
THORBURN ASSOCIATES INC.

Acoustic and Technology Consultants

eNewsletter

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Greetings

Welcome to the July 2005 issue of our eNewsletter.

Since our last eNewsletter we have been very busy. Major new projects added to our backlog include: two hospitals, three mixed use / high rise condominium projects, two 800 plus seat churches, four higher education classroom buildings, and three environmental noise studies.

During the ICIA InfoComm conference Brandon, Derek, Eric, Jim, Lisa, and Steve led over 70 hours of instruction, 60 of which qualified for AIA CES credits. We are committed to providing educational opportunities to the industry and have several lunch & learn presentations that also qualify for AIA CES credit. With the addition of Wing P. Ko, PE we are pleased to see that our environmental noise and vibration study projects have increased. It is our goal to make sure that Thorburn Associates is your single point of contact for all of your acoustical and technology engineering services.

We hope that Q3 will be good to you and that you have a great summer vacation. As always if you have an idea, question, or suggestion please drop us a note at TA@TA-Inc.com for general information or eNews@TA-Inc.com for specific comments about our eNewsletter.

Summer Fun – Recipes to Tempt Your Taste Buds

With summer barbeques and picnics in full swing, we thought we'd share some of our favorite recipes. Brandon Haberman shares his famous recipe for Southern Fried Chicken, Eric Cronwall says the kids really enjoy helping create this Fireworks Cake, and the 7-layer Salad from Lisa Thorburn is always a hit at potlucks.

Southern Fried Chicken

Ingredients:

- 1 chicken (3 to 4 pounds), cut up into 10 pieces
- Kosher salt
- 3-cups all-purpose flour
- 1-tablespoon garlic powder
- 1-tablespoon onion powder
- 1-tablespoon sweet paprika
- 2-teaspoons cayenne
- Freshly ground black pepper
- 2-cups buttermilk

2-tablespoons chile paste
Peanut oil, for deep-frying

Put the chicken in a large bowl. Add cold water, by the quart, to cover the chicken by about 1 inch. Add 1 tablespoon of salt to each quart of water. Cover and refrigerate for at least 2 hours or overnight.

When you're ready to cook, mix the flour, garlic and onion powders, paprika, and cayenne in a large, shallow platter until well blended; season generously with salt and pepper. Stir together the buttermilk and hot sauce in another large, deep platter or wide, shallow bowl; season with salt and pepper.

Drain the chicken in a colander and pat it dry. Dredge the pieces a few at a time in the flour mixture. Dip them into the buttermilk and then roll them in the seasoned flour again to make a good crust. Put the chicken pieces on a piece of parchment or waxed paper, or on a clean platter, while you heat the oil.

Pour about 3 inches of oil into a large deep pot; the oil should not come more than half way up the sides of the pot. Put the pot over medium-high heat and heat the oil to 375 degrees F on a deep-fry thermometer. Working in batches, add the chicken pieces to the hot oil, 3 or 4 at a time and fry, turning the pieces occasionally, until evenly golden brown and cooked through, about 20 minutes. Remove from the oil with a slotted spoon and transfer to a rack to drain; repeat to cook the remaining pieces. Serve hot.

Fireworks Cake

Ingredients:

1 box – White Cake Mix
2 boxes (3 oz) – Vanilla Pudding Mix
1 box (3 oz) – Strawberry (or any red colored) Jello
1 box (3 oz) – Berry Blue (or any blue colored) Jello
Confectioners sugar
1 can – Vanilla (or any white colored) Frosting
Red and Blue food colors
All ingredients called for by cake mix recipe, with one additional egg white

Make cake mix according to directions, using egg whites only, plus added egg white and the dry pudding mix. Bake in a Bundt pan according to the directions. Allow the cake to cool in the pan for 30 minutes.

Using a chopstick, punch holes in two concentric rings around the center opening of the cake.

Make red Jello using one cup of boiling water only. Carefully spoon mixture into outer ring of chopstick holes. Refrigerate for 1-2 hours. Repeat with blue Jello, spooning into inner ring of chopstick holes. Refrigerate 1-2 hours. Note: You will use about 1/3 to 1/2 of the Jello.

