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Kiowa County, Kansas

Kiowa County Media Center

How a small, central Kansas town destroyed by an EF5 tornado in 2007 is creating a new model for community communications in rural America using state-of-the-art technology.



Kiowa County Commons
320 South Main Street
Greensburg, KS 67054

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BLOWN AWAY!

How do you help a small Kansas town create new ways to communicate and to come together ... following the worst U.S. natural disaster of 2007?



At 9:45 pm on Friday evening, May 4, 2007, Greensburg, KS, was obliterated by an EF5 tornado.

That is no exaggeration. The town's footprint on the south-central High Plains of Kansas is 1.5 miles wide; the tornado was 1.8 miles wide at its base. Ninety-five percent of all of the homes and buildings were completely destroyed.

Five years later, it is evident that the citizens of Greensburg and Kiowa County are a resilient people. Three short months following the storm, students resumed classes in temporary facilities. Since then, a comprehensive community redevelopment plan is in place, more than 450 new homes are occupied, under construction or permitted, and more than 75 businesses have reopened and/or are in the process of rebuilding.

What has really captured national attention is the community's commitment to "Rebuild Green." Remarkably, all of the major public buildings and several large businesses are being built to LEED (Leadership in Energy and Environmental Design) Platinum specifications. With a dozen buildings being designed to LEED certification standards, Greensburg is becoming the "greenest" town in America.

The first LEED Platinum-level building in the state of Kansas, the 5.4.7 Arts Center, opened its doors in May 2008. Just a few months later, the Kroger-owned Dillon's/Kwik Shop hybrid store celebrated its grand opening. The Frito Lay Sun Chips Business Incubator — also built to LEED Platinum standards — began incubating local businesses in 2009, the same year the new LEED Platinum City Hall and the critical care Kiowa County Community Hospital began to serve Greensburg's citizens. In 2010, the 100-year-old Kiowa County Courthouse reopened its doors to the community after a LEED Gold level remodel. Finally, the spectacular \$52 million LEED Platinum county-wide K-12 school campus was dedicated in August of 2010, and the LEED Platinum Kiowa County Commons building opened in November of 2011.

The "Community Communications" conundrum ...

Greensburg and Kiowa County have no television station, no radio station, and no daily newspaper. So how do you find out what is happening? When is the next community meeting or event? As one resident noted, "Post-It notes on the window of the Kwik Shop just aren't getting the job done!" How do you reach everyone ... every day ... wherever they are ... with up-to-date information? Let's invent the Kiowa County Media Center!

Our 21st Century solution: based on a model from yesteryear ...

Our solution is based on implementing a proven community communications model ... with new technologies. Our model? The small town radio station of yesteryear.

In most mid-western towns there used to be a locally-owned and -operated radio station. Its studio was located on Main Street. As you drove by, you could see the announcer talking into the microphone, perhaps reminding listeners about an up-coming community meeting, pancake feed, or high school sports event. Out at the edge of town, the station had a transmitter and broadcast tower. And everyone had a radio receiver.

Today, we still have radios ... in all shapes and sizes. But we also have laptop computers, smartphones, and iPads. So what if we create a new form of broadcasting ... over the Internet? And what if we provide ubiquitous wireless Internet access so people could receive local video and audio programming ... anywhere in Kiowa County?

Our contemporary Internet-based model for the Greensburg/Kiowa County project ...

The Kiowa County Media Center is organized as a foundation that is supported by the Kiowa County Board of Commissioners. The Kiowa County, KS Media Center Foundation, Inc., is similar to the Kiowa County Library Board or the Kiowa County Hospital Board.

The Kiowa County Media Center project has four innovative components:

- The Kiowa County Media Center's permanent facilities located in the \$6.1 million LEED Platinum Kiowa County Commons building, which had its Ribbon-cutting Open House on November 1, 2011.
- The HDTV Production Trailer, which became operational in September, 2010, at the Kansas State Fair.
- The fiber HD signal backhaul system, which will link remote broadcast sites to the Media Center.
- The 3.65 GHz WiMAX high-speed wireless system, which became operational in December, 2008.

The Kiowa County Media Center occupies part of the first floor and all of the second floor of the new \$6.1 million Kiowa County Commons building now open at 320 South Main Street in Greensburg, KS.

The Media Center's HD television Production Studio, control rooms, and set storage space are located on the first floor. The first floor conference room features a moveable sound wall that opens into the HDTV Production Studio to provide seating space for show audiences.

