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School Site Evaluations

By: Jeff Brown



Sorry We're Closed

As mandated by the Governor's Executive Order S-13-09, Caltrans offices will be CLOSED the first three Fridays of every month thereafter, until June 30, 2010.

Please be patient as we work to provide you with the best customer service within the time constraints.

The California Department of Transportation (Caltrans) Division of Aeronautics (Aero) is mandated by law to evaluate certain proposed building sites within two miles of an airport runway. The most common situation involves elementary and secondary schools, where the evaluation is done pursuant to Section 17215 of the California State Education Code (EC). However, State law also requires evaluation of proposed community college (EC Section 81033) and State building (Public Utilities Code Section 21655) sites. This article concentrates on EC 17215, as most airport management and aviation interests in California will likely face a situation involving construction of a new elementary or secondary school. Although all three laws mentioned above are similar in scope, there are differences and the law specific to the type of proposed construction should be reviewed in each case.

The purpose of EC 17215 is to "promote the safety of pupils, comprehensive community planning, and greater educational usefulness of schoolsites." Accordingly, school district governing boards and charter schools are required, "before acquiring title to or leasing property for a new schoolsite," to notify the California Department of Education (CDE) if the proposed site is "within two miles, measured by air line, of that point on an airport runway or a potential runway included in an airport master plan that is nearest the site." EC 17215 further requires CDE to notify Caltrans, and Caltrans has 30 working days to provide a written report to CDE, including "recommendations concerning acquisition or lease of the site."

"School Site Evaluations" continued on page 3



Paint Donation

By: Lee Provost



In August 2009, Ms. Beth Lee, Assistant Director of Airports of Contra Costa County Airports Division contacted Colette Armao, Aeronautics' Associate Aviation Planner, and offered to donate the Buchanan Field Airport's surplus traffic-paint to a needy entity. Aware of the problems California State Parks and Recreation is having since the budget cuts, Regina Vinson, our Airport Engineer, passed the information to Gerald Vinson, Associate Landscape Architect, at State Parks Headquarters.

In September 2009, State Parks and Recreation-Marin District was then notified of the phenomenal donation and sent a truck to the Buchanan Field Airport in Concord to pickup

250 gallons of environmentally safe traffic-paint. Marin District will be repainting the fog lines on the roads of Mt. Tam State Park, Taylor State Park, and all parking lots at an additional twelve State Parks in that district. Some of the paint will be sent to the State Parks and Recreation Sacramento District to paint ADA parking stalls.

Thanks to Beth Lee and the Buchanan Field Airport for their generous donation and to our employees' quick response. California State Parks and Recreation is using the paint to finish under-funded projects that will improve park maintenance and public safety. This is a great example of State agencies helping other agencies to improve our California lifestyle and conserve resources.



Certify Grant Eligibility

By: Gwyn Reese

In spite of the Governor's suspension of Aeronautics' three grant funding programs this Fiscal Year, airport sponsor's will still need to certify their eligibility to apply for these funds on form DOA-0007. The form is available on our website at www.dot.ca.gov/aeronautics. Click on the Grants and Loans tab on the left side of the page (about half way down) and scroll down the bottom of the page for form.

At this time, we do not know grant availability for Fiscal Year 2010-2011.

If you have an AIP Matching Grant in force from Fiscal Year 2007-2008 or older, please close out your grant by sending a copy of each FAA request and then proof of that payment with a cover letter to Gwyn Reese.