Invert the Bundt pan onto a plate to remove the cake. Lightly dust the cake with confectioners sugar. Divide the frosting equally into three microwave safe dishes. Color one red and one blue and keep one white. Heat one dish 15-30 seconds till frosting drips from a spoon. Drizzle frosting over cake. Repeat with remaining colors.

7-Layer Salad

Ingredients:

1-medium head lettuce, shred fine
1/2-cup onion, diced
1/2-cup celery, diced
2-packages (10 oz each) frozen peas, break up
1-pint "miracle whip"
1-teaspoon sugar
1/2-cup cheddar cheese, shredded
1/2-cup Parmesan cheese, shredded
6-hard boiled eggs, crumbled fine
bacon, cooked and crumbled fine or use store bought bacon bits
tomato wedges, for garnish, optional
olives, for garnish, optional

In a 9x12 glass baking dish layer lettuce, onions, celery. Spread frozen peas over top. Spread miracle whip over peas, be sure to get all the way to the edges of the dish (if you use Mayonnaise, stir in 1

teaspoon on lemon juice before spreading over peas). Sprinkle sugar evenly over top of miracle whip.

Sprinkle cheddar cheese on top of sugar. Sprinkle Parmesan cheese on top of cheddar cheese. Cover and refrigerate 6 to 8 hours or overnight. Spread eggs over top on cheese. Spread bacon bits on top of eggs. Garnish with tomato wedges and olives. Serves 12.

Assessing Environmental Impacts – Noise Quality

So, your local newspaper just announced that a major developer wants to put in a new mixed-use project. They want to tear down existing buildings, create new roads, add public areas, and put in several new buildings with underground parking, retail at street level, and high density housing above.

Whether you are part of the design team or one of the neighbors, there are many aspects to assessing the environmental impact of future projects that must be considered. While many of us are familiar with the more common aspects of environmental impacts such as adverse impacts on local wildlife, not everyone realizes that the initial planning process should also assess the noise, air, and water quality as well as provide recommendations as to the best way to minimize the impact on the neighbors and the environment.

In our last issue, we provided a summary of the various terms used when discussing environmental noise. In this issue, we provide a further discussion of noise quality. Future issues will discuss air and water quality.

Federal, state, and local government agencies have enacted laws, ordinances, and regulations to control environmental noise. The Environmental Impact Statement (EIS) then becomes an important document for environmental noise control in urban planning. The noise impact assessment portion of the EIS may take many forms, including potential damage to hearing, potential physiological responses, annoyance, and general community responses. Typical noise impact assessments in the EIS take the form of comparisons between existing and future noise levels with the noise criteria of federal, state and local governments.

The first step of noise impact assessment is to understand the existing noise environment. It can be achieved by taking noise measurements at the project site, obtaining current noise regulations through government agencies, and determining existing and future noise sensitive receptors (i.e. the neighbors). The purpose of the noise impact assessment is to reduce the noise impact to the required statutory requirements at the existing and future noise sensitive receptors. Therefore, determining the future noise sensitive receptors is a very important part of the assessment.

The second step is to understand the noise impact during the construction stage. This can be achieved by obtaining the anticipated construction activities, construction periods, and construction equipment to be used during a typical day. From this information, we can calculate the noise levels to the nearest sensitive receptors. If the construction noise levels exceed the statutory requirements, then appropriate noise mitigation measures should be recommended, such as selecting quiet equipment and working methods, avoiding simultaneous “noisy” activities, reducing the number of equipment operating in critical areas, installing temporary noise barriers, etc.

The third step is to understand the noise impact after the project is completed. This can be achieved by using noise-modeling methods to predict the noise levels (Leq and Ldn) at existing and future noise sensitive receptors. If the computed noise levels exceed the statutory requirements, different mitigation measures should be recommended, such as installing noise barriers, acoustic enclosures, etc.

