



TRUCKEE TAHOE AIRPORT DISTRICT

10356 Truckee Airport Rd.

Truckee, CA 96161

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(530) 587-2984 fax

WWW.TRUCKEETAHOEAIRPORT.COM

DIRECTORS

MARY HETHERINGTON

JAMES W. MORRISON

TERESA O'DETTE

RICK STEPHENS

LISA WALLACE

May 7, 2019

Dear Sir/Madam:

The Truckee Tahoe Airport District is planning to complete by purchase order airfield marking on Runway 2-20 and associated cross taxiways at the Truckee Tahoe Airport. This marking shall meet the requirements set forth in the attached specification.

The District would appreciate receiving a quote from your office for furnishing and installing this airfield marking. Prices quoted shall include the total cost of furnishing all materials, including paint and glass beads, and for all labor equipment, tools, and incidentals necessary to complete the work, including paying applicable California state sales taxes. A Proposal Form is attached for your use. This project is a unit price contract, the Truckee Tahoe Airport District reserves the right to increase/decrease quantities based on their available budget. It is anticipated to perform the airfield marking work at the end of May or beginning of June.

Proposals are due either by e-mail or hard copy to dave.hoffman@truckeetahoeairport.com or Truckee Tahoe Airport, Attention: Dave Hoffman, Director of Operations and Maintenance, Truckee Tahoe Airport District, 10356 Truckee Airport Road, Truckee, California 96161, before 1:00 p.m. Friday May 17, 2019.

Very truly yours,

TRUCKEE TAHOE AIRPORT DISTRICT

Kevin Smith, General Director

Attachments

PROPOSAL FORM

TRUCKEE TAHOE AIRPORT AIRFIELD MARKING

**TRUCKEE TAHOE AIRPORT DISTRICT
10356 TRUCKEE AIRPORT ROAD
TRUCKEE, CALIFORNIA 96161**

Proposal Due: **Friday May 17, 2019 at 1:00 p.m.**
Submit proposals to: dave.hoffman@truckeetahoeairport.com or
a hard copy Attn: Dave Hoffman (address above).

Item No.	Item	Unit of Meas.	Estimated Quantity	Unit Price	Item Total
1	Mobilization	L.S.	L.S.	L.S.	\$
2	Runway and Taxiway Marking – 1 Coat	Sq. Ft.	40,000	\$	\$
3	Reflective Media	Pound	2,500	\$	\$
Total				\$	

Note: The estimate of quantities of work to be done under the specifications is approximate and is given only as a basis of calculation upon which the award of the contract will be made. The contractor will be paid for the actual work done including materials and equipment actually installed at the contract unit price. The Owner reserves the right to increase or decrease the amount of any class of work or material deemed necessary without restrictions. Bidders must submit balanced bids in order that they may not be affected adversely by an increase or decrease of quantities.

BY: _____
(Signature of Authorized Official)

NAME: _____

TITLE: _____

DATE: ____ day of _____, 2019

STATE IN WHICH INCORPORATED: _____

CALIFORNIA CONTRACTOR'S LICENSE NO. _____

MEMBERS OF FIRM IF PARTNERSHIP:

ADDRESS:

SPECIFICATION FOR AIRFIELD MARKING

**TRUCKEE TAHOE AIRPORT DISTRICT
10356 TRUCKEE AIRPORT ROAD
TRUCKEE, CALIFORNIA 96161**

1.0 – DESCRIPTION. This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of Runway 2-20 and blast pads and cross taxiways in accordance with these specifications and at locations shown on the plans or as directed by the Engineer. The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

2.0 – MATERIALS.

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. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers 55 gallons or smaller for inspection by the Engineer. Material shall not be loaded into the equipment until inspected by the Engineer.

2.2 Marking Materials. Paint shall be Waterborne. Paint shall be furnished in the following colors in accordance with Federal Standard No. 595:

- White – 37925
- Yellow - 33538 or 33655
- Black - 37038

Paint shall meet the requirements of Federal Specification TT-P-1952E and be furnished in Type I or II - Standard drying time for no-pick-up - when tested in accordance with ASTM D 711. 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.

2.3 Reflective Media. Glass beads shall meet requirements of Federal Specification TT-B-1325D, Type III, High Index of Refraction. 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.

3.0 CONSTRUCTION METHODS.

3.1 Weather Limitations. The painting shall be performed only when surfaces are dry, atmospheric temperature is above 45 degrees F and rising and the pavement surface temperature is at least 5 degrees F above the dew point, and the weather is not foggy or windy. Markings shall not be applied when the pavement temperature is greater than 120°F. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns.