The Media Center occupies the entire second floor of the Commons building. Here you will find an Internet Radio Studio, a small Recording Studio, a 16-station Media Editing Laboratory featuring high-end graphics workstations, and offices for the Media Center staff.

An Internet Portal provides access to the Media Center's programs and resources at <http://www.kwksmedia.org/>

The Kiowa County Media Center – Kiowa County's 21st Century solution – is using digital media to:

- inform and serve residents
- teach new career skills
- democratize city and county government
- showcase innovative "green" rebirth
- support community-based journalism, and
- provide a new Internet-based model for replication!

The HDTV Production Trailer is a mobile, 22-foot long High Definition digital television production facility powered by NewTek's 850 TriCaster switcher unit and NewTek's 3PLAY three-channel, HD slow motion instant replay unit. The trailer is capable of producing live, four-camera sports productions in full HD.

The HDTV Production Trailer features four Sony HXR-NX5U AVCHD HD cameras with Sachtler/Vinten camera support systems. The air conditioned and heated trailer was constructed by Brown Specialty Vehicles, and features a pair of Middle Atlantic equipment racks filled with gear from Avitech, Kramer Electronics, Clark Wire & Cable, and CablesToGo. A ClearCom intercom system coordinates production activities.



The fiber HD signal backhaul system is about to be installed in Greensburg, with dedicated, four-strand fiber lines running to the Media Center from remote locations including the City Hall and the County Courthouse, Kiowa County Schools' Football Field and Basketball Gymnasium, Kiowa County Fairgrounds, Kiowa County Memorial Hospital, the Twilight Theatre, and other locations. A patch panel in the Media Center will be used to select the appropriate remote HD/SDI signal feed.

The 3.65 GHz WiMAX high-speed wireless system, with its antenna high atop the Greensburg grain elevator, came online in December, 2008. The WiMAX system provides high-speed wireless connectivity across a 10-mile radius of Kiowa County, with download speeds of 5-6 Mbps and up-load speeds of 1 Mbps. The WiMAX equipment was donated by Airspan Networks, and the installation was donated by Stutler Technologies. This high-speed wireless service is being provided at competitive market rates by Haviland Telco. We believe that this is the first 3.65 GHz WiMAX system in the nation to be launched through the community's initiative in partnership with a local telephone company.

The purposes of the Kiowa County Media Center ...

As the members of the Board of Directors have discussed and refined the purposes of the Media Center, they have articulated several specific ways that the Media Center will use digital media to serve the citizens of Kiowa County.

The television programming available from the Media Center will be delivered using two digital modes:

- Currently, video is streamed live and on-demand via the Internet to Kiowa County ... and to the world.
- When the "fiber-to-the-home" Greensburg cable television system is completed, live High Definition television programming from the Media Center will be available. Other distribution methods for HD programming also are being explored.

Provide current information to the community 24/7/365 via the Internet. On the home page of its website, the Media Center maintains an annotated community calendar accessible via Internet-enabled smart phones, laptops, desktop computers, and many other devices. The new 3.65 GHz WiMAX wireless Internet service provides ubiquitous wireless access across much of Kiowa County.

Deliver live broadcasts of local events and community meetings. With 3,000 citizens scattered across 723 square miles, the citizens of Kiowa County and Greensburg cannot always attend local events and community meetings. The Media Center will stream these community events live on the Internet, making it possible to "attend" the annual Farm and Ranch Show in Garden City, a Greensburg City Council session, or a Kiowa County Commission meeting – literally – from anywhere. The Media Center will test and adopt strategies that will permit those citizens watching on the Internet to participate by logging in, transmitting questions, and taking part in polls during local government meetings.

Create and distribute educational programming live and on-demand. The video and Internet production capabilities of the Media Center will facilitate local production and distribution of educational programs touching a wide spectrum of the needs and interests of citizens of Kiowa County ... and the world. For example, Extension agents working in the Kiowa County office of K-State Research and Extension anticipate capturing and sharing many of the programs they deliver in person throughout the year.

Create and distribute "original productions" created by community members live and on-demand. The rich video, audio, and graphic production and editing tools available at the Media Center will afford citizens and students the opportunity to write and produce original documentaries, dramas, music videos, music CDs, and other forms of artistic expression. Enhancing creativity and giving voice to singers, authors, videographers, and photographers will be one of the Media Center's important missions.