The fourth step is to evaluate the economic benefits of all the recommended noise mitigation measures, and choose the most cost-effective noise mitigation measures.

The final step is to submit the EIS to the appropriate government agency for approval so the project can move forward.

Next month we'll discuss air quality issues.

Videoconference With Your Cell Phone??

It seems that Maxwell Smart's shoe phone did not set the bar high enough. Nor did AT&T's Videophone demonstration at the 1964 World's Fair. Soon, we will be able to videoconference between our mobile phones. Demonstrated earlier this year in Hong Kong, 4G cellular service (the speed of the cellular data network) will allow data downloads that are fast enough to allow 4-way videoconferencing.

Now keep in mind (before you run out to buy a new phone) that even in mid-2005, parts of the US are still 2.5G, with 3G in most markets – the higher the "G", the faster the data network. But think about the possibilities for the A/E/C industry. When Nextel's push-to-talk (PTT) technology came out, job site issues were addressed much more quickly. A person or group could be "two-wayed" anywhere in the service area. PTT, now also supported by Verizon, can be done across the US, and internationally to Argentina, Canada, Mexico, Brazil, and Peru. PTT means a person no longer needs to be in "walkie-talkie" range at the job site to respond to a question.

Soon we will be able to video two-way team members about that coordination issue in the field. We can now do it with digital stills, however to get a video, we have to use a camcorder with a traditional videoconference system. With 4G, the field crew can give you an ad-hoc "video call" and you can direct them as to what you want to see in the video in order to solve the issue.

Are there limitations? You bet. We just had to replace the cell phone for one of our principals. All he wanted was a simple cell phone that had an easy to read screen and very basic directory, but instead the "insurance replacement" was a Videophone. Not only does it take still photos, but it can also shoot short videos. The display leaves a lot to be desired – it is very hard to see, granted the resolution is low, but so is the contrast and color depth. This has been the largest complaint of subscribers to video download services in the US.

The first generation of video phones from LG, Motorola, and Samsung have just come to the States from Asia, where the adoption of next generation wireless phone service has been much quicker than in Europe or the US. The good news is that domestic service providers see the light and are already planning on the implementation of the 4G standard, projecting that we will have the technology in the US by the start of 2007. As Maxwell Smart would say "That's right Chief, I will need to replace my shoe phone in a few months".

Technology in Universities

The use of audiovisual technology within the university setting is finally catching up with the corporate world. As new buildings are funded and older buildings renovated, the learning environment is being enhanced through the use of technology. Technology is no longer limited to large rooms; smaller recitation rooms are now being fitted out. Distance learning classrooms are replacing large lecture halls. Power point presentations on large projection screens are replacing unreadable overhead transparencies. Custom lecterns with touch sensitive control panels are replacing manual controls of lights, drapes, projection equipment, and other audiovisual equipment. Remote monitoring of technology is providing more reliable equipment, thus improving instructors' willingness to use the technology. The addition of reinforced audio is increasing the importance of the acoustics within the learning environment. Some of our recently completed projects include the following:

University of North Carolina at Wilmington School of Education Building, Wilmington, NC Architect: Jenkins Peer Architects

Located on the UNC Wilmington campus this three-story, 82,000 square foot building provides a new home for the School of Education on campus. Touted as a state of the art education facility, the building includes technology classrooms, conference rooms and distance learning facilities. The building is designed around a central atrium which houses education exhibits highlighting the history of education while also honoring past educators and milestones in public primary and secondary education.

Thorburn Associates provided audiovisual and acoustical consulting services for the project. The design of technology spaces included large distance-learning classrooms using dual rear projection systems for the audience, and a fully outfitted control room integrated into the rear projection space. A lecture hall with divisible wall provides individual classrooms with front screen projection and a movable lectern when

divided. When the rooms are combined, a few simple touches of the control system touch panel combines the technology to provide dual front projection for the whole room. Movable lecterns can be placed at one of three locations within the larger room. The University wanted simple controls with low maintenance requirements for the long term. In addition, several seminar rooms, conference rooms, and computer labs were outfitted with AV projection and control systems. A standard custom lectern was designed to meet the owners' unique requirements. For most classrooms, AV equipment is mounted in a small table height lectern, non-user technical equipment is locked behind a door, and user accessible equipment (such as dedicated computer, DVD/VCR, etc.) is in a secure rack enclosure in the lectern. This allows "full access" to equipment without the need to provide doors or issue keys to instructors using the room. The design allows maximum access with minimal maintenance requirements.