School Site Evaluations

Continued from page 1

Section 17215 of the EC states that Caltrans must notify the airport owner/operator of the proposed school and to solicit their comments on the site. Caltrans has adopted a regulation, Section 3570 of the California Code of Regulations (CCR), Title 21, Division 2.5, Chapter 2.1, to clarify school site evaluation criteria. Section 3570 defines the unit of distance between the proposed site and runway as nautical miles and specifies that the evaluation should look at both existing and forecast aviation activity. This section also provides that the Caltrans site investigation shall consider: comments from the Airport Land Use Commission (ALUC) with jurisdiction over the site; consistency with adopted Airport Land Use Compatibility Plans (ALUCP) on military Air Installation Compatible Use Zone (AICUZ) studies, and other similar planning documents; and where the proposed site lies in relation to aircraft flight paths and noise patterns. A flight or ground inspection of the site relative to the airport is also typically performed by a Caltrans Aero Aviation Safety Officer.

Aero reviews comments received from airport management and ALUC's, compares the site location to safety zones contained in Section 3570 of the CCR (based on safety compatibility zones in the California Airport Land Use Planning Handbook) and the respective ALUCP, and develops a recommendation for site safety. Section 3570 states that Aero shall object to proposed sites located in a Runway Protection Zone (also known as Zone 1) or within the 65 decibel annual Community Noise Equivalent Level aircraft noise contour. Aero may object to sites within Zones 2-6 (inner approach/departure, inner turning, outer approach/departure, sideline, and traffic pattern zones), where the site would not be compatible or recommended with respect to an ALUCP or AICUZ, or if Aero determines that the proposed site may not provide an adequate level of safety or non-disruptive noise for students.

In accordance with EC 17215, the governing board or charter school may not acquire title to or lease the property until the Caltrans report is received. If the Caltrans report recommends against "acquisition or lease of the property for a schoolsite or an addition to a present schoolsite, the governing board or charter school may not acquire title to or lease the property." Additionally, if the school site evaluation does favor the acquisition, lease, or addition, EC 17215 calls for the governing board or charter school to hold a public hearing prior to acquiring or leasing the site.

Another important ramification of the Aero "School Site" evaluation is financial. If Aero recommends against acquisition or lease of the proposed site, state funds or local funds are not to be "apportioned or expended for the acquisition or lease of that site, construction of any school building on that site, or for the expansion of any existing site to include that site." However, a caveat to EC 17215 that must be considered is that it does not apply to "sites acquired prior to January 1, 1966, nor to any additions or extensions to those sites."

Keep in mind that Aero's evaluations are but one of a number of surveys, inspections, and other requirements that must be successfully met before school site acquisition or expansion occurs. However, the Aero "School Site" evaluation is an important step in attempting to ensure public safety and an appropriate coexistence of airports and nearby public facilities.



California Pines

By: Danny Uppal



California Pines Airport

The California Pines Airport is a small general aviation airport located in Modoc County at an altitude of 4398 feet above sea level in the high desert. This airport is open for public-use year round. The California Pines Airport has a single runway, 5/23, which is 4,250 ft long. The pavement inspection was conducted in 2002 and the pavement condition index (PCI) value was rated 18, which was very poor. The California Department of Transportation (Caltrans), Division of Aeronautics (Aeronautics) conducted another visual inspection on June 18, 2009, and the report shows significant damage occurred to the asphalt at the threshold of Runway 23. The Runway Safety Area (RSA), located along the northwest side of the runway, contained numerous ruts, humps and depressions. The existing runway width varied from 45 feet to 57 feet.



Before: Failed Pavement (Rwy 5)

For safety reasons, the runway was completely rehabilitated with 2.5" thick hot mixed asphalt overlay and it was widened to 60 feet. The construction commenced in October 2009. The existing asphalt pavement was pulverized,

reshaped, graded and recompact into the subbase. The 2.5" thick hot mixed asphalt was overlaid over the base.



During: Pavement Overlay Construction



After: Newly Paved and Marked Runway

The runway was paved in four 15-foot width paving lanes. Runway striping was completed on Nov. 16, 2009. The new asphalt pavement is 60 foot wide with 10 feet wide compacted shoulders on each side, and contains standard RSA's and new pavement markings. The project was completed within 30 working days.

The California Pines Community Services District accepted the project on December 7, 2009. The total cost of the project was \$413,281 and was funded primarily by a Division of Aeronautics Acquisition and Development Grant.