Train citizens and students – from Kiowa County and across America – in the use of various digital media. Only rarely do citizens and students living in small towns across America have the opportunity to develop personal and professional skills in various digital media. The Media Center will conduct classes and workshops for residents of Kiowa County and others in all of the media employed by the

Center. These topics will include live television production, television documentary production, video camera operation, video editing, live music recording, music editing, music video editing, news photography, creative photography, photo editing, digital printing, Internet website design, and many other topics. Classes will be taught by faculty members and professionals recruited from Kansas ... and from across the country.

Showcase Kiowa County and Greensburg ... and the “Green Revolution.” One of the important tasks of the Media Center will be to showcase Kiowa County and Greensburg, its use of media technology to bring the county together, and the community’s and county’s focus on “Rebuilding Green.” Most of the new public buildings in Greensburg and Kiowa County are being built to LEED Platinum standards. Many homes incorporate innovative “green” principles that improve the quality of life, reduce energy consumption, and reduce environmental impacts. And several new commercial buildings model “green” design, construction, and operation. The Media Center will capture and share these stories with the world.

Broadcast local Kiowa County High School football and basketball games live and on-demand.

Imagine the fun – and the learning! – a group of Kiowa County High School students and community residents are experiencing as they become proficient in telecasting Kiowa County High School home football, basketball, and volleyball games! The production team is producing live football, basketball, and volleyball game coverage using four Sony HXR-NX5U AVCHD HD cameras with Sachtler/Vinten camera support systems. These four cameras feed the NewTek 850 TriCaster HD production system and the NewTek 3PLAY HD three-channel, slow motion instant replay unit featured in the Media Center’s HDTV Production Trailer. It is awesome!

Support regional, community-based journalism. As journalism moves into the 21st Century, it must change. With the disappearance of paid advertising revenue, newspapers are closing and other media is retrenching. The one area of growth is in community-based journalism. The Media Center is directly involving the citizens and students of Kiowa County in creating an Internet-based, community model that will inform and entertain its viewers and readers. Just as small towns and rural areas have long relied upon volunteers to staff its firefighting and emergency response units, the Media Center is training and involving residents in informing their fellow citizens about the important local issues of the day.

Showcase the Media Center model to other communities and to the nation. We believe that the Media Center represents a new mode of community communications that can transform rural communities across America. On the Media Center’s website, we will document and explain how the Media Center works, who is involved, how the Media Center in the Kiowa County Commons building was designed and how it was built, and how the HDTV Production Trailer was designed, constructed, and equipped. The Media Center will showcase its HDTV Production Trailer and the community-based crew members at regional and national venues. We intend to present a blueprint for others to use and adapt to their circumstances. We are incorporating state-of-the-art media technologies that are simple enough that “mere mortals” can learn new skills, successfully produce programs, and support their communities.

So what will be the impact of the Kiowa County Media Center? While the Kiowa County Media Center is not only changing the way the citizens of Greensburg and Kiowa County produce and receive news and information, the Media Center also is changing the way citizens think about news. The Media Center is changing the journalistic locus of control from external gate-keeping and production to internal, local, and real time – and it is doing it using new and innovative 21st Century technology. The Media Center’s motto – “Innovative. Community. Video. Journalists.” – says it all. We know that community is communication – without it, we lose our identity, our sense of history and culture, our active participation in government ... and our willingness to work for the common good. What will the Kiowa County Media Center change? Everything!

The Kiowa County Commons building ...

The Kiowa County Commons building, located just south of the new Greensburg City Hall on Main Street, was constructed to LEED Platinum standards ... as have been all of the new public buildings in Greensburg!

The Commons building hosts the Kiowa County Media Center; the Greensburg branch of the Kiowa County Library; the Kiowa County Historical Museum, and the Kiowa County office of K-State Research and Extension.

The innovative Commons building features many sustainable design features, including the use of photovoltaics; light monitors in the roof of the Historical Museum; a "green roof" covering the entire one-story section of the building, complete with a walking path; rain water retention; water conservation fixtures; and the use of Insulated Concrete Form (ICF) construction techniques.



