SEQUENCE OF WORK SCHEDULES & MEETINGS.** The Contractor shall complete all the work under the base bid within 60 calendar days from the date of notice to proceed. This schedule includes pavement curing time prior to paint marking.

The paved and dirt runways will be closed during construction and the apron and helicopter area will remain open, in accordance with the Construction Closure & Safety Plan. All work shall be performed in daylight unless approved otherwise by the Engineer. The Contractor may make submittals at any time after notification of award to expedite his ordering materials and commencing the work in an efficient manner. The Contractor's schedule submittals shall strive to consolidate work efforts and multi-task work items to the extent possible in order to expedite completion of the project and avoid the necessity of acceptance testing and inspection during periods of relatively minor activity. The contract time allows for procurement, delivery, and installation of all systems.

Within 10 days of the Notice to Proceed and every two weeks thereafter, the Contractor shall submit to the Engineer (in Microsoft Project format) baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work requirements of the contract. Work must be executed in the sequence indicated on the current accepted schedule.

Schedules must show the order in which the Contractor proposes to prosecute the work with logical links between time-scaled work activities and calculations made using the critical path method to determine the controlling activities. The Contractor is responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

The Engineer will schedule the preconstruction meeting prior to issuing the Notice to Proceed to the Contractor. The Engineer will prepare an agenda for the preconstruction meeting and take minutes.

The Contractor shall be available to attend weekly progress meetings, if scheduled and determined by the Engineer to be necessary. The meeting shall be attended by the Contractor's job foreman, safety officer, and representative of the subcontractors actively working or beginning to work at the time of the meeting.

The preparation of schedules and attendance at meetings shall be considered as included in

Mobilization and no additional compensation will be allowed therefor.

3. **LIQUIDATED DAMAGES.** Liquidated damages, for failure to complete the work within the time for completion specified for any or all construction phases shall be three thousand dollars (\$3,000.00) per calendar day.
4. **ASSIGNMENT.** In entering this contract or a subcontract to this contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C.A. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to this works contract or a subcontract. This assignment shall be made and become effective at the time the Owner tenders final payment to the Contractor without further acknowledgment by the parties.
5. **PREVAILING WAGES AND TRAVEL AND SUBSISTENCE PAYMENTS.** A copy of the determination of the general prevailing rates of per diem wages and general prevailing wages for holiday and overtime work in the locality in which the work is to be performed is on file at the Owner's offices. Contractor and any subcontractors will not pay less than the specified prevailing rates of wages to all workers employed in the execution of the contract. The Contractor will pay at least the minimum of state or federal wages, whichever is the greater.

Contractor will post one copy of the prevailing rates of wages at the job site. For each calendar day or portion thereof, and for each worker paid less than the stipulated prevailing rates for such work or craft in which the workman is employed or any public work done under the contract by him, or any subcontractor under him, Contractor shall forfeit the sum of \$50.00 as penalty to the Owner.

Travel and subsistence payments shall be paid to each worker needed to execute the work and such payments are defined in the applicable collective bargaining agreements filed with the Department of Industrial Relations for the particular craft, classification or type of work involved.

6. **HOURS OF WORK.** Eight hours labor constitutes a legal day's work pursuant to this contract. The time of service of any worker employed upon the project is limited and restricted to eight hours during any one calendar day and forty hours during any one calendar week unless said employee is compensated at a rate of one and one-half times the basic rate of pay for all times in excess of the foregoing hours. The Contractor and the Subcontractors shall not work more than 8 hours per day unless approved otherwise by the Engineer. If the Contractor schedule requires overtime observation or acceptance testing by the Engineer or Owner staff, the cost for additional payment to the Engineer and Owner for the Engineer's and Owner's overtime shall be deducted from payments to the Contractor. The Engineer shall be the sole judge of these hours and costs.

Contractor shall keep and make available and accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by the Contractor or any subcontractor in connection with the project.

Contractor shall, as a penalty, forfeit \$25.00 for each worker employed in execution of the contract by Contractor or by any subcontractor for each calendar day during that such worker is required or permitted to work more than eight hours in any one calendar day or forty hours in any one calendar week in violation of this section.

7. **ACTS OF GOD.** Contractor shall not be responsible for the cost of repairing or restoring damages to the work which exceeds 5% of the contract price and which damage is determined to have been proximately caused by an act of God, provided that the work damaged is built in accordance with accepted and applicable building standards and the plans and specifications of

the Owner. As used herein, the term "acts of God" includes only earthquakes in excess of the magnitude of 3.5 on the Richter Scale and tidal waves.

8. **CERTAIN CLAIMS.** Notwithstanding the foregoing, any demand of \$375,000, or less, by the Contractor for a time extension; payment of money or damages arising from the work done by or on behalf of the Contractor pursuant to this contract; or payment of an amount which is disputed by the Owner shall be processed in by informal conferences, non-binding judicially supervised mediation and judicial arbitration.

A single written claim shall be filed under this section prior to the date of final payment for all demands arising out of the contract.

Within thirty (30) days of the receipt of the claim, the Owner may request additional documentation supporting the claim or relating to defenses or claims the Owner may have against the Contractor. If the amount of the claim is less than \$50,000, the Contractor shall respond to the request for additional information within fifteen (15) days after receipt of the request. The Contractor shall respond to the request within thirty (30) days of receipt if the amount of the claim exceeds \$50,000 but is less than \$375,000.

Unless further documentation is requested, the Owner shall respond to the claim within forty-five (45) days if the amount of the claim is less than \$50,000 or within sixty (60) days if the amount of the claim is more than \$50,000, but less than \$375,000. If further documentation is requested, the Owner shall respond within the same amount of time taken by the Contractor to respond or fifteen (15) days, whichever is greater, after receipt of further information if the claim is less than \$50,000. If the claim is more than \$50,000 but less than \$375,000 and further documentation is requested by the Owner, the Owner shall respond within the same amount of time taken by the Contractor to respond or thirty (30) days, whichever is greater.

If the Contractor disputes the Owner's response, or the Owner fails to respond, the Contractor may demand an informal conference to meet and confer for settlement of the issues in dispute. The demand shall be served on the Owner within fifteen (15) days after the deadline of the Owner to respond or within fifteen (15) days of the Owner's response, whichever occurs first. The Owner shall schedule the meet and confer conference within thirty (30) days of the request.

If the meet and confer conference does not produce a satisfactory request, the Contractor may pursue remedies authorized by law.

9. **CONSTRUCTION MEANS AND SAFETY.** Wadell Engineering Corporation, its subconsultants, and the Owner are not responsible for the construction means, methods, techniques, sequences, and safety at the site. These items are the sole responsibility of the Contractor. The Contractor shall comply with applicable portions of the attached FAA Advisory Circular 150/5370-2G, "Operational Safety on Airports During Construction".
10. **PUBLIC SAFETY AND CONVENIENCE.** The Contractor shall use every reasonable precaution to safeguard persons and property including the general public. It shall be the sole responsibility of the Contractor to procure, place and maintain four yellow runway closure crosses and eight water filled barricades with lights, and to furnish and maintain any other barriers, temporary construction fences, lights, and danger signals as are necessary to protect persons and property near the work site. All barricades and obstructions shall be protected at night by lights, which shall be suitably distributed and kept illuminated from sunset to sunrise. Lights shall be of a type acceptable to the Engineer with 360-degree visibility. Runway crosses and barricades shall become the property of the Owner upon completion and shall be stored on site as approved by the Engineer.

In the event of interruption to domestic water, sewer, storm drain, or to other utility services as a result of accidental breakage, or as a result of being exposed or unsupported, the Contractor

shall promptly notify the proper authority. The Contractor shall cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is received.

Neither the owner nor its officers or agents or Wadell Engineering Corporation shall be responsible to the Contractor for damages as a result of the location of the underground utilities being other than that shown on the plans or for the existence of underground utilities not shown on the plans. The Contractor shall seek and mark utilities within the work area prior to excavation or opening ground surfaces. The Contractor shall retain, utilize and compensate a private USA company for utility marking prior to any digging.

11. FIRE PREVENTION AND PROTECTION. The Contractor shall perform all work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable local and state fire prevention regulations.
12. PROTECTION OF UTILITIES, CABLES, NAVAIDS, AND WEATHER BUREAU FACILITIES. The Contractor is hereby informed that there are public utility, airport private utility and weather reporting facilities on the airport. It is the Contractor's responsibility to find and protect such facilities. The Contractor shall conduct private USA utility searches within work areas, in particular the terminal area and near airport lighting and weather facilities to prevent damage to systems. The cost is considered included in the cost of all subgrade preparation and underground work, and is not subject to separate payment.
13. CONSTRUCTION LAYOUT AND STAKES. The Contractor shall furnish all stakes for the layout and construction of the work. The Contractor shall satisfy himself as to the accuracy of all measurements before constructing any permanent structure. No staking will be provided by the Engineer. The Contractor's layout for paint markings shall be done at the direction of an on-site California licensed professional land surveyor.

No separate measurement and payment will be made for establishing and maintaining construction layout stakes required under this Contract. The cost for this construction layout staking shall be considered to be included in the various contract prices for which construction layout staking is required.
14. TEMPORARY ELECTRIC POWER. The Contractor shall make his own arrangements for electric power for use during construction. The Contractor shall compensate the Owner at Owner determined rates for any use of Owner power.
15. SANITARY FACILITIES. The Contractor shall provide and maintain sanitary facilities for his employees and his subcontractor's employees that will comply with the regulations of the local and state departments of health and as directed by the Engineer.
16. WATER & WATERING. The Contractor shall furnish and apply water required in the compaction of embankments, subgrades, subbases, base courses, dust control, and for other purposes in accordance with the requirements of these specifications or as directed by the Engineer. Water, when required, shall be applied at the locations, in the amounts, and during the hours as directed by the Engineer. The Contractor shall make all arrangements and shall bear all expenses for furnishing of water supply including adequate equipment of ample capacity to ensure uniform application of water in the amounts directed by the Engineer.

The performance of this item, including provision of all water, shall be considered incidental to the other contract items and, therefore, no direct payment for water shall be made.

17. HAUL ROUTES, ROUTE MAINTENANCE, AND DUST CONTROL. Construction equipment shall follow the routes if shown on the plans unless the Engineer approves other routes.

The Contractor shall perform all necessary maintenance of routes during construction and shall perform all work as necessary to restore the routes used by his equipment to their original condition at the conclusion of construction. Damage to existing paved and unpaved areas shall be repaired promptly and to the sole satisfaction of the Engineer. Pavement damage repairs shall include milling, compaction and repaving as directed by the Engineer. The Contractor is hereby notified that heavy truck usage of the airport pavements and roads likely will result in the requirement for repairs. Such repairs shall be at no cost to the Owner.

Dust control methods and means shall be designed and implemented by the Contractor to assure that dust from the project and support areas shall not spread to adjacent on airport tenants and parking areas or to off-airport properties. The economic value of damage to aircraft and aircraft maintenance facilities and activities can occur even by light dusting, which may result in claims and civil litigation. Haul routes shall be sprinkled with water as necessary to prevent dust diffusion during the course of the work.

All maintenance and restoration work shall be completed to the Engineer's satisfaction before final payment is awarded.

18. WORK IN AIR OPERATIONS AREAS. Employee vehicle parking is confined to the Contractor's area shown on the plans. This project requires work in and adjacent to aircraft operations areas. When the Contractor enters air operations areas the following apply:

The Contractor shall provide a knowledgeable flag person with aviation radio to prevent vehicle incursions and access to operations areas including crossings of runways and taxiways.

FAA-approved orange and white checkered flags shall be provided by the Contractor on all vehicles. No vehicles are allowed within 25 feet of a parked aircraft or within 40 feet of a moving aircraft.

Workmen on foot shall remain at least 150 feet back from the edge of an operational runway, unless cleared through a radio operator who then maintains a watch over the operation. Workmen on or within 50 feet of an active runway or taxiway shall wear orange safety vests at all times.

In the event of an emergency, men and equipment shall be moved immediately at the direction of the Engineer.

Normally, work will not be permitted in the air operations area between the hours 2000 to 0600. If an emergency situation requires work during these hours, the Contractor shall notify the Engineer as far in advance as possible and obtain clearance from him before proceeding to work. During night operations, each vehicle shall be equipped with an omni-directional amber flashing light mounted on the roof of the cab. Headlights, taillights and flashers shall be used for all activities during these hours.

19. HAZARD LIGHTING OF CONSTRUCTION AREAS. In the area of construction as shown on the plans and in accordance with the construction schedule, the Contractor shall outline access routes to the construction area and the construction area itself by the use of suitable lighted barricades.

Construction equipment that extends 15 feet or more above ground level shall be cleared through the Engineer and shall be lighted at night in an approved manner and/or lowered to height of adjacent structural surroundings at the discretion of the Engineer.

20. **CLEANUP DURING THE WORK.** The Contractor shall at all times during the work keep the premises clean and orderly. He shall promptly remove all waste materials and rubbish. All directions from the Engineer and other authorized public officials having jurisdiction over health and safety shall be obeyed.

Whenever the Contractor is hauling material or debris on or across roadways, auto parking, aircraft aprons, taxiways, or runways, he shall take all necessary precautions to prevent any spillage or dropping of material or debris from his haul vehicles. If and when such spills occur, the Contractor shall be especially diligent in promptly cleaning them up. It is emphasized that even the smallest spills of rock or debris may be hazardous to automobiles and aircraft until cleaned up.

21. **SITE RESTORATION AND CLEANUP.** Upon completion of the project, all areas used by the Contractor in connection with the work shall be properly cleared of all temporary structures, rubbish, and waste materials and the areas shall be properly graded to drain and blend in with the abutting property. Any waste area obtained by the Contractor for deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

22. **CONTRACTOR PERFORMANCE AND COOPERATION.** The Owner relies on prompt and efficient execution of the project and closeout of the contract. Contractor non-responsiveness or mismanagement that results in delay to the Engineer adversely impacts the Owner's ability to perform compliance inspections, complete the project accounting and finish the project. The Contractor will be deemed non-responsive or un-cooperative in the event the Contractor does not furnish (1) daily receipts for delivered materials (where applicable such as aggregate base and asphaltic concrete), (2) prompt progress and final payment requests, (3) prompt Contractor test results for quality control, (4) complete and accurate "as-built" markup drawings for the completed work.

The Engineer shall not allow payment for materials delivered without an applicable load receipt submitted to the Engineer on the day of delivery. The Contractor shall have 14 calendar days from completion of the final punch list work to submit "as-built" markups and the final payment request.

Delays to the Engineer due to the Engineer's determination of non-responsiveness by the Contractor shall be back charged against monies due the Contractor at the rate of \$2,000 per engineer day. Such charges are in addition to liquidated damages.

END OF SPECIAL PROVISIONS



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: Operational Safety on
Airports During Construction

Date: 12/13/2017
Initiated By: AAS-100

AC No: 150/5370-2G
Change:

1 **Purpose.**

This AC sets forth guidelines for operational safety on airports during construction.

2 **Cancellation.**

This AC cancels AC 150/5370-2F, *Operational Safety on Airports during Construction*, dated September 29, 2011.

3 **Application.**

This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*. For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP). See Grant Assurance No. 34, *Policies, Standards, and Specifications*. While we do not require non-certificated airports without grant agreements or airports using Passenger Facility Charge (PFC) Program funds for construction projects to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.

4 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version. [Appendix A](#) contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

5 **Principal Changes.**

The AC incorporates the following principal changes:

1. Notification about impacts to both airport owned and FAA-owned NAVAIDs was added. See paragraph [2.13.5.3](#), NAVAIDs.

2. Guidance for the use of orange construction signs was added. See paragraph 2.18.4.2, Temporary Signs.
3. Open trenches or excavations may be permitted in the taxiway safety area while the taxiway is open to aircraft operations, subject to restrictions. See paragraph 2.22.3.4, Excavations.
4. Guidance for temporary shortened runways and displaced thresholds has been enhanced. See Figure 2-1 and Figure 2-2.
5. Figures have been improved and a new Appendix F on the placement of orange construction signs has been added.

Hyperlinks (allowing the reader to access documents located on the internet and to maneuver within this document) are provided throughout this document and are identified with underlined text. When navigating within this document, return to the previously viewed page by pressing the “ALT” and “ ← ” keys simultaneously.

Figures in this document are schematic representations and are not to scale.

6 Use of Metrics.

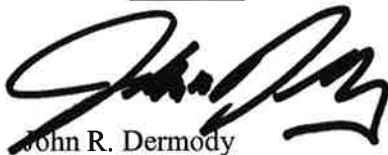
Throughout this AC, U.S. customary units are used followed with “soft” (rounded) conversion to metric units. The U.S. customary units govern.

7 Where to Find this AC.

You can view a list of all ACs at http://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at http://www.faa.gov/regulations_policies/faa_regulations/.

8 Feedback on this AC.

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody
Director of Airport Safety and Standards

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CHAPTER 1. PLANNING AN AIRFIELD CONSTRUCTION PROJECT

1.1 Overview.

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

1.2 Plan for Safety.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified and their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

1.2.1 Identify Affected Areas.

The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

1.2.2 Describe Current Operations.

Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the airplanes that operate on each runway; the ADG and Taxiway Design Group (TDG)¹ for each affected taxiway; designated approach visibility minimums;

¹ Find Taxiway Design Group information in [AC 150/5300-13, Airport Design](#).

available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System (SMGCS) plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

1.2.3 Allow for Temporary Changes to Operations.

To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways, and other changes. An example of a table showing temporary operations versus current operations is shown in Appendix E.

1.2.4 Take Required Measures to Revise Operations.

Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary widely among airports, this AC presents general guidance on those subjects.

1.2.5 Manage Safety Risk.

The FAA is committed to incorporating proactive safety risk management (SRM) tools into its decision-making processes. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*, requires the FAA to conduct a Safety Assessment for certain triggering actions. Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA determine whether a Safety Assessment is required prior to FAA approval of the CSPP. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for a Safety Risk Assessment. If the FAA requires an assessment, the airport operator must at a minimum:

1. Notify the appropriate FAA Airports Regional or District Office during the project "scope development" phase of any project requiring a CSPP.
2. Provide documents identified by the FAA as necessary to conduct SRM.
3. Participate in the SRM process for airport projects.
4. Provide a representative to participate on the SRM panel.

5. Ensure that all applicable SRM identified risks elements are recorded and mitigated within the CSPP.

1.3 **Develop a Construction Safety and Phasing Plan (CSPP).**

Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix A for a list of related reading material.

1.3.1 List Requirements.

A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. For on-airfield construction projects at Part 139 airports funded without AIP funds, the preparation of a CSPP represents an acceptable method the certificate holder may use to meet Part 139 requirements during airfield construction activity. As per FAA Order 5200.11, projects that require Safety Assessments do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA's Safety Risk Management procedures (see paragraph 1.2.5).

1.3.2 Prepare a Safety Plan Compliance Document (SPCD).

The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor's points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

1.3.3 Assume Responsibility for the CSPP.

The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

1.4 **Who Is Responsible for Safety During Construction?**

1.4.1 Establish a Safety Culture.

Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others, such as military personnel at any airport supporting military operations (e.g. national guard or a joint use facility). Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

1.4.2 Assess Airport Operator's Responsibilities.

An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

- 1.4.2.1 Develop a CSPP that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.
- 1.4.2.2 Require, review and approve the SPCD by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.
- 1.4.2.3 Convene a preconstruction meeting with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5370-12, Quality Management for Federally Funded Airport Construction Projects. (Note "FAA" refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)
- 1.4.2.4 Ensure contact information is accurate for each representative/point of contact identified in the CSPP and SPCD.
- 1.4.2.5 Hold weekly or, if necessary, daily safety meetings with all affected parties to coordinate activities.
- 1.4.2.6 Notify users, ARFF personnel, and FAA ATO personnel of construction and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.
- 1.4.2.7 Ensure construction personnel know applicable airport procedures and changes to those procedures that may affect their work.
- 1.4.2.8 Ensure that all temporary construction signs are located per the scheduled list for each phase of the project.
- 1.4.2.9 Ensure construction contractors and subcontractors undergo training required by the CSPP and SPCD.
- 1.4.2.10 Ensure vehicle and pedestrian operations addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.
- 1.4.2.11 At certificated airports, ensure each CSPP and SPCD is consistent with Part 139.

- 1.4.2.12 Conduct inspections sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
 - 1.4.2.13 Take immediate action to resolve safety deficiencies.
 - 1.4.2.14 At airports subject to 49 CFR Part 1542, *Airport Security*, ensure construction access complies with the security requirements of that regulation.
 - 1.4.2.15 Notify appropriate parties when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).
 - 1.4.2.16 Ensure prompt submittal of a Notice of Proposed Construction or Alteration (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.
 - 1.4.2.17 Ensure prompt transmission of the Airport Sponsor Strategic Event Submission, FAA Form 6000-26, located at https://oeaaa.faa.gov/oeaaa/external/content/AIRPORT_SPONSOR_STRATEGIC_EVENT_SUBMISSION_FORM.pdf, to assure proper coordination for NAS Strategic Interruption per Service Level Agreement with ATO.
 - 1.4.2.18 Promptly notify the FAA Airports Regional or District Office of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. The FAA Airports Regional or District office will determine if further coordination within the FAA is needed. Coordinate with appropriate local and other federal government agencies, such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Transportation Security Administration (TSA), and the state environmental agency.
- 1.4.3 Define Construction Contractor's Responsibilities.
The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

- 1.4.3.1 Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supply any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor, indicating an understanding of the operational safety requirements of the CSPP and the assertion of compliance with the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.
- 1.4.3.2 Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.
- 1.4.3.3 Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Many projects will require 24-hour coverage.
- 1.4.3.4 Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
- 1.4.3.5 Conduct sufficient inspections to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
- 1.4.3.6 Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate, and as specified in the CSPP and SPCD.
- 1.4.3.7 Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.
- 1.4.3.8 Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

- 1.4.3.9 Ensure that all necessary safety mitigations are understood by all parties involved, and any special requirements of each construction phase will be fulfilled per the approved timeframe.
- 1.4.3.10 Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

1.4.4 Define Tenant's Responsibilities.

If planning construction activities on leased property, Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction are strongly encouraged to:

1. Develop, or have a consultant develop, a project specific CSPP and submit it to the airport operator. The airport operator may forgo a complete CSPP submittal and instead incorporate appropriate operational safety principles and measures addressed in the advisory circular within their tenant lease agreements.
2. In coordination with its contractor, develop an SPCD and submit it to the airport operator for approval issued prior to issuance of a Notice to Proceed.
3. Ensure that construction personnel are familiar with safety procedures and regulations on the airport during all phases of the construction.
4. Provide a point of contact of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.
5. Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
6. Ensure that no tenant or contractor employees, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.
7. Restrict movement of construction vehicles to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, as specified in the CSPP and SPCD.
8. Ensure prompt submittal through the airport operator of Form 7460-1 for conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.
9. Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

CHAPTER 2. CONSTRUCTION SAFETY AND PHASING PLANS

2.1 **Overview.**

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's CSPP and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard. They must provide information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

2.2 **Assume Responsibility.**

Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

2.3 **Submit the CSPP.**

Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 × 11 inch or 11 × 17 inch format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

2.3.1 **Submit an Outline/Draft.**

By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

2.3.2 **Submit a CSPP.**

The CSPP should be formally submitted for FAA approval when the project design is 80 percent to 90 percent complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

2.3.3 Submit an SPCD.

The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

2.3.4 Submit CSPP Revisions.

All revisions to a previously approved CSPP must be re-submitted to the FAA for review and approval/disapproval action.

2.4 Meet CSPP Requirements.**2.4.1 To the extent possible, the CSPP should address the following as outlined in Chapter 3, Guidelines for Writing a CSPP. Details that cannot be determined at this stage are to be included in the SPCD.**

1. Coordination.
 - a. Contractor progress meetings.
 - b. Scope or schedule changes.
 - c. FAA ATO coordination.
2. Phasing.
 - a. Phase elements.
 - b. Construction safety drawings.
3. Areas and operations affected by the construction activity.
 - a. Identification of affected areas.
 - b. Mitigation of effects.
4. Protection of navigation aids (NAVAIDs).
5. Contractor access.
 - a. Location of stockpiled construction materials.
 - b. Vehicle and pedestrian operations.
6. Wildlife management.
 - a. Trash.
 - b. Standing water.
 - c. Tall grass and seeds.
 - d. Poorly maintained fencing and gates.
 - e. Disruption of existing wildlife habitat.
7. Foreign Object Debris (FOD) management.
8. Hazardous materials (HAZMAT) management.
9. Notification of construction activities.

- a. Maintenance of a list of responsible representatives/ points of contact.
 - b. NOTAM.
 - c. Emergency notification procedures.
 - d. Coordination with ARFF Personnel.
 - e. Notification to the FAA.
10. Inspection requirements.
 - a. Daily (or more frequent) inspections.
 - b. Final inspections.
 11. Underground utilities.
 12. Penalties.
 13. Special conditions.
 14. Runway and taxiway visual aids. Marking, lighting, signs, and visual NAVAIDs.
 - a. General.
 - b. Markings.
 - c. Lighting and visual NAVAIDs.
 - d. Signs, temporary, including orange construction signs, and permanent signs.
 15. Marking and signs for access routes.
 16. Hazard marking and lighting.
 - a. Purpose.
 - b. Equipment.
 17. Work zone lighting for nighttime construction (if applicable).
 18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces.
 - a. Runway Safety Area (RSA).
 - b. Runway Object Free Area (ROFA).
 - c. Taxiway Safety Area (TSA). Provide details for any adjustments to Taxiway Safety Area width to allow continued operation of smaller aircraft. See paragraph 2.22.3.
 - d. Taxiway Object Free Area (TOFA). Provide details for any continued aircraft operations while construction occurs within the TOFA. See paragraph 2.22.4.
 - e. Obstacle Free Zone (OFZ).
 - f. Runway approach/departure surfaces.
 19. Other limitations on construction.
 - a. Prohibitions.

b. Restrictions.

2.4.2 The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, "I, (Name of Contractor), have read the (Title of Project) CSPP, approved on (Date), and will abide by it as written and with the following additions as noted:"). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, "No supplemental information," should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

1. Coordination. Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
2. Phasing. Discuss proposed construction schedule elements, including:
 - a. Duration of each phase.
 - b. Daily start and finish of construction, including "night only" construction.
 - c. Duration of construction activities during:
 - i. Normal runway operations.
 - ii. Closed runway operations.
 - iii. Modified runway "Aircraft Reference Code" usage.
3. Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
4. Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.
5. Contractor access. Provide the following:
 - a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - b. Listing of individuals requiring driver training (for certificated airports and as requested).
 - c. Radio communications.
 - i. Types of radios and backup capabilities.
 - ii. Who will be monitoring radios.
 - iii. Who to contact if the ATCT cannot reach the contractor's designated person by radio.

- d. Details on how the contractor will escort material delivery vehicles.
6. Wildlife management. Discuss the following:
 - a. Methods and procedures to prevent wildlife attraction.
 - b. Wildlife reporting procedures.
7. Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.
8. Hazardous Materials (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.
9. Notification of construction activities. Provide the following:
 - a. Contractor points of contact.
 - b. Contractor emergency contact.
 - c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
 - d. Batch plant details, including 7460-1 submittal.
10. Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
11. Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.
12. Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.
13. Special conditions. Discuss proposed actions for each special condition identified in the CSPP.
14. Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - a. Equipment and methods for covering signage and airfield lights.
 - b. Equipment and methods for temporary closure markings (paint, fabric, other).
 - c. Temporary orange construction signs.
 - d. Types of temporary Visual Guidance Slope Indicators (VGSI).
15. Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.
16. Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.
17. Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - a. Equipment and methods for maintaining Taxiway Safety Area standards.
 - b. Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.
 - c. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
19. Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

2.5 **Coordination.**

Airport operators, or tenants responsible for design, bidding and conducting construction on their leased properties, should ensure at all project developmental stages, such as predesign, prebid, and preconstruction conferences, they capture the subject of airport operational safety during construction (see [AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects*](#)). In addition, the following should be coordinated as required:

2.5.1 Progress Meetings.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project developmental stages.

2.5.2 Scope or Schedule Changes.

Changes in the scope or duration at any of the project stages may require revisions to the CSPP and review and approval by the airport operator and the FAA (see paragraph [1.4.2.17](#)).

2.5.3 FAA ATO Coordination.

Early coordination with FAA ATO is highly recommended during the design phase and is required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. Formal agreements between the airport operator and appropriate FAA offices are recommended. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See paragraph [2.13.5.3.2](#) for required FAA notification regarding FAA-owned NAVAIDs.)

2.6 **Phasing.**

Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In this case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

2.6.1 Phase Elements.

For each phase the CSPP should detail:

- Areas closed to aircraft operations.
- Duration of closures.
- Taxi routes and/or areas of reduced TSA and TOFA to reflect reduced ADG use.
- ARFF access routes.
- Construction staging, disposal, and cleanout areas.
- Construction access and haul routes.
- Impacts to NAVAIDs.
- Lighting, marking, and signing changes.
- Available runway length and/or reduced RSA and ROFA to reflect reduced ADG use.
- Declared distances (if applicable).
- Required hazard marking, lighting, and signing.
- Work zone lighting for nighttime construction (if applicable).
- Lead times for required notifications.

2.6.2 Construction Safety Drawings.

Drawings specifically indicating operational safety procedures and methods in affected areas (i.e., construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should also be included in the contract drawing package.

2.7 **Areas and Operations Affected by Construction Activity.**

Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA ATO will support operational simulations. See Appendix E for an example of a table showing temporary operations versus current operations. The tables in Appendix E can be useful for coordination among all interested parties, including FAA Lines of Business.

2.7.1 Identification of Affected Areas.

Identifying areas and operations affected by the construction helps to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See paragraph 2.6.2.) Of particular concern are:

2.7.1.1 **Closing, or Partial Closing, of Runways, Taxiways and Aprons, and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or takeoff in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is normally available for take-off in the direction of the displacement and for landing and takeoff in the opposite direction. Misunderstanding this difference, may result in issuance of an inaccurate NOTAM, and can lead to a hazardous condition.

2.7.1.1.1 Partially Closed Runways.

The temporarily closed portion of a partially closed runway will generally extend from the threshold to a taxiway that may be used for entering and exiting the runway. If the closed portion extends to a point between taxiways, pilots will have to back-taxi on the runway, which is an undesirable operation. See Figure 2-1 for a desirable configuration.

2.7.1.1.2 Displaced Thresholds.

Since the portion of the runway pavement between the permanent threshold and a standard displaced threshold is available for takeoff and for landing in the opposite direction, the temporary displaced threshold need not be located at an entrance/exit taxiway. See Figure 2-2.