3.2 Equipment. The equipment shall be approved by the Engineer and shall include all apparatus necessary to properly clean existing surfaces, 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 suitable for application of traffic paint. Air compressor shall have a minimum capacity of 50 cubic feet per minute. Machine shall be equipped with a positive "on/off" control device. It shall produce an even and uniform film thickness at required coverage and shall apply markings of uniform cross sections and clear-cut edges without running or spattering and without overspray.

3.3 Preparation of Surface. Immediately before application of paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign materials that would reduce bond between paint and pavement. The areas to be painted shall be cleaned by waterblasting, shotblasting, grinding, or sandblasting or by other methods as required to remove all contaminants without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer. 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. The equipment used for sweeping shall incorporate a vacuum device capable of picking up loose aggregate.

Paint shall not be applied to Portland cement concrete pavement until the areas to be painted are clean of curing material. Sandblasting or high-pressure water shall be used to remove curing materials.

At least 24 hours prior to remarking existing markings, the existing markings must be removed such that 90% of the existing markings are removed with low (3,500-10,000 psi) waterblaster. After waterblasting, the surface shall be cleaned of all residue or debris either with sweeping or blowing with compressed air or both.

Prior to the initial application of markings, the Contractor shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the type of marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturer's surface preparation and application requirements must be submitted and approved by the Engineer prior to the initial application of markings.

3.4 Layout of Markings. The proposed markings shall be laid out in advance of paint application and shall be approved by the Engineer prior to painting. The locations of markings to receive glass beads shall be as shown on the plans.

Any existing markings that extend outside specified dimensions plus allowable tolerances shall be obliterated with black paint prior to placing the new markings. Any new markings in areas of existing pavements that have not been previously marked shall be marked with 1 coat of paint plus beads.

3.5 Application. The paint shall be applied at locations and to dimensions and spacing shown on the plans. The paint shall not be applied until layout and condition of the surface have been approved by the Engineer.

The edges of the markings shall not vary from a straight line more than ½ inch in 50 feet and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 inches or less	± ½ inch
greater than 36 inches to 6 feet	± 1 inch
greater than 6 feet to 60 feet	± 2 inches
greater than 60 feet	± 3 inches

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 1. The addition of thinner will not be permitted. A period of 10 days shall elapse between placement of a bituminous surface course or seal coat and application of the paint.

TABLE 1. APPLICATION RATES FOR PAINT AND GLASS BEADS		
Paint Type	Paint Square feet per gallon, ft ² /gal (Square meters per liter, m ² /l)	Glass Beads, Type III, Pounds per gallon of paint--lb./gal. (Kilograms per liter of paint--kg/l)
Waterborne, Type I or II	115 ft ² /gal. max. (2.8 m ² /l)	10 lb./gal. min. (1.2 kg/l)

In some areas as shown on the plans, the paint shall be applied in one coat where new markings are applied over existing markings. Prior to restriping, any loose paint on existing marking shall be removed. The glass beads shall be distributed to marked areas immediately after application of the coat of paint.

All paint in areas of new marking shall be applied in two coats at separate times. The first coat of paint, the “fog” coat, shall be applied at 50 percent of the specified coverage. The final coat may be

placed after the fog coat has been placed and cured. No beads shall be applied to the "fog" coat. Prior to restriping, any loose paint on existing marking shall be removed.

On all major pavement markings as shown on the plans a black band shall be applied 6 inches beyond the outside edge of the markings. No beads will be placed in the black paint. After the black paint has dried, then the specified markings shall be painted as shown on the plans.

The glass beads shall be distributed to marked areas at the locations shown on the plans to receive glass beads immediately after application of the final coat of 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(s) shown in Table No. 1. Glass beads shall not be applied to black paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Glass beads shall be applied uniformly on all painted surfaces.

All lines shall be clean and sharp. Ragged edges of segments, fogginess along sides, or objectionable drizzling along unpainted portions will not be permitted. Any smears or other defects shall be painted out with black paint. The finished marking shall have an opaque, well-painted appearance, with no black or other discoloration showing through.

The Contractor shall furnish certified test reports for materials shipped to the project. The reports shall not be interpreted as a basis for final acceptance. The Contractor shall notify the Engineer upon arrival of paint to the job site.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

3.6 Test Strip. Prior to the full application of airfield markings, the Contractor shall produce a test strip in the presence of the Engineer. The test strip shall include the application of a minimum of 5 gallons of paint and application of 35 lbs of Type I/50 lbs of Type III glass beads. The test strip shall be used to establish thickness/darkness standard for all markings. The test strip shall cover no more than the maximum area prescribed in Table 1 (e.g., for 5 gallons of waterborne paint shall cover no more than 575 square feet).

3.7 Protection and Clean Up. 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 or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.