Mountain Valley Airport

By: Carol Glatfelter



Glider Landing



Tow Plane Pulling Glider

The Mountain Valley Airport is located in Tehachapi, California with an altitude of 4420 feet in Kern County. It is most commonly used for glider operations and training. The airport was established for its close proximity to various advantageous lift effects for soaring where the Sierra Nevada Mountains, Tehachapi Mountains, and the Mojave Desert meet.

“The Mountain Valley Airport started as a dream in 1965, when it was built as a Glider port by Fred and Goldie Harris. They hoped to build one of the first commercial soaring sites in the country – a place where anyone could enjoy flying. The airport was originally called “Holiday Haven Airport.”

Mr. Larry Barrett had a dream to own his own airport where he’d be free to create more than just a Glider flight school – but a whole resource center for everyone. In 1979, he purchased the airport and wanted to change the name without destroying the heritage of the past. Larry renamed the airport, “Fantasy Haven Airport,” a place where dreams can come true.

There quickly became a need to provide pilots and their families with a comfortable, inviting place to talk with good food to eat. The restaurant was built and named the “Raven’s Nest,” to reflect the gathering of the pilots as the birds of the skies.”

Today, the Mountain Valley Airport is full of life with 12 single engine planes, one multi-engine plane and 74 gliders! The pull-plane is constantly active on any given day; hauling up one glider after another and cautiously navigating around the hundreds of wind turbines strategically placed on the hilltops surrounding the airport.

The Skylark North Glider School performs glider flight training for civilians as well as for the US Airforce Test Pilot School (from Edwards AFB), the National Test Pilot School (from the Mojave Air and Space Port), NASA, and others.

There is also an RV park on the airport grounds within walking distance should avid glider fans want to spend a nice long weekend.

Next Generation Technology

By: Patrick Miles

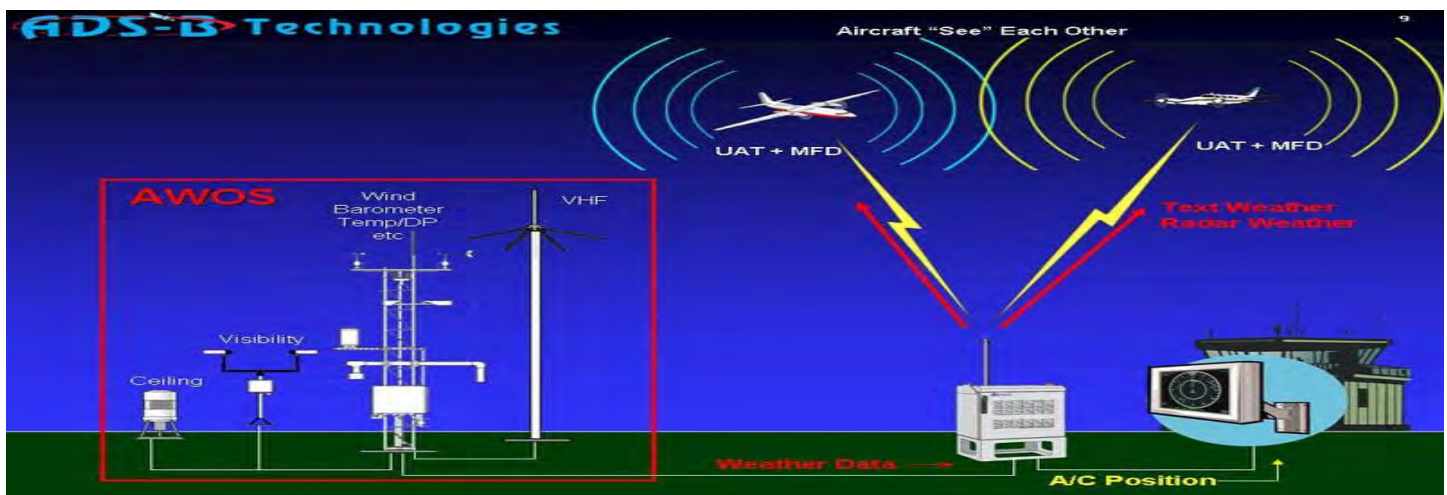
The Joint Planning and Development Office (JPDO) was created in 2003 to oversee a multibillion-dollar effort to completely modernize the nation's National Airspace System (NAS) by the year 2025. JPDO's blueprint for the Next Generation (NextGen) of aviation management systems envisions a nearly instantaneous "net-centric" exchange of aeronautical and navigational information between en route aircraft, air traffic controllers, airspace managers, and weather service providers. Providing all aviation stakeholders with instant access to accurate, real-time data allows for shared situational awareness and collaborative decision-making, which will provide the means for increasing the efficiency and capacity of the NAS.