2.7.1.2 Closing of aircraft rescue and fire fighting access routes.

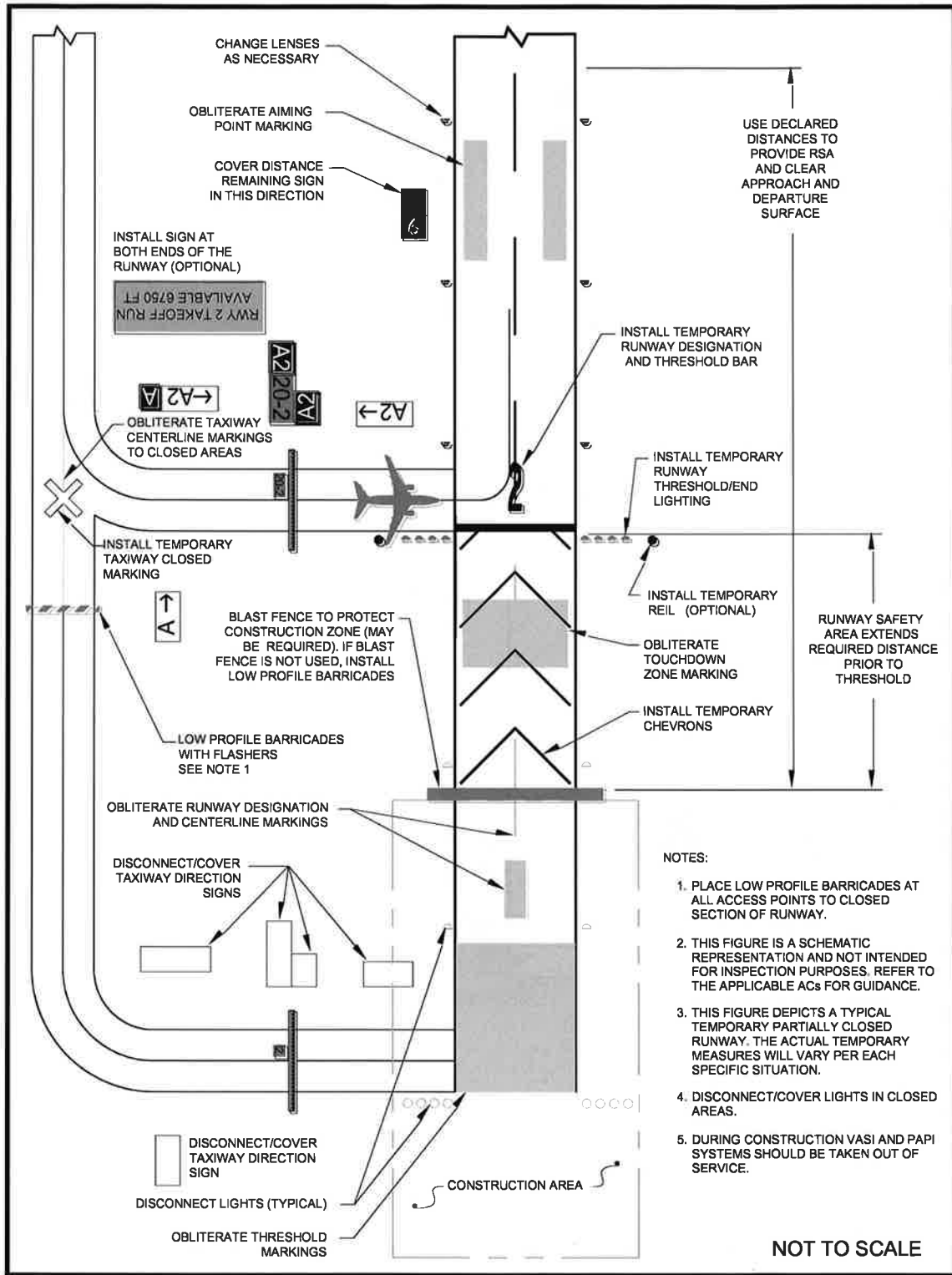
2.7.1.3 Closing of access routes used by airport and airline support vehicles.

2.7.1.4 Interruption of utilities, including water supplies for fire fighting.

2.7.1.5 Approach/departure surfaces affected by heights of objects.

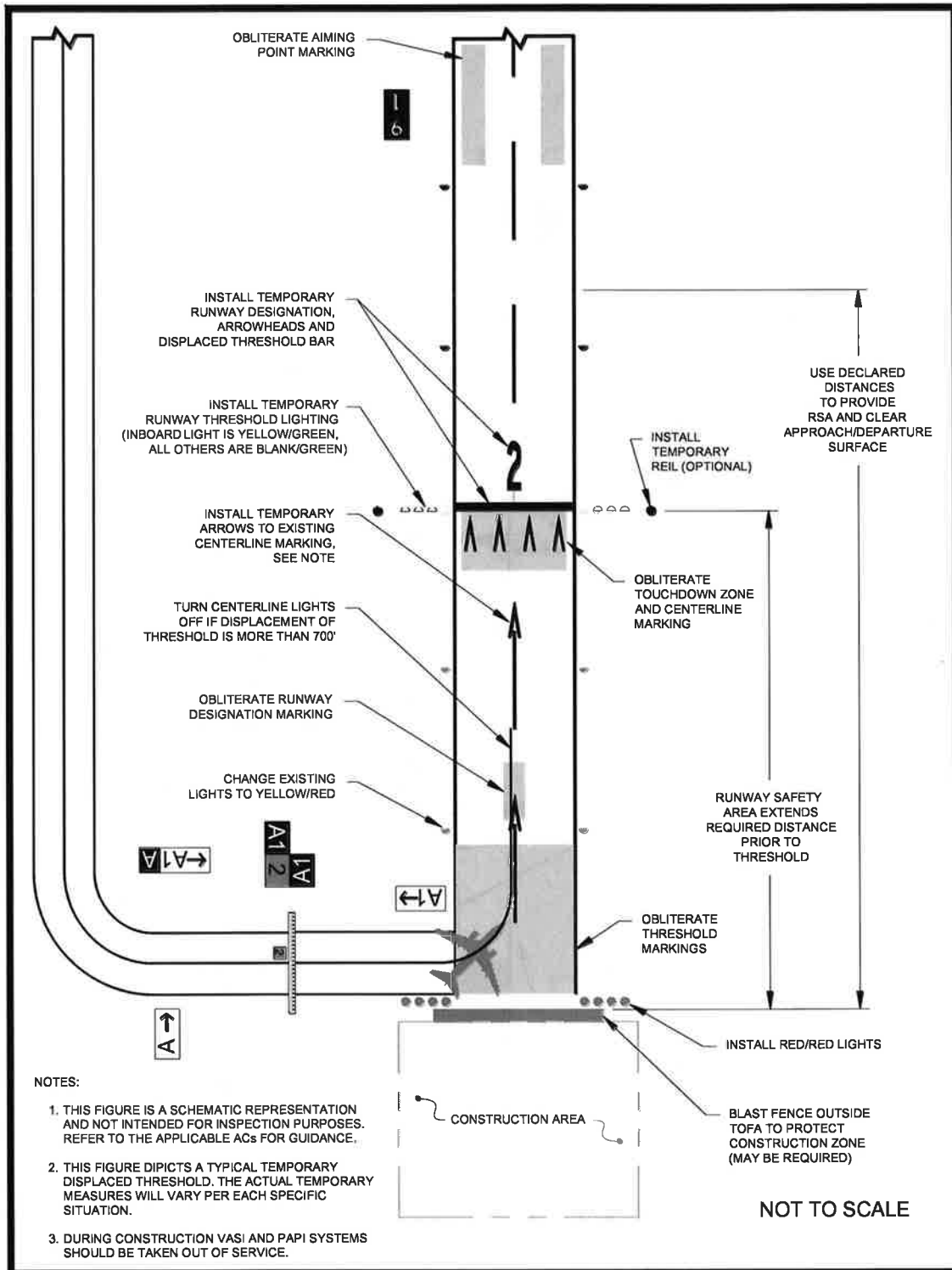
2.7.1.6 Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.

Figure 2-1. Temporary Partially Closed Runway



- NOTES:
1. PLACE LOW PROFILE BARRICADES AT ALL ACCESS POINTS TO CLOSED SECTION OF RUNWAY.
 2. THIS FIGURE IS A SCHEMATIC REPRESENTATION AND NOT INTENDED FOR INSPECTION PURPOSES. REFER TO THE APPLICABLE ACs FOR GUIDANCE.
 3. THIS FIGURE DEPICTS A TYPICAL TEMPORARY PARTIALLY CLOSED RUNWAY. THE ACTUAL TEMPORARY MEASURES WILL VARY PER EACH SPECIFIC SITUATION.
 4. DISCONNECT/COVER LIGHTS IN CLOSED AREAS.
 5. DURING CONSTRUCTION VASI AND PAPI SYSTEMS SHOULD BE TAKEN OUT OF SERVICE.

Figure 2-2. Temporary Displaced Threshold



Note: See paragraph 2.18.2.5.

2.7.2 Mitigation of Effects.

Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

- 2.7.2.1 Temporary changes to runway and/or taxi operations.
- 2.7.2.2 Detours for ARFF and other airport vehicles.
- 2.7.2.3 Maintenance of essential utilities.
- 2.7.2.4 Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.

2.8 Navigation Aid (NAVAID) Protection.

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 2.13.5.3.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the “critical area” associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 2.13.2.). Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 2.13.5.3.)

2.9 Contractor Access.

The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

2.9.1 Location of Stockpiled Construction Materials.

Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 2.18.2.) This includes determining and

verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material. See paragraphs [2.10](#) and [2.11](#).

2.9.2 Vehicle and Pedestrian Operations.

The CSPP should include specific vehicle and pedestrian requirements. Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, with associated training requirements:

2.9.2.1 **Construction Site Parking.**

Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.

2.9.2.2 **Construction Equipment Parking.**

Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP). See paragraph [2.13.1](#) for further information.

2.9.2.3 **Access and Haul Roads.**

Determine the construction contractor's access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul

roads does not interfere with NAVAIDs or approach surfaces of operational runways. Address whether access gates will be blocked or inoperative or if a rally point will be blocked or inaccessible.

2.9.2.4 Marking and lighting of vehicles in accordance with AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*.

2.9.2.5 Description of proper vehicle operations on various areas under normal, lost communications, and emergency conditions.

2.9.2.6 Required escorts.

2.9.2.7 **Training Requirements for Vehicle Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations.**

Specific training should be provided to vehicle operators, including those providing escorts. See AC 150/5210-20, *Ground Vehicle Operations on Airports*, for information on training and records maintenance requirements.

2.9.2.8 **Situational Awareness.**

Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for an aircraft to have radio communications. Because aircraft do not always broadcast their positions or intentions, visual checking, radio monitoring, and situational awareness of the surroundings is critical to safety.

2.9.2.9 **Two-Way Radio Communication Procedures.**

2.9.2.9.1 General.

The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:

1. Airport operations
2. ATCT

3. Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.
4. Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and “shortened” runways on the ATIS frequency.

2.9.2.9.2 Areas Requiring Two-Way Radio Communication with the ATCT.

Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

2.9.2.9.3 Frequencies to be Used.

The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

2.9.2.9.4 Proper radio usage, including read back requirements.

2.9.2.9.5 Proper phraseology, including the International Phonetic Alphabet.

2.9.2.9.6 Light Gun Signals.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard “Ground Vehicle Guide to Airport Signs and Markings.” This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (see “Signs & Markings Vehicle Dashboard Sticker”) or obtained from the FAA Airports Regional Office.

2.9.2.10 **Maintenance of the secured area of the airport, including:**

2.9.2.10.1 Fencing and Gates.

Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit “piggybacking” behind another person or vehicle. The Department of Transportation (DOT) document DOT/FAA/AR-

00/52, *Recommended Security Guidelines for Airport Planning and Construction*, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

2.9.2.10.2 Badging Requirements.

Airports subject to 49 CFR Part 1542, *Airport Security*, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

2.10 **Wildlife Management.**

The CSPP and SPCD must be in accordance with the airport operator's wildlife hazard management plan, if applicable. See AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*, and CertAlert 98-05, *Grasses Attractive to Hazardous Wildlife*. Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

2.10.1 Trash.

Food scraps must be collected from construction personnel activity.

2.10.2 Standing Water.

2.10.3 Tall Grass and Seeds.

Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, *Standards for Specifying Construction of Airports*, Item T-901, Seeding. Contact the local office of the United States Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

2.10.4 Poorly Maintained Fencing and Gates.

See paragraph 2.9.2.10.1.

2.10.5 Disruption of Existing Wildlife Habitat.

While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

2.11 Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, *Foreign Object Debris (FOD) Management*.

2.12 Hazardous Materials (HAZMAT) Management.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, *Management of Airport Industrial Waste*.

2.13 Notification of Construction Activities.

The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

2.13.1 List of Responsible Representatives/points of contact for all involved parties, and procedures for contacting each of them, including after hours.

2.13.2 NOTAMs.

Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must either enter the NOTAM into NOTAM Manager, or provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, *Notices to Airmen (NOTAMs) for Airport Operators*, for a sample NOTAM form. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See paragraph 2.7.1.1 about issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

2.13.3 Emergency notification procedures for medical, fire fighting, and police response.

2.13.4 Coordination with ARFF.

The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

1. The deactivation and subsequent reactivation of water lines or fire hydrants, or
2. The rerouting, blocking and restoration of emergency access routes, or
3. The use of hazardous materials on the airfield.

2.13.5 Notification to the FAA.

2.13.5.1 **Part 77.**

Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e., cranes, graders, other equipment) on airports. FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. See Appendix A to download the form. Further guidance is available on the FAA web site at oaaaa.faa.gov.

2.13.5.2 **Part 157.**

With some exceptions, Title 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, *Notice of Landing Area Proposal*, to the nearest FAA Airports Regional or District Office. See Appendix A to download the form.

2.13.5.3 **NAVAIDs.**

For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

2.13.5.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of 24 hours or greater in duration, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown, using Strategic Event Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15, *General Maintenance Handbook for National Airspace System (NAS) Facilities*.

2.13.5.3.2 FAA Owned.

1. The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs, using SEC Form 6000.26.
2. Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. Refer to active Service Level Agreement with ATO for specifics.

2.14 **Inspection Requirements.**

2.14.1 Daily Inspections.

Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix D, Construction Project Daily Safety Inspection Checklist. See also AC 150/5200-18, Airport Safety Self-Inspection. Airport operators holding a Part 139 certificate are required to conduct self-inspections during unusual conditions, such as construction activities, that may affect safe air carrier operations.

2.14.2 Interim Inspections.

Inspections should be conducted of all areas to be (re)opened to aircraft traffic to ensure the proper operation of lights and signs, for correct markings, and absence of FOD. The contractor should conduct an inspection of the work area with airport operations personnel. The contractor should ensure that all construction materials have been secured, all pavement surfaces have been swept clean, all transition ramps have been properly constructed, and that surfaces have been appropriately marked for aircraft to operate safely. Only if all items on the list meet with the airport operator's approval should the air traffic control tower be notified to open the area to aircraft operations. The contractor should be required to retain a suitable workforce and the necessary equipment at the work area for any last minute cleanup that may be requested by the airport operator prior to opening the area.

2.14.3 Final Inspections.

New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

2.15 Underground Utilities.

The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that “One Call” or “Miss Utility” services do not include FAA ATO/Technical Operations.

2.16 Penalties.

The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

2.17 Special Conditions.

The CSPP must detail any special conditions that affect the operation of the airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

2.18 Runway and Taxiway Visual Aids.

This includes marking, lighting, signs, and visual NAVAIDs. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDs that are to continue to perform their functions during construction remain in place and operational. Visual NAVAIDs that are not serving their intended function during construction must be temporarily disabled, covered, or modified as necessary. The CSPP must address the following, as appropriate:

2.18.1 General.

Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, and other wind currents and constructed of materials that will minimize damage to an aircraft in the event of inadvertent contact. Items used to secure such markings must be of a color similar to the marking.

2.18.2 Markings.

During the course of construction projects, temporary pavement markings are often required to allow for aircraft operations during or between work periods. During the design phase of the project, the designer should coordinate with the project manager,

airport operations, airport users, the FAA Airports project manager, and Airport Certification Safety Inspector for Part 139 airports to determine minimum temporary markings. The FAA Airports project manager will, wherever a runway is closed, coordinate with the appropriate FAA Flight Standards Office and disseminate findings to all parties. Where possible, the temporary markings on finish grade pavements should be placed to mirror the dimensions of the final markings. Markings must be in compliance with the standards of AC 150/5340-1, *Standards for Airport Markings*, except as noted herein. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 2.18.2.1.2.)

2.18.2.1 **Closed Runways and Taxiways.**

2.18.2.1.1 Permanently Closed Runways.

For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place an X at each end and at 1,000-foot (300 m) intervals. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X.

2.18.2.1.2 Temporarily Closed Runways.

For runways that have been temporarily closed, place an X at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X. See Figure 2-3. See also paragraph 2.18.3.3.

2.18.2.1.3 Partially Closed Runways and Displaced Thresholds.

When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 2.7.1.1 for the difference between partially closed runways and runways with displaced thresholds. Because of the temporary nature of threshold displacement due to construction, it is not necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach. Some of the requirements below may be waived in the cases of low-activity airports and/or short duration changes that are measured in days rather than weeks. Consider whether the presence of an airport traffic

control tower allows for the development of special procedures. Contact the appropriate FAA Airports Regional or District Office for assistance.

Figure 2-3. Markings for a Temporarily Closed Runway

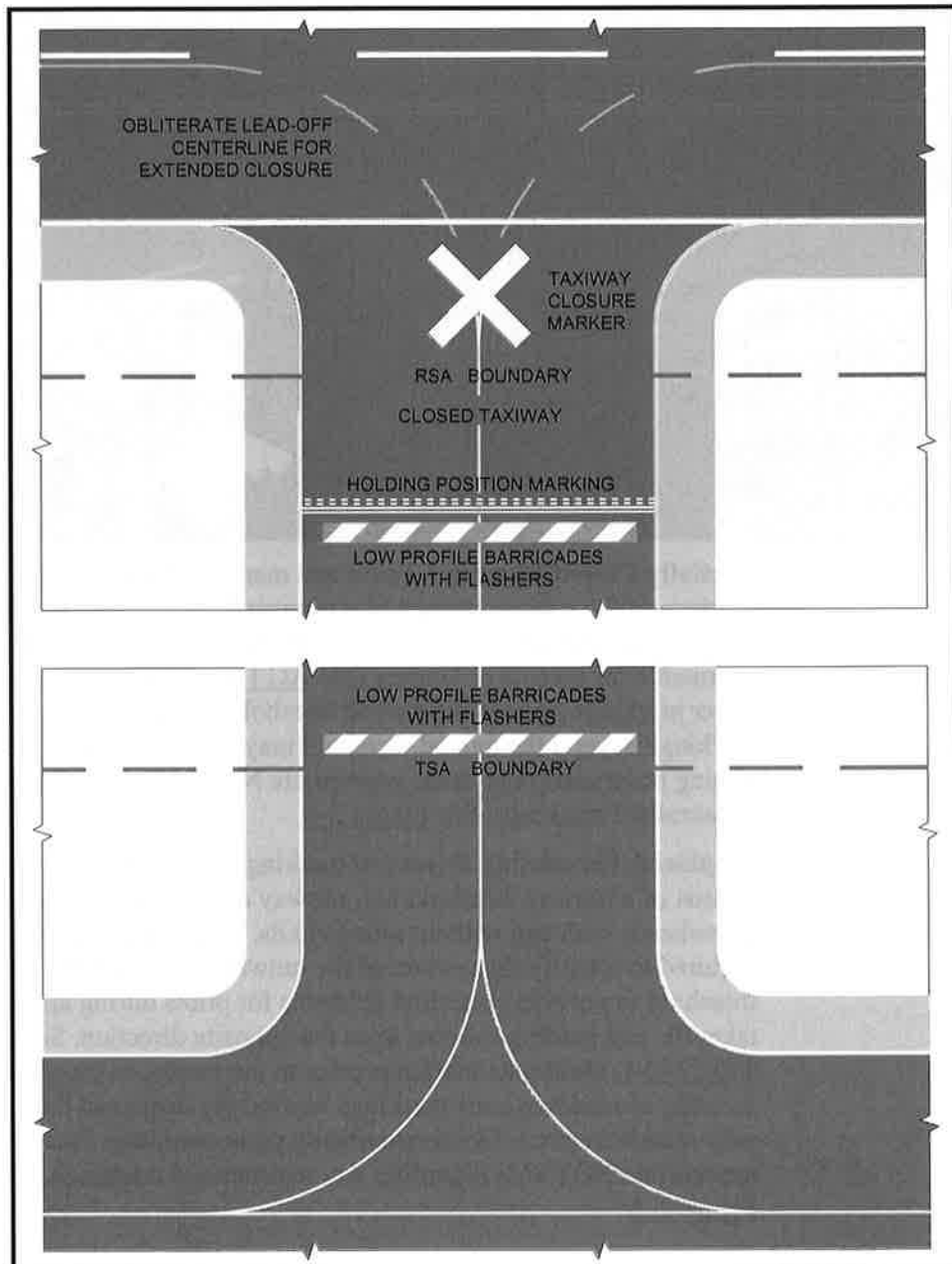


1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see [AC 150/5340-1](#)). Obliterate or cover markings prior to the moved threshold. Existing touchdown zone markings beyond the moved threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-4](#).
2. **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See [AC 150/5340-1](#). Obliterate markings prior to the displaced threshold. Existing touchdown zone markings beyond the displaced threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-2](#).

2.18.2.1.4 Taxiways.

1. **Permanently Closed Taxiways.** AC 150/5300-13 Airport Design, notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. See Figure 2-4.

Figure 2-4. Temporary Taxiway Closure



2. **Temporarily Closed Taxiways.** Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section. Always obliterate runway lead-off lines for high speed exits, regardless of the duration of the closure. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed. See Figure 2-4.

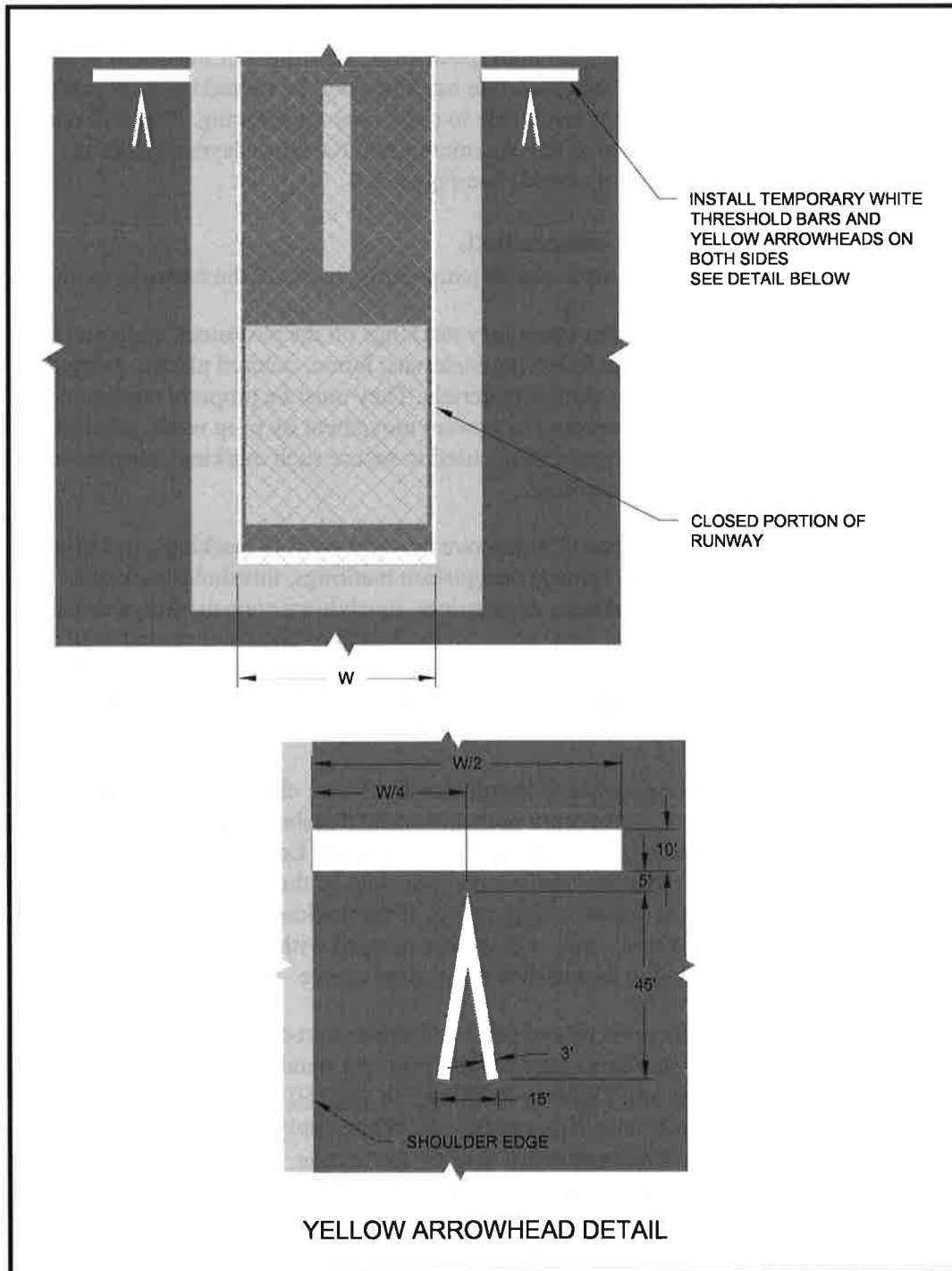
2.18.2.1.5 Temporarily Closed Airport.

When the airport is closed temporarily, mark all the runways as closed.

- 2.18.2.2 If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents. Items used to secure such markings must be of a color similar to the marking.
- 2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.
- 2.18.2.4 If it is not possible to install threshold bars, chevrons, and arrows on the pavement, “temporary outboard white threshold bars and yellow arrowheads”, see [Figure 2-5](#), may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimensions must be as shown in [Figure 2-5](#). If the markings are not discernible on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.
- 2.18.2.5 The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, “Runway and Taxiway Painting,” in [AC 150/5370-10](#)), but the dimensions must meet the existing standards. When applying temporary markings at night, it is recommended that the fast curing, Type II paint be used to help offset the higher humidity and cooler temperatures often experienced at night. Diluting the paint will substantially increase cure time and is not recommended. Glass beads are not recommended for temporary markings. Striated markings may also be used for certain temporary markings. [AC](#)

150/5340-1, *Standards for Airport Markings*, has additional guidance on temporary markings.

Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads



2.18.3 Lighting and Visual NAVAIDs.

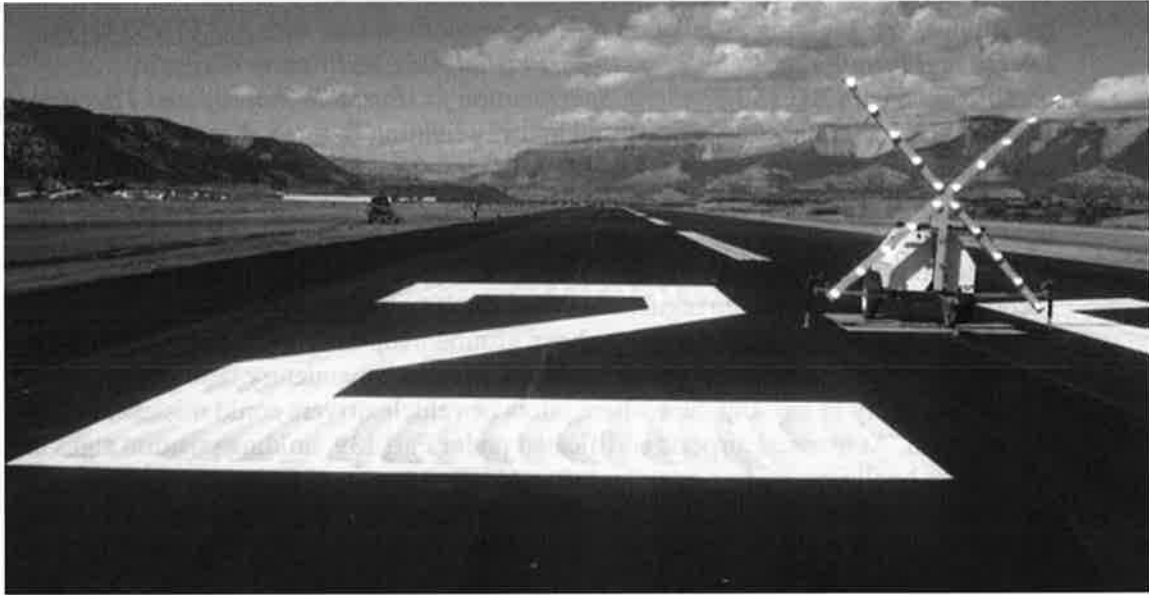
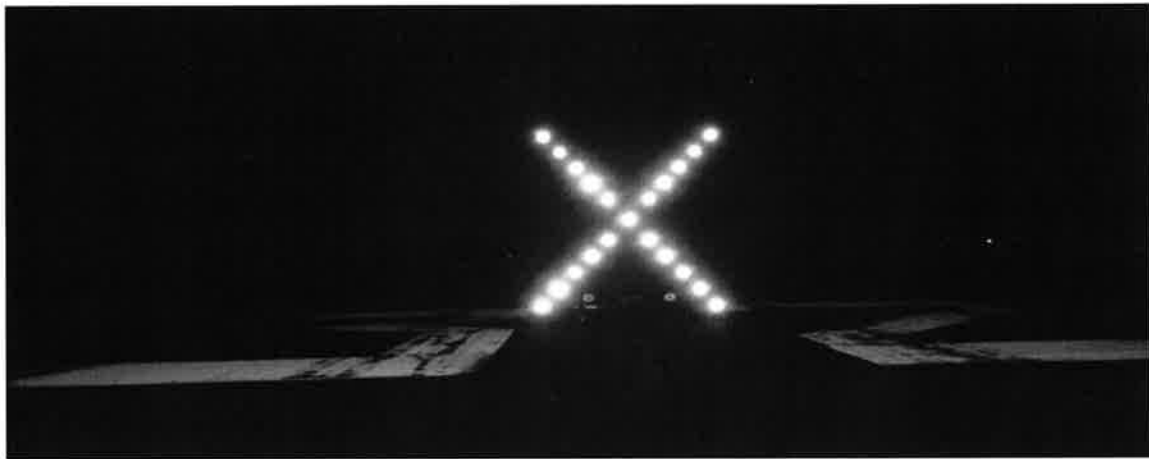
This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting installation must be in conformance with AC 150/5340-30, *Design and Installation Details for Airport Visual Aids*, and fixture design in conformance with AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights*. When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. See AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*, for disconnect procedures and safety precautions. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources. Maintain mandatory hold signs to operate normally in any situation where pilots or vehicle drivers could mistakenly be in that location. At towered airports certificated under Part 139, holding position signs are required to be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, install a jumper to the taxiway circuit to provide power to the holding position sign for nighttime operations. Where it is not possible to maintain power to signs that would normally be operational, install barricades to exclude aircraft. Figure 2-1, Figure 2-2, Figure 2-3, and Figure 2-4 illustrate temporary changes to lighting and visual NAVAIDs.

2.18.3.1 **Permanently Closed Runways and Taxiways.**

For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

2.18.3.2 **Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic.**

If available, use a lighted X, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note that the lighted X must be illuminated at all times that it is on a runway.) The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*. For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-6 shows a lighted X by day. Figure 2-7 shows a lighted X at night.