4.0 METHOD OF MEASUREMENT. The quantity of runway and taxiway markings to be paid for shall be the number of square feet of new marking performed in accordance with the specifications and accepted by the Engineer.

5.0 BASIS OF PAYMENT. Payment will be made at the contract unit price per square foot for runway and taxiway marking and at the contract unit price per pound for reflective media. This price

shall be full compensation for furnishing all materials including paint and glass beads and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Runway and Taxiway Marking – 1 Coat	-	per Square Foot
Reflective Media	-	per Pound

END OF SPECIFICATION

TRUCKEE TAHOE AIRPORT DISTRICT

CONSTRUCTION PLANS FOR:

TRUCKEE TAHOE AIRPORT
TRUCKEE, CALIFORNIA

2019 AIRFIELD REMARKING

MAY 2019

-
-
- 1 TITLE SHEET AND INDEX
 - 2 CONSTRUCTION SAFETY AND PHASING PLAN
 - 3 CONSTRUCTION SAFETY AND PHASING PLAN STAGE 1
 - 4 CONSTRUCTION SAFETY AND PHASING PLAN STAGE 2
 - 5 MARKING PLAN - RUNWAY 2-20 STA. 8+00 TO 34+00
 - 6 MARKING PLAN - RUNWAY 2-20 STA.34+00 TO 58+50
 - 7 MARKING DETAILS



TRUCKEE TAHOE AIRPORT DISTRICT:

APPROVED: _____ DATE: _____
KEVIN SMITH, GENERAL MANAGER

APPROVED: _____ DATE: _____

DESIGNED BY :