North Carolina A & T State University General Classroom Building, Greensboro, NC
Architect: The Freelon Group

Located on the Greensboro, NC campus, this multi phase project consists of a 5 building complex, consisting of over 200,000 square feet of classroom and office space that forms the core classroom space on campus. Two new buildings with adjoining upper floors were constructed and 3 existing buildings were gutted, renovated and connected to the new buildings. In addition to classroom instruction for the School of Business and the College of Arts and Sciences, a Performing Arts Theater was also part of the complex. A campus TV studio moved from the first floor to the third floor of one of the renovated buildings, which required special consideration for acoustics and communications access.

Thorburn Associates provided full technology consulting services including audiovisual, acoustical, and structured cabling. Technology spaces included distance learning classroom spaces, a large tiered auditorium with rear projection, tiered classrooms, computer labs, and conference rooms all utilizing AV technology. The buildings use state of the art projection systems that allow full control via the campus computer network and allow instructors to use traditional connections via their laptop video connector as well as the ability to run PowerPoint presentations from their laptops via their laptops network connection. In addition to the audiovisual systems, the acoustical issues associated with the third floor campus TV studio required careful review to confirm noise levels within the studio and adjacent office areas were acceptable for a broadcast environment. The structured cabling system set the standard for future University buildings by providing a design that allowed existing analog phones systems to work while also allowing the University to easily transition to a VoIP (Voice over Internet Protocol) solution in the future without any change to the structured cabling system.

Evergreen Valley College Library / Educational Technology Center, San Jose, CA
Architect: The Steinberg Group

Located on the Evergreen Valley College campus this 3-story, 77,000 square foot building provides a new home for the Library and Educational Technology Center on campus. This state of the art educational facility includes technology classrooms, conference rooms and distance learning facilities.

Like the UNC Wilmington project above, Thorburn Associates provided audiovisual and acoustical consulting services. The technology spaces include two large distance learning classrooms using rear projection systems for the audience with a shared, fully outfitted control room at the rear of the classrooms. The University wanted simple controls with low maintenance requirements for the long term. In addition, conference/meeting rooms, an open lab center, and computer labs were outfitted with AV projection and control systems. A standard custom lectern includes non-user technical equipment locked behind a door and user accessible equipment (such as dedicated computer, DVD/VCR, etc.) mounted in a secure rack enclosure in the lectern. This provides maximum access with minimal maintenance requirements.

Unique to this project, the computer labs utilize a software program that allows the instructor to view a student's computer image with the option of displaying it through the projection system. This helps students learn from other students as well as allowing the instructor to use student work as an example. A lobby interactive display system directs students through the building as well as two other display devices that inform students of campus activities and news. The outdoor terrace area provides a gathering space for students and is technology ready for bands, presentations, or campus socials. In addition to these systems, there is a building wide paging system.

Mall of America Tycoon Video Game



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Imagine our surprise when we found out one of our projects, Camp Snoopy at the Mall of America in Minneapolis, MN is the cornerstone of a new "Tycoon" video game. For those of you not up on the latest and greatest in video games, the Tycoon series of video games let you "build" and run various types of attractions or facilities such as your own city, airport, school, roller coaster, or circus. This tycoon game, according to the Amazon.com product description, allows you to "build and manage the ultimate shopping and entertainment paradise! ...Design a 4.2 million square foot mega-complex with everything from major department stores to boutique, the tastiest selections in the food court, and even Camp Snoopy." Since we are not avid gamers, please be sure to read the reviews before purchasing. We just thought it was cool to see a project made into a video game!

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