Figure 2-6. Lighted X in Daytime**Figure 2-7. Lighted X at Night****2.18.3.3 Partially Closed Runways and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially

closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

- 2.18.3.3.1 Partially Closed Runways.
Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixtures in such a way as to prevent light leakage. See Figure 2-1.
- 2.18.3.3.2 Temporary Displaced Thresholds.
Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, blank out centerline lights in the direction of approach or place the centerline lights out of service. If the displacement is over 700 feet, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds. See Figure 2-2.
- 2.18.3.3.3 Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.
- 2.18.3.3.4 A temporary threshold on an unlighted runway may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 2.18.2.1.3. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, *Specification for L-853, Runway and Taxiway Retroreflective Markers*.
- 2.18.3.3.5 Temporary threshold lights and runway end lights and related visual NAVAIDs are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.
- 2.18.3.3.6 Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may

be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

- 2.18.3.3.7 When runway thresholds are temporarily displaced, reconfigure yellow lenses (caution zone), as necessary, and place the centerline lights out of service.
- 2.18.3.3.8 Relocate the Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense. See FAA JO 6850.2, *Visual Guidance Lighting Systems*, for installation criteria for FAA owned and operated NAVAIDs.
- 2.18.3.3.9 Issue a NOTAM to inform pilots of temporary lighting conditions.

2.18.3.4 **Temporarily Closed Taxiways.**

If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), cover the light fixture in a way as to prevent light leakage.

2.18.4 **Signs.**

To the extent possible, signs must be in conformance with AC 150/5345-44, *Specification for Runway and Taxiway Signs*, and AC 150/5340-18, *Standard for Airport Sign Systems*.

2.18.4.1 **Existing Signs.**

Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

2.18.4.2 Temporary Signs.

Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot “information overload,” the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, *Guidance for the Assembly and Installation of Temporary Orange Construction Signs*. Many criteria in AC 150/5345-44, *Specification for Runway and Taxiway Signs*, are referenced in the Engineering Brief. Permissible sign legends are:

1. CONSTRUCTION AHEAD,
2. CONSTRUCTION ON RAMP, and
3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.

2.18.4.2.1 Takeoff Run Available (TORA) signs.

Recommended: Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position. See EB 93 for sign size and location.

2.18.4.2.2 Sign legends are shown in Figure F-1.

Note: See Figure E-1, Figure E-2, Figure E-3, Figure F-2, and Figure F-3 for examples of orange construction sign locations.

2.19 Marking and Signs for Access Routes.

The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, *Frangible Connections*, which may require modification to size and height guidance in the MUTCD.

2.20 **Hazard Marking, Lighting and Signing.**

2.20.1 Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

2.20.2 Equipment.

2.20.2.1 **Barricades.**

Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude aircraft, gaps between barricades must be smaller than the wingspan of the smallest aircraft to be excluded; if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

2.20.2.2 **Lights.**

Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

2.20.2.3 **Supplement Barricades with Signs (for example) As Necessary.**

Examples are “No Entry” and “No Vehicles.” Be aware of the increased effects of wind and jet blast on barricades with attached signs.

2.20.2.4 Air Operations Area – General.

Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground. Figure 2-8 and Figure 2-9 show sample barricades with proper coloring and flags.

Figure 2-8. Interlocking Barricades



Figure 2-9. Low Profile Barricades**2.20.2.5 Air Operations Area – Runway/Taxiway Intersections.**

Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

2.20.2.6 Air Operations Area – Other.

Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

2.20.2.7 Maintenance.

The construction specifications must include a provision requiring the contractor to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

2.21 Work Zone Lighting for Nighttime Construction.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. Refer to [AC 150/5370-10](#) for minimum illumination levels for nighttime paving projects. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely

illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways.

2.22 **Protection of Runway and Taxiway Safety Areas.**

Runway and taxiway safety areas, OFZs, OFAs, and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (see paragraph 2.13.5) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

2.22.1 Runway Safety Area (RSA).

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

- 2.22.1.1 No construction may occur within the existing RSA while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (See AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published, and appropriate NOTAMs issued. See AC 150/5300-13 for guidance on the use of declared distances.
- 2.22.1.2 The airport operator must coordinate the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.
- 2.22.1.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

2.22.1.4 Excavations.

2.22.1.4.1 Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

2.22.1.4.2 Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.1.5 Erosion Control.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.2 Runway Object Free Area (ROFA).

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

2.22.3 Taxiway Safety Area (TSA).

2.22.3.1 A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Since the width of the TSA is equal to the wingspan of the design aircraft, no construction may occur within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction. Give special consideration to TSA dimensions at taxiway turns and intersections. (see AC 150/5300-13).

2.22.3.2 The airport operator must coordinate the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

2.22.3.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations.

2.22.3.4 **Excavations.**

1. Curves. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.
2. Straight Sections. Open trenches or excavations are not permitted within the TSA while the taxiway is open for unrestricted aircraft operations. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations to allow the safe passage of ARFF equipment and of the heaviest aircraft operating on the taxiway across the trench without causing damage to the equipment or aircraft. In rare circumstances where the section of taxiway is indispensable for aircraft movement, open trenches or excavations may be permitted in the TSA while the taxiway is open to aircraft operations, subject to the following restrictions:
 - a. Taxiing speed is limited to 10 mph.
 - b. Appropriate NOTAMs are issued.
 - c. Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - d. Low mass, low-profile lighted barricades are installed.
 - e. Appropriate temporary orange construction signs are installed.
3. Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.3.5 **Erosion control.**

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.4 Taxiway Object Free Area (TOFA).

Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

- 2.22.4.1 The taxiway object free area dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available. Give special consideration to TOFA dimensions at taxiway turns and intersections.
- 2.22.4.2 Offset taxiway centerline and edge pavement markings (do not use glass beads) may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting, centerline reflectors, or taxiway edge reflectors are required. Existing lighting that does not coincide with the temporary markings must be taken out of service.
- 2.22.4.3 Construction activity, including open excavations, may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:
 - 2.22.4.3.1 Taxiing speed is limited to 10 mph.
 - 2.22.4.3.2 NOTAMs issued advising taxiing pilots of hazard and recommending reduced taxiing speeds on the taxiway.
 - 2.22.4.3.3 Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - 2.22.4.3.4 If desired, appropriate orange construction signs are installed. See paragraph 2.18.4.2 and Appendix F.
 - 2.22.4.3.5 Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the usable pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.
 - 2.22.4.3.6 Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel. Flaggers must also be used to direct taxiing aircraft. Due to liability issues, the airport operator should require airlines to provide flaggers for directing taxiing aircraft.

2.22.5 Obstacle Free Zone (OFZ).

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6 Runway Approach/Departure Areas and Clearways.

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6.1 Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

2.22.6.2 Caution About Partial Runway Closures.

When filing a NOTAM for a partial runway closure, clearly state that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

2.22.6.3 Caution About Displaced Thresholds.

Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, or other work within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

2.23 Other Limitations on Construction.

The CSPP must specify any other limitations on construction, including but not limited to:

2.23.1 Prohibitions.

- 2.23.1.1 No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
- 2.23.1.2 No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.
- 2.23.1.3 No use of electrical blasting caps on or within 1,000 feet (300 meters) of the airport property. See AC 150/5370-10.

2.23.2 Restrictions.

- 2.23.2.1 Construction suspension required during specific airport operations.
- 2.23.2.2 Areas that cannot be worked on simultaneously.
- 2.23.2.3 Day or night construction restrictions.
- 2.23.2.4 Seasonal construction restrictions.
- 2.23.2.5 Temporary signs not approved by the airport operator.
- 2.23.2.6 Grades changes that could result in unplanned effects on NAVAIDs.

CHAPTER 3. GUIDELINES FOR WRITING A CSPP

3.1 **General Requirements.**

The CSPP is a standalone document written to correspond with the subjects outlined in paragraph 2.4. The CSPP is organized by numbered sections corresponding to each subject listed in paragraph 2.4, and described in detail in paragraphs 2.5 - 2.23. Each section number and title in the CSPP matches the corresponding subject outlined in paragraph 2.4 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

3.2 **Applicability of Subjects.**

Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA ILS cables during trenching operations could be considered FAA ATO coordination (Coordination, paragraph 2.5.3), an area and operation affected by the construction activity (Areas and Operations Affected by the Construction Activity, paragraph 2.7.1.4), a protection of a NAVAID (Protection of Navigational Aids (NAVAIDs), paragraph 2.8), or a notification to the FAA of construction activities (Notification of Construction Activities, paragraph 2.13.5.3.2). However, it is more specifically an underground utility requirement (Underground Utilities, paragraph 2.15). The procedure for protecting underground ILS cables during trenching operations should therefore be described in 2.4.2.11: "The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings." All other applicable sections should include a reference to 2.4.2.11: "ILS cables shall be identified and protected as described in 2.4.2.11" or "See 2.4.2.11 for ILS cable identification and protection requirements." Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

3.3 **Graphical Representations.**

Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

3.4 Reference Documents.

The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor. Where this AC recommends references (e.g. as in paragraph 3.9) the intent is to include a reference to the corresponding section in the CSPP, not to this Advisory Circular.

3.5 Restrictions.

The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent (“as-built”) features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

3.6 Coordination.

Include in this section a detailed description of conferences and meetings to be held both before and during the project. Include appropriate information from AC 150/5370-12. Discuss coordination procedures and schedules for each required FAA ATO Technical Operations shutdown and restart and all required flight inspections.

3.7 Phasing.

Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 3.8, as appropriate.

3.8 Areas and Operations Affected by Construction.

Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. See Appendix F for sample operational effects tables and figures.

3.9 NAVAID Protection.

List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 3.6 for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 3.14 for the

issuance of NOTAMs as required. Include a reference to paragraph 3.16 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 3.19. Attach drawings to graphically indicate the affected NAVAIDs and the corresponding critical areas.

3.10 **Contractor Access.**

This will necessarily be the most extensive section of the CSPP. Provide sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

3.10.1 Location of Stockpiled Construction Materials.

Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 3.11 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 3.12 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

3.10.2 Vehicle and Pedestrian Operations.

While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying HAZMAT vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

3.10.3 Two-Way Radio Communications.

Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor CTAF at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light

signals, telephone numbers, others) must be included. All radio frequencies should be identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

3.10.4 Airport Security.

Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

3.11 **Wildlife Management.**

Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 3.10 for security (wildlife) fence integrity maintenance as required.

3.12 **FOD Management.**

In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 3.15 for inspection requirements as required.

3.13 **HAZMAT Management.**

Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be identified. Include a reference to paragraph 3.10 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

3.14 **Notification of Construction Activities.**

List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to

Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. Identify the E911 address of the airport and the emergency access route via haul roads to the construction site. Require the contractor to have this information available to all workers. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 3.10. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

3.15 **Inspection Requirements.**

Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) or other airport operator's representative and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

3.16 **Underground Utilities.**

Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 3.14 for notification of utility owners of accidental utility disruption as required.

3.17 **Penalties.**

Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, VPD, and others.

3.18 **Special Conditions.**

Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 3.10 for compliance with airport safety and security measures and for radio communications as required. Include

a reference to paragraph 3.14 for emergency notification of all involved parties, including police/security, ARFF, and medical services.

3.19 Runway and Taxiway Visual Aids.

Include marking, lighting, signs, and visual NAVAIDS. Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDS required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDS that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDS such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, Standards for Airport Markings; AC 150/5340-18, Standards for Airport Sign Systems; and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDS.

3.20 Marking and Signs for Access Routes.

Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration MUTCD and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

3.21 Hazard Marking and Lighting.

Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 3.14. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

3.22 Work Zone Lighting for Nighttime Construction.

If work is to be conducted at night, specify all lighting equipment, including when and where each type of device is to be used. Indicate the direction lights are to be aimed and any directions that aiming of lights is prohibited. Specify any shielding necessary in instances where aiming is not sufficient to prevent interference with air traffic control and aircraft operations. Attach drawings to graphically indicate the placement and aiming of lighting equipment. Where the plan only indicates directions that aiming of lights is prohibited, the placement and positioning of portable lights must be proposed by the Contractor and approved by the airport operator's representative each time lights are relocated or repositioned.

3.23 Protection of Runway and Taxiway Safety Areas.

This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13, as required. Include a reference to paragraph 3.10 for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 3.10 for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide the required Runway Safety Area, include a reference to paragraphs 3.14 and 3.19. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13, as required. Include a reference to paragraph 3.24 for height (i.e., crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional “box” within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

3.24 Other Limitations on Construction.

This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e., crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 3.7 for project phasing requirements based on construction limitations as required.

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APPENDIX A. RELATED READING MATERIAL

Obtain the latest version of the following free publications from the FAA on its Web site at <http://www.faa.gov/airports/>.

Table A-1. FAA Publications

Number	Title and Description
<u>AC 150/5200-28</u>	<i>Notices to Airmen (NOTAMs) for Airport Operators</i> Guidance for using the NOTAM System in airport reporting.
<u>AC 150/5200-30</u>	<i>Airport Field Condition Assessments and Winter Operations Safety</i> Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
<u>AC 150/5200-33</u>	<i>Hazardous Wildlife Attractants On or Near Airports</i> Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
<u>AC 150/5210-5</u>	<i>Painting, Marking, and Lighting of Vehicles Used on an Airport</i> Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
<u>AC 150/5210-20</u>	<i>Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports</i> Guidance to airport operators on developing ground vehicle operation training programs.
<u>AC 150/5300-13</u>	<i>Airport Design</i> FAA standards and recommendations for airport design. Establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
<u>AC 150/5210-24</u>	<i>Airport Foreign Object Debris (FOD) Management</i> Guidance for developing and managing an airport foreign object debris (FOD) program

Number	Title and Description
<u>AC 150/5320-15</u>	<i>Management of Airport Industrial Waste</i> Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
<u>AC 150/5340-1</u>	<i>Standards for Airport Markings</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5340-18</u>	<i>Standards for Airport Sign Systems</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5345-28</u>	<i>Precision Approach Path Indicator (PAPI) Systems</i> FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.
<u>AC 150/5340-30</u>	<i>Design and Installation Details for Airport Visual Aids</i> Guidance and recommendations on the installation of airport visual aids.
<u>AC 150/5345-39</u>	<i>Specification for L-853, Runway and Taxiway Retroreflective Markers</i>
<u>AC 150/5345-44</u>	<i>Specification for Runway and Taxiway Signs</i> FAA specifications for unlighted and lighted signs for taxiways and runways.
<u>AC 150/5345-53</u>	<i>Airport Lighting Equipment Certification Program</i> Details on the Airport Lighting Equipment Certification Program (ALECP).
<u>AC 150/5345-50</u>	<i>Specification for Portable Runway and Taxiway Lights</i> FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
<u>AC 150/5345-55</u>	<i>Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure</i>

Number	Title and Description
<u>AC 150/5370-10</u>	<i>Standards for Specifying Construction of Airports</i> Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
<u>AC 150/5370-12</u>	<i>Quality Management for Federally Funded Airport Construction Projects</i>
EB 93	<i>Guidance for the Assembly and Installation of Temporary Orange Construction Signs</i>
FAA Order 5200.11	<u>FAA Airports (ARP) Safety Management System (SMS)</u> Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	<i>Grasses Attractive to Hazardous Wildlife</i> Guidance on grass management and seed selection.
FAA Form 7460-1	<u>Notice of Proposed Construction or Alteration</u>
FAA Form 7480-1	<u>Notice of Landing Area Proposal</u>
FAA Form 6000.26	National NAS Strategic Interruption Service Level Agreement, Strategic Events Coordination, Airport Sponsor Form

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at <http://www.ecfr.gov/>.

Table A-2. Code of Federal Regulation

Number	Title
Title 14 CFR Part 77	Safe, Efficient Use and Preservation of the Navigable Airspace
Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at <http://mutcd.fhwa.dot.gov/>.

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APPENDIX B. TERMS AND ACRONYMS**Table B-1. Terms and Acronyms**

Term	Definition
Form 7460-1	Notice of Proposed Construction or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, <i>Safe, Efficient Use, and Preservation of the Navigable Airspace</i> . (See guidance available on the FAA web site at https://ocaaa.faa.gov .) The form may be downloaded at http://www.faa.gov/airports/resources/forms/ , or filed electronically at: https://ocaaa.faa.gov .
Form 7480-1	Notice of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport The form may be downloaded at http://www.faa.gov/airports/resources/forms/ .
Form 6000-26	Airport Sponsor Strategic Event Submission Form
AC	Advisory Circular
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area, as defined in 14 CFR Part 107. Means a portion of an airport, specified in the airport security program, in which security measures are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. This area does not include the secured area of the airport terminal building.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
AT	Air Traffic
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under

Term	Definition
	the authority of 14 CFR Part 139, <i>Certification of Airports</i> .
CFR	Code of Federal Regulations
Construction	The presence of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety and Phasing Plan. The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FOD	Foreign Object Debris/Damage
FSS	Flight Service Station
GA	General Aviation
HAZMAT	Hazardous Materials
HMA	Hot Mix Asphalt
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.

Term	Definition
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OCC	Operations Control Center
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See AC 150/5300-13 for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to AC 150/5300-13 for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
OTS	Out of Service
P&R	Planning and Requirements Group
NPI	NAS Planning & Integration
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicator
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RA	Reimbursable Agreement
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with AC 150/5300-13 .
SDS	Safety Data Sheet
SIDA	Security Identification Display Area
SMS	Safety Management System

Term	Definition
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
SSC	System Support Center
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with AC 150/5300-13 .
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See AC 150/5300-13 for guidance on declared distances.
TSA	Taxiway Safety Area, or Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicator
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicator (PAPI), visual approach slope indicator (VASI), and pulse light approach slope indicator (PLASI).
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>				
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>				
Scheduling of the construction phases is properly addressed.	<u>2.6</u>				
Any formal agreements are established.	<u>2.5.3</u>				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	<u>2.7.1</u>				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>				
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>				
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>				
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>				
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>				
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>				
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>				
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>				
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	<u>2.8</u>				
Protection of NAVAID facilities is addressed.	<u>2.8</u>				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>				
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>				
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>				
Construction site parking is addressed.	<u>2.9.2.1</u>				
Construction equipment parking is addressed.	<u>2.9.2.2</u>				
Access and haul roads are addressed.	<u>2.9.2.3</u>				
A requirement for marking and lighting of vehicles to comply with <u>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</u> , is included.	<u>2.9.2.4</u>				
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>				
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>				
Two-way radio communications procedures are described.	<u>2.9.2.9</u>				
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>				
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator's FOD management procedures are addressed.	<u>2.11</u>				
Hazardous Materials Management					
The airport operator's hazardous materials management procedures are addressed.	<u>2.12</u>				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>				
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>				
A list of ATCT managers on duty is included.	<u>2.13.1</u>				
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>				
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>				
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>				
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>				
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>				
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>				
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>				
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>				
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>				
Markings for temporary closures are specified.	<u>2.20.2.5</u>				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1,</u> <u>2.22.3.1</u>				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2,</u> <u>2.22.3.2</u>				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>				
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>				
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>				
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>				

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

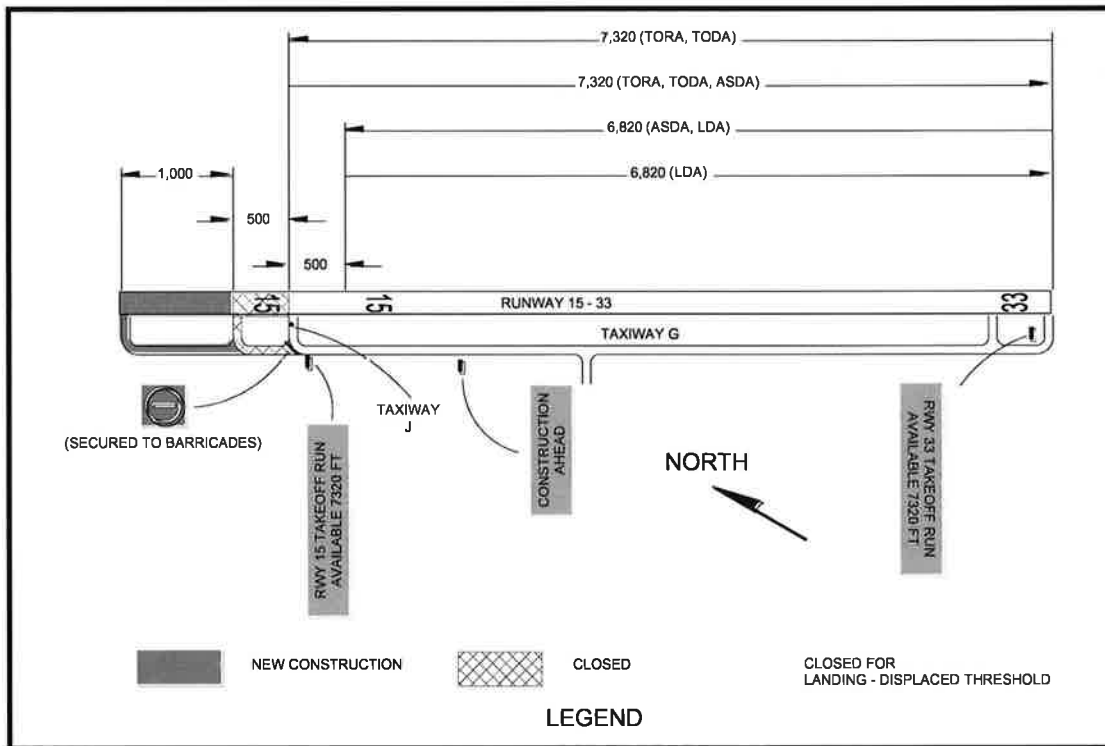
APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE

E.1 Project Description.

Runway 15-33 is currently 7820 feet long, with a 500 foot stopway on the north end. This project will remove the stopway and extend the runway 1000 feet to the north and 500 feet to the south. Finally, the existing portion of the runway will be repaved. The runway 33 glide slope will be relocated. The new runway 33 localizer has already been installed by FAA Technical Operations and only needs to be switched on. Runway 15 is currently served only by a localizer, which will remain in operation as it will be beyond the future RSA. Appropriate NOTAMS will be issued throughout the project.

E.1.1 During Phase I, the runway 15 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 15 takeoff and the departure end of runway 33 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 33 will be adjusted to provide the required RSA and applicable departure surface. Excavation near Taxiway G will require its ADG to be reduced from IV to III. See Figure E-1.

Figure E-1. Phase I Example

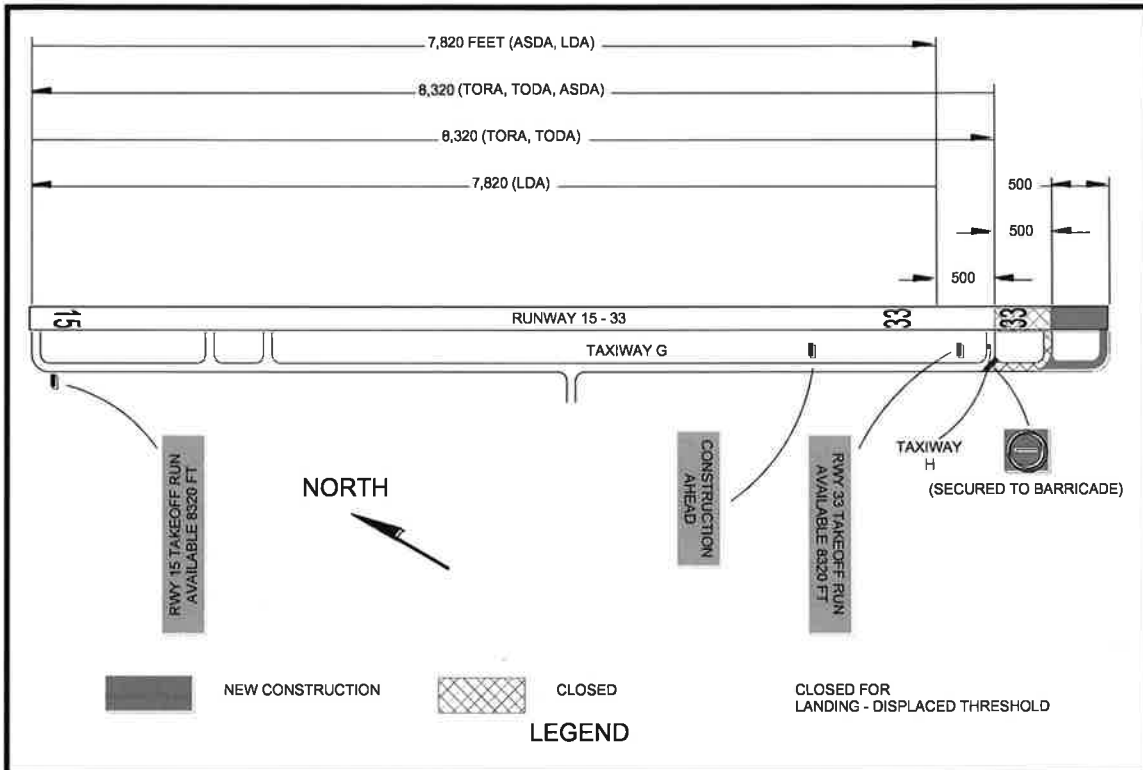


Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 33 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.2 During Phase II, the runway 33 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 33 takeoff and the departure end of runway 15 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 15 will be adjusted to provide the required RSA and applicable departure surface. See Figure E-2.

Figure E-2. Phase II Example



Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 15 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.3 During Phase III, the existing portion of the runway will be repaved with Hot Mix Asphalt (HMA) and the runway 33 glide slope will be relocated. Construction will be accomplished between the hours of 8:00 pm and 5:00 am, during which the runway will be closed to operations.

Figure E-3. Phase III Example

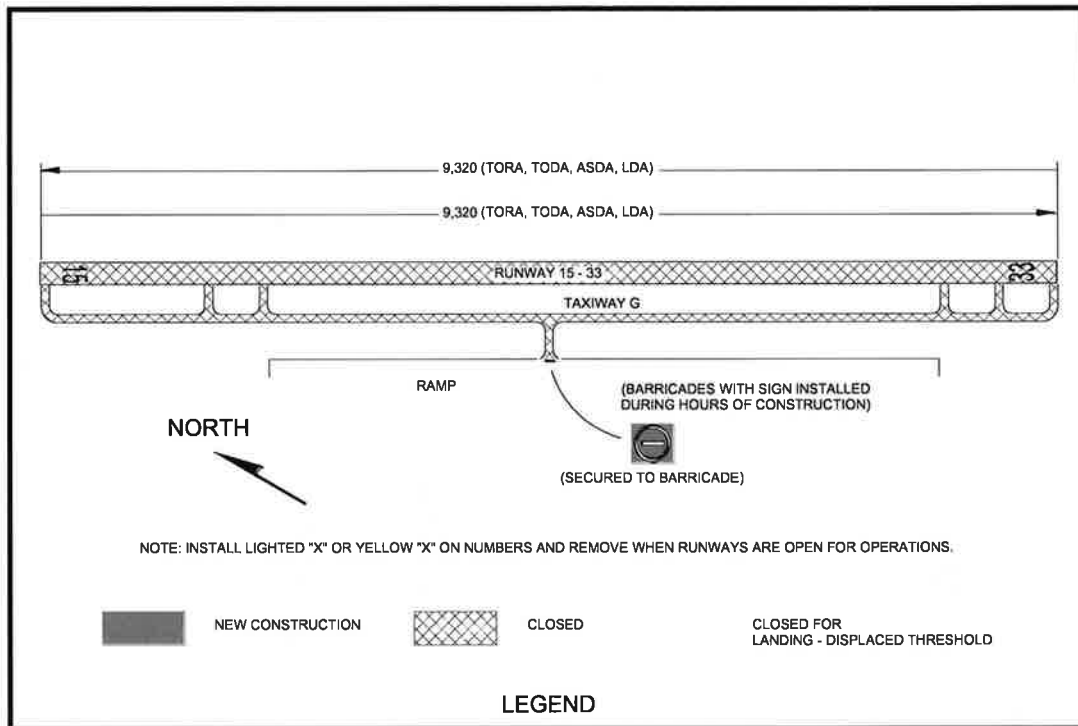


Table E-1. Operational Effects Table

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Scope of Work	N/A	Extend Runway 15-33 1,000 ft on north end with Hot Mix Asphaltic Concrete (HMA).	Extend Runway 15-33 500 ft on south end with Hot Mix Asphaltic Concrete (HMA).	Repave existing runway with HMA Relocate Runway 33 Glide Slope
Effects of Construction Operations	N/A	Existing North 500 ft closed	Existing South 500 ft closed	Runway closed between 8:00 pm and 5:00 am Edge lighting out of service
Construction Phase	N/A	Phase I (Anticipated)	Phase II (Anticipated)	Phase III (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 40 /day GA: 26 /day Military: 0 /day	Carrier: 45 /day GA: 26 /day Military: 5 /day	Carrier: 45 / day GA: 20 / day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 30 /day GA: 18 /day Military: 0 /day	Carrier: 25 /day GA: 18 /day Military: 5 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 Aircraft Category	C-IV	C-IV	C-IV	C-IV
Runway 15 Approach Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Runway 33 Approach Visibility Minimums	¾ mile	¾ mile	¾ mile	1 mile

Note: Proper coordination with Flight Procedures group is necessary to maintain instrument approach procedures during construction.

Project		Runway 15-33 Extension and Repaving			
Phase		Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Runway 15 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	7,820	7,320	7,820	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 33 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	8,320	6,820	8,320	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 15 Approach Procedures	LOC only	LOC only	LOC only	LOC only	LOC only
	RNAV	RNAV	RNAV	RNAV	RNAV
	VOR	VOR	VOR	VOR	VOR
Runway 33 Approach Procedures	ILS	ILS	ILS	ILS	LOC only
	RNAV	RNAV	RNAV	RNAV	RNAV
	VOR	VOR	VOR	VOR	VOR
Runway 15 NAVAIDs	LOC	LOC	LOC	LOC	
Runway 33 NAVAIDs	ILS, MALSR	ILS, MALSR	ILS, MALSR	LOC, MALSR	
Taxiway G ADG	IV	III	IV	IV	
Taxiway G TDG	4	4	4	4	
ATCT (hours open)	24 hours	24 hours	24 hours	0500 - 2000	
ARFF Index	D	D	D	D	

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Special Conditions	Air National Guard (ANG) military operations	All military aircraft relocated to alternate ANG Base	Some large military aircraft relocated to alternate ANG Base	All military aircraft relocated to alternate ANG Base
Information for NOTAMs		Refer above for applicable declared distances. Taxiway G limited to 118 ft wingspan	Refer above for applicable declared distances.	Refer above for applicable declared distances. Airport closed 2000 – 0500. Runway 15 glide slope OTS.

Note: This table is one example. It may be advantageous to develop a separate table for each project phase and/or to address the operational status of the associated NAVAIDs per construction phase.

Complete the following chart for each phase to determine the area that must be protected along the runway and taxiway edges:

Table E-2. Runway and Taxiway Edge Protection

Runway/Taxiway	Aircraft Approach Category* A, B, C, or D	Airplane Design Group* I, II, III, or IV	Safety Area Width in Feet Divided by 2*

*See AC 150/5300-13 to complete the chart for a specific runway/taxiway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

Table E-3. Protection Prior to Runway Threshold

Runway End Number	Airplane Design Group* I, II, III, or IV	Aircraft Approach Category* A, B, C, or D	Minimum Safety Area Prior to the Threshold*	Minimum Distance to Threshold Based on Required Approach Slope*	
				ft	: 1
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1

*See AC 150/5300-13 to complete the chart for a specific runway.