Reinard W. Brandley
CONSULTING AIRPORT ENGINEER


DESIGN ENGINEER C.E. 66558

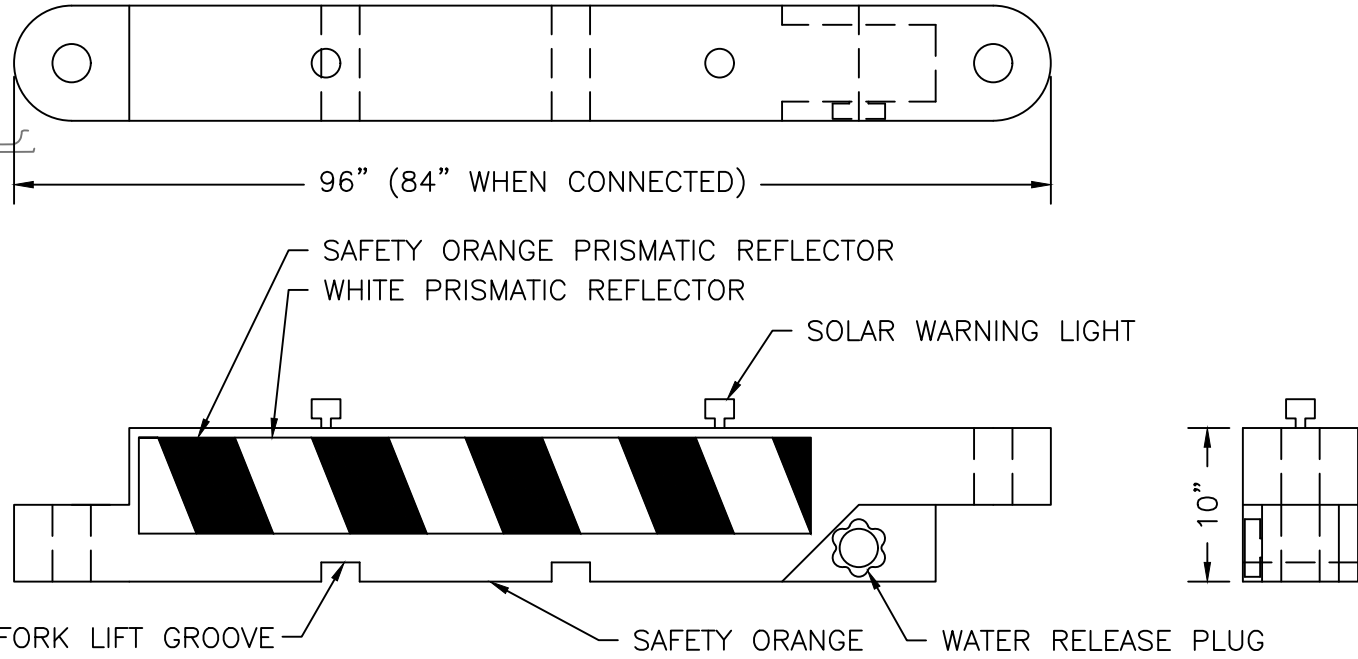
5/3/19

DATE

STAGE	CONTRACTOR'S WORK	CONTRACTOR'S WORK AREA	FACILITY CLOSURE
1	REMARK RUNWAY 2-20	RUNWAY 2-20, (NORTH OF RUNWAY 11-29 AND SOUTH OF TAXIWAY A)	RUNWAY 2-20, AND TAXIWAY G (NORTH OF RUNWAY 11-29 AND SOUTH OF TAXIWAY Q)
2	REMARK RUNWAY 2-20	RUNWAY 2-20, (SOUTH OF RUNWAY 11-29 AND NORTH OF TAXIWAY Q)	RUNWAY 2-20, TAXIWAY A (EAST OF TAXIWAY G), AND TAXIWAY G (NORTH OF RUNWAY 11-29 AND SOUTH OF TAXIWAY Q)

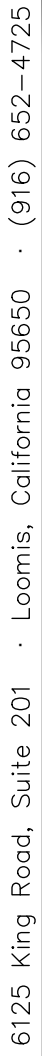
1. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SECURITY, SAFETY AND CLEANLINESS OF THE CONTRACTOR'S STORAGE AND WORK AREA AT ALL TIMES.
2. CONTRACTOR SHALL MAINTAIN HAUL ROAD AND PAVED SURFACES CLEAR OF DEBRIS AT ALL TIMES. RUNWAY AND TAXIWAYS SHALL BE MAINTAINED BROOM CLEAN.
3. THE OWNER WILL PROVIDE A QUALIFIED FLAGMAN TO MONITOR THE AIRPORT GROUND FREQUENCY 118.3 MHZ AND ESCORT THE CONTRACTOR TO THE ACTIVE WORKING AREA.
4. THE OWNER WILL ERECT & MAINTAIN LIGHTED BARRICADES FURNISHED BY THE AIRPORT AT THE BOUNDARY OF THE WORK AREA TO KEEP AIRCRAFT FROM ENTERING THE CONTRACTOR'S WORK AREAS AND THE CONTRACTOR'S PERSONNEL & EQUIPMENT FROM OCCUPYING ANY OF THE AREAS OPEN FOR AIRCRAFT OPERATIONS. CONTRACTOR SHALL PROVIDE BARRICADE PLAN TWO WEEKS BEFORE START OF EACH STAGE OF CONSTRUCTION.
5. CONTRACTOR SHALL COVER SIGNS TO CLOSED FACILITIES AS INDICATED ON THE CLOSED FACILITY SIGNAGE TABLE ON STAGING SHEETS 3 THROUGH 4. SIGNS PANELS SHALL BE COVERED SUCH THAT THE PANEL IS NOT VISIBLE DURING DAY OR NIGHT OPERATIONS. COVERS SHALL BE SECURED TO SIGN TO RESIST PROP BLAST AND WEATHER CONDITIONS. ALL SIGN COVERS SHALL BE APPROVED BY RESIDENT ENGINEER.