SUSTAINABLE DESIGN



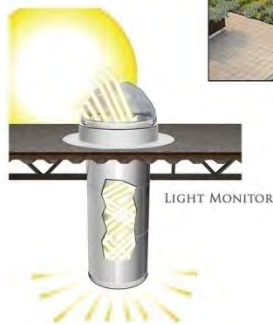
PHOTO VOLTAICS



WATER RETENTION



MATERIAL REUSE



LIGHT MONITOR



GREEN ROOF



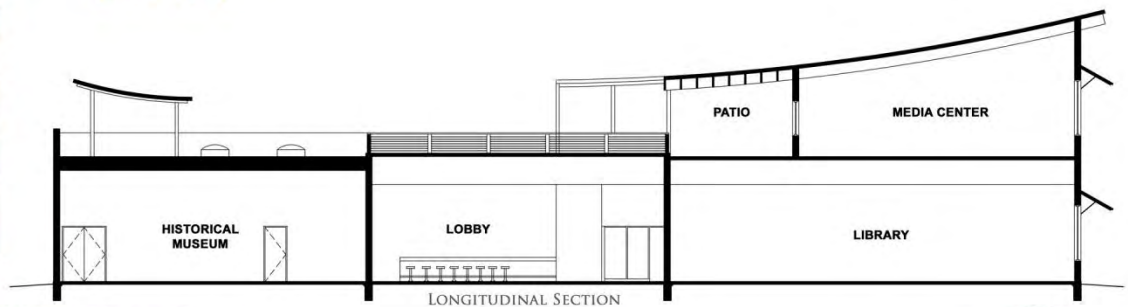
VERTICAL WIND TURBINES



WATER CONSERVATION



INSULATED CONCRETE FORMS



LONGITUDINAL SECTION

KIOWA COUNTY COMMONS

MCCUUGAGH VAN SICKLE & PERRY
ARCHITECTS ASSOCIATES P.C. LEED ACREDITED

The First Floor of the Kiowa County Commons building ...

The first floor of the Kiowa County Commons houses:

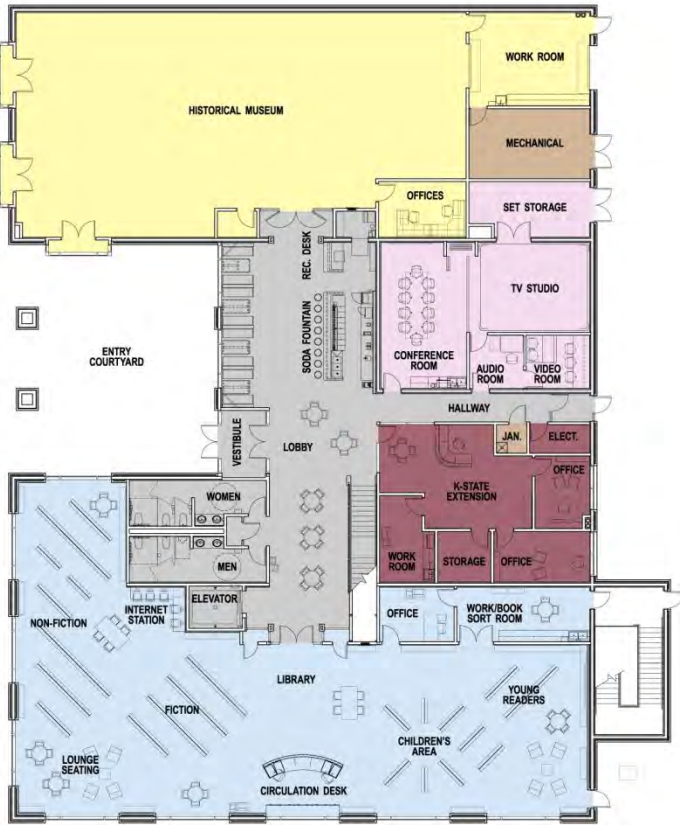
- The entry area, featuring the turn-of-the-century soda fountain, once again in operation
- The Kiowa County Historical Museum
- The Greensburg branch of the Kiowa County Library
- The Kiowa County office of K-State Research and Extension
- The Media Center's HD Television Production Studio

As you enter the lobby of the Commons from Main Street, you encounter the reconstructed and fully-functioning soda fountain ... the only thing salvaged from the rubble that once was the Hunter Drug Store.



Soda fountain in Commons lobby

The Kiowa County Historical Museum occupies the one-story north wing of the Commons building. It features graphic, story-telling exhibits exploring the history of South Central Kansas. Visitors also can record how they experienced the EF5 tornado that destroyed Greensburg, and their subsequent activities focused on recovery.