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APPENDIX F. ORANGE CONSTRUCTION SIGNS

Figure F-1. Approved Sign Legends



**CONSTRUCTION
AHEAD**

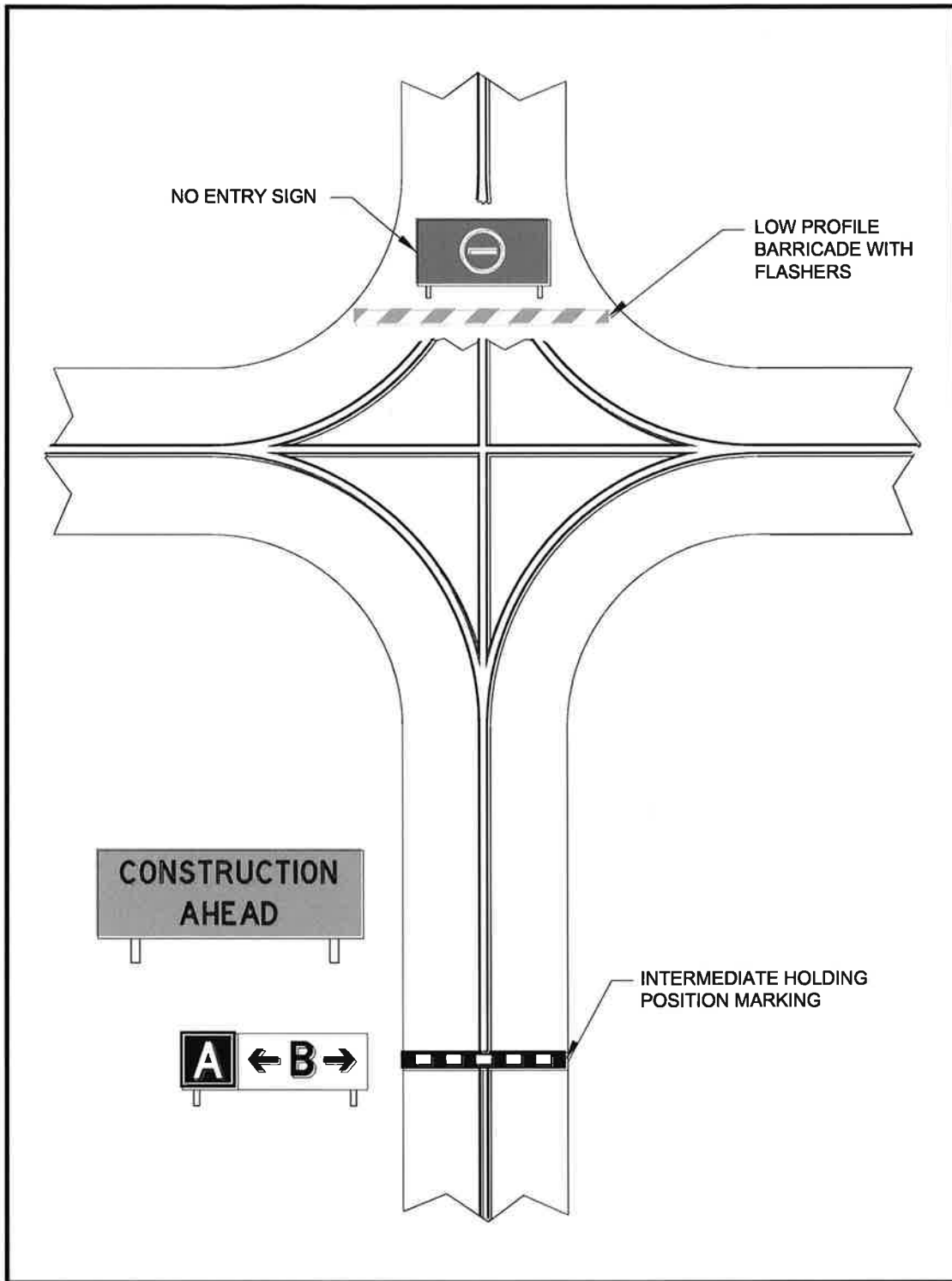


**CONSTRUCTION
ON RAMP**



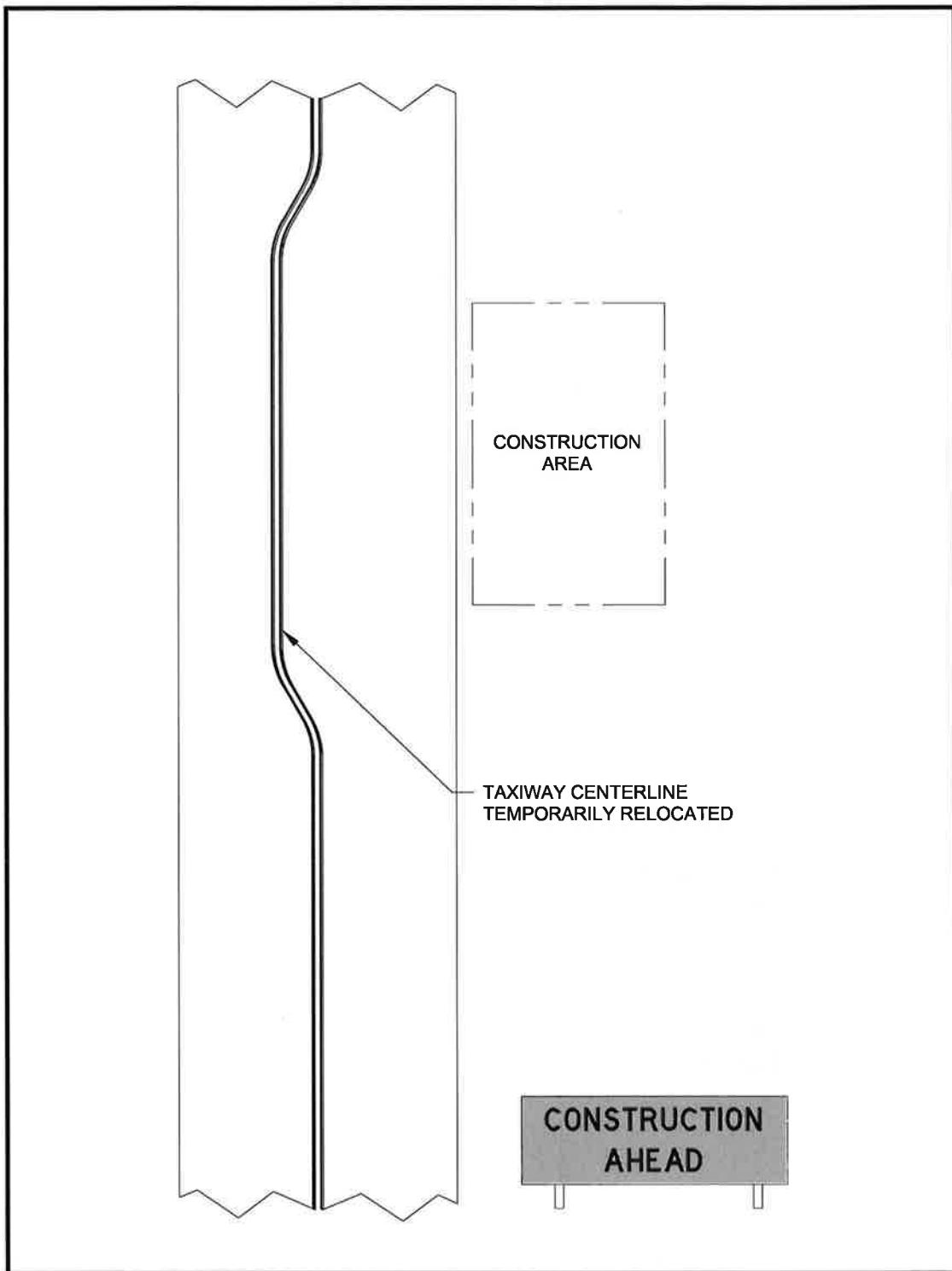
**RWY 4L TAKEOFF RUN
AVAILABLE 9,780 FT**

Figure F-2. Orange Construction Sign Example 1



Note: For proper placement of signs, refer to EB 93.

Figure F-3. Orange Construction Sign Example 2



Note: For proper placement of signs, refer to EB 93.

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Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5370-2G

Date: _____

Please check all appropriate line items:

- An error (procedural or typographical) has been noted in paragraph _____ on page _____.

- Recommend paragraph _____ on page _____ be changed as follows:

- In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

- Other comments:

- I would like to discuss the above. Please contact me at (phone number, email address).

Submitted by: _____

Date: _____

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**TECHNICAL SPECIFICATIONS
 RUNWAY PAVEMENT REHABILITATION
 LONE PINE/DEATH VALLEY AIRPORT
 FAA AIP PROJECT NO. #3-06-0126-13-2018 DESIGN
 FAA AIP PROJECT NO. #3-06-0126-14-2019 CONSTRUCTION
 COUNTY PROJECT NO: TR-19-004**

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Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

- a. Provide qualified personnel to develop and implement the CQCP.
- b. Provide for the production of acceptable quality materials.
- c. Provide sufficient information to assure that the specification requirements can be met.
- d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

- a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.
- b. Discussion of the QA program.
- c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.
- d. Establish regular meetings to discuss control of materials, methods and testing.
- e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-

site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time on-site employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

- (1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph 100-8.

(3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

- a. Specification item number
- b. Item description
- c. Description of submittal
- d. Specification paragraph requiring submittal
- e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, *Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation*:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (e.g., P-401)
- b. Item description (e.g., Hot Mix Asphalt Pavements)
- c. Test type (e.g., gradation, grade, asphalt content)
- d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)
- e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)
- f. Responsibility (e.g., plant technician)
- g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description
- (2) Compliance with approved submittals
- (3) Proper storage of materials and equipment
- (4) Proper operation of all equipment
- (5) Adherence to plans and technical specifications
- (6) Summary of any necessary corrective actions
- (7) Safety inspection.
- (8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location
- (4) Date of test
- (5) Control requirements
- (6) Test results
- (7) Causes for rejection
- (8) Recommended remedial actions

(9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

- (1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or
- (2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:

a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 20%.

d. When 75% or more of the original contract is earned, an additional 20%

e. After final inspection and acceptance of project, the final 10%.

BASIS OF PAYMENT

100-14 Payment will be made under:

Item C-100 Contractor Quality Control Program (CQCP) – Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items. Mobilization includes the procurement, installation, maintenance, removal and storage on site of two fabric yellow runway closure crosses and 8 water filled barricades with flags and flashers.

105-2 Mobilization limit. Mobilization shall be limited to 5 percent of the total project cost.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office. An Engineer/RPR field office is not required.

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, Contractor Final Project Documentation, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105 Mobilization – Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)
WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

Item C-110 Method of Estimating Percentage of Material Within Specification Limits (PWL)

110-1 General. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (\bar{X}) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

110-2 Method for computing PWL. The computational sequence for computing PWL is as follows:

- a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.
- b. Locate the random sampling position within the subplot in accordance with the requirements of the specification.
- c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.
- d. Find the sample average (\bar{X}) for all subplot test values within the lot by using the following formula:

$$\bar{X} = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

Where: \bar{X} = Sample average of all subplot test values within a lot

x_1, x_2, \dots, x_n = Individual subplot test values

n = Number of subplot test values

- e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of subplot test values in the set

d_1, d_2, \dots, d_n = Deviations of the individual subplot test values x_1, x_2, \dots from the average value X

that is: $d_1 = (x_1 - X), d_2 = (x_2 - X) \dots d_n = (x_n - X)$

n = Number of subplot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L , using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / S_n$$

and

$$Q_U = (U - X) / S_n$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U , using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit

P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 = 96.60

A-2 = 97.55

A-3 = 99.30

A-4 = 98.35

$n = 4$

2. Calculate average density for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95\% \text{ density}$$

3. Calculate the standard deviation for the lot.

$$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L=96.3$)

$$Q_L = (X - L) / S_n$$

$$Q_L = (97.95 - 96.30) / 1.15$$

$$Q_L = 1.4348$$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and $n = 4$.

$$PWL = 98$$

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

$$A-1 = 5.00$$

$$A-2 = 3.74$$

$$A-3 = 2.30$$

$$A-4 = 3.25$$

2. Calculate the average air voids for the lot.

$$X = (x_1 + x_2 + x_3 \dots + x_n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57\%$$

3. Calculate the standard deviation S_n for the lot.

$$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$$

$$S_n = 1.12$$

4. Calculate the Lower Quality Index Q_L for the lot. ($L = 2.0$)

$$Q_L = (X - L) / S_n$$

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

5. Determine P_L by entering Table 1 with $Q_L = 1.41$ and $n = 4$.

$$P_L = 97$$

6. Calculate the Upper Quality Index Q_U for the lot. ($U = 5.0$)

$$Q_U = (U - X) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and $n = 4$.

$$P_U = 93$$

8. Calculate Air Voids PWL

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)

Project: Example Project

Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

$$A-3 = 99.30$$

$$A-4 = 98.35$$

$$A-2 = 97.55$$

$$A-1 = 96.60$$

2. From ASTM E178, Table 1, for $n=4$ an upper 5% significance level, the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:

If (measurement - average)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-3, check if $(99.30 - 97.95) / 1.15$ is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

b. For measurements less than the average:

If (average - measurement)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if $(97.95 - 96.60) / 1.15$ is greater than 1.463.

Since 1.135 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than $(97.95 + 1.463 \times 1.15) = 99.63\%$

OR

less than $(97.95 - 1.463 \times 1.15) = 96.27\%$.

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Percent Within Limits (P _L and P _U)	Negative Values of Q (Q _L and Q _U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM E178 Standard Practice for Dealing with Outlying Observations

END OF ITEM C-110

Item D-701 Pipe for Storm Drains and Culverts

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM C1479	Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
ASTM C1577	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD
ASTM C1840	Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe

701-2.3 Concrete. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi at 28 days and conform to the requirements of ASTM C94.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

701-2.6 Joint fillers. Poured filler for joints shall conform to the requirements of ASTM D6690.

701-2.7 Plastic gaskets. Plastic gaskets shall conform to the requirements of ASTM C6990.

701-2.8. Controlled low-strength material (CLSM). Controlled low-strength material shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets.

701-2.9 Precast box culverts. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactory jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

b. Flexible pipe. Not Used.

c. Other pipe materials. Not Used.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, (5) coupling bands.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required. Concrete pipe joints shall be sealed with butyl mastic meeting ASTM C990 or mortar when soil tight joints are required. Joints shall be thoroughly wetted before applying mortar or grout.

b. Metal pipe. Not Used.

c. PVC, Polyethylene, or Polypropylene pipe. Not Used

d. Fiberglass pipe. Not Used.

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Not Used.

c. Metal Pipe. Not Used.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 Overfill

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D698. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed and paid for by the Contractor in the presence of the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe interior. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition. The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe.

For pipe sizes larger than 48 inches, a walk-through visual inspection shall be performed.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

The inspection report shall include: a copy of all video taken, pipe location identification, equipment used for inspection, inspector name, deviation from design line and grade, and inspector's notes.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The several classes, types and sizes of pipe shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2. Precast box culverts shall be measured by individual unit and size.

701-4.3 The volume of concrete for pipe cradles shall be the number of cubic yards of concrete that is completed in place and accepted.

701-4.4 The volume of rock, hardpan, or other unyielding material shall be the number of cubic yards (cubic meters) excavated. No payment shall be made for the cushion material placed for the bed of the pipe.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item, and camera inspection services and reports.

701-5.1 Payment will be made at the contract lump sum amount for each culvert installation including removal and disposal of the existing pipe (off-site), furnishing and installing the designated pipe with earthwork, backfill and shaping the inlet and outlet terrain to achieve drainage.

Payment will be made under:

Item 701-5.1 15 inch Reinforced T&G Concrete Pipe, Class V, D rating 3000
per installation – Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains

ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter

ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways
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END ITEM D-701

Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of 12". Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlying material that is to remain in place, shall be recompact and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. If the material is to be used for FDR balance, or wasted on the airport site, it shall be broken to a maximum size of 2 inches.

The pavement shall be removed so the joint for each layer of pavement replacement is offset 1 foot (30 cm) from the joint in the preceding layer. This does not apply if the removed pavement is to be replaced with concrete or soil.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Remove all vegetation and debris from cracks to a minimum depth of 1 inch (25 mm). If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch (6 mm) wide with a crack sealant per ASTM D6690. The crack sealant, preparation, and application shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch, not to exceed 1/4 inch. Any excess joint or crack sealer shall be removed from the pavement surface.

Wider cracks (over 1-1/2 inch wide (38 mm)), along with soft or sunken spots, indicate that the pavement or the pavement base should be repaired or replaced as stated below.

Cracks and joints may be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in the following table.

Gradation

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	90-100
No. 16 (1.18 mm)	65-90
No. 30 (600 µm)	40-60
No. 50 (300 µm)	25-42
No. 100 (150 µm)	15-30
No. 200 (75 µm)	10-20

Up to 3% cement can be added to accelerate the set time. The mixture shall not contain more than 20% natural sand without approval in writing from the RPR.

The proportions of asphalt emulsion and aggregate shall be determined in the field and may be varied to facilitate construction requirements. Normally, these proportions will be approximately one part asphalt emulsion to five parts aggregate by volume. The material shall be poured or placed into the joints or cracks and compacted to form a voidless mass. The joint or crack shall be filled to within +0 to -1/8 inches (+0 to -3 mm) of the surface. Any material spilled outside the width of the joint shall be removed from the pavement surface prior to constructing the overlay. Where concrete overlays are to be constructed, only the excess joint material on the pavement surface and vegetation in the joints need to be removed.

101-3.3 Removal of Foreign Substances/contaminates prior to overlay, seal-coat, or remarking. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

Chemicals, high-pressure water, cold milling, rotary grinding and sandblasting may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

a. Repair of concrete spalls in areas to be overlaid with asphalt. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches (50 mm) outside the affected area and 2 inches (50 mm) deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches (100 mm) in depth. This method of repair applies only to pavement to be overlaid.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed in areas designated on the plans. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

The Contractor shall consider the overall weight of milling equipment proposed by the Contractor to ensure there is no damage to the existing pavements and pavement remaining after milling due to the weight of the equipment.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of 7 feet and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch (+0 mm and -6mm) of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to windrow the millings or cuttings and to remove the millings or cuttings from the pavement and load them into a truck. All millings shall be incorporated in the mix design for FDR processing or be removed and disposed of off-site or in areas designated on the plans as directed by the RPR.

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off-site or in areas designated on the plans as directed by the RPR.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:

a. Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.

b. Repair joints and cracks in accordance with paragraph 101-3.2.

c. Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.

d. Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Not used.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with router by removing a minimum of 1/16 inch (2 mm) from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

101-3.9.2 Removal of Existing Crack Sealant. Existing sealants will be removed by routing. Following routing any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with Item P-605.

101-3.9.4 Removal of Pipe and other Buried Structures.

a. **Removal of Existing Pipe Material.** Remove the types of pipe as indicated on the plans. The pipe material shall be legally disposed of off-site in a timely manner following removal. Trenches shall be backfilled with material equal to or better in quality than adjacent embankment. Trenches under paved areas must be compacted to 100% of ASTM D698.

b. **Removal of Inlets/Manholes.** Where indicated on the plans or as directed by the RPR, inlets and/or manholes shall be removed and legally disposed of off-site in a timely fashion after removal. Excavations after removal shall be backfilled with material equal or better in quality than adjacent embankment. When under paved areas must be compacted to 100% of ASTM D698, when outside of paved areas must be compacted to 95% of ASTM D698.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal.

101-4.2 Joint and crack repair. The unit of measurement for joint and crack repair shall be the linear foot of joint.

101-4.3 Removal of Foreign Substances/contaminates. The unit of measurement for foreign Substances/contaminates removal shall be the square foot.

101-4.4 Spalled and failed asphalt pavement repair. The unit of measure for failed asphalt pavement repair shall be square foot.

101-4.5 Concrete Spall Repair. The unit of measure for concrete spall repair shall be the number of square feet. The location and average depth of the patch shall be determined and agreed upon by the RPR and the Contractor.

101-4.6 Cold milling. The unit of measure for cold milling shall be per square yard. The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition, the Contractor shall re-mill the area and will be paid for the total depth of milling.

101-4.7 Removal of Pipe and other Buried Structures. The unit of measurement for removal of pipe and other buried structures will be made at the contract unit price for each completed and accepted item. This price shall be full compensation for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with paragraph 101-3.9.4.

BASIS OF PAYMENT

101-5.1 Payment. Payment for removal of asphalt pavements and drainage pipe and structures shall not be paid separately. The price is included in the cost of work items P-207 In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course and D-701 Pipe for Storm Drains and Culverts and shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC): AC 150/5380-6 Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM): ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

Item P-151 Clearing and Grubbing

DESCRIPTION

151-1.1 This item shall consist of clearing or clearing and grubbing, including the disposal of materials, for all areas within the limits designated on the plans or as required by the Resident Project Representative (RPR).

a. Clearing shall consist of the cutting and removal of all trees, stumps, brush, logs, hedges, the removal of fences and other loose or projecting material from the designated areas. The grubbing of stumps and roots will not be required.

b. Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris, and rubbish of any nature, natural obstructions or such material which in the opinion of the RPR is unsuitable for the foundation of strips, pavements, or other required structures, including the grubbing of stumps, roots, matted roots, foundations, and the disposal from the project of all spoil materials resulting from clearing and grubbing.

c. Tree Removal. Tree Removal shall consist of the cutting and removal of isolated single trees or isolated groups of trees, and the grubbing of stumps and roots. The removal of all the trees of this classification shall be in accordance with the requirements for the particular area being cleared.

CONSTRUCTION METHODS

151-2.1 General. The areas denoted on the plans to be cleared or cleared and grubbed shall be staked on the ground by the Contractor as indicated on the plans.

The removal of existing structures and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone pole, pipeline, conduit, sewer, roadway, or other utility is encountered and must be removed or relocated, the Contractor shall advise the RPR who will notify the proper local authority or owner to secure prompt action.

151-2.1.1 Disposal. All materials removed by clearing or by clearing and grubbing shall be disposed of outside the Airport's limits at the Contractor's responsibility or by burning, except when otherwise directed by the RPR. When burning of material is permitted, it shall be burned under the constant overseeing of a watchman to assure the surrounding vegetation and other adjacent property is not jeopardized. Burning shall be done in accordance with all applicable federal, state and local laws, ordinances, and regulations. The Contractor shall notify the agency having jurisdiction and obtain all approvals in writing before starting any burning operations.

As far as practicable, waste concrete and masonry shall be placed on slopes of embankments or channels. When embankments are constructed of such material, this material shall be placed in accordance with requirements for formation of embankments. Any broken concrete or masonry that cannot be used in construction and all other materials not considered suitable for use elsewhere, shall be disposed of by the Contractor. In no case, shall any discarded materials be left in windrows or piles adjacent to or within the airport limits. The manner and location of disposal of materials shall be subject to the approval of the RPR and shall not create an unsightly or objectionable view. When the Contractor is required to locate a disposal

area outside the airport property limits, the Contractor shall obtain and file with the RPR permission in writing from the property owner for the use of private property for this purpose.

151-2.1.2 Blasting. Blasting shall not be allowed.

151-2.2 Clearing. The Contractor shall clear the staked or indicated area of all materials as indicated on the plans. Trees unavoidably falling outside the specified clearing limits must be cut up, removed, and disposed of in a satisfactory manner. To minimize damage to trees that are to be left standing, trees shall be felled toward the center of the area being cleared. The Contractor shall preserve and protect from injury all trees not to be removed. The trees, stumps, and brush shall be cut flush with the original ground surface. The grubbing of stumps and roots will not be required.

Fences shall be removed and disposed of as directed by the RPR. Fence wire shall be neatly rolled and the wire and posts stored on the airport if they are to be used again, or stored at a location designated by the RPR if the fence is to remain the property of a local owner or authority.

151-2.3 Clearing and grubbing. In areas designated to be cleared and grubbed, all stumps, roots, buried logs, brush, grass, and other unsatisfactory materials as indicated on the plans, shall be removed, except where embankments exceeding 3-1/2 feet (105 cm) in depth will be constructed outside of paved areas. For embankments constructed outside of paved areas, all unsatisfactory materials shall be removed, but sound trees, stumps, and brush can be cut off flush with the original ground and allowed to remain. Tap roots and other projections over 1-1/2 inches (38 mm) in diameter shall be grubbed out to a depth of at least 18 inches (0.5 m) below the finished subgrade or slope elevation.

Any buildings and miscellaneous structures that are shown on the plans to be removed shall be demolished or removed, and all materials shall be disposed of by removal from the site. The cost of removal is incidental to this item. The remaining or existing foundations, wells, cesspools, and like structures shall be destroyed by breaking down the materials of which the foundations, wells, cesspools, etc., are built to a depth at least 2 feet (60 cm) below the existing surrounding ground. Any broken concrete, blocks, or other objectionable material that cannot be used in backfill shall be removed and disposed of at the Contractor's expense. The holes or openings shall be backfilled with acceptable material and properly compacted.

All holes in embankment areas remaining after the grubbing operation shall have the sides of the holes flattened to facilitate filling with acceptable material and compacting as required in Item P-152. The same procedure shall be applied to all holes remaining after grubbing in areas where the depth of holes exceeds the depth of the proposed excavation.

Prior to grading, the Contractor shall strip vegetation within the grading limits shown on the plans to a depth of 6 inches and shall separate manmade materials which shall become the property of the Contractor and shall be disposed or recycled elsewhere.

METHOD OF MEASUREMENT

151-3.1 The quantities of clearing as shown by the limits on the plans..

BASIS OF PAYMENT

151-4.1 There shall be no additional payment for clearing. Payment shall be considered included in the work items requiring clearing, and therefore is considered to be part of the cost of unclassified excavation and drainage systems.

END OF ITEM P-151

Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the

ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. This excavated material shall be paid for at the contract unit price per cubic yard for unclassified excavation. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by someone other than the Contractor. All existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final

line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM 698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches (300 mm) and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The RPR will take samples of excavated materials which will be used in embankment for testing to obtain a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D698. A new Proctor shall be obtained for each soil type based on visual classification.

Density tests will be taken by the RPR for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM 698. Under all areas to be paved, the embankments shall be compacted to a depth of 12" and to a density of not less than 100 percent of the maximum density as determined by ASTM 698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches which shall be prepared for a seedbed if specified.

The in-place field density shall be determined in accordance with ASTM D1556 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. After compaction is completed, the subgrade area shall be proof rolled with a 15 ton Proof Roller with tires spaced not more than 32 inches on-center with tires inflated to 125 in the presence of the RPR. Apply a minimum of 2 coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch or show permanent deformation greater than 1 inch shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches and to a density of not less than 100 percent of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D698.

The material to be compacted shall be within $\pm 2\%$ of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch (19.0 mm) sieve, follow the methods in ASTM D698 procedures in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles. Tests for moisture content and compaction will be taken at a minimum of 600 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D2216 (ASTM D4643 Microwave or ASTM D4959 Direct Heat can be used if Laboratory Facilities are not readily available) shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Density tests will be taken by the RPR for every 600 square yards of completed subgrade. If a nuclear gage is used for density determination, two random readings shall be made for each 600 square yards.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

- a. **Smoothness.** The finished surface shall not vary more than +/- ½ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.
- b. **Grade.** The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to be placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the comparison of digital terrain model (DTM) surfaces. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

152-3.1 The quantity of unclassified excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 The quantity of embankment in place shall be the number of cubic yards measured in its final position.

152-3.3 Stockpiled material shall not be measured for payment in the stockpiled position.

BASIS OF PAYMENT

152-4.1 Unclassified payment shall be made at the contract unit price per cubic yard, or contract unit price per square yard for a given thickness in place or shoulder shaping and grading. The cubic yard payment includes cut, subgrade compaction, haul to disposal, and embankment with compaction at the disposal location on the plans. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item, including subgrade compaction, hauling and placement as fill. There shall be no separate payment for embankment.

Payment will be made under:

Item P-152-4.1 Unclassified Excavation per square yard for shoulder shaping and grading.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180 Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))

ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2700 kN-m/m³))

ASTM D6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2 Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66 Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement shall conform to the requirements of ASTM C150 Type I, II.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 μ m)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C).

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement.

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

153-6.1 Payment.

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

Item P-207 In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course

DESCRIPTION

207-1.1 This item consists of a recycled asphalt aggregate base course resulting from the in-place full depth reclamation (FDR) of the existing pavement section (asphalt wearing surface and aggregate base), plus mechanical stabilization with additional aggregate or chemical stabilization with cement, or bituminous stabilization with asphalt emulsion when required, including microcracking and curing seal.

MATERIALS

207-2.1 Aggregate. The FDR shall consist of materials produced by recycling (pulverizing and mixing) the existing asphalt pavement, aggregate base, subgrade, and any additional aggregate as necessary. Material larger than 2 inches in any dimension shall not be permitted in the recycle asphalt aggregate base course.

The FDR shall meet the gradation in the table below.

FDR Gradation

Sieve	Minimum Percentage by weight passing sieves
2 inch (51 mm)	100
No. 4 (4.75 mm)	55
No. 200 (75 µm)	0-15

a. Deleterious substances. Materials for aggregate base shall be kept free from weeds, sticks, grass, roots and other foreign matter.

b. Uniformity. The materials shall be thoroughly recycled (pulverized and mixed) to ensure a uniform gradation.

207-2.2 Stabilization.

a. Mechanical stabilization. Addition of corrective aggregate material to adjust gradation shall be equivalent to P-208 or better.

b. Chemical/Bituminous Stabilization. Cement shall meet the requirements of ASTM C150 or ASTM C595. Fly ash shall meet the requirements of ASTM C618. Emulsified asphalt cement shall meet the requirements of ASTM D977. . Materials shall be handled, stored, and applied in accordance with all federal, state, and local requirements.

207-2.3 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

207-2.4 Quality Control (QC) Sampling and testing. The Contractor shall take at least two FDR samples per day of production in the presence of the Resident Project Representative (RPR) to check the gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 207-2.1. Samples shall be taken from the in-place, un-compacted material at random sampling locations per ASTM D3665.

CONSTRUCTION METHODS

207-3.1 Milling. Milling is not required.

207-3.2 Control Strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. Upon acceptance of the control strip by the RPR, the Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

207-3.3 Recycling (Pulverization and mixing). The asphalt pavement, aggregate base and subgrade shall be recycled (pulverized and mixed) into a uniformly blended mixture with cement by dry unit weight and water to the depth indicated on the plans. All material over approximately 2 inches (50 mm) shall be removed by the Contractor. The mixture shall be brought to the desired moisture content.

The maximum lift thickness of the recycled aggregate base course material to be compacted shall be 8 inches.