6. CONTRACTOR SHALL VERIFY LOCATION AND PROTECT EXISTING UTILITIES.
7. SHOULD CONTRACTOR ENCOUNTER & DAMAGE A WATERLINE ON THE AIRPORT HE SHALL IMMEDIATELY NOTIFY THE LOCAL FIRE DEPARTMENT AND THE TRUCKEE TAHOE AIRPORT DISTRICT.
8. IN CASE OF AN AIRCRAFT EMERGENCY THE AREA AROUND THE AIRCRAFT SHALL BE EVACUATED AND NOT REENTERED BY THE CONTRACTOR WITHOUT GIVEN PERMISSION EXCEPT FOR LIFESAVING ACTIVITIES.
9. ALL GATES USED BY THE CONTRACTOR SHALL REMAIN CLOSED AT ALL TIMES EXCEPT WHEN AUTHORIZED EQUIPMENT IS ACTUALLY ENTERING THE AIRPORT OR GATE IS CONTINUOUSLY GUARDED TO KEEP UNAUTHORIZED PERSONNEL AND WILDLIFE FROM ENTERING THE AIRPORT.

1. THE OWNER WILL FURNISH, PLACE, MAINTAIN & REMOVE BARRICADES AND RUNWAY CLOSED CROSSES AS NEEDED.
2. ALL BARRICADES SHALL BE PLACED 20 FT. BACK FROM THE EDGE OF AN ACTIVE RUNWAY, TAXIWAY OR APRON.
3. THE CONTRACTOR SHALL PERFORM ALL AIRFIELD REMARKING WORK IN 2 DIFFERENT STAGES ON THE AIRPORT AS SHOWN IN CONSTRUCTION SCHEDULE. THE AREA INCLUDED IN EACH STAGE OF WORK IS INDICATED BY A CIRCLE WITH THE STAGE NUMBER INDICATED IN THE CIRCLE - EXAMPLE (2). THE BARRICADES REQUIRED FOR EACH STAGE OF WORK IS SHOWN ON EACH STAGING PLAN.
4. CONTRACTOR SHALL COMPLETE ALL WORK IN THE CURRENT STAGE PRIOR TO BEGINNING WORK ON THE NEXT STAGE.
6. CONTRACTOR SHALL PROVIDE STAGING SCHEDULE AT TWO WEEKS PRIOR TO START OF CONSTRUCTION.
7. SEE SHEETS 3 THROUGH 4 FOR STAGING PLANS.