Key components that will distribute aeronautical data include: Global Positioning System (GPS) satellites, Automatic Dependent Surveillance – Broadcast (ADS-B) transceivers, Satellite-Based and Ground-Based Augmentation Systems (SBAS/GBAS), through a data integration architecture called System-Wide Information Management (SWIM). In essence, en route aircraft will obtain highly accurate position and trajectory information via GPS and share it with other stakeholders by forwarding it into SWIM via ADS-B equipment. Other critical information such as graphical National Weather Service products and Temporary Flight Restrictions will be obtainable via ADS-B.

In August 2007, the FAA contracted with ITT Corporation to deploy 800 Surveillance and Broadcast Services (SBS) radio stations that will provide the ground component for ADS-B coverage within the 50 states, Guam, Puerto Rico and the Virgin Islands. Last September, ITT was given the go-ahead to "light-up" the State of California. The project will be completed in four phases and should be finished by September 2013.

SBAS/GBAS is the NextGen replacement for today's ground-based ILS equipment. Honeywell Corporation has obtained FAA certification of its GBAS multimode receivers, which are currently being used in demonstration projects in Newark and Memphis to develop and test new procedures. The FAA plans to begin deactivating ILS equipment in 2012.

Division of Aeronautics staff is engaged in ongoing discussions with FAA and prime contractor personnel to help facilitate and expedite the transition to NextGen, and has provided some assistance in the effort to locate ADS-B ground sites. Construction of ground sites is scheduled to begin in March 2010. For additional information or questions, contact Patrick Miles at (916) 654-5376.



Fresno Yosemite International Airport

By: Derek Kantar

Fresno Yosemite International Airport (FAT) is sensitive to the impact of its operations upon the environment. As a common practice, Fresno Yosemite considers environmental impacts with every project from the early design stages through construction; mitigating negative environmental impacts by incorporating creative renewable energy and sustainability elements. The newly installed 4.2 megawatt “Solar Farm” is a leading example of the airport’s environmental improvement and sustainability efforts.

With the heightened concerns over global warming and increasing energy costs, solar power has been identified as one of the most efficient and potentially affordable energy alternatives available today. Through a Request for Proposal process in 2006, FAT partnered with World Water & Solar Technologies to design, build, finance, operate and maintain the \$16 million solar energy power generating system. Additionally, the installation deemed the airport eligible to participate in California Public Utilities Commission’s Self-Generation Incentive Program and California Solar Initiative. These programs provided the airport with financial incentives for installing the solar farm.

The airport entered into Power Purchase Agreements for a 20-year term for the design, construction, operation and maintenance of the solar farm in exchange for purchasing all power generated at a fixed rate. It was estimated that over the next 25 years, FAT would save approximately \$13 million in energy costs. After 15 months in service, it is now estimated that \$19 million will be saved.