207-3.4 Grading and compaction. Immediately upon completion of recycling (pulverization and mixing), the material shall be shaped and graded in accordance with the project plans. The recycled asphalt aggregate base course shall be compacted within the same day to an in-place density of 95% as determined by ASTM D1557. The moisture content of the material during compaction shall be within $\pm 2\%$ of the optimum moisture content as determined by ASTM D2216. The number, type and weight of rollers shall be sufficient to compact the material to the required density. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

207-3.5 Finishing. The surface of the aggregate base course shall be finished by blading or with automated equipment designed for this purpose. If the top layer is 1/2 inch (12 mm) or more below grade, the top layer shall be scarified to a depth of at least 3 inches (75mm), new material added, and the layer blended and re-compacted to bring it to grade. The addition of layers less than 3 inches (75mm) shall not be allowed. The surface shall be microcracked and sealed to cure as approved by the RPR.

207-3.6 Proof rolling. Compacted asphalt aggregate base course shall be proof rolled with a tandem axle dual wheel dump truck loaded to the legal limit with tires inflated to 80 psi in the presence of the RPR. Soft areas that deflect greater than 0.5 inch (12 mm) or show permanent deformation greater than 0.5 inch (12 mm) shall be removed and reworked at the Contractor's expense.

207-3.7 Weather limitations. When weather conditions detrimentally affect the construction process and/or quality of the materials, the Contractor shall stop construction. Cement or fly ash shall not be applied when wind conditions affect the distribution of the materials. When the aggregates contain frozen materials or when the underlying course is frozen or wet, the construction shall be stopped. Construction shall not be performed unless the atmospheric temperature is above 35°F (2°C) and rising or approved by the RPR. When the temperature falls below 35°F (2°C), protect all completed areas against detrimental effects of freezing by approved methods. Correct completed areas damaged by freezing, rainfall, or other weather conditions to meet specified requirements.

207-3.8 Maintenance. The asphalt aggregate base course shall be maintained in a satisfactory condition until the work is accepted by the RPR. Equipment used in the construction of an adjoining section may be routed over completed sections of asphalt aggregate base course, provided that no damage results and equipment is routed over the full width of the completed asphalt aggregate base course. Any damage to the recycled asphalt aggregate base course shall be repaired by the Contractor at the Contractor's expense.

207-3.9 Surface tolerances. The finished surface shall be tested for smoothness and accuracy of grade. Any area failing smoothness or grade shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

207-3.10 Acceptance sampling and testing for density. FDR base course shall be accepted for density and thickness on an area basis. One (1) test for density and thickness will be made for each 1200 square yds. Sampling locations will be determined on a random basis in accordance with ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area will be accepted for density when the field density is at least 95% of the maximum density of the FDR base course in accordance with ASTM D1557. The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material, and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

207-4.1 The quantity of FDR asphalt aggregate base course shall be measured by the number of square yards of material in compliance with the plans and specifications.

207-4.2 The quantity of corrective aggregate material or additive material (P-208) shall be measured by cubic yards

207-4.3 The quantity of cement shall be measured by the ton.

BASIS OF PAYMENT

207-5.1 Payment shall be made at the contract unit price for recycling the existing asphalt pavement, aggregate base course, subgrade and mixing with stabilizing agent, if required, spreading, compacting, microcracking and cure sealing, and maintaining the recycled material to the compacted thickness as indicated on the drawings. This price for FDR shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools and incidentals to complete the item. Payment shall be made at the contract unit price for FDR per square yard.

207-5.2 Payment shall be made at the contract unit price corrective aggregate material per cubic yard.

207-5.3 Payment shall be made at the contract unit price per ton for the cement stabilizing agent per ton.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Unit Weight of Aggregate
ASTM C88	Soundness of Aggregates by Use of Sodium or Magnesium Sulfate
ASTM C117	Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregate by Washing
ASTM C131	Resistance to abrasion of Small Size Coarse Aggregate by Use of Los Angeles Machine
ASTM C136	Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM C150	Standard Specification for Portland Cement
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D75	Sampling Aggregate
ASTM D558	ASTM D558 Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM D698	Moisture Density Relations of Soils and Aggregate using 5.5 lb Rammer and 12 in drop
ASTM D977	Standard Specification for Emulsified Asphalt
ASTM D1556	Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method
ASTM D1557	Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D2216	Test Methods for Laboratory Determination of Water (Moisture) Soil and Rock by Mass
ASTM D2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

ASTM D6938 Standard Test Method for In-Place Density and Water Content of Soil and
Soil Aggregate by Nuclear Methods (Shallow Depth)

American Association of State Highway and Transportation Officials (AASHTO)

M288 Standard Specification for Geosynthetic Specification for Highway
Applications

END OF ITEM P-207

Item P-403 Asphalt Mix Pavement Surface Course

DESCRIPTION

403-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

403-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum for surface, asphalt binder, and leveling course Loss: 50% maximum for base course	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	0.3% maximum	ASTM C142
Percentage of Fractured Particles	For pavements designed for aircraft gross weights of 60,000 pounds (27200 kg) or more: Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face ¹	ASTM D5821
	For pavements designed for aircraft gross weights less than 60,000 pounds (27200 kg): Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face ¹	
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles with a value of 5:1 ²	ASTM D4791
Bulk density of slag ³	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29.

¹ The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

³ Only required if slag is specified.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	0.3% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	0 to 15% maximum by weight of total aggregate	ASTM D1073

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate, and ASTM C183 shall be used in sampling mineral filler.

403-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

403-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) 70-10.

403-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

403-3.1 Composition of mixture. The asphalt plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and asphalt binder. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

403-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF, and listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

403-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 403-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using a Marshall compactor in accordance with ASTM D6926.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The submitted JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 403-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 403-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 403-2.1 and 403-2.2.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each course and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows or gyrations.
- Laboratory mixing and compaction temperatures.
- Supplier recommended mixing and compaction temperatures.
- Plot of the combined gradation on the 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).

- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows/gyrations	50	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
TSR ¹	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA) ²	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

¹ Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

² AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply, be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve	
	Surface Course	Leveling Course
1 inch (25.0 mm)	100	-
3/4 inch (19.0 mm)	90-100	-
1/2 inch (12.5 mm)	68-88	100
3/8 inch (9.5 mm)	60-82	90-100
No. 4 (4.75 mm)	45-67	58-78
No. 8 (2.36 mm)	32-54	40-60
No. 16 (1.18 mm)	22-44	28-48
No. 30 (600 µm)	15-35	18-38
No. 50 (300 µm)	9-25	11-27
No. 100 (150 µm)	6-18	6-18
No. 200 (75 µm)	3-6	3-6
Voids in Mineral Aggregate (VMA)¹	14	16
Asphalt Percent:		
Stone or gravel	4.5-7.0	5.5-8.0
Slag	5.0-7.5	7.0-10.5
Recommended Minimum Construction Lift Thickness	3 inch	1.5 inch

¹To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

403-3.5 Control strip. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR. The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 403-5.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons (227 metric tons) or 1/2 subplot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 403-4.13 using the same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least four (4) hours old or when the mat has cooled to less than 160°F (71°C). The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 403-6.1 and 403-6.2. The control strip shall be divided into equal sublots. As a minimum, the control strip shall consist of three (3) sublots.

The control strip will be considered acceptable by the RPR if the gradation, asphalt content, and VMA are within the action limits specified in paragraph 403-5.5a; and Mat density, air voids, and joint density meet the requirements specified in paragraphs 403-6.2.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

Payment will only be made for an acceptable control strip in accordance with paragraph 403-8.1

CONSTRUCTION METHODS

403-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	Degrees F	Degrees C
3 inches (7.5 cm) or greater	40	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

403-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items:

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

403-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

403-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products

shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

403-4.4.1 Material transfer vehicle (MTV). Material transfer Vehicles shall be required due to the improvement in smoothness and decrease in both physical and thermal segregation. To transfer the material from the hauling equipment to the paver, use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation.

403-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.11.

403-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

403-4.6.1 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the density gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

403-4.7 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt material to the mixer at a uniform temperature. The temperature of the unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.

403-4.8 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F (175°C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

403-4.9 Preparation of asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and introduced into the mixer in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed

throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

403-4.10 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

403-4.11 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2e before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 15.0 feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m). On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

403-4.12 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

403-4.13 Joints. The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. An asphalt tack coat or other product approved by the RPR shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

403-4.14 Saw-cut grooving. Saw-cut grooving is not required.

403-4.15 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a minimum of 55 to 60 blades per 12 inches (300 mm) of cutting head width; grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that causes ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

403-4.16 Nighttime Paving Requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

403-5.1 General. The Contractor shall develop a CQCP in accordance with Item C-100. No partial payment will be made for materials that are subject to specific QC requirements without an approved CQCP.

403-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

403-5.3 Quality Control (QC) testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, and field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D5444 and ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content of the asphalt shall be determined once per lot in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness

criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) straightedge or a rolling inclinometer meeting the requirements of ASTM E2133. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer is used, the data may be evaluated using the FAA profile program, ProFAA, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements will be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests will be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 403-4.15 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to the placement of the first lift and then prior to and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally. The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 403-4.15.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

403-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

403-5.5 Control charts. The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day shall be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor’s test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor’s projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the JMF target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

**Control Chart Limits Based on Range
(n = 2)**

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 μm)	6%
No. 200 (75 μm)	3.5%
Asphalt Content	0.8%

c. Corrective action. CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

- (1) One point falls outside the Suspension Limit line for individual measurements or range; or
- (2) Two points in a row fall outside the Action Limit line for individual measurements.

403-5.6 Quality control (QC) reports. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with the CQCP described in Item C-100.

MATERIAL ACCEPTANCE

403-6.1. Quality Assurance Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality Assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot Size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

For small projects, with multiple small placements or if the total project size is less than 3000 tons (2270 metric tons), acceptable material will be paid for by the ton (metric ton) placed per day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a subplot basis.

(1) Sampling. Material from each subplot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) **Testing.** Air voids will be determined for each subplot in accordance with ASTM D3203 for a set of compacted specimens prepared in accordance with ASTM D6926.

d. In-place asphalt mat and joint density. Each subplot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) **Sampling.** The Contractor will cut minimum 5 inches (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) **Bond.** Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) **Thickness.** Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) **Mat density.** One core shall be taken from each subplot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the TMD for that subplot.

(5) **Joint density.** One core centered over the longitudinal joint shall be taken for each subplot which contains a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

403-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, and grade.

b. Air voids. Acceptance of each lot of plant produced material for air voids will be based upon the average air void from the sublots. If the average air voids of the lot are equal to or greater than 2% and equal to or less than 5%, then the lot will be acceptable. If the average is below 2% or greater than 5%, the lot shall be removed and replaced at the Contractor's expense.

c. Mat density. Acceptance of each lot of plant produced material for mat density will be based on the average of all of the densities taken from the sublots. If the average mat density of the lot so established equals or exceeds 94%, the lot will be acceptable. If the average mat density of the lot is below 94%, the lot shall be removed and replaced at the Contractor's expense.

d. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 92%, the lot will be acceptable. If the average joint density of the lot is less

than 92%, the Contractor shall stop production and evaluate the method of compacting joints. Production may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction.

e. Grade. The final finished surface of the pavement of the completed project shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically.

Cross-sections of the pavement shall be taken at a minimum 50-foot (15-m) longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, \pm 10 feet of centerline, and edge of taxiway pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

403-6.3 Resampling Pavement for Mat Density.

a. General. Resampling of a lot of pavement will only be allowed for mat density and then, only if the Contractor requests same in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 403-6.1. Only one resampling per lot will be permitted.

(1) A redefined mat density will be calculated for the resampled lot. The number of tests used to calculate the redefined mat density will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined mat density for a resampled lot will be used to evaluate the acceptance of that lot in accordance with paragraph 403-6.2.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and density determined using the remaining test values.

403-6.4 Leveling course. The leveling course is the first variable thickness lift placed to correct surface irregularities prior to placement of subsequent courses. The leveling course shall meet the aggregate gradation in Table 2, paragraph 403-3.3. The leveling course shall meet the requirements of paragraph 403-3.3, 403-6.1b for air voids, but shall not be subject to the density requirements of paragraph 403-6.1c. The leveling course shall be compacted with the same effort used to achieve density of the control strip. The leveling course shall not exceed the maximum lift thickness associated with each gradation in Table 2, paragraph 403-3.3.

METHOD OF MEASUREMENT

403-7.1 Measurement. Plant mix asphalt mix pavement shall be measured by the number of tons of asphalt pavement used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

403-8.1 Payment. Payment for a lot of asphalt mixture meeting all acceptance criteria as specified in paragraph 403-6.2 shall be made at the contract unit price per ton for asphalt. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-403-8.1 Asphalt Mixture Surface Course - per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C183	Standard Practice for Sampling and the Amount of Testing of Hydraulic Cement
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Bituminous Paving Mixtures
ASTM D1074	Standard Test Method for Compressive Strength of Bituminous Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate

ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4125	Standard Test Methods for Asphalt Content of Bituminous mixtures by the Nuclear Method
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5581	Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6 inch-Diameter Specimen)
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6307	Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyrotory Compactor
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures

ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E2133	Standard Test Method for Using a Rolling Inclinator to Measure Longitudinal and Transverse Profiles of a Traveled Surface
American Association of State Highway and Transportation Officials (AASHTO)	
AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)
Asphalt Institute (AI)	
MS-2	Mix Design Manual, 7th Edition
MS-26	Asphalt Binder Handbook AI State Binder Specification Database
FAA Orders	
5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards
Federal Highway Administration (FHWA)	
	Long Term Pavement Performance Binder program
Software	
	FAARFIELD

END OF ITEM P-403

Item P-602 Emulsified Asphalt Prime Coat

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 Emulsified Asphalt material. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 Weather limitations. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F (10°C) or above, and the temperature has not been below 35°F (2°C) for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

602-3.2 Equipment. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi (4.5 kg/sq cm) of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 gallons per square yard (0.23 to 4.5 L/square meter), with a pressure range of 25 to 75 psi (172.4 to 517.1 kPa) and with an allowable variation from the specified rate of not more than ±5%, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 Application of emulsified asphalt material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard (0.68 to 1.36 liters per square meter) depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 Trial application rates. The Contractor shall apply a minimum of three lengths of at least 100 feet (30 m) for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 Freight and waybills. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

602-4.1 The emulsified asphalt material for prime coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D4311. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

602-5.1 Payment for emulsified asphalt prime coat shall not be paid separately. The price is included in the cost of asphalt paving and shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

- | | |
|------------|------------------------------------------------------------------------------------------------------------|
| ASTM D2995 | Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors |
| ASTM D3628 | Standard Practice for Selection and Use of Emulsified Asphalts |

END OF ITEM P-602

Item P-603 Emulsified Asphalt Tack Coat

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F (10°C) or above; the temperature has not been below 35°F (2°C) for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour (13 km per hour) or seven (700) feet per minute (213 m per minute).

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot (3.7-m) spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Emulsified Asphalt

Surface Type	Residual Rate, gal/SY (L/square meter)	Emulsion Application Bar Rate, gal/SY (L/square meter)
New asphalt	0.02-0.05 (0.09-0.23)	0.03-0.07 (0.13-0.32)
Existing asphalt	0.04-0.07 (0.18-0.32)	0.06-0.11 (0.27-0.50)
Milled Surface	0.04-0.08 (0.18-0.36)	.06-0.12 (0.27-0.54)
Concrete	0.03-0.05 (0.13-0.23)	0.05-0.08 (0.23-0.36)

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

603-4.1 The emulsified asphalt material for tack coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

603.5-1 Payment for emulsified asphalt tack coat shall not be paid separately. The price is included in the cost of asphalt paving and shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
3/4 inch (19 mm)	67
1/2 inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-

accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of reinforcing steel conforming to the requirements of ASTM A615.

610-2.11 Materials for curing concrete. Curing materials shall conform to ASTM C309.

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be measured by the number of cubic yards based on batch tickets of material of concrete complete in place and accepted.

BASIS OF PAYMENT

610-6.1 Payment for concrete shall not be paid separately. The price is included in the cost of work items requiring concrete and shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete

ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)

ASTM D1752 Standard Specification for Preformed Sponge Rubber Cork and Recycled
PVC Expansion Joint Fillers for Concrete Paving and Structural
Construction

American Concrete Institute (ACI)

ACI 305R Hot Weather Concreting
ACI 306R Cold Weather Concreting
ACI 308R Guide to External Curing of Concrete
ACI 309R Guide for Consolidation of Concrete

END OF ITEM P-610

Item P-620 Runway, Taxiway & Apron Marking

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint¹				Glass Beads²	
Type	Color	Fed Std. 595 Number	Application Rate Maximum	Type	Application Rate Minimum
Waterborne Type I	White	37925	115 ft/gal	III	10 lb/gal
Waterborne Type I	Yellow	33538 or 33655	115 ft/gal	III	1 lb/gal
Waterborne Type I	Red	31136	115 ft/gal	III	8 lb/gal
Waterborne Type I	Black	37038	115 ft/gal	None	None
Temporary Marking Waterborne Type 1			230 ft/gal	None	None

- a. **Paint.** Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type I, Type II, or Type III. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used for Type III shall be 100% cross linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm-1 with intensities equal to those produced by an acrylic resin known to be 100% cross linking.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type III.

Glass beads for red and pink paint shall meet the requirements for Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

Federal Specification TT-B-1325D, Type I, gradation A shall typically yield 300 mcd/m²/lux on white markings at installation and 175 mcd/m²/lux on yellow markings at installation.

Federal Specification TT-B-1325D, Type III. Initial readings typically yield 600 mcd/m²/lux on white markings and 300 mcd/m²/lux on yellow markings at installation and once in service, the reflectance values are approximately the same as Type I beads.

Retroreflectivity shall be measured by a portable retroreflectometer according to ASTM E1710 and the practices in ASTM D7585 shall be followed for taking retroreflectivity readings with a portable retroreflectometer and computing measurement averages. A vehicle-mounted retroreflectometer may also be used.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminants that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water

shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufacturer's application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans. The Contractor shall furnish a California licensed professional land surveyor, under whose direction all layout and staking shall be performed.

620-3.5 Application. A period of 24 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different

bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application—preformed thermoplastic airport pavement markings. Not Used.

620-3.7 Control strip. Not Required for this project. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 readings shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other.

Minimum Retro-Reflectance Values

Material	Retro-reflectance mcd/m ² /lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than ¹	100	75	10

¹ Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1a The quantity of surface preparation shall be measured by the number of square feet for each type of surface preparation specified in paragraph 620-3.3.

620-4.1b The quantity of markings shall be paid for shall be measured by the number of square feet of painting.

620-4.1c The quantity of reflective media shall be not be paid separately, since reflective media cost is included in the cost for painting.

620-4.1d The quantity of temporary markings to be paid for shall be the number of square feet of painting performed in accordance with the specifications and accepted by the RPR.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.1a Payment for surface preparation shall be made at the contract price for the number of square feet for each type of surface preparation specified in paragraph 620-3.3.

620-5.2b Payment for markings shall be made at the contract price for the number of square feet of painting including reflective media when used.

620-5.3c Payment for reflective media shall be not be paid separately.

620-5.4d Payment for temporary markings shall be made at the contract price for the number of square feet of painting. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. Temporary markings are required for this project.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
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29 CFR Part 1910.1200 Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based
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Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

COUNTY OF INYO
PUBLIC WORKS DEPARTMENT
NOTICE INVITING BIDS
FAA PROJECT NO. 3-06-0126-014-2019
COUNTY PROJECT NO. TR-19-004

The Inyo County Public Works Department is soliciting bids for:

RUNWAY PAVEMENT REHABILITATION PROJECT
At The LONE PINE/DEATH VALLEY AIRPORT

1900 S Main St, Lone Pine, California 93514

Bid Packages, which include the Notice Inviting Bids, Bid Proposal Forms, Contract and Bond Forms, Special Provisions, and Plans may be obtained from the Inyo County Public Works Department, 168 North Edwards Street, P.O. Drawer Q, Independence, CA 93526, Telephone (760) 878-0201. A nonrefundable fee of \$100.00 will be charged for each Bid Package. Checks shall be made out to *Inyo County Public Works Department*. The Bid Package may be viewed at the department offices during regular business hours and on the County of Inyo website at www.inyocounty.us.

Bidders must purchase bid documents and register as plan holders to be able to submit a bid. Only registered plan holders will receive any addenda to the bid packages. If a bidder does not acknowledge any and all addenda in the bid, the bid proposal may be rejected.

To expedite shipping, fax to (760) 878-2001 a copy of (1) your mailed check, (2) your bidder contact information, and (3) your FedEx number for shipping. Checks are to be made out to *Inyo County Public Works Department*.

Bids must be delivered in a sealed envelope clearly marked thereon with the bidder's name and address, the word BID, and the project title:

RUNWAY PAVEMENT REHABILITATION PROJECT

To be considered, **bids must be received by the Assistant Clerk of the Inyo County Board of Supervisors, 224 N. Edwards Street (mailing address: P.O. Box N), Independence, CA 93526 at or before 3:30 P.M., on July 3rd, 2019** after said time they will be publicly opened and read aloud. No oral, telegraphic, telephonic, or fax proposals or modifications will be accepted.

General Work Description:

The consists of Full Depth Reclamation and overlay of Runway 16-34 at the Lone Pine/Death Valley Airport, and includes the replacement of the existing culverts with reinforced concrete pipe, shoulder grading and pavement markings.

Bids shall conform to and be responsive to the contract documents, which include the notice inviting bids, bid proposal forms, contract and bond forms, general, County, Federal, special, and technical provisions, and any other documents incorporated therein by reference. Bids are required for the entire work described in the contract documents. Each bid must be submitted on the bid proposal forms furnished as part of the bid package.

Contract award, if awarded, will be based on lowest responsible bid total price for the Base Bid and selected Bid Additives, whichever is in the best interests of the County of Inyo.

The work in the contract is included in Airport Improvement Program Project No. 03-06-0126-014-2019 which is being undertaken and accomplished by the County of Inyo in accordance with the terms and conditions of a financial grant agreement between the County and the United States, under the Airport and Airway Safety and Capacity Expansion Act of 1987.

Prime contractors and subcontractors may attend a pre-bid meeting scheduled for June 26, 2019 at 10:00 a.m. Attendees shall meet at the Lone Pine/Death Valley Airport Terminal Building, located at 1900 S Main

St. After the meeting interested attendees may participate in an optional field walk of the entire work areas until 12:00 PM.

Each bid must be accompanied by a cashier's check, a certified check, or a bidder's bond from an admitted corporate surety on the form provided in the bid package, in an amount not less than 10% of the amount of the bid, and made payable to the County of Inyo. If the notice inviting bids and bid proposal forms require or permit each bid to include additive item prices, the amount of the bid bond or check must be not less than 10% of the amount of the bid plus all of the additive bid items. The check or bidder's bond shall be given as security that the bidder will enter into the contract with the County and furnish the required labor and materials payment bond, faithful performance bond, certificates of insurance, or other required documents, if the bid is accepted. The check or bond will be forfeited to the County if the bidder fails to timely enter into said contract or furnish the required bonds, certificates of insurance, or other required documents. The check or bidder's bond may be retained by the County for sixty (60) days or until the contract is fully executed by the successful bidder and the County, whichever occurs first.

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the County of Inyo to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals.

Award of this contract will be conditioned upon satisfying the requirements of this section. These requirements apply to all bidders/offerors, including those who qualify as a disadvantaged business enterprise (DBE). There is no stated DBE contract goal for this contract. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to subcontract to DBE firms, as defined in 49 CFR Part 26.

- The apparent successful competitor will be required to submit the following information:
- The names and addresses of DBE firms that will participate in the contract;
- A description of the work that each DBE firm will perform;
- The dollar amount of the participation of each DBE firm participating;
- Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
- Written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4);

Each bidder must complete, sign, and furnish, with his bid, a "Certification of Nonsegregated Facilities", a statement entitled "Bidders Statement on Previous Contracts Subject to EEO Clause", and "Assurance of Disadvantaged Business Enterprise Participation", all addendum, etc., as contained in the Bid Proposal, and Statement of Good Faith Effort for Local Hire. Each bidder must supply all the information required by the bid documents and specifications.

The successful bidder shall be required to furnish a faithful performance bond and a labor and materials payment bond on the forms provided in the bid package in the amount of 100% of the maximum contract amount.

This is a Federal Aid Project and all bids must be based upon rates and wages at least as high as the minimum rates established by the Secretary of Labor as included in the Specifications. Prevailing wage rates for California shall be paid to all classifications of labor as required by the laws of the State of California. The proposed Contract is under and subject to Executive Order 11246 of September 24, 1965, and to the Equal Opportunity Clause. The EEO requirements, labor provisions and wage rates are included in the specifications and bid documents and are available for inspection at the Department of Public Services.

Pursuant to **Section 1773** of the **Labor Code**, to which this contract is subject, the prevailing wage per diem rates in Inyo County have been determined by the Director of the State Department of Industrial Relations. These wage rates appear in the Department of Transportation publication entitled *General Prevailing Wage Rates* in effect at the time the project is advertised. Future effective wage rates, which have been predetermined and are on file with the State Department of Industrial Relations, are referenced, but not printed, in said publication. Such rates of wages are also on file with the State Department of Industrial Relations and the offices of the Public Works Department of the County of Inyo and are available to any interested party upon request.

Pursuant to Section 1725.5 of the Labor Code, the bidder is required to certify that they, and all subcontractors listed on the submitted Bid Form documents, are registered with the CA Department of Industrial Relations.



AGENDA REQUEST FORM

BOARD OF SUPERVISORS

COUNTY OF INYO

Consent Departmental Correspondence Action

Public Hearing Schedule time for Closed Session Informational

FROM: Road Department

For Clerk's Use Only:
AGENDA NUMBER
15

FOR THE BOARD MEETING OF: JUN 11 2019

SUBJECT: Approval of Road Cost Accounting Maintenance & Support Services for 2019-2020

DEPARTMENTAL RECOMMENDATIONS:

Request approval of the agreement between the County of Inyo and Valsoft Corporation Inc. dba Cascade Software Systems, Inc. (CSS), for the provision of Software Maintenance and Support Services for the Road Department's Cost Accounting Program (CAMS), in an amount not to exceed \$12,963.03 for the period of July 1, 2019 through June 30, 2020 and authorize the chairperson to sign, contingent upon the Board's adoption of the 2019-2020 fiscal year budget.

CAO RECOMMENDATIONS:

SUMMARY DISCUSSION:

Your Board on March 21, 1995 approved the contract and installation of the Cascade Software's Road Department Cost Accounting Software. This software program has been maintained by the contractor, as per the original agreement and each year provides the necessary technical support on all upgrades specific to the cost accounting. The State Controller's office is extremely pleased with our audit each year as Cascade Software System has been developed specifically to provide the State with exactly what it requires.

ALTERNATIVES:

To not approve the contract would cause extreme difficulty in obtaining any technical support for the system. There are no other vendors that have this protected and exclusive program, nor are there any individuals that are not employed by Cascade Software who can provide us with the technical support and upgrades to this specific system.

OTHER AGENCY INVOLVEMENT:

County Counsel, Auditor's Office, Cascade Software, Inc.

FINANCING:

To be budgeted in the Road Department Budget Unit 034600, object 5265 for Fiscal Year 2019-20

COUNTY COUNSEL:	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by County Counsel prior to submission to the board clerk.)	Approved: <u>yes</u>	Date <u>6/3/19</u>
AUDITOR/CONTROLLER	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor/controller prior to submission to the board clerk.)	Approved: <u>yes</u>	Date <u>6/4/19</u>
PERSONNEL DIRECTOR	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)	Approved: <u>N/A</u>	Date _____

DEPARTMENT HEAD SIGNATURE:

(Not to be signed until all approvals are received) M. Erante by B. Belcums Date: 6/6/19

A G R E E M E N T

for

MAINTENANCE

for

CAMS - COST ACCOUNTING MANAGEMENT SYSTEM

between

Valsoft Corporation Inc. dba Cascade Software
7405 Transcanada Highway, Suite 100
Montreal, Quebec, H4T 1Z2
(CONTRACTOR)

Inyo County – Department of Public Works
P.O. Drawer Q
Independence, CA 93526
(CUSTOMER)

AGREEMENT MADE AND ENTERED INTO this 1st day of July, 2019, by and between the Inyo County Department of Public Works, a political subdivision of the State of California, located at Independence, California, (hereinafter referred to as the “CUSTOMER”), and Valsoft Corporation Inc., dba Cascade Software a Quebec, Canada corporation, having its principal place of business at 7405 Transcanada Highway, Suite 100, Montreal, Quebec, H4T 1Z2 (hereinafter referred to as “CONTRACTOR”).

WHEREAS, CUSTOMER desires to engage CONTRACTOR to provide Accounting Software Maintenance by reason of CONTRACTOR’s qualifications, experience, and facilities for doing the type of work herein contemplated.

NOW, THEREFORE, CUSTOMER and CONTRACTOR, for good and valuable consideration, and in consideration of the premises and representations set forth herein, do hereby enter into this Agreement which specifies the terms and conditions by which CUSTOMER shall procure services from CONTRACTOR for support of the CUSTOMER’s Cost Accounting Management System (CAMS).

Section 1

DEFINITIONS

1.1 “CAMS” shall mean the Cost Accounting Management System developed by the CONTRACTOR for the CUSTOMER.

1.2 “Confidential Information” shall mean private information of CUSTOMER personnel files or other files which if disclosed to a third party could result in a compromise of the interests of the CUSTOMER or its personnel.

1.3 “CONTRACTOR” shall mean Valsoft Corporation Inc.

1.4 “CUSTOMER” shall mean the Inyo County – Department of Public Works

1.5 “Minor Problem” shall mean any programming defect, error, failure, bug, any other malfunction in CAMS or any training problem that prevents it from operating in conformance with original System Specifications and which, if not corrected within thirty (30) working days, will cause CUSTOMER to incur additional costs or work not previously anticipated.

1.6 “Major Problem” shall mean any programming defect, error, failure, bug, any other malfunction in CAMS or any training problem that prevents it from operating in conformance with original System Specifications and which, if not corrected within forty-eight (48) hours, excluding weekends and holidays, will cause CUSTOMER to incur additional costs or work not previously anticipated.

Section 2

SCOPE OF WORK

2.1 Nature of Work

The work covered by this Agreement includes, but is not limited to, technical systems analysis, program development, preparation, unit and systems testing, data communications, project consultation, documentation, training, and status reporting for CAMS.

2.2 CAMS Maintenance

CONTRACTOR shall provide CAMS Maintenance as follows:

2.2.1 Introduction

CONTRACTOR will maintain the now current version of the CAMS plus any and all Contractor revisions and modifications implemented with CUSTOMER approval. During the term of this Agreement, CONTRACTOR will correct any programming or design defects, errors, failures, bugs, and any and all other malfunctions or any training problems in CAMS that prevents it from operating in conformance with the original System Specifications.

2.2.2 Notification and Determination of Problem Magnitude

CUSTOMER will notify CONTRACTOR of any problem with CAMS that prevents it from performing accordant to original System Specifications. A telephone call, fax message, or written notice from CUSTOMER Project Manager or designee shall serve as such notification. CONTRACTOR is to provide telephone response to such notification within forty-eight (48) normal business hours (8:00 a.m. - 5:00 p.m.). During CONTRACTOR telephone response, CUSTOMER Project Manager or designee, in consultation with CONTRACTOR, shall determine the magnitude of the problem and whether it falls under Subsection 1.5 (“Minor Problem”) or 1.6 (“Major Problem”).