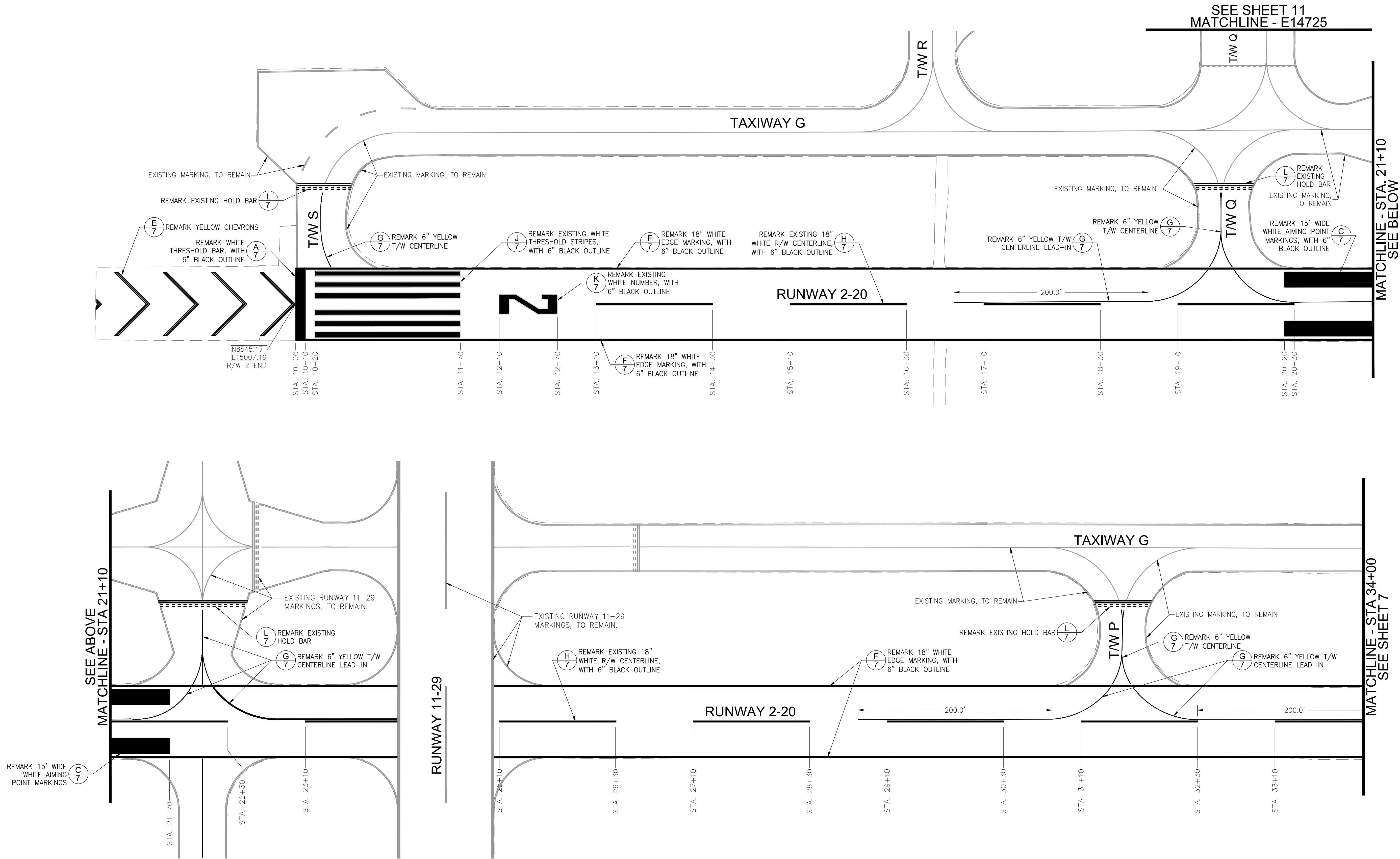


NO SCALE

1. BARRICADES WILL BE PROVIDED BY THE AIRPORT. BARRICADES WILL BE PLASTIC, WATER-FILLED TYPE WITH RED SOLAR POWERED LIGHTS. CONTRACTOR SHALL FILL BARRICADES WITH WATER, PLACE AND MAINTAIN LIGHTS AND BARRICADES THROUGHOUT THE PROJECT.
2. EACH BARRICADE SHALL HAVE 2 SOLAR-POWERED LIGHTS WITH RED LENSES EACH CONTROLLED BY PHOTOCELLS SUCH THAT THEY ARE ON CONTINUOUS AT NIGHT AND OFF BY DAY.
3. BARRICADES SHALL BE SECURED IF NECESSARY TO RESIST MOVEMENT FROM JET BLAST OR PROP BLAST.
4. AT THE COMPLETION OF CONSTRUCTION, ALL BARRICADES SHALL BE DRAINED OF WATER, LIGHTS DISMANTLED, AND RETURNED TO THE AIRPORT MAINTENANCE BUILDING.



G:\40 TRUCKEEREMARK AIRFIELD 2019\4032.4 MARKING.DWG PLOTTED BY: Damon Brandley 5/8/2019 8:12 AM

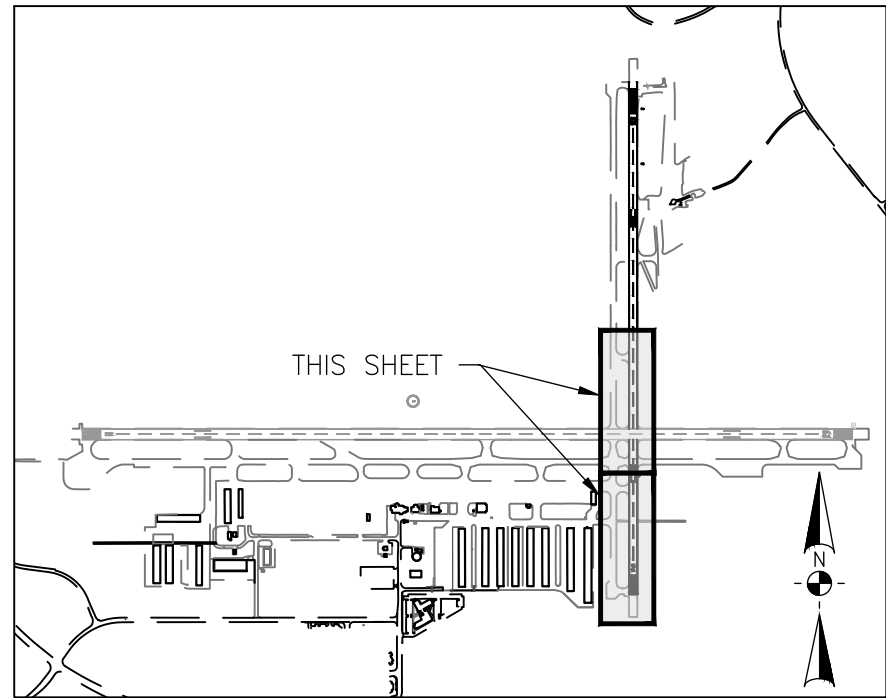
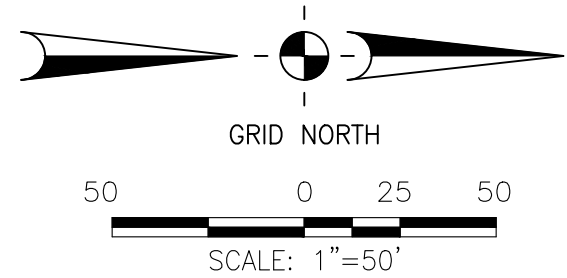


NOTES:

1. MARKING LAYOUT SHALL BE VERIFIED BY ENGINEER PRIOR TO PAINTING.
2. ALL EXISTING MARKINGS SHOWN TO BE REMARKED SHALL BE REMARKED WITH ONE COAT WITH BEADS.
3. ALL RUNWAY MARKINGS GRATER THAN 12" SHALL BE STRIATED AND MATCH EXISTING STRIATED MARKING PATTERN.
4. ALL WHITE RUNWAY REMARKING SHALL RECEIVE A SINGLE COAT OF 6" BLACK OUTLINE WITHOUT BEADS.
5. SEE SHEET 12 FOR MARKING DETAILS.