Capitalizing on the abundance of sunshine in the region and the benefits of solar energy, 11,700 solar panels were installed on approximately 20 acres of otherwise unusable land located within the Airport’s southerly approach zone. Airport management worked closely with the FAA during site evaluation and the environmental review processes. A common

concern with regard to the solar panels was the “reflectivity” and its affect on the safety of approaching aircraft. Fortunately, the panels bear minimal reflection issues or safety concerns from this specific location. The installation is the largest airport solar installation in the country and meets all Federal Aviation Administration safety standards and guidelines.

As a result the installation, FAT is now receiving 58% of its annual electrical energy requirement from solar power. The airport has found that incorporating green elements into projects not only reduces the environmental impact, but also saves money. This fiscal responsiveness has enabled FAT to control costs, which benefits the airlines and other airport tenants.

The solar installation has captured the attention of many domestic and international airports, thus validating the potential of widespread applicability at other airports. As the first and largest solar installation at any airport in the country, FAT is considered a “model” for use of solar power as a sustainable, efficient, environmentally friendly energy alternative that has reduced the airport’s carbon footprint by an estimated 1,155 tons annually.

In addition to the solar energy project, FAT has been successful at implementing other innovative solutions that have significantly improved air quality by reducing emissions, decreasing operational costs through reduced energy consumption, increasing water conservation, and preserving the earth’s natural resources through the recycling and reuse of construction materials.

New “cool roofs” have been installed at the Air Traffic Control Tower and TRACON complex, the baggage claim facility and on the Fresno Chandler Executive Airport (FCH) terminal building. Cool

“Fresno Yosemite International Airport” continued on page 8

Airports Cooperative Research Program Project

By: Philip Crimmins

Division of Aeronautics staff members are currently involved in a handful of projects with the Airports Cooperative Research Program (ACRP). This research program is funded by the Federal Aviation Administration and administered by the National Academies, Transportation Research Board located in Washington, DC. Gary Cathey, Chief - Division of Aeronautics recently participated in a Panel Selection Committee Meeting in early December to select 7 of 41 aviation research proposals for inclusion in the ACRP FY 2010 program.

Being selected to participate on a project panel means teaming up with about five or more other aviation subject matter experts from throughout the country, providing input and feedback to the research consultant to help guide them to develop a useable product that is beneficial to the aviation community. Philip Crimmins, Associate Transportation Planner (Office of Aviation Planning) is currently working on a project called "A Guidebook of Practices for Improving Environmental Performance at Small

Airports". The completed guidebook will contain lots of basic information for managers of small airports who may need advanced knowledge of environmental issues at their airports and who most likely don't have associate staff with environmental expertise to call upon. The topic of environmental requirements and compliance at airports is broad and complex. This guidebook is intended to get non-experts on the runway to making their facilities as environmentally sustainable as possible. The guidebook is scheduled for completion by late 2010.

To see a complete list of active and completed aviation research and synthesis of information publications produced by ACRP staff and their consultants, please visit their website at: <http://www.trb.org/ACRP/ACRPProjects.aspx>. ACRP is always looking for suggestions for new aviation research proposals and for panelists with subject matter expertise. Please contact Gary Cathey at (916) 654-4848 to obtain additional information on these opportunities.

Fresno Yosemite International Airport

Continued from page 7

Solar panel equipped roofs are now standard for all roof replacement projects at the airport. They work to reduce the emissions generated by power used to cool the building during the hot summer months.

Fresno Yosemite International Airport is committed to minimizing its impact on the environment and raising the quality of life to the surrounding region. The airport is proud to share with other airports its ongoing efforts to improve environmental stewardship.

Visit us on the web!!! www.dot.ca.gov/aeronautics

Do you have something noteworthy to suggest for future issues of the CalAERO Newsletter?

Send suggestions to: Rosa Romero rosa.romero@dot.ca.gov

Fax: (916) 654-9531 or Call: (916) 654-4848

Mailing Address:

Department of Transportation
Division of Aeronautics, MS 40
P.O. Box 942874
Sacramento, CA. 94274-0001