2.2.3 Performance Effort for Minor and Major Problem

CONTRACTOR will provide a resolution plan within forty-eight (48) normal business hours (8:00 a.m. - 5:00 p.m.), excluding weekends and holidays, of determination of problem magnitude. Resolution plan shall include CONTRACTOR's estimate of when and how problem will be resolved. If CUSTOMER Project Manager or designee agrees with CONTRACTOR's resolution plan, CUSTOMER Project Manager or designee shall provide verbal notice to CONTRACTOR of acceptance of resolution plan to be, optionally, followed by a written notice. Resolution plan shall provide for CONTRACTOR to remedy Minor Problem within thirty (30) days and major problems within forty-eight (48) hours.

2.3 Telephone Support

CUSTOMER may during normal business hours (8:00 a.m. - 5:00 p.m.) of CONTRACTOR, obtain telephone consultation covering the use of CAMS. CONTRACTOR reserves the right to limit such non-billable telephone consultation to CUSTOMER to no more that one hour per week.

Section 3

AMENDMENTS AND MODIFICATIONS

Any changes to this Agreement requested either by CUSTOMER or CONTRACTOR may be effected if mutually agreed upon in writing by CUSTOMER's Project Manager and CONTRACTOR's Representative.

Section 4

PAYMENTS

4.1 CAMS Maintenance

CUSTOMER shall pay CONTRACTOR receiving a valid annual invoice from CONTRACTOR, renewing on July 1, 2019, a fee for a total of \$12,963.03

CONTRACTOR shall be entitled to increase annual maintenance fees to a maximum of 5% per year, upon providing CUSTOMER 60 days prior written notice.

4.2 Invoices and Prompt Payment Due

Payment will be made to CONTRACTOR within thirty (30) days after CUSTOMER receipt: of a valid annual invoice. Invoices shall be sent to:

Inyo County – Department of Public Works
P.O. Drawer Q
Independence, CA 93526
USA

Section 5

TERM AND TERMINATION

5.1 This Agreement shall commence on the date first written above and shall continue for one year thereafter. CONTRACTOR will submit a written renewal invoice to CUSTOMER with updated Rates for Subsection 4.1 “CAMS Maintenance” not later than 60 days prior to the anniversary date.

5.2 CONTRACTOR hereby reserves the right to terminate this Agreement at any time upon providing CUSTOMER 60 days written notice.

5.3 Either party may terminate this Agreement upon the occurrence of a material breach hereof by the other party, which material breach has not been cured within thirty (30) working days after receipt of written notice thereof by the breaching party from the other.

5.4 CUSTOMER agrees that the termination of this Agreement for reasons outlined herein shall also cause in the automatic termination of the CAMS system.

Section 6

INDEMNIFICATION AND LIABILITY

6.1 If any claim is asserted or action or proceeding is brought against the CUSTOMER which alleges that all or any part of CAMS Maintenance made or supplied by CONTRACTOR, for the CUSTOMER’s use thereof, infringes or misappropriates any United States copyright or patent, or any trade secret, contract, license, grant or other proprietary right, the CUSTOMER shall give CONTRACTOR prompt written notice thereof. CONTRACTOR shall defend any such claim or action with counsel of the CUSTOMER’s choice and at CONTRACTOR’s expense and shall indemnify the CUSTOMER for any costs, including reasonable attorney’s fees, and damages actually incurred by the CUSTOMER in connection therewith.

6.2 CONTRACTOR agrees to indemnify, save, hold harmless, and at CUSTOMER’s request, defend the CUSTOMER, its officers, agents, and employees from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to CUSTOMER in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents, or employees under this Agreement.

Section 7

INSURANCE

7.1 CONTRACTOR, at its sole expense, shall maintain in full force and effect the following insurance policies throughout the term of this Agreement:

7.2 Comprehensive General Liability Insurance policy (the "Policy") in the face insurable amount of no less than one million dollars (\$1,000,000.00), covering any and all possible insurable claims which can or may arise from this Agreement, including, but not limited to, infringements and trade secret claims, breach of warranty claims, breach of contract claims, third-party claims, inability to perform and force majeure, bodily injury, accidental death and property damage and similar matters, and may be in the form of a combined single limit policy.

7.3 If CONTRACTOR maintains higher limits than the minimums stated above, CUSTOMER requires and shall be entitled to coverage for the higher limits maintained by CONTRACTOR

7.4 Workers Compensation insurance in accordance with the State of California Labor Code.

Section 8

SECURITY COMPLIANCE

8.1 CONTRACTOR shall not disclose or use any CUSTOMER Confidential Information provided by CUSTOMER except as required in and by the terms of this Agreement. CONTRACTOR shall safeguard any CUSTOMER property used during the duration of this agreement.

8.2 CONTRACTOR and CUSTOMER shall take all reasonable precautions to prevent such disclosure or use of any such Confidential Information.

8.3 Within seven (7) days of expiration or termination of this Agreement, as provided herein, CONTRACTOR shall return to the CUSTOMER at the address given, all Confidential Information, or property, embodied in written, magnetic or other form and any other property belonging to the CUSTOMER.

Section 9

ENTIRE AGREEMENT

9.1 This agreement constitutes the entire understanding of the parties hereto and supersedes any and all prior or contemporaneous representations or agreements, whether written or oral, between the parties, and cannot be changed or modified unless in writing and signed by all parties hereto.

Section 10

ENFORCEMENT

10.1 This Agreement shall be interpreted and construed in accordance with the laws of the State of California and all clauses, including "Whereas" and "Definitions", shall be given operative effect.

Section 11

INDEPENDENT CONTRACTOR

11.1 In performance of the work, duties, and obligations assumed by CONTRACTOR under this Agreement, it is mutually understood and agreed that CONTRACTOR, including any and all of CONTRACTOR's officers, agents, and employees will at all times be acting and performing as an independent capacity and not as an officer or agent of the CUSTOMER.

Section 12

WAIVER

12.1 No term or provision hereof shall be deemed waived and no breach excused unless such waiver or consent shall be in writing and signed by the party claimed to have so waived or consented. Failure of CUSTOMER to enforce at any time, or from time-to-time, any provision of this Agreement shall not be construed as a waiver thereof.

Section 13

SEVERABILITY

13.1 If any part of this Agreement is found violative of any law or is found to be otherwise legally defective, this Agreement shall be construed and interpreted without reference to any such part.

WHEREFORE, IN WITNESS HEREOF, the parties have caused this Agreement to be executed and do each hereby warrant and represent that their respective signatory whose signature appears below has been and is on the date of such signature duly authorized by all necessary and appropriate corporate and public action to execute this Agreement.

CONTRACTOR

VALSOFT CORPORATION INC.

By: _____
Gaurav Goyal, President

Date: _____

Taxpayer ID No.: 93-1180136

CUSTOMER

INYO COUNTY – DEPARTMENT OF PUBLIC WORKS

By: _____

Date: _____



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

116

- Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: Nathan D. Reade, Agricultural Commissioner/Director of Weights and Measures

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: 2018 Annual Crop and Livestock Report

DEPARTMENTAL RECOMMENDATION:

Presentation of the 2018 Annual Crop and Livestock Report

CAO RECOMMENDATION:

SUMMARY DISCUSSION:

General review of the 2018 Annual Crop and Livestock Report, which is submitted in accordance with Section 2279 of the California Food and Agriculture Code. Agriculture continues to be a solid industry that is an integral part of Inyo and Mono Counties' economy.

ALTERNATIVES:

OTHER AGENCY INVOLVEMENT:

FINANCING:

APPROVALS

COUNTY COUNSEL:	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) Approved: _____ Date _____
AUDITOR/CONTROLLER:	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.) Approved: _____ Date _____
PERSONNEL DIRECTOR:	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.) Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)

Date: 6-7-19



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only: AGENDA NUMBER 17

Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: Water Department

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: 2019-2020 Fiscal Year Lower Owens River (LORP) Annual Work Plan, Budget, Schedule

DEPARTMENTAL RECOMMENDATION:

The Water Department requests the Board adopt the 2019-2020 Fiscal Year LORP Annual Work Plan. Adoption is contingent on adoption of the same by LADWP.

SUMMARY DISCUSSION:

(1) The County and LADWP are jointly responsible for funding the LORP. For the past 9 years, funds set aside as a credit from LADWP, and funds in the LORP Trust Account, have been drawn upon to pay the County's share of its LORP costs. The responsibilities and obligations of each party are described in the May 18, 2010, *AGREEMENT BETWEEN THE COUNTY OF INYO AND CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER CONCERNING THE OPERATIONS AND FUNDING OF THE LOWER OWENS RIVER PROJECT*; commonly referred to as the Post-Imp Agreement. This funding agreement commits each of the parties to fund the LORP for 15 years, ending July 11, 2022. According to the Post-Imp Agreement (Sec. II.A): *After July 11, 2022, the required flows will continue to be maintained and the flow compliance monitoring required by the Stipulation and Order will continue to be conducted; however, the Parties will decide what level of operations, maintenance, habitat monitoring, and adaptive management will be conducted.*

The beginning Post-Imp Agreement Credit Account balance was \$2,253,033, and the beginning Trust Account balance was \$3,368,017 for a total balance of \$5,621,050. Currently, as of March 15, 2019 the Credit Account, has a balance of \$1,176,882, and as of February 1, 2019 the Trust Account holds \$2,410,466. The sum of these balances is \$3,587,348.

(2) The 2004 Final Environmental Impact Report for the Lower Owens River Project ("FEIR") Section 2.2.1 provides that in December of each year, the Technical Group will develop and adopt an annual work program for the Lower Owen River Project (LORP) describing work regarding the LORP to be performed in the following fiscal year, including implementation of adaptive management measures. Following adoption by the Technical Group, the work programs will be submitted to the County and LADWP governing boards for approval. Each governing board must approve the plan before this work plan and budget can be implemented.

The 2019-2020 Work Plan was prepared according to the Agreement between the County of Inyo and City of Los Angeles Concerning Operation and Funding of the Lower Owens River Project (Funding Agreement) Sections D, E, and F. On May 9, 2019, the Technical Group agreed on a 2019-2020 Fiscal Year Lower Owens River Project Work Plan, Budget, and Schedule.

In FY 2019-2020 the total cost to fund the LORP is \$544,826, which is \$8,316 less than was budgeted in 2018-2019. The County will pay \$145,310 from the LORP Trust Account to fund a portion of the LORP related work. This amount is less than LADWP's contribution of \$399,516 so under the Agreement between the County of Inyo and City of Los Angeles Department of Water and Power Concerning Funding of the

Lower Owens River Project (Funding Agreement), the LADWP will increase or decrease the County's LORP Post-Implementation Credit by the difference divided by two. This year the LORP Credit will be reduced by \$127,103.

The 2019-2020 Work Plan includes provisions for:

1. Work and activities required to maintain required flows in the river and required water supplies to other LORP components.
2. Hydrologic monitoring and reporting of Lower Owens River flows.
3. Maintenance associated with flow compliance monitoring and reporting associated with the above referenced Stipulation and Order.
4. Biological and water quality monitoring described in the LORP Monitoring and Adaptive Management Plan.
5. Services provided by the two LORP consultants Mark Hill and Bill Platt (formally Ecosystems Sciences Inc.)
6. The preparation of the LORP Annual Report as required by Section 2.10.4 of the LORP Final EIR and by Section L of the above referenced Stipulation and Order.
7. Other work or activities including mosquito abatement, beaver control, noxious weed treatment.

Descriptions of these tasks and cost breakdowns can be found in the Work Plan and Budget.

The following Table summarizes the expenses anticipated by each party and costs for the MOU consultant that was agreed to by the Technical Group on April 12, 2019.

Table 1. 2019-2020 LORP Work Plan Summary Budget

Inyo County	Staff Work Days	Budgeted Staff Time, Materials, and Equipment	Payment/Credit
Biologic and Water Quality	8	\$0	
Mosquito Abatement	-	\$30,000	
MOU Consultant	-	\$65,310	
Noxious Species Control	-	\$50,000	
Inyo County Totals	8	\$145,310	(\$127,103)
LADWP	Budgeted Staff Work Days	Budgeted Staff Time, Materials, and Equipment	
Hydrologic Monitoring	-	\$77,160	
Biologic and Water Quality	8	\$0	
Operations and Maintenance	-	\$282,356	
Mosquito Abatement	-	\$30,000	
Rodent Control	-	\$10,000	
LADWP Totals	8	\$399,516	
Combined Total	168	\$544,826	
Inyo County Credit Adjustment (1/2 of the Difference in Expenditures between Inyo County and LADWP)			(\$127,103)

Biologic and water quality monitoring is conducted by staff from both LADWP and the Water Department. For budgeting purposes a day-for-day offset is used, rather than dollar-for-dollar. In 2019-2020, a combined effort on the Biological and Water Quality work is estimated to require a combined 16 people-days, split evenly between the County and LADWP.

LORP Operations and Maintenance in 2019-2020 is estimated to cost \$218,076 for the river, and \$217,789 for Blackrock Waterfowl Management Area, for a total of \$435,864. From this figure pre-LORP baseline costs are subtracted. The baseline cost deduction is adjusted annually based on the November Los Angeles-Riverside CPI. The CPI adjusted total for Operations and Maintenance in 2019-2020 is \$282,356.

The County will administer the contracts with the MOU Consultants Mark Hill and Bill Platt. Up to \$65,310 will be withdrawn from the Trust Account to pay consultant expenses in 2019-2020.

Background, Requirements, and Constraints on LORP Funding

Funding for the LORP is prescribed by a lengthy series of agreements and Court orders.

Section XII of the Water Agreement provides that: (1) the County will fund one-half of the LORP initial construction costs (up to a maximum of \$3.75 million—less any funds contributed to cover the initial construction costs by the State of California or other non-LADWP sources), (2) LADWP will fund the remaining initial construction costs of the LORP, and (3) LADWP and the County will jointly fund and operate the LORP after it has been implemented (except for the costs of operating and maintaining the pump station which will be funded by LADWP).

On August 8, 2005, the Court sanctioned LADWP to the effect that, starting September 5, 2005, and until Los Angeles established permanent baseflows of approximately 40 cfs throughout the Lower Owens River, Los Angeles paid \$5,000 per day into an escrow account established by Los Angeles and Inyo County. The proceeds of the account, including accrued interest may only be used for: (1) to pay for Special Master services associated with establishment of flow in the LORP, (2) to pay the County's share of post-implementation costs for the LORP, and (3) to pay the cost of monitoring habitat indicator species at the direction of the California Department of Fish and Game for a five year period in an amount not to exceed a cumulative total of \$100,000, and (4) to pay the cost of the escrow account. The Special Master's role in the establishment of LORP baseflows has terminated. The escrow account is held by the County Treasury as Trust Account (504103), Sierra Club vs. LA Court Trust ("Trust Account").

On September 16, 2005, the County and the LADWP entered into a settlement agreement ("LORP Funding Agreement") whereby LADWP agreed to provide \$5,242,965 to the County. With regard to the County's obligation to fund \$3.75 million of the LORP implementation costs, the LORP Funding Agreement provides that LADWP will provide a credit to the County in the amount of \$2,989,932. The LORP Funding Agreement also acknowledges that the provision of this credit, in combination with the County's previous application of \$360,000 obtained from the U.S. Bureau of Reclamation, \$250,000 obtained from the U.S. Department of Housing and Urban Development, and \$150,068 obtained from the EPA to LORP initial construction costs, fully discharged the County's obligation for the payment of \$3.75 million for the LORP initial construction costs.

With regard to the County's obligation to fund a portion of the LORP post-implementation costs, the LORP Funding Agreement provides as follows: (1) the difference between \$5,242,965 and the \$2,989,932 that will be applied to the LORP initial construction costs (a difference of \$2,253,033), will be a credit held in trust by LADWP. This "Post Implementation Credit" will be used to partially fund the County's obligation to pay

one half of the LORP post-implementation costs; (2) each year, the then remaining amount of this Post Implementation Credit will be reduced by the County's share of the LORP post-implementation costs until the \$2,253,033 credit has been reduced to zero; (3) each year, the then remaining unexpended portion of the \$2,253,033 will be annually adjusted upward or downward in accordance with the previous April Los Angeles--Anaheim--Riverside All Urban Consumers Price Index ("CPI") or its successor; (4) the annual CPI adjustment will take place prior to deduction of a credit for County's annual share of the LORP post-implementation costs; and (5) the CPI adjustment will commence when LADWP has established a permanent baseflow of approximately 40 cfs in the LORP.

The LORP Funding Agreement also provides that Trust Account will be established in the Inyo County Treasury as a trust account and that the interest earned on the fund balance will remain in the account. The LORP Funding Agreement also provides that only after the \$2,253,033 Post Implementation Credit (adjusted as described above) has been reduced to zero, will the County begin to pay its share of the LORP post-implementation costs from the Trust Account; however, the County may elect to reimburse itself from the Trust Account for LORP related costs incurred by the County.

On July 11, 2007, the parties to the MOU entered into a Stipulation and Order resolving issues of compliance with the MOU. In the Stipulation and Order, the parties agree that as of July 11, 2007, LADWP had established a permanent baseflow of approximately 40 cfs in the LORP. The Stipulation and Order also provides for monitoring and reporting of the baseflow flows throughout the LORP. With the entry of the Stipulation and Order on July 11, 2007, LADWP ceased making payments of \$5,000 per day into the Trust Account established pursuant to the Court Order because, as of that date, LADWP had established a permanent baseflow of approximately 40 cfs in the LORP.

ALTERNATIVES:

Direct staff to work with LADWP to modify the 2019-2020 Fiscal Year Lower Owens River Project Work Plan, Budget, and Amendment.

OTHER AGENCY INVOLVEMENT:



LADWP, Inyo/Mono Agricultural Commissioner

FINANCING:

Adoption of the Work Plan and Amendment would require a payment of \$145,310 for 2019-2020, which has been budgeted in the Water Department's Budget (024102). Sufficient funds are available in the Post-Implementation Credit and Trust Account (504103) to fund this work.

After the \$114,857 deductions for LORP work in FY 2018-2019, and a 4.0% CPI adjustment is applied in April 2018, \$1,176,882 will remain available in the LORP Post-Implementation Credit for the 2019-20 LORP Work Plan. The LORP Trust Account Balance (504103) as of March 15, 2019 is \$2,410,466. The Post-Implementation Credit is held by LADWP, and the County of Inyo Treasury holds the Trust Account. The sum of accounts, \$3,723,131, with Trust Account interest and Credit Account indexing, is available to fund the County's LORP costs, trust account costs, and funding for the MOU Consultants through the term of the Funding Agreement ending July 21, 2021.

APPROVALS

COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) Approved: _____ Date: _____
AUDITOR/CONTROLLER: 	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.) Approved:  Date: <u>5/16/19</u>
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.) Approved: _____ Date: _____

DEPARTMENT HEAD SIGNATURE:  (Not to be signed until all approvals are received) _____ Date: 5-14-19

**Lower Owens River Project
Work Plan, Budget, and Schedule
2019-2020 Fiscal Year**

Prepared by
Inyo County Water Department and
Los Angeles Department of Water and Power

Lower Owens River Project Work Plan, Budget, and Schedule 2019-2020 Fiscal Year

The Inyo County Water Department and the Los Angeles Department of Water and Power jointly prepared this 2019-2020 Fiscal Year Lower Owens River Project Work plan. The Inyo County/Los Angeles Technical Group adopted this work plan on May 9, 2019. The Technical Group recommends that the Inyo County Board of Supervisors and the City of Los Angeles Board of Water and Power Commissioners or their designee approve the 2019-2020 Fiscal Year Lower Owens River Project Work Plan.

Introduction

The Final Environmental Impact Report for the Lower Owens River Project (LORP) Section 2.2.1 provides that in December of each year, the Long-Term Water Agreement (LTWA) Technical Group will develop and adopt an annual work program for the LORP, which describes LORP work to be performed in the following fiscal year. This work program identifies who will perform or oversee tasks, a schedule, and a budget. This work plan and budget was prepared according to the Agreement between the County of Inyo and City of Los Angeles Department of Water and Power Concerning Funding of the Lower Owens River Project (Funding Agreement) sections D, E, and F. Following adoption by the Technical Group, the work program will be submitted to the County and LADWP governing board for approval. Each governing board must approve the plan before this work plan and budget can be implemented. This Work Plan, Budget, and Schedule is in force from July 1, 2019 – June 30, 2020.

The objectives of this work plan are to maintain compliance with the July 11, 2007 Superior Court Stipulation and Order in case no. S1CVCV01-29768, conduct monitoring necessary to achieve the LORP goals described in the 1997 Memorandum of Understanding, maintain infrastructure necessary to the operation of the LORP, and implement adaptive management measures. The following priorities are observed in this work plan:

1. Work and activities required to maintain required flows in the river and required water supplies to other LORP components.
2. Maintenance associated with flow compliance monitoring and reporting associated with the above referenced Stipulation and Order.
3. Habitat and water quality monitoring described in the LORP Monitoring and Adaptive Management Plan, or required to comply with the requirements of the Lahontan Regional Water Quality Control Board.
4. The preparation of the LORP Annual Report as required by Section 2.10.4 of the LORP Final EIR and by Section L of the above referenced Stipulation and Order.
5. Other work or activities including the implementation of adaptive management measures.

Section 1 of this work plan covers the budget and schedule for operations and maintenance, monitoring, mosquito abatement, noxious species control, saltcedar control, and reporting activities. Saltcedar control activities are identified but are funded under separate agreements and not budgeted in this work plan.

The budget amount reflects the additional costs above equal sharing of work by the parties and does not include the costs of Inyo and LA staff times where they offset.

Maintenance and Monitoring Budget

Table 1 summarizes the costs of operation, maintenance and monitoring for the fiscal year and specifies the costs incurred by Inyo County, Los Angeles, and the cost of the MOU consultant. A summary of these activities follows.

Efforts on biologic and water quality monitoring tasks are shared by Inyo and LADWP. In 2019-2020 a total of 16 people days are required to complete these tasks. Inyo County and LADWP will each contribute 8 days. Maintenance, Operations, and Hydrologic monitoring are tasks solely performed by LADWP, and are without offsetting costs. LADWP has allocated 110 days for Range Monitoring, which is a LADWP cost.

Based on this budget, total cost for the fiscal year is \$544,826, with Inyo County contributing \$145,310, and LADWP \$399,516. Inyo County's Post Implementation Credit will be decreased by \$127,103. This figure is calculated by subtracting the dollars LADWP will spend during the fiscal year from the amount spent by Inyo County, and dividing this figure by two.

Table 1. LORP Work Plan Summary Budget, FY 2019-2020

Inyo County	Budgeted Staff Work Days	Value of Additional Staff Time, Materials, and Equipment	Payment/Credit
Biologic and Water Quality	8	\$0	
Mosquito Abatement	-	\$30,000	
MOU Consultant	-	\$65,310	
Noxious Species Control	-	\$50,000	
Inyo County Totals	8	\$145,310	(\$127,103)
LADWP	Budgeted Staff Work Days	Budgeted Value of Additional Staff Time, Materials, and Equipment	
Hydrologic Monitoring	-	\$77,160	
Biologic and Water Quality	8	\$0	
Operations and Maintenance	-	\$282,356	
Mosquito Abatement	-	\$30,000	
Rodent Control	-	\$10,000	
LADWP Totals	8	\$399,516	
Combined Total	16	\$544,826	
Inyo County Credit Adjustment (1/2 of the Difference in Expenditures between Inyo County and LADWP)			(\$127,103)

Footnote to Table 1. Post Implementation Credit and Trust Accounting

Original Post Implementation Credit		\$2,253,033	\$2,253,033
Increase Post Imp Credit by 2.9% based on the July 2007 price Index	2.9%	\$65,338	\$2,318,371
County's obligation for July 11, 2007 to June 30, 2008 period		\$243,524	\$2,074,847
Increase the remaining balance of the Post Implementation Credit by 5.7% based upon the July 2008 price index	5.7%	\$118,266	\$2,193,113
County's obligation for 2008-2009 fiscal year		\$243,524	\$1,949,589
Reduce the remaining balance of the Post Implementation Credit by 1.3% based upon the April 2009 price index	-1.3%	\$25,345	\$1,924,245
County's share of the costs for the 2009-2010 work plan and budget, including adaptive management.		\$266,176	\$1,658,069
Increase the remaining balance of the Post Implementation Credit by 1.9% based upon the April 2010 price index effective July 10, 2010	1.9%	\$31,503	\$1,689,572
County's share of the costs for the 2010-2011 work plan and budget, including adaptive management effective July 21, 2010.		\$317,805	\$1,371,767
Increase the remaining balance of the Post Implementation Credit by 3.3% based upon the April 2011 price index effective July 10, 2011.	3.3%	\$45,268	\$1,417,035
County's share of the costs for the 2011-2012 work plan and budget, including adaptive management effective July 21, 2011.		\$48,278	\$1,368,757
County's share of the costs for the Amended 2011-2012 work plan and budget, effective July 21, 2011.		\$57,687	\$1,311,070
Increase the remaining balance of the Post Implementation Credit by 1.5% based upon the April 2012 price index effective July 10, 2012.	1.5%	\$19,666	\$1,330,736
County's share of the costs for the 2012-2013 work plan and budget, including adaptive management effective July 23, 2012.		\$14,084	\$1,344,820
Increase the remaining balance of the Post Implementation Credit by 0.9% based upon the April 2013 price index effective July 10, 2013.	0.9%	\$12,103	\$1,356,924
County's share of the costs for the 2013-2014 work plan and budget, including adaptive management effective June 21, 2013.		\$41,979	\$1,398,903
Increase the remaining balance of the Post Implementation Credit by 1.4% based upon the April 2014 price index effective July 10, 2014.	1.4%	\$19,585	\$1,418,487
County's share of the costs for the 2014-2015 work plan and budget, including adaptive management effective June 21, 2014.		\$78,483	\$1,340,004
Increase the remaining balance of the Post Implementation Credit by 0.5% based upon the April 2015 consumer price index.	0.5%	\$6,700	\$1,346,704
County's share of the costs for the 2015-2016 work plan and budget, including adaptive management effective June 21, 2015.		\$73,755	\$1,272,949
Increase the remaining balance of the Post Implementation Credit by 2.0% based upon the April 2016 consumer price index.	2.0%	\$25,459	\$1,298,408
County's share of the costs for the 2016-2017 work plan and budget, including adaptive management effective June 21, 2016.		\$84,704	\$1,213,704
Increase the remaining balance of the Post Implementation Credit by 2.7% based upon the April 2017 consumer price index.	2.7%	\$32,770	\$1,246,474
County's share of the costs for the 2017-2018 work plan and budget, including adaptive management, effective October 31, 2018.		\$114,857	\$1,131,617
Increase the remaining balance of the Post Implementation Credit by 4.0% based upon the April 2018 consumer price index.	4.0%	\$45,265	\$1,176,882

The annual CPI adjustment will take place prior to deduction of a credit for County's annual share of the LORP post-implementation costs (PIA 8.4). The LORP Trust Account Balance as of March 15, 2019 was \$2,410,465.93.

Section 1. Maintenance and Monitoring Tasks

LORP Tasks

The maintenance and monitoring portion of this work plan consists of four categories of tasks: operations and maintenance, hydrologic monitoring, biological monitoring, and range monitoring.

Operations and Maintenance

Maintenance activities consist of cleaning sediment accumulations and other obstructions from water measurement facilities, cleaning sediment and aquatic vegetation from ditches, mowing ditch margins, fence repair, adjustments to flow control structures, and maintenance/replacement of existing structures. Operation activities consist of setting and checking flows and ensuring that necessary flows reach the river to maintain mandated base and seasonal habitat flows. Estimates of the level of effort necessary for maintenance are adjusted as required by section II.D of the Funding Agreement, which allows that costs for maintenance of ditches, spillgates, and control structures that are above the baseline costs for facilities in the river corridor and Blackrock Waterfowl Management Area (BWMA) shall be shared. The estimated 2019-2020 costs for River corridor and BWMA facilities were \$218,075.60 and \$217,788.89 respectively, for an overall 2019-2020 operations and maintenance expenditure of \$435,864.49. This figure reduced by the combined CPI-adjusted baseline costs for the river corridor and BWMA facilities is \$282,355.97 (Table 2).

Hydrologic Monitoring

Hydrologic monitoring consists of monitoring, analyzing, and reporting river baseflows and seasonal habitat flows, the flooded extent of the Blackrock Waterfowl Management Area (BWMA), the levels of the Off-River Lakes and Ponds, and baseflows, pulse flows, and seasonal habitat flows to the Delta. Hydrologic monitoring costs for the 2019-2020 fiscal year are \$77,160 (Table 3).

Biological/Water Quality Monitoring

Monitoring, analysis, reporting, and report preparation will be jointly conducted by Inyo and LADWP with the time allocated by each agency given in the attached budget table (Table 4).

Biological and water quality monitoring is related to the tasks indicated in the Table 4.01 of the LORP Monitoring and Adaptive Management Plan (MAMP). LADWP and ICWD will continue to monitor flooded extent at Blackrock as in past years. LADWP and Inyo County will also conduct a thorough evaluation of the status of the LORP since project implementation and will prepare a report that will be incorporated into the 2019 LORP Annual Report. Meetings between Scientific Team members from LADWP and Inyo County will occur as necessary to accomplish this task.

Inyo Staff and LADWP Staff will spend a total of 16 people days on LORP biological and water quality monitoring. There will be no off-setting costs.