LEGEND

- EXISTING BUILDING
- AIRPORT GRID COORDINATE
- EXISTING EDGE OF PAVEMENT
- EXISTING AIRFIELD MARKING TO REMAIN
- EXISTING AIRFIELD MARKING TO BE REMARKED
- MATCH EXISTING



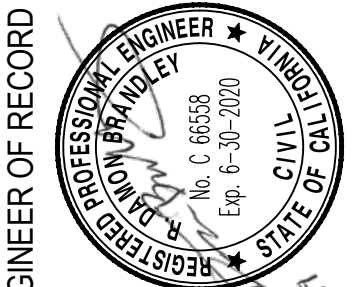
LOCATION MAP

SEE SHEET 11
MATCHLINE - E14725

MATCHLINE - STA. 21+10
SEE BELOW

SEE ABOVE
MATCHLINE - STA 21+10

MATCHLINE - STA 34+00
SEE SHEET 7



ENGINEER OF RECORD







No.	REVISIONS	BY	DATE

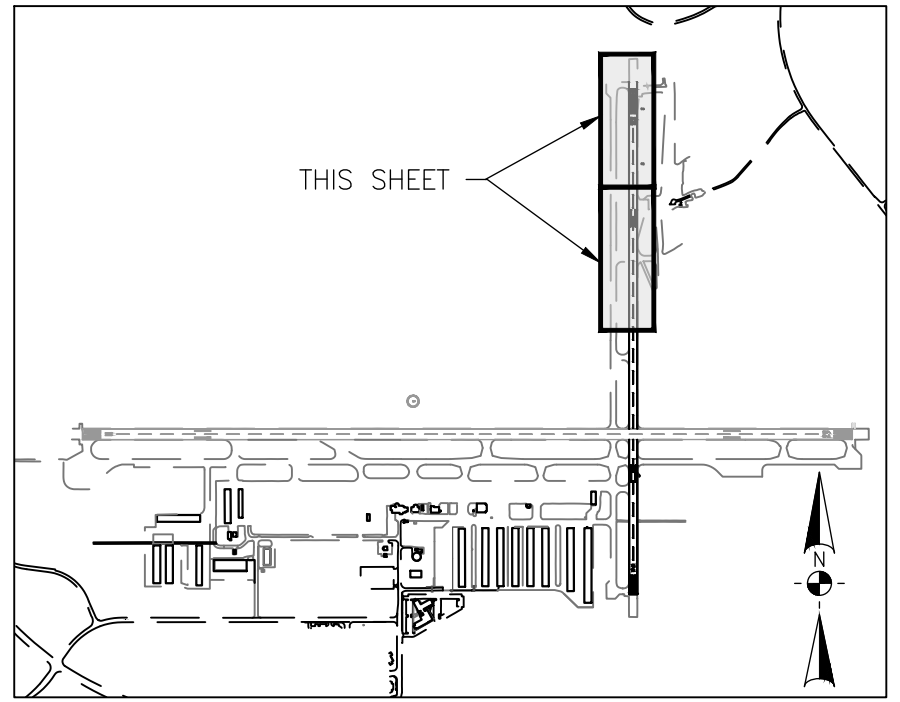
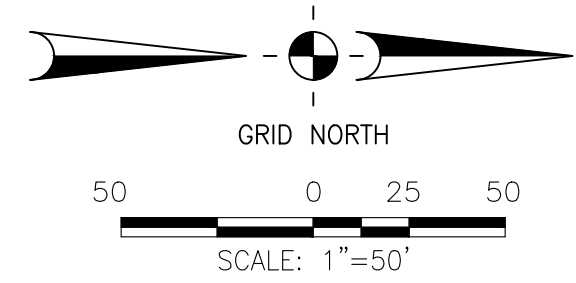
TRUCKEE	CALIFORNIA
2019 AIRFIELD REMARKING	
MARKING PLAN - RUNWAY 2-20 STA. 8+00 TO 34+00	

DATE	MAY 3, 2019
DRAWN	DMB
CHECKED	DB
PROJECT No.	40.32
FILE	4032.4.Marking
SCALE	1"=xx'
SHEET No.	5 of 7