Table 2. LORP Operations and Maintenance Budget- 2019-2020 Fiscal Year								
Labor					Equipment			
Location/Activity	Labor type	Hours	Labor Rate	Total Labor	Equipment/Materials	Hours	Rate	Total Equip
River								
Measuring Station Maintenance								
	Power Shovel Operator	20	\$51.99	\$1,039.80	Excavator	20	\$108.80	\$2,176.00
	Truck Driver	20	\$45.30	\$906.00	3 axle dump truck	20	\$56.50	\$1,130.00
	Operator	20	\$49.12	\$982.40	Mower	20	\$90.10	\$1,802.00
	Building Repairman	10	\$45.88	\$458.80	3/4 ton 4x4 pick- up	80	\$13.60	\$1,088.00
	MCH	50	\$39.77	\$1,988.50	Water truck	40	\$31.23	\$1,249.20
Subtotal				\$5,375.50				\$7,445.20
Intake Spillgate								
Maintenance	Building Repairman	40	\$45.88	\$1,835.20	Bull Dozer	40	\$61.65	\$2,466.00
	MCH	280	\$39.77	\$11,135.60	Backhoe and trailer	40	\$37.19	\$1,487.60
	Operator	120	\$49.12	\$5,894.40	3/4 ton 4x4 pick- up	600	\$13.60	\$8,160.00
	Power Shovel Operator	120	\$51.99	\$6,238.80	Mower	20	\$90.10	\$1,802.00
	Truck Driver	80	\$45.30	\$3,624.00	Excavator	120	\$108.80	\$13,056.00
					3 axle dump truck	80	\$48.03	\$3,842.40
Subtotal				\$28,728.00				\$30,814.00
Thibaut Spillgate and Ditch								
Cleaning	Power Shovel Operator	60	\$51.99	\$3,119.40	Excavator	60	\$108.80	\$6,528.00
	Operator	80	\$49.12	\$3,929.60	Backhoe and trailer	40	\$37.19	\$1,487.60
	Truck Driver	80	\$45.30	\$3,624.00	Loader	40	\$37.40	\$1,496.00
	MCH	80	\$39.77	\$3,181.60	3 axel dump truck	40	\$48.03	\$1,921.20
					3/4 ton 4x4 pick- up	40	\$13.60	\$544.00
Subtotal				\$13,854.60				\$11,976.80
Independence Spillgate and Ditch								
Cleaning/Mowing	Power Shovel Operator	80	\$51.99	\$4,159.20	Excavator	80	\$108.80	\$8,704.00
	Operator	80	\$49.12	\$3,929.60	Loader	40	\$37.40	\$1,496.00
	Truck Driver	40	\$45.30	\$1,812.00	Side dump	40	\$65.66	\$2,626.40
	MCH	140	\$39.77	\$5,567.80	Mower	40	\$90.10	\$3,604.00
					3/4 ton 4x4 pick- up	260	\$13.60	\$3,536.00
					Water truck	40	\$31.23	\$1,249.20
Subtotal				\$15,468.60				\$21,215.60
Locust Spillgate and Ditch								
Cleaning	Power Shovel Operator	60	\$51.99	\$3,119.40	Excavator	60	\$108.80	\$6,528.00
	Operator	120	\$49.12	\$5,894.40	Backhoe and trailer	120	\$37.19	\$4,462.80
	MCH	140	\$39.77	\$5,567.80	3/4 ton 4x4 pick- up	140	\$13.60	\$1,904.00
	Truck Driver	40	\$45.30	\$1,812.00	3 axle dump truck	40	\$48.03	\$1,921.20
Subtotal				\$16,393.60				\$14,816.00
Georges Ditch								
Cleaning/Mowing	Operator	140	\$49.12	\$6,876.80	Mower	40	\$90.10	\$3,604.00
	Truck Driver	80	\$45.30	\$3,624.00	Backhoe and trailer	60	\$37.19	\$2,231.40
	Power Shovel Operator	60	\$51.99	\$3,119.40	Loader	40	\$37.40	\$1,496.00
	MCH	140	\$39.77	\$5,567.80				
Subtotal				\$19,188.00				\$7,331.40
Alabama Spillgate								
Cleaning	Power Shovel Operator	40	\$51.99	\$2,079.60	Excavator	40	\$108.80	\$4,352.00
	Operator	30	\$49.12	\$1,473.60	Bull Dozer	30	\$61.65	\$1,849.50
	Truck Driver	120	\$45.30	\$5,436.00	3 axle dump truck	120	\$48.03	\$5,763.60
Subtotal				\$8,989.20				\$11,965.10

Labor					Equipment			
Location/Activity	Labor type	Hours	Labor Rate	Total Labor	Equipment/Materials	Hours	Rate	Total Equip
Delta Spillgate								
	Building Repairman	40	\$45.88	\$1,835.20	3/4 ton 4x4 pick- up	40	\$13.60	\$544.00
	MCH	40	\$39.77	\$1,590.80	3/4 ton 4x4 pick- up	40	\$13.60	\$544.00
Subtotal				\$3,426.00				\$1,088.00
River Subtotal				\$111,423.50				\$106,652.10
Blackrock Waterfowl Management Area								
Blackrock Ditch								
Maintenance	Operator	120	\$49.12	\$5,894.40	Mower	80	\$90.10	\$7,208.00
	Truck Driver	200	\$45.30	\$9,060.00	3 axle dump truck	40	\$48.03	\$1,921.20
	MCH	200	\$39.77	\$7,954.00	3/4 ton 4x4 pick- up	40	\$13.60	\$544.00
	Power Shovel Operator	80	\$51.99	\$4,159.20	Excavator	80	\$108.80	\$8,704.00
					Loader	40	\$37.40	\$1,496.00
					3 axle dump truck	80	\$48.03	\$3,842.40
					Water	40	\$31.23	\$1,249.20
					Side dump	40	\$65.66	\$2,626.40
Subtotal				\$27,067.60				\$27,591.20
Patrol & Flow Changes (River and BWMA)								
A&R data	A&R Keeper (1.5 FTE)	3089	\$39.21	\$121,119.69	3/4 ton 4x4 pick- up	3089	\$13.60	\$42,010.40
Subtotal				\$121,119.69				\$42,010.40
BWMA Subtotal				\$148,187.29				\$69,601.60
TOTALS								
River Total				\$218,075.60				
BWMA Total				\$217,788.89				
Total O and M				\$435,864.49				
CPI Adjusted O and M				\$282,355.97				

Baseline Costs (described in Post-Imp)			River	BWMA
	CPI adjustment		\$56,863.00	\$62,798.00
	2006-2007	4.5%	\$59,421.84	\$65,623.91
	2007-2008	3.1%	\$61,263.91	\$67,658.25
	2008-2009	-1.3%	\$60,467.48	\$66,778.69
	2009-2010	0.9%	\$61,011.69	\$67,379.70
	2010-2011	0.7%	\$61,438.77	\$67,851.36
	2011-2012	3.0%	\$63,281.93	\$69,886.90
	2012-2013	2.1%	\$64,610.85	\$71,354.53
	2013-2014	0.4%	\$64,869.30	\$71,639.94
	2014-2015	1.3%	\$65,712.60	\$72,571.26
	2015-2016	1.6%	\$66,764.00	\$73,732.40
	2016-2017	1.8%	\$67,965.75	\$75,059.59
	2017-2018	3.6%	\$70,412.52	\$77,761.73
	2018-2019	3.6%	\$72,947.37	\$80,561.15

Table 3. Hydrologic Monitoring Budget, FY 2019-2020

	Person days	Labor Costs	Equipment Cost	Total Predicted Cost July 1, 2019 through June 30, 2020
HYDRO OPERATIONS AND MAINTENANCE				
River Stations	30	\$ 12,900	\$ 6,000	\$ 18,900
Seasonal Habitat	20	\$ 8,600	\$ 800	\$ 9,400
Off River Lakes & Ponds	9	\$ 3,870	\$ 360	\$ 4,230
Flow to Delta	6	\$ 2,580	\$ 1,240	\$ 3,820
Blackrock Waterfowl	16	\$ 6,880	\$ 3,640	\$ 10,520
Reporting Compliance	7	\$ 3,010	\$ 280	\$ 3,290
ENGINEERING				
Reporting Compliance	60	\$ 27,000	\$ -	\$ 27,000
Total Hydro Budget				\$77,160

Table 4. Biological Monitoring Budget, FY 2019-2020

Biological Monitoring	Days	Inyo Days	LA Days
Blackrock Waterfowl Management Area			
Waterfowl Area Acreage	16	8	8
Total Person Days on Project	16	8	8

Range Monitoring

Range monitoring is related to the tasks described in section 4.6 of the MAMP. Three types of monitoring will take place that are directly related to the management of livestock grazing: irrigated pasture condition scoring, utilization and range trend monitoring. Range monitoring will be conducted by LADWP and is not a shared cost, and therefore is not budgeted for in this work plan (Table 5).

Table 5. Range Monitoring (LADWP only), FY 2019-2020

Task	People Days
Utilization	45
Irrigated Pasture Condition	5
Range Trend	40
Analysis and Reporting	20
Total	110

Mosquito Abatement

For fiscal year 2019-2020, the Owens Valley Mosquito Abatement Program (OVMAP) will continue a comprehensive Integrated Mosquito Management Plan (IMMP) when addressing the new and developing sources within the LORP in accordance with its mission of protecting public health. This IMMP consists of an expansion of currently used materials and methods for the surveillance and control of mosquitoes across the OVMAP boundary as well as contingency planning for late season flushing flows. The \$60,000 budget anticipates field surveillance of potential larval habitat for mosquito production, larviciding, pupaciding, adult mosquito surveillance with light traps, mosquito borne disease surveillance, and treatment for adult mosquitoes.

Noxious Species Control

The Inyo/Mono Counties Agricultural Commissioner’s Office conducts operations to control and eradicate several different invasive weed species within the LORP boundaries. These invasive weed species include *Lepidium latifolium*, *Acroptilon repens*, *Cirsium arvense*, *Centaurea solstitialis*, *Centaurea maculosa*, and *Carderia draba*. These populations are managed using integrated pest management methods, including mechanical, chemical, and biological controls.

For fiscal year 2019-2020, Inyo County will be responsible for treating weeds in the LORP. The budget for noxious weed control is \$50,000.

Saltcedar Control

Inyo County’s saltcedar control program continues to be reduced from its past level of effort due to lack of funding. The reduced level of effort will concentrate on treating resprouts and controlling saltcedar in the river channel.

Inyo County’s LORP saltcedar control activities are funded through the Inyo/Los Angeles Water Agreement. LADWP will continue to treat saltcedar in the Owens Valley (in and out of the LORP Planning Area) as resources are available.

Schedule

Table 6. Proposed Schedule of Monitoring and Reporting Activities for FY 2019-2020

Period	Monitoring
July 8 - July 16, 2019	Blackrock Waterfowl Management Area (BWMA) Flooded Extent
September 1- September 30, 2019	Delta Pulse Flow
September 14 - September 22, 2019	BWMA Flooded Extent
October 1 - October 30, 2019	LADWP/Inyo Prepare Draft LORP Report
October 1 - October 30, 2019	Fiscal Year 2018-2019 Work Plan and Budget Reconciliation
October 31, 2019	Draft LORP Report transmitted to MOU Consultant
October 31, 2019	Transmittal of LORP Accounting Report to Governing Boards
November 1 - November 30, 2019	MOU Consultant review Draft LORP Report and develop Recommendations
November 1 - December 31, 2019	Delta Pulse Flow
December 1, 2019	MOU Consultant transmit Adaptive Management Recommendations to Inyo/LADWP
December 5, 2019	Draft Report transmitted to MOU Parties
December 19, 2019	Public Meeting for Draft LORP Report
December 16, 2019 – February 14, 2020	Fiscal Year 2020-2021 Work Plan and Budget Development
January 15 – January 20, 2020	BWMA Flooded Extent
February 17 - February 28, 2020	Technical Group Meeting to Adopt LORP Annual Report and 2019-2020 Fiscal Year Work Plan and Budget
February 28 – March 31, 2020	Transmittal of LORP Work Plan, Budget, and Schedule to governing boards for approval
March 1 - May 31, 2020	Delta Pulse Flow
May 8 - May 16, 2020	BWMA Flooded Extent
May 15 - June 15, 2020	Seasonal Habitat Flow
June 1 - July 31, 2020	Delta Pulse Flow

Section 2. Adaptive Management

No Adaptive Management is proposed during the 2019-2020 fiscal year.

2019-20 Work Plan and Budget for Mr. Mark Hill, LORP MOU Consultant

TASK 1. RIVER AND WETLAND SITE VISITS

The MOU Consultant will make a reconnaissance and review site visit to the LORP river and wetlands, the Delta and off-channel lakes and ponds to familiarize themselves with on-the-ground conditions. This site visit will be made in early November in conjunction with range review. This will save costs by sharing some expenses. This will allow the Consultant to see the LORP in both summer and early winter conditions prior to reviewing and evaluating the 2019-20 annual report and making adaptive management recommendations.

Labor:

	HOURS	RATE	COST
Principal (Hill)	20	\$130	\$2,600
Subtotal			\$2,600

Expenses:

Travel (Mileage 1500/trip @ \$0.56/mi)	0.5	\$840	\$420
Lodging	1	\$155	\$155
Per Diem	1	\$95	\$95
Expenses Subtotal			\$670

TASK 2. ANNUAL REPORT EVALUATION AND ADAPTIVE MANAGEMENT RECOMMENDATIONS

At the end of October, LADWP and ICWD will forward the draft annual report to the MOU Consultant. The MOU Consultant will evaluate the annual report for completeness and accuracy. This requires reviewing each chapter and, in some cases, revaluating or re-estimating and verifying conclusions. Following review and evaluation of the draft annual report and consultation with LADWP and ICWD, a final chapter for adaptive management recommendations will be written for the final annual report and submission to the LORP Technical Committee. The MOU Consultant will present the recommendations to the Technical Committee, the MOU parties, decision makers, and the public as required. The deliverables will come in the form of a simple MS Word Document that does not contain specialized features or protections on the document. AMR must be delivered to Inyo and LADWP by no later than the first Monday in December.

Labor:

	HOURS	RATE	COST
Principal (Hill)	185	\$130	\$24,050
Subtotal			\$24,050

TASK 3. MEETINGS

The MOU consultant will meet with LADWP and ICWD to review progress or discuss issues either in person, or via teleconference. The MOU consultant will provide progress reports to LADWP and ICWD as needed. This task requires the MOU consultant to prepare for meetings, travel, and attend meetings with the Scientific Team and MOU Parties to discuss progress towards meeting the LORP objectives.

Labor:

	HOURS	RATE	COST
Principal (Hill)	30	\$130	\$3,900
Subtotal			\$3,900

Expenses:

Travel (Mileage 1500/trip @ \$0.56/mi)

Lodging

Per Diem

1	\$840	\$840
2	\$155	\$310
3	\$95	\$285

Expenses Subtotal

\$1,435

TOTAL BUDGET \$32,655

2019-20 Work Plan and Budget for Dr. Bill Platts, LORP MOU Consultant

TASK 1. RIVER AND WETLAND SITE VISITS

The MOU Consultant will make a reconnaissance and review site visit to the LORP river and wetlands, the Delta and off-channel lakes and ponds to familiarize themselves with on-the-ground conditions. This site visit will be made in early November in conjunction with range review. This will save costs by sharing some expenses. This will allow the Consultant to see the LORP in both summer and early winter conditions prior to reviewing and evaluating the 2019-20 annual report and making adaptive management recommendations.

Labor:

	HOURS	RATE	COST
Principal (Bill)	20	\$130	\$2,600
Subtotal			\$2,600

Expenses:

Travel (Mileage 1500/trip @ \$0.56/mi)	0.5	\$840	\$420
Lodging	1	\$155	\$155
Per Diem	1	\$95	\$95
Expenses Subtotal			\$670

TASK 2. ANNUAL REPORT EVALUATION AND ADAPTIVE MANAGEMENT RECOMMENDATIONS

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Labor:

	HOURS	RATE	COST
Principal (Bill)	30	\$130	\$3,900
Subtotal			\$3,900

Expenses:

Travel (Mileage 1500/trip @ \$0.56/mi)

Lodging

Per Diem

1	\$840	\$840
2	\$155	\$310
3	\$95	\$285

Expenses Subtotal

\$1,435

TOTAL BUDGET \$32,655



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

18

Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: Water Department

FOR THE BOARD MEETING OF: June 11, 2018

SUBJECT: Workshop – Implications of the Department of Water Resources 2019 Sustainable Groundwater Management Act Basin Prioritization Process and Results (2019 Basin Prioritization)

DEPARTMENTAL RECOMMENDATION:

The Water Department requests that your Board hear an informational workshop regarding the implications of the Department of Water Resources (DWR) release of a draft report reprioritization of the Owens Valley Groundwater Basin.

SUMMARY DISCUSSION:

The Sustainable Groundwater Management Act (SGMA) requires that local agencies in groundwater basins that are designated as medium or high priority by the DWR form Groundwater Sustainability Agencies. On August 1, 2017 eleven agencies within the Owens Valley groundwater basin (Basin) entered into a Joint Powers Agreement to form the Owens Valley Groundwater Authority (OVGA) for the purpose of creating a Groundwater Sustainability Plan (GSP). The Owens Valley is a Medium priority basin, and by 2022 the OVGA must prepare a GSP for the lands in the basin not owned by Los Angeles Department of Water and Power (LADWP).

In the draft 2019 Basin Reprioritization released on April 30, the DWR recommended changing the prioritization of the Owens Valley groundwater basin to Low Priority. Previously, the DWR proposed in 2018 to change to the Owens Valley Basin to High priority. The requirements under SGMA are the same for medium and high priority basins presently, but the OVGA submitted a public comment on August 15, 2018 objecting to the DWR prioritization procedure (attached). Specifically, the OVGA objected to a severe penalty applied for groundwater export by LADWP from their lands that are treated as adjudicated and thus exempt from SGMA. The draft 2019 draft Basin Reprioritization reconsidered the points assigned for groundwater export out of the Owens Valley resulting in a score in the Low priority category. The Low priority status for the Basin is not final. Following a public comment period that ended on May 30, 2019, DWR will review the comments and finalize the basin prioritization approximately one month later.

The potential implications of the DWR decision for Inyo County and how the OVGA will proceed are substantial. A Low priority basin is not required to be managed by a groundwater authority according to a GSP, nor is it subject to intervention by the State Water Resources Control Board. The OVGA will be confronted with several decisions for how to proceed if the Basin status remains Low priority. OVGA staff are preparing several options described in the attached draft staff report that range from: (1) disbanding the OVGA, (2) remaining as a groundwater authority but discontinue preparation of the GSP until needed, (3) continuing the GPA with modifications to the Joint Powers Agreement or Board composition, or (4) determine that the OVGA should continue and prepare a GSP voluntarily to manage groundwater resources and provide an important public service for residents of the Owens Valley. The workshop will evaluate the implications of the DWR decision and describe options available to the OVGA in detail. This information will assist the Board in providing direction to OVGA representatives before the June 13, 2019 OVGA meeting where this issue will be discussed.

OTHER AGENCY INVOLVEMENT:

Member agencies of the Owens Valley Groundwater Authority

FINANCING:

N/A

APPROVALS

COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS <i>(Must be reviewed and approved by county counsel prior to submission to the board clerk.)</i> Approved: _____ Date: _____
AUDITOR/CONTROLLER: N/A	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i> Approved: _____ Date: _____
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS <i>(Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)</i> Approved: _____ Date: _____

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)



Date: 5-28-19

OWENS VALLEY GROUNDWATER AUTHORITY

Big Pine CSD — City of Bishop — County of Inyo — County of Mono — Eastern Sierra CSD — Indian Creek-Westridge CSD — Keeler CSD —
Sierra Highlands CSD — Starlite CSD — Tri Valley Groundwater Management District — Wheeler Crest CSD

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August 15, 2018

Via U.S. Mail and Email

Trevor Joseph, Supervising Engineering Geologist
Sustainable Groundwater Management Section
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Timothy Ross, Senior Engineering Geologist
Groundwater Section
California Department of Water Resources
770 Fairmont Ave, Suite 102
Glendale, CA 91203

RE: PUBLIC COMMENT – 2018 Sustainable Groundwater Management Act Basin Prioritization
Process and Results

Dear Mr. Joseph and Dr. Ross:

The Owens Valley Groundwater Authority (Authority) appreciates the opportunity to comment on the Department of Water Resources' (DWR) Draft 2018 Sustainable Groundwater Management Act Basin Prioritization (Draft Prioritization). The Authority is a joint powers authority consisting of eleven local public agencies¹ with land and groundwater regulatory authority in the Owens Valley Groundwater Basin (Basin). The Authority is the exclusive groundwater sustainability agency (GSA) for the Basin for purposes of the Sustainable Groundwater Management Act (SGMA), and therefore has great interest in DWR's process of categorizing groundwater basins. The Draft Prioritization resulted in the Basin, including both the Owens Valley Groundwater Subbasin and the Fish Slough Subbasin, being re-categorized from a medium- to a high-priority. The Authority is concerned that the Draft Prioritization misinterprets certain SGMA provisions governing the treatment of adjudicated areas within basins and evidences a fundamental misunderstanding of the unique characteristics, water use, and management activities occurring in the Basin. Accordingly, the Authority respectfully provides the following comments on the Draft Prioritization and requests that the Basin be re-categorized in a manner consistent with the comments provided through this letter.

¹ Specifically, the Authority consists of the following local governments and local public agencies: City of Bishop, County of Inyo, County of Mono, Big Pine Community Services District, Eastern Sierra Community Services District, Indian Creek-Westridge Community Services District, Keeler Community Services District, Sierra Highlands Community Services District, Starlite Community Services District, Tri-Valley Groundwater Management District, and Wheeler Crest Community Services District.

1. Consideration of City of Los Angeles and LADWP Out-of-Basin Transfers from Exempt Adjudicated Areas is Not Supported by SGMA or the Draft Prioritization

The largest private landowner and water user in the Basin is the City of Los Angeles (City), which through its Department of Water and Power (LADWP), diverts surface water and extracts groundwater for export from the Basin to the City and its residents for municipal and domestic use. SGMA provides that “[a]ny groundwater basin or portion of a groundwater basin in Inyo County managed pursuant to the terms of the stipulated judgment in *City of Los Angeles v. Board of Supervisors of the County of Inyo, et al.* (Inyo County Case No. 12908)² shall be treated as an adjudicated area pursuant to this section.” (Wat. Code, § 10720.8(c)). This provision effectively exempts the City and LADWP’s water management and use activities in the Basin from SGMA’s regulatory authorities. In recognition of this exemption, the Draft Prioritization provides: “DWR determined that SGMA prioritization should exclude those portions of the basin that were adjudicated,” and continues to explain: “DWR evaluated the non-adjudicated portion of the basin to determine the extent that these [adjudicated] areas have the potential to affect groundwater management in the entire basin...” (Draft Prioritization, at p. 4.) However, despite SGMA’s exemption for adjudicated areas and DWR’s determination that prioritization should not consider activities in adjudicated areas, the Draft Prioritization re-categorizes the Basin to high-priority based exclusively on LADWP out-of-basin transfers from properties subject to the Long-Term Water Agreement. In short, the Draft Prioritization applies an arbitrary process not supported by SGMA. Based on the plain language of SGMA and the Draft Prioritization, DWR should not have considered LADWP out-of-basin transfers when categorizing the Basin. Accordingly, the Authority requests that the Draft Prioritization process be revised so that out-of-basin transfers are only taken into consideration if the transfer is not conducted pursuant to an adjudication. In the Basin, all out-of-basin groundwater transfers are subject to the Inyo/Los Angeles Water Agreement, which under SGMA, is considered an adjudication; therefore, the Authority requests that the Draft Prioritization not consider LADWP’s transfers when categorizing the Basin. .

2. Re-Categorizing the Basin as a High-Priority Solely Because of the City of Los Angeles and LADWP’s Out-of-Basin Transfers is Inequitable

As explained above, SGMA exempts from its regulatory purview and requirements certain adjudicated areas, including portions of the Basin managed pursuant to the Long-Term Water Agreement. (See Wat. Code, § 10720.8(c).) Were it not for the assignment of the maximum 42 points from sub-component 8.d, based on DWR scoring the Basin would be a low-priority basin.

Against this backdrop, assigning a high priority to the Basin creates inequitable results. In the first instance, the Draft Prioritization burdens the low-population, low-resource, low-tax base, low-water use, severely disadvantaged and disadvantaged communities of the Basin with SGMA compliance because of the activities of a wealthy, distant, out-of-basin municipality over which SGMA provides them no control. Also, the Draft Prioritization creates a regulatory scheme that makes the Authority, its local agency members, and their constituents responsible for conserving groundwater for the City’s benefit without requiring LADWP to contribute to or participate in any way to the efforts required to comply with SGMA’s sustainability mandates. These results are simply unacceptable to the Authority and its member agencies. Therefore, the Authority requests that the Draft Prioritization be revised in a way that categorizes the Basin to avoid such inequitable results.

² Hereinafter, the stipulated judgment in *City of Los Angeles v. Board of Supervisors of the County of Inyo, et al.* (Inyo County Case No. 12908) is referred to as the “Long-Term Water Agreement.”

3. The Draft Prioritization Fails to Consider All Criteria Required by Water Code Section 10933(b) When Re-Categorizing the Basin as a High-Priority

SGMA provides that basin categorization shall be “[p]ursuant to [Water Code] Section³ 10933.” (Wat. Code, § 10722.4(a).) Section 10933(b) provides: “In prioritizing the basins and subbasins, [DWR] shall, to the extent data are available, consider all of the following:

1. The population overlying the basin or subbasin.
2. The rate of current and projected growth of the population overlying the basin or subbasin.
3. The number of public supply wells that draw from the basin or subbasin.
4. The total number of wells that draw from the basin or subbasin.
5. The irrigated acreage overlying the basin or subbasin.
6. The degree to which persons overlying the basin or subbasin rely on groundwater as their primary source of water.
7. Any documented impacts on the groundwater within the basin or subbasin, including overdraft, subsidence, saline intrusion, and other water quality degradation.
8. Any other information determined to be relevant by the department, including adverse impacts on local habitat and local streamflows.”

(Wat. Code, § 10933(b).) The plain language of this provision requires DWR to consider “all of the” criteria listed in Section 10933(b). However, the Draft Prioritization re-categorizes the Basin to high-priority based on a single factor, specifically the out-of-basin transfers by LADWP. To be sure, the Draft Prioritization scores the Basin according to each of these criteria. Using these criteria, the basin would score less than 13 points and would be rated as low priority. But that exercise is nothing more than lip service when the Draft Prioritization creates a prioritization scheme that automatically results in the Basin being categorized as a high-priority based solely on LADWP’s out-of-basin transfers. This approach violates Section 10933(b), which requires DWR to consider “all of the” above-listed factors. (*Ibid.*) Moreover, this automatic categorization of the Basin is based on a factor not expressly listed in Section 10933(b) but instead under the catch-all provision of Section 10933(b)(8). The Authority does not dispute the relevancy of considering groundwater transfers and exports for purposes of categorizing basins, but the fact remains that the plain language of Section 10933(b) requires DWR to consider all of the Section 10933(b) criteria.

Therefore, the Authority requests that the Draft Prioritization be revised so that the Basin is categorized based on consideration of all Section 10933(b) criteria and not a single, unlisted factor.

4. Treating Groundwater Transfers as a Detrimental Factor During the Categorization Process is Inconsistent with SGMA and the Draft Prioritization

Automatic categorization of basins based solely on out-of-basin transfers is internally inconsistent with SGMA and the Draft Prioritization. The Draft Prioritization recognizes that “The purpose of this factor [groundwater related transfer] is not to discourage water transfers involving groundwater, which are recognized as “one of the water management tools to enhance flexibility in the allocation and use in

³ Hereinafter, all section references are to the Water Code unless otherwise provided.

California.” “But transfers undertaken without an adequate understanding of the changes in groundwater levels, water budget, groundwater-surface water interactions, and land subsidence, and other features considered in a GSP, would leave the basin from which water is transferred and potentially adjacent basins vulnerable to adverse impacts” (Draft Prioritization, at p. 4.). As demonstrated by the comprehensive information submitted to DWR relating to the Basin by Inyo County and the OVGA over the multi-year SGMA process, the out-of-basin water transfer occurring from the adjudicated area is well quantified and understood and not in violation of SGMA’s strictures.

In other words, groundwater transfers are not intrinsically bad. However, the Draft Prioritization only treats groundwater related transfers as negatively affecting basins and their sustainability without any recognition of their benefit – so much so that the mere existence of a transfer automatically results in a basin being categorized as high-priority without any consideration of the other Section 10933(b) factors or whether those transfers are subject to an adjudication exempt from SGMA. If groundwater related transfers are considered, then the prioritization process should not result in categorization without also considering all Section 10933(b) factors and the water management benefits of transfers, including whether: (i) the transfer is subject to SGMA; (ii) whether the transfer is adversely affecting the basin or causing an undesirable result; and (iii) whether the transfer is increasing the likelihood or magnitude of any other Section 10933(b) factor. In the case of the Basin, the groundwater related transfers that resulted in its automatically being categorized a high-priority are not subject to SGMA because the City and LADWP’s out-of-basin transfers are exempt from SGMA. Further, the Draft Prioritization does not show that the transfers will result in – or have been the cause of – any adverse effect to the Basin. Accordingly, the Authority requests that the Basin be re-categorized as a low-priority basin unless and until DWR demonstrates that the groundwater related transfers from the Basin are, in fact, having a detrimental effect.

5. The Draft Prioritization’s Use of a Flat Rate of Pumping to Categorize Basins is Arbitrary and Irrational

Sub-component 8.c.3 of the Draft Prioritization uses the amount of groundwater extracted from the non-adjudicated portion of each basin with an adjudication or adjudicated area to determine whether the basin should be categorized as a very-low priority. This determination relies on a flat rate of non-adjudicated pumping (i.e., 9,500 AF), rather than the amount of groundwater pumped per acre used elsewhere in the Draft Prioritization (e.g., sub-components 6.a and 8.a). Using information from Appendix 3 of the Draft Prioritization, the Authority computed non-adjudicated pumping per non-adjudicated acre for the Basin and then compared that result to other adjudicated basins that the Draft Prioritization categorized as very-low priority basins because their annual pumping was less than 9,500 AF. The results are depicted below in Table 1.

TABLE 1
Non-adjudicated pumping, non-adjudicated basin area, and non-adjudicated pumping per non-adjudicated acre.

Basin Number	Basin/Subbasin Name	Non-Adjudicated Groundwater Use (AF)	Non-Adjudicated Area (acres)	Groundwater Pumping per Acre (AF/acre)	Priority in Draft Report	Priority Without Subcomponents 8.c.3 and 8.d.1
6-012.01	Owens Valley/Owens Valley	24,228	429,659	0.056	High	Low
3-008	Los Osos	1,027	2,417	0.42	Very Low	High
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In other basins, it is evident that many of the non-adjudicated areas with less than 9,500 AF of pumping actually have far higher areal non-adjudicated pumping stress than the Basin, yet they are categorized as very-low priority due to the arbitrary 9,500 AF threshold. Table 1 clearly demonstrates that relying solely on groundwater related transfers to categorize a basin as high-priority is irrational. Accordingly, the Authority requests that DWR revise the Draft Prioritization to consider a metric that accounts for basin size by casting the threshold in terms of non-adjudicated pumping per non-adjudicated acre.

6. The Draft Prioritization's Estimate of Groundwater Pumping is Incorrect and the Methods Used to Determine Groundwater Pumping are Unclear

The Draft Prioritization background data provided in Appendix 3 indicate that total pumping in the Basin is 166,298 acre-feet per year (AFY), of which 24,228 AFY is in the non-adjudicated portion of the Basin. Accordingly, the difference between total pumping in the Basin (166,298 AFY) and pumping in the non-adjudicated portion of the Basin (24,228 AFY) represents the amount of water pumped from the adjudicated portion of the Basin or 142,070 AFY. The Long-Term Water Agreement requires LADWP to share all data relevant to the Agreement, including groundwater pumping data. Over the period between 1991 and 2016, LADWP's groundwater pumping under the Long Term Water Agreement has averaged 73,265 AFY, and of this amount a significant component has been for in-valley (non-exported) agricultural and environmental use (appx. 20,000-30,000 AFY). (See Inyo County Water Department : 2016-2017 Annual Report, available at http://www.inyowater.org/wp-content/uploads/2012/12/2017-AnnualReport-ICWD-final-no-appendix-5_2.pdf, at p. 20., and the annual reports submitted to DWR pursuant to the adjudicated status of the Basin, available at <https://sgma.water.ca.gov/adjudbasins/report/preview/105>). To put this amount of pumping in context, recharge to the Basin is estimated to be between 220,000-271,300 AFY (Table 5, Hydrogeologic Conceptual Model of the Owens Valley, available at <https://sgma.water.ca.gov/basinmod/docs/download/142>). The amount of actual adjudicated pumping is roughly half of the amount estimated in the Draft Prioritization. Notwithstanding its best efforts, the Authority was unable determine the source of this discrepancy because the methods used to arrive at the estimate in the Draft Prioritization are not described in sufficient detail (e.g., <https://drinc.ca.gov/ear/>). Given the arbitrary approach taken in the Draft Prioritization, DWR's failure to clearly describe its

Mr. Joseph and Dr. Ross

RE: Public Comment - 2018 Basin Prioritization Process and Results

August 15, 2018

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analytical approach and methodology to categorizing basins can only be described as arbitrary and irrational. The Authority requests that DWR revise the Draft Prioritization to incorporate the most currently available local data.