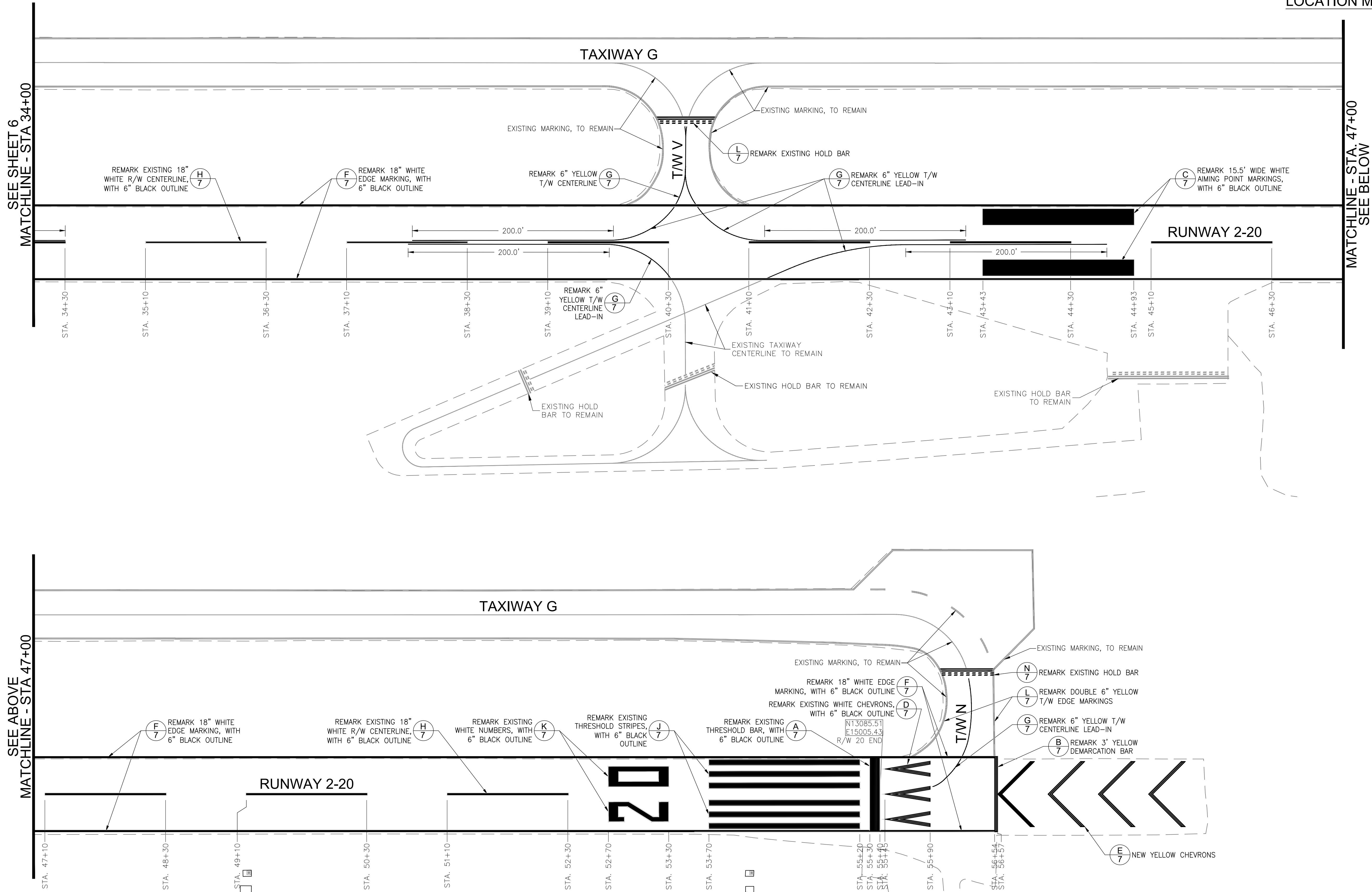
Reinard W. Brandley
CONSULTING AIRPORT ENGINEER
6125 King Road, Suite 201 Loomis, California 95650 (916) 652-4725

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 EXISTING BUILDING
 AIRPORT GRID COORDINATE
 EXISTING EDGE OF PAVEMENT
 EXISTING AIRFIELD MARKING TO REMAIN
 EXISTING AIRFIELD MARKING TO BE REMARKED
 MATCH EXISTING



LOCATION MAP



G:\40 TRUCKEE\REMARK AIRFIELD 2019\4032.4.MARKING.DWG PLOTTED BY Damon Brandley 5/8/2019 8:13 AM

TRUCKEE TAHOE AIRPORT

CALIFORNIA

2019 AIRFIELD REMARKING

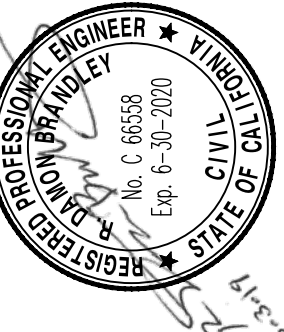
MARKING PLAN - RUNWAY 2-20 STA.34+00 TO 58+50

ENGINEER OF RECORD

BY	APR	DATE
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REVISIONS

No.



DATE	MAY 3, 2019
DRAWN	DMB
CHECKED	DB
PROJECT No.	40.32
FILE	4032.4.Marking
SCALE	1"=xx'
SHEET No.	

6 OF 7

6125 King Road Suite 201 • Loomis, California 95650 • (916) 652-4725
Reinard W. Brandley
 CONSULTING AIRPORT ENGINEER