In conclusion, the Authority appreciates DWR's attempt to revise the basin categorization process, but it simply cannot support the Draft Prioritization. Its misinterpretation of SGMA's express language and failure to identify, employ, and apply the most accurate and current data regarding individual basins result in the Basin being categorized arbitrarily as a high-priority and inequitably burden its local governments, agencies, and communities with the cost of conserving groundwater for the benefit of the City of Los Angeles, LADWP, and their residents and ratepayers. This result is an unfair, disproportionate, and wasteful imposition on the Basin's constituents, many of which have dedicated substantial resources over several decades to implement agreements and projects that demonstrate sustainable groundwater management can coexist with municipal, agricultural, and habitat water uses. Therefore, the Authority requests that DWR revise the Draft Prioritization in light of the comments provided herein and strongly urges that the Basin be re-categorized in a manner consistent with the comments provided through this letter. The Authority additionally requests that DWR provide a transparent explanation of the rationale for any scoring criteria that deviates from the recommendations made in this letter.

Thank you for the opportunity to comment on the Draft Prioritization. If you have any questions or comments regarding the Authority's comment letter, please contact the Authority's Executive Director, Bob Harrington, at (760) 878-0001 or bharrington@inyocounty.us.

Sincerely,



Fred Stump, Chair
Owens Valley Groundwater Authority

cc: Board of Directors, Owens Valley Groundwater Authority (email only)
Anita Regmi, Department of Water Resources (email only)
Erik Ekdahl, State Water Resources Control Board (email only)



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only: AGENDA NUMBER
19

Consent Departmental Correspondence Action Public Hearing
 Scheduled Time for Closed Session Informational

FROM: Water Department

FOR THE BOARD MEETING OF: June 11, 2018

SUBJECT: Owens Valley Groundwater Authority Meeting – June 13, 2019

DEPARTMENTAL RECOMMENDATION:

A meeting of the Owens Valley Groundwater Authority is scheduled for June 13, 2019 in Bishop, California. The Water Department requests your Board provide direction to the Owens Valley Groundwater Authority representatives.

SUMMARY DISCUSSION:

In 2014, the State of California signed into law the Sustainable Groundwater Management Act (SGMA). On August 1, 2017 eleven agencies within the basin entered into a joint powers agreement to form the Owens Valley Groundwater Authority (OVGA) for the purpose of creating a groundwater sustainability plan (GSP) for the Owens Valley groundwater basin.

The OVGA will hold its next regular meeting on June 13, 2019; a draft agenda is attached. The draft agenda contains several informational items including a presentation by the consultant preparing the GSP on progress acquiring local data and developing a conceptual hydrologic model which are essential components of the GSP. In addition, at the April 18, 2019 meeting, the OVGA Board requested a standing agenda item be added to receive updates on the activities of the Indian Wells Valley Groundwater Authority. A final agenda and complete packet of the materials for the OVGA meeting will be available before the June 11 Inyo Board meeting.

Two important items are included on the draft agenda for discussion: (Item 8) implications of the Department of Water Resources ("DWR") release of a draft report for 2019 SGMA Basin Prioritization Process and Results ("2019 Basin Reprioritization") and (Item 9) determination of additional OVGA Board seats for Associates and Interested Parties. A workshop to discuss the implications of the Basin status in much greater detail has been requested to precede this agenda item.

In the draft 2019 Basin Reprioritization released on April 30, the DWR recommended changing the prioritization of the Owens Valley Groundwater Basin to Low Priority. The Owens Valley Groundwater Basin presently is classified as Medium priority, and non-adjudicated lands in the basin are subject to SGMA. The DWR proposed in 2018 to change the Owens Valley Basin to High priority. The OVGA submitted a public comment on August 15, 2018 objecting to the procedure followed by the DWR (attached). Specifically, the OVGA objected to a severe penalty applied for groundwater export by LADWP from lands treated as adjudicated and exempt from SGMA. The criteria in the 2019 Basin Reprioritization reconsidered the points for out of basin transfers resulting in a score within the Low priority category. The Low priority status for the Basin is not final. Following a public comment period that ends on May 30, 2019, DWR will review the comments and finalize the basin prioritization approximately one month later.

The potential implications of the DWR decision for the OVGA and how the Authority will proceed are substantial. A Low priority basin is not required to be managed by a groundwater authority according to a GSP nor is it subject to intervention by the State Water Resources Control Board. The OVGA will be presented with several options available for how to proceed if the Basin remains Low priority ranging from; disbanding the OVGA, remaining as a Groundwater Authority but discontinue preparation of the GSP until needed, continuing the GPA with modifications

Groundwater Authority but discontinue preparation of the GSP until needed, continuing the GPA with modifications to the Joint Powers Agreement or Board composition, or determine that the OVGA should continue and prepare a GSP to manage groundwater resources as an important public service for residents and environment of the Owens Valley.

Regarding the composition of the OVGA Board, at the April 18 meeting, the OVGA polled the members to provide direction to staff regarding decision points for membership of potential Associates and Interested Parties that had submitted statements of interest to serve on the OVGA Board. The results of the polling were transmitted in a memorandum to the OVGA Board members (attached). Based on the results of the polling, staff will provide a recommendation for Board action; however, given the uncertainty on the Basin Prioritization, the OVGA may choose to postpone a final decision on Board composition at this time.

OTHER AGENCY INVOLVEMENT:

City of Bishop, Mono County, Tri-Valley GWMD, Indian Creek-Westridge CSD, Wheeler Crest CSD, Big Pine CSD, Sierra Highlands CSD, Keeler CSD

FINANCING:

N/A

APPROVALS	
COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) Approved: _____ Date: _____
AUDITOR/CONTROLLER N/A	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.) Approved: _____ Date: _____
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.) Approved: _____ Date: _____

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)



Date: 5-23-19

OWENS VALLEY GROUNDWATER AUTHORITY

Big Pine CSD — City of Bishop — County of Inyo — County of Mono — Eastern Sierra CSD — Indian Creek-Westridge CSD — Keeler CSD —
Sierra Highlands CSD — Starlite CSD — Tri Valley Groundwater Management District — Wheeler Crest CSD

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August 15, 2018

Via U.S. Mail and Email

Trevor Joseph, Supervising Engineering Geologist
Sustainable Groundwater Management Section
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Timothy Ross, Senior Engineering Geologist
Groundwater Section
California Department of Water Resources
770 Fairmont Ave, Suite 102
Glendale, CA 91203

RE: PUBLIC COMMENT – 2018 Sustainable Groundwater Management Act Basin Prioritization
Process and Results

Dear Mr. Joseph and Dr. Ross:

The Owens Valley Groundwater Authority (Authority) appreciates the opportunity to comment on the Department of Water Resources' (DWR) Draft 2018 Sustainable Groundwater Management Act Basin Prioritization (Draft Prioritization). The Authority is a joint powers authority consisting of eleven local public agencies¹ with land and groundwater regulatory authority in the Owens Valley Groundwater Basin (Basin). The Authority is the exclusive groundwater sustainability agency (GSA) for the Basin for purposes of the Sustainable Groundwater Management Act (SGMA), and therefore has great interest in DWR's process of categorizing groundwater basins. The Draft Prioritization resulted in the Basin, including both the Owens Valley Groundwater Subbasin and the Fish Slough Subbasin, being re-categorized from a medium- to a high-priority. The Authority is concerned that the Draft Prioritization misinterprets certain SGMA provisions governing the treatment of adjudicated areas within basins and evidences a fundamental misunderstanding of the unique characteristics, water use, and management activities occurring in the Basin. Accordingly, the Authority respectfully provides the following comments on the Draft Prioritization and requests that the Basin be re-categorized in a manner consistent with the comments provided through this letter.

¹ Specifically, the Authority consists of the following local governments and local public agencies: City of Bishop, County of Inyo, County of Mono, Big Pine Community Services District, Eastern Sierra Community Services District, Indian Creek-Westridge Community Services District, Keeler Community Services District, Sierra Highlands Community Services District, Starlite Community Services District, Tri-Valley Groundwater Management District, and Wheeler Crest Community Services District.

Mr. Joseph and Dr. Ross

RE: Public Comment - 2018 Basin Prioritization Process and Results

August 15, 2018

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1. Consideration of City of Los Angeles and LADWP Out-of-Basin Transfers from Exempt Adjudicated Areas is Not Supported by SGMA or the Draft Prioritization

The largest private landowner and water user in the Basin is the City of Los Angeles (City), which through its Department of Water and Power (LADWP), diverts surface water and extracts groundwater for export from the Basin to the City and its residents for municipal and domestic use. SGMA provides that “[a]ny groundwater basin or portion of a groundwater basin in Inyo County managed pursuant to the terms of the stipulated judgment in *City of Los Angeles v. Board of Supervisors of the County of Inyo, et al.* (Inyo County Case No. 12908)² shall be treated as an adjudicated area pursuant to this section.” (Wat. Code, § 10720.8(c)). This provision effectively exempts the City and LADWP’s water management and use activities in the Basin from SGMA’s regulatory authorities. In recognition of this exemption, the Draft Prioritization provides: “DWR determined that SGMA prioritization should exclude those portions of the basin that were adjudicated,” and continues to explain: “DWR evaluated the non-adjudicated portion of the basin to determine the extent that these [adjudicated] areas have the potential to affect groundwater management in the entire basin...” (Draft Prioritization, at p. 4.) However, despite SGMA’s exemption for adjudicated areas and DWR’s determination that prioritization should not consider activities in adjudicated areas, the Draft Prioritization re-categorizes the Basin to high-priority based exclusively on LADWP out-of-basin transfers from properties subject to the Long-Term Water Agreement. In short, the Draft Prioritization applies an arbitrary process not supported by SGMA. Based on the plain language of SGMA and the Draft Prioritization, DWR should not have considered LADWP out-of-basin transfers when categorizing the Basin. Accordingly, the Authority requests that the Draft Prioritization process be revised so that out-of-basin transfers are only taken into consideration if the transfer is not conducted pursuant to an adjudication. In the Basin, all out-of-basin groundwater transfers are subject to the Inyo/Los Angeles Water Agreement, which under SGMA, is considered an adjudication; therefore, the Authority requests that the Draft Prioritization not consider LADWP’s transfers when categorizing the Basin. .

2. Re-Categorizing the Basin as a High-Priority Solely Because of the City of Los Angeles and LADWP’s Out-of-Basin Transfers is Inequitable

As explained above, SGMA exempts from its regulatory purview and requirements certain adjudicated areas, including portions of the Basin managed pursuant to the Long-Term Water Agreement. (See Wat. Code, § 10720.8(c).) Were it not for the assignment of the maximum 42 points from sub-component 8.d, based on DWR scoring the Basin would be a low-priority basin.

Against this backdrop, assigning a high priority to the Basin creates inequitable results. In the first instance, the Draft Prioritization burdens the low-population, low-resource, low-tax base, low-water use, severely disadvantaged and disadvantaged communities of the Basin with SGMA compliance because of the activities of a wealthy, distant, out-of-basin municipality over which SGMA provides them no control. Also, the Draft Prioritization creates a regulatory scheme that makes the Authority, its local agency members, and their constituents responsible for conserving groundwater for the City’s benefit without requiring LADWP to contribute to or participate in any way to the efforts required to comply with SGMA’s sustainability mandates. These results are simply unacceptable to the Authority and its member agencies. Therefore, the Authority requests that the Draft Prioritization be revised in a way that categorizes the Basin to avoid such inequitable results.

² Hereinafter, the stipulated judgment in *City of Los Angeles v. Board of Supervisors of the County of Inyo, et al.* (Inyo County Case No. 12908) is referred to as the “Long-Term Water Agreement.”

Mr. Joseph and Dr. Ross

RE: Public Comment - 2018 Basin Prioritization Process and Results

August 15, 2018

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3. The Draft Prioritization Fails to Consider All Criteria Required by Water Code Section 10933(b) When Re-Categorizing the Basin as a High-Priority

SGMA provides that basin categorization shall be “[p]ursuant to [Water Code] Section³ 10933.” (Wat. Code, § 10722.4(a).) Section 10933(b) provides: “In prioritizing the basins and subbasins, [DWR] shall, to the extent data are available, consider all of the following:

1. The population overlying the basin or subbasin.
2. The rate of current and projected growth of the population overlying the basin or subbasin.
3. The number of public supply wells that draw from the basin or subbasin.
4. The total number of wells that draw from the basin or subbasin.
5. The irrigated acreage overlying the basin or subbasin.
6. The degree to which persons overlying the basin or subbasin rely on groundwater as their primary source of water.
7. Any documented impacts on the groundwater within the basin or subbasin, including overdraft, subsidence, saline intrusion, and other water quality degradation.
8. Any other information determined to be relevant by the department, including adverse impacts on local habitat and local streamflows.”

(Wat. Code, § 10933(b).) The plain language of this provision requires DWR to consider “all of the” criteria listed in Section 10933(b). However, the Draft Prioritization re-categorizes the Basin to high-priority based on a single factor, specifically the out-of-basin transfers by LADWP. To be sure, the Draft Prioritization scores the Basin according to each of these criteria. Using these criteria, the basin would score less than 13 points and would be rated as low priority. But that exercise is nothing more than lip service when the Draft Prioritization creates a prioritization scheme that automatically results in the Basin being categorized as a high-priority based solely on LADWP’s out-of-basin transfers. This approach violates Section 10933(b), which requires DWR to consider “all of the” above-listed factors. (*Ibid.*) Moreover, this automatic categorization of the Basin is based on a factor not expressly listed in Section 10933(b) but instead under the catch-all provision of Section 10933(b)(8). The Authority does not dispute the relevancy of considering groundwater transfers and exports for purposes of categorizing basins, but the fact remains that the plain language of Section 10933(b) requires DWR to consider all of the Section 10933(b) criteria.

Therefore, the Authority requests that the Draft Prioritization be revised so that the Basin is categorized based on consideration of all Section 10933(b) criteria and not a single, unlisted factor.

4. Treating Groundwater Transfers as a Detrimental Factor During the Categorization Process is Inconsistent with SGMA and the Draft Prioritization

Automatic categorization of basins based solely on out-of-basin transfers is internally inconsistent with SGMA and the Draft Prioritization. The Draft Prioritization recognizes that “The purpose of this factor [groundwater related transfer] is not to discourage water transfers involving groundwater, which are recognized as “one of the water management tools to enhance flexibility in the allocation and use in

³ Hereinafter, all section references are to the Water Code unless otherwise provided.

Mr. Joseph and Dr. Ross

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California.” “But transfers undertaken without an adequate understanding of the changes in groundwater levels, water budget, groundwater-surface water interactions, and land subsidence, and other features considered in a GSP, would leave the basin from which water is transferred and potentially adjacent basins vulnerable to adverse impacts” (Draft Prioritization, at p. 4.). As demonstrated by the comprehensive information submitted to DWR relating to the Basin by Inyo County and the OVGA over the multi-year SGMA process, the out-of-basin water transfer occurring from the adjudicated area is well quantified and understood and not in violation of SGMA’s strictures.

In other words, groundwater transfers are not intrinsically bad. However, the Draft Prioritization only treats groundwater related transfers as negatively affecting basins and their sustainability without any recognition of their benefit – so much so that the mere existence of a transfer automatically results in a basin being categorized as high-priority without any consideration of the other Section 10933(b) factors or whether those transfers are subject to an adjudication exempt from SGMA. If groundwater related transfers are considered, then the prioritization process should not result in categorization without also considering all Section 10933(b) factors and the water management benefits of transfers, including whether: (i) the transfer is subject to SGMA; (ii) whether the transfer is adversely affecting the basin or causing an undesirable result; and (iii) whether the transfer is increasing the likelihood or magnitude of any other Section 10933(b) factor. In the case of the Basin, the groundwater related transfers that resulted in its automatically being categorized a high-priority are not subject to SGMA because the City and LADWP’s out-of-basin transfers are exempt from SGMA. Further, the Draft Prioritization does not show that the transfers will result in – or have been the cause of – any adverse effect to the Basin. Accordingly, the Authority requests that the Basin be re-categorized as a low-priority basin unless and until DWR demonstrates that the groundwater related transfers from the Basin are, in fact, having a detrimental effect.

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Mr. Joseph and Dr. Ross

RE: Public Comment - 2018 Basin Prioritization Process and Results

August 15, 2018

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Thank you for the opportunity to comment on the Draft Prioritization. If you have any questions or comments regarding the Authority's comment letter, please contact the Authority's Executive Director, Bob Harrington, at (760) 878-0001 or bharrington@inyocounty.us.

Sincerely,



Fred Stump, Chair
Owens Valley Groundwater Authority

cc: Board of Directors, Owens Valley Groundwater Authority (email only)
Anita Regmi, Department of Water Resources (email only)
Erik Ekdahl, State Water Resources Control Board (email only)

OWENS VALLEY GROUNDWATER AUTHORITY

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April 23, 2019

MEMORANDUM

TO: OVGA Board Members

FROM: Aaron Steinwand, OVGA Executive Manager
Laura Piper, OVGA Board Secretary



Subject: April 18, 2019 OVGA Meeting Item#13 – Determination of Board Seats for
Associate and Interested Parties

The above item was agendized to provide direction to staff on possible options for additional seats on the OVGA Board. Several Board members requested during the meeting that the results of polling the members be provided once tallied. Staff has compiled the results and present the number of members supporting each option as well as the weighted result. Keeler CSD was absent (2 weighted votes). This agenda item was not an action of the Board, but the results will be used to prepare staff recommendations for next OVGA meeting.

Native American Tribes: options 3, 4 were not acceptable to Lone Pine Tribe

- 1A 5 members 19.7 – offer one seat to Lone Pine Tribe understanding they will be subject to the GSP
- 1B 4 members 18.3 – offer one seat to Lone Pine Tribe with conditions to be contained in an additional agreement
- 2 0 members 0.0 – Offer one seat to Lone Pine Tribe as an Interested Party

Other Potential Associates – Mutual Water Companies

- 1 1 members 6.24 – offer both seats to companies
- 2 6 members 21.70 – offer a seat filled by one representative for both companies
- 3 0 members 0.0 – offer only one company a seat
- 4 1 members 6.24 – invite to sit on a future advisory committee
- 5 1 members 3.82 – determine participation in stakeholder process is sufficient

Interested Parties – State Agency/Special District

- 1 1 members 3.82 – offer both agencies seats
- 2 4 members 14.06 – offer only one agency a seat
- 3 3 members 16.30 – both agencies invited to sit on a future advisory committee
- 4 1 members 3.82 – determine participation in stakeholder process is sufficient

Interested Parties: Environmental Interests (Sierra Club withdrew, options 1 and 2 no longer applicable)

- 3 5 members 17.88 – offer one seat for OVC as an Interested Party
- 4 3 members 16.30 – invite to sit on a future advisory committee
- 5 1 members 3.82 – determine participation in stakeholder process is sufficient

Interested Parties: Private Business Interests (Rio Tinto did not respond)

- 1 2 members 10.06 – offer one seat for CG Roxane as an Interested Party
- 2 5 members 22.12 – invite CG Roxane to sit on a future advisory committee
- 3 2 members 5.82 – determine participation in stakeholder process is sufficient

cc: OVGA staff
Potential Associates and Interested Parties



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER
 21

- Consent
 Departmental
 Correspondence Action
 Public Hearing
 Scheduled Time for
 Closed Session
 Informational

FROM: Clint G. Quilter, County Administrator

FOR THE BOARD MEETING: June 11, 2019

SUBJECT: Continuation of declaration of existence of local emergency

DEPARTMENTAL RECOMMENDATION:

Request Board discuss and consider staff's recommendation regarding continuation of the local emergency known as the "Here It Comes Emergency" that was proclaimed in anticipation of run-off conditions from near-record snowpack posing extreme peril to the safety of property and persons in Inyo County.

SUMMARY DISCUSSION:

During your March 28, 2017 Board of Supervisors meeting your Board took action to approve Resolution 2017-15 proclaiming the existence of a local emergency, which has been named the Here It Comes Emergency, in anticipation of run-off conditions from near-record snowpack posing extreme peril to the safety of property and persons in Inyo County and which are likely beyond the control of the services, personnel, equipment and facilities of the County of Inyo. During your June 27, 2017 meeting, your Board took action to amend Resolution 2017-15 to recognize that the County has moved from the Preparedness stage to the Response stage, and to include new damages and impacts that have occurred in the operational area.

In light of the massive amount of runoff that is occurring due to the unprecedented snowpack, the recommendation is that the emergency be continued on a biweekly basis and that Resolution 2017-15 be updated as necessary, until further evaluation of conditions are completed and staff makes the recommendation to end the emergency.

ALTERNATIVES: N/A

OTHER AGENCY INVOLVEMENT: N/A

FINANCING: N/A

APPROVALS

COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS <i>(Must be reviewed and approved by county counsel prior to submission to the board clerk.)</i> Approved: _____ Date _____
AUDITOR/CONTROLLER: N/A	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i> Approved: _____ Date _____
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS <i>(Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)</i> Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:
 (Not to be signed until all approvals are received)

Date: 05/31/19



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER
 22

- Consent
 Departmental
 Correspondence Action
 Public Hearing
 Scheduled Time for
 Closed Session
 Informational

FROM: Clint G. Quilter, County Administrator
FOR THE BOARD MEETING: June 11, 2019
SUBJECT: Continuation of declaration of local emergency

DEPARTMENTAL RECOMMENDATION:

Request Board discuss and consider staff's recommendation regarding continuation of the local emergency known as the "Rocky Road Emergency" that was proclaimed as the result of flooding, mud, and rock landslides and deep snow drifts over portions of Inyo County caused by an atmospheric river weather phenomena that began January 3, 2017 and continued throughout February.

SUMMARY DISCUSSION:

During your February 7, 2017 Board of Supervisors meeting your Board took action to approve Resolution 2017-04 declaring a local emergency, which has been named The Rocky Road Emergency, and was the result of an atmospheric river weather phenomena that began January 3, 2017 and caused flooding, mud, and rock landslides and deep snow drifts over portions of Inyo County. Since the circumstances and conditions relating to this emergency persist, your Board directed that the continuation of the declaration be considered on a biweekly basis. On March 7, 2017, your Board amended Resolution 2017-04 to further extend the continuation of the emergency and also add language to include additional damages that occurred in the latter half of January and into February.

ALTERNATIVES: N/A

OTHER AGENCY INVOLVEMENT: N/A

FINANCING: N/A

APPROVALS

COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS (Must be reviewed and approved by county counsel prior to submission to the board clerk.) Approved: _____ Date _____
AUDITOR/CONTROLLER: N/A	ACCOUNTING/FINANCE AND RELATED ITEMS (Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.) Approved: _____ Date _____
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS (Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.) Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:
 (Not to be signed until all approvals are received)

Date: 05/31/19



AGENDA REQUEST FORM
BOARD OF SUPERVISORS
COUNTY OF INYO

For Clerk's Use Only:
AGENDA NUMBER

23

- Consent
 Departmental
 Correspondence Action
 Public Hearing
 Scheduled Time for
 Closed Session
 Informational

FROM: Clint G. Quilter, Clerk of the Board, County Administrator

BY: Darcy Ellis, Assistant Clerk of the Board

FOR THE BOARD MEETING OF: June 11, 2019

SUBJECT: Approval of Board of Supervisors meeting minutes

DEPARTMENTAL RECOMMENDATION: Request Board approve the minutes from the regular Board of Supervisors meeting of June 4, 2019.

SUMMARY DISCUSSION: The Board is required to keep minutes of its proceedings. Once the Board has approved the minutes as requested, the minutes will be made available to the public via the County's webpage, www.inyocounty.us.

ALTERNATIVES: N/A

OTHER AGENCY INVOLVEMENT: N/A

FINANCING: N/A

APPROVALS

COUNTY COUNSEL: N/A	AGREEMENTS, CONTRACTS AND ORDINANCES AND CLOSED SESSION AND RELATED ITEMS <i>(Must be reviewed and approved by county counsel prior to submission to the board clerk.)</i> Approved: _____ Date _____
AUDITOR/CONTROLLER: N/A	ACCOUNTING/FINANCE AND RELATED ITEMS <i>(Must be reviewed and approved by the auditor-controller prior to submission to the board clerk.)</i> Approved: _____ Date _____
PERSONNEL DIRECTOR: N/A	PERSONNEL AND RELATED ITEMS <i>(Must be reviewed and approved by the director of personnel services prior to submission to the board clerk.)</i> Approved: _____ Date _____

DEPARTMENT HEAD SIGNATURE:
(Not to be signed until all approvals are received)

Date: 06-05-19



"A Professional Service Agency"

Memorandum

To: Sheriff Hollowell, U/S Pritchard, Lt. Sparks, Sgt. Carter
From: Riannah, Administrative Assistant to the Sheriff
CC: Board of Supervisors, CAO, Assistant to the Board
Date: June 4, 2019
Re: February 2019 overtime

Following, please find the amount of overtime expended and overtime balances for the month of February 2019.

Budget #	Budget	Expended
022700	Sheriff General	\$ 4619.41
022701	Kitchen Services	\$ 1649.34
022710	Sheriff Safety	\$ 13631.02
022900	Jail General	\$ 10198.80
022910	Jail Safety	\$ 5315.43
	Grand Total	\$ 35414.00

Account Director Reports are attached. If you have any questions, please do not hesitate to contact me.

Thank you.



"A Professional Service Agency"

Memorandum

To: Sheriff Hollowell, U/S Pritchard, Lt. Sparks, Sgt. Carter
From: Riannah, Administrative Assistant to the Sheriff
CC: Board of Supervisors, CAO, Assistant to the Board
Date: June 4, 2019
Re: March 2019 overtime

Following, please find the amount of overtime expended and overtime balances for the month of March 2019.

Budget #	Budget	Expended
022700	Sheriff General	\$ 6511.35
022701	Kitchen Services	\$ 1483.66
022710	Sheriff Safety	\$ 39716.95
022900	Jail General	\$ 23800.41
022910	Jail Safety	\$ 16626.58
	Grand Total	\$ 88138.95

Account Director Reports are attached. If you have any questions, please do not hesitate to contact me.

Thank you.



"A Professional Service Agency"

Memorandum

To: Sheriff Hollowell, U/S Pritchard, Lt. Sparks, Sgt. Carter
From: Riannah, Administrative Assistant to the Sheriff
CC: Board of Supervisors, CAO, Assistant to the Board
Date: June 4, 2019
Re: April 2019 overtime

Following, please find the amount of overtime expended and overtime balances for the month of April 2019.

Budget #	Budget	Expended
022700	Sheriff General	\$ 15635.38
022701	Kitchen Services	\$ 1806.85
022710	Sheriff Safety	\$ 23652.26
022900	Jail General	\$ 12016.04
022910	Jail Safety	\$ 8255.10
	Grand Total	\$ 61365.63

Account Director Reports are attached. If you have any questions, please do not hesitate to contact me.

Thank you.

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE(S)
ABC 211 (6/99)

TO: Department of Alcoholic Beverage Control
4800 STOCKDALE HWY
STE 213
BAKERSFIELD, CA 93309
(661) 395-2731

File Number: 606542
Receipt Number: 2575443
Geographical Code: 1400
Copies Mailed Date: May 28, 2019
Issued Date:

DISTRICT SERVING LOCATION: **BAKERSFIELD**
First Owner: **BIG PINE PETROLEUM, INC**
Name of Business: **BIG PINE SHELL STATION**
Location of Business: **109 S MAIN ST
BIG PINE, CA 93513**
County: **INYO**
Is Premise inside city limits? **No**
Mailing Address: **132 RASSANI DRIVE
DANVILLE, CA 94506**
(If different from premises address)
Type of license(s): **20**

RECEIVED X
2019 MAY 30 PM 1:26
INYO COUNTY
ADMINISTRATOR
CLERK REGISTRATION BOARD
Census Tract **0004.00**

Transferor's license/name: **376005 / NIKOLAUS, DEBORAH LYNN** Dropping Partner: Yes No

License Type	Transaction Type	Fee Type	Master	Dup	Date	Fee
20 - Off-Sale Beer And Win	PERSON-TO-PERSON TRANSFER	NA	Y	0	05/28/19	\$50.00
20 - Off-Sale Beer And Win	ANNUAL FEE	NA	Y	0	05/28/19	\$296.00
NA	STATE FINGERPRINTS	NA	N	4	05/28/19	\$156.00
NA	FEDERAL FINGERPRINTS	NA	N	4	05/28/19	\$96.00
Total						\$598.00

Have you ever been convicted of a felony? **No**
Have you ever violated any provisions of the Alcoholic Beverage Control Act, or regulations of the Department pertaining to the Act? **No**
Explain any "Yes" answer to the above questions on an attachment which shall be deemed part of this application.

Applicant agrees (a) that any manager employed in an on-sale licensed premises will have all the qualifications of a licensee, and (b) that he will not violate or cause or permit to be violated any of the provisions of the Alcoholic Beverage Control Act.

STATE OF CALIFORNIA County of INYO Date: May 28, 2019
Under penalty of perjury, each person whose signature appears below, certifies and says: (1) He is an applicant, or one of the applicants, or an executive officer of the applicant corporation, named in the foregoing application, duly authorized to make this application on its behalf; (2) that he has read the foregoing and knows the contents thereof and that each of the above statements therein made are true; (3) that no person other than the applicant or applicants has any direct or indirect interest in the applicant or applicant's business to be conducted under the license(s) for which this application is made; (4) that the transfer application or proposed transfer is not made to satisfy the payment of a loan or to fulfill an agreement entered into more than ninety (90) days preceding the day on which the transfer application is filed with the Department or to gain or establish a preference to or for any creditor or transferor or to defraud or injure any creditor of transferor; (5) that the transfer application may be withdrawn by either the applicant or the licensee with no resulting liability to the Department.
Effective July 1, 2012, Revenue and Taxation Code Section 7057, authorizes the State Board of Equalization and the Franchise Tax Board to share taxpayer information with Department of Alcoholic Beverage Control. The Department may suspend, revoke, and refuse to issue a license if the licensee's name appears in the 500 largest tax delinquencies list. (Business and Professions Code Section 494.5.)

Applicant Name(s)

Applicant Signature(s)
See 211 Signature Page

BIG PINE PETROLEUM, INC