Kiowa County Historical Museum

The Greensburg branch of the Kiowa County Library occupies the south wing of the first floor of the Commons building. The expansive facility includes a children's reading area and desktop computers with Internet connectivity for patron use.



Kiowa County Library circulation desk

The Kiowa County office of K-State Research and Extension is located in the central section of the first floor of the Commons building.

There is a large conference room on the first floor that is shared by all four building occupants. The Extension Specialists will conduct various classes in the conference room. We anticipate that some Extension workshops previously just presented to a “live” audience will now be produced in the Studio and available on the Internet.



K-State Research and Extension office

The Media Center’s HDTV Production Studio, Video and Audio Control Rooms, and set storage rooms are located in the central rear section of the first floor of the Commons building to facilitate access ... and because it has a 14-foot ceiling height. The walls of the television production area were constructed using the same Insulated Concrete Form (ICF) technology as the exterior walls of the Commons building, providing superior sound isolation from the rest of the building ... and providing the storm shelter space for the building!



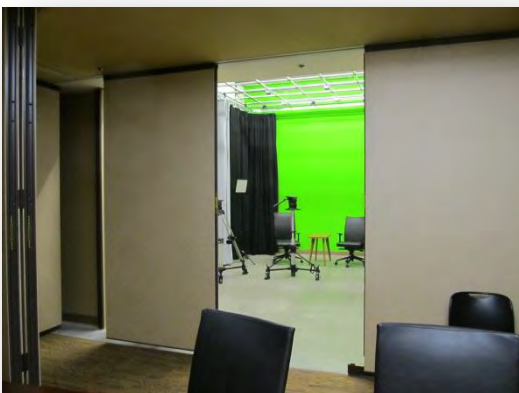
Interior ICF Studio walls under construction

The HDTV Studio itself features a state-of-the-art Litepanels LED studio lighting system and ceiling hanging grid, a “green screen” wall, and a full cyclorama curtain.

Three Sony HXR-NX5U AVCHD HD cameras with Sachtler/Vinten camera support systems are permanently located in the Studio. Two of the studio cameras can be outfitted with AutoScript prompters.



HDTV Production Studio set up for virtual set interview with two camera operators and one “locked down” wide-shot camera



Wall panels being moved to the stored position to open the conference room

As noted earlier, the west wall of the Studio is made up of movable soundproof panels that can be stored along the north wall of the adjacent conference room to open it up into the Studio to provide audience seating.

The studio's Video Control Room is equipped with NewTek's 850 TriCaster switcher unit and two large monitors on the front wall which display all of the camera views, the TriCaster control panel image, and program views.

A wired, 12-station ClearCom television production intercom system coordinates the work.



Video Control Room front desk ¹



Video Control Room graphics creation and prompter control ¹

A separate graphics workstation to support on-screen graphics and a station for the AutoScript prompter operator is located on a raised platform behind the front desk. The intentional similarity between the Control Rooms in the Commons building and the Media Center's HDTV Production Trailer makes it easier for the production team to move between the two facilities.

The studio's Audio Control Room features a Yamaha LS9-32 audio mixing console, with 32-channel capability. The two monitors behind the Yamaha console replicate the images on the two large monitors on the front wall of the Video Control Room, providing the Audio Director with a complete view of the production.

The Middle Atlantic equipment rack located in the Audio Control Room is filled with gear from Avitech, Kramer Electronics, Clark Wire & Cable, and CablesToGo to power the Media Center's HDTV Production Studio. Cables pass through the wall from the equipment rack into the Studio to connect the cameras, microphones, prompters, and production intercom system.



Yamaha LS9-32 audio mixing console ¹

The "green screen" wall in the HDTV Studio and the NewTek Virtual Set software will permit the Media Center to create sophisticated "virtual sets" for its studio productions, as illustrated on the left.



Illustration of "virtual set" produced in the Studio

¹ Because the Video Control Room and the Audio Control Room currently are under construction, photos of the similar setups in the HDTV Production Trailer have been used for illustrative purposes.

The Second Floor of the Kiowa County Commons building ...

The second floor of the Kiowa County Commons houses:

- The Outdoor Patio
- The Garden Roof with Walkway
- The Kiowa County Media Center

You can walk up the open stairway to reach the Media Center on the second floor ... or take the elevator opposite the stairway.



Stairs leading up to the Media Center



The second-floor walkway affords a view down to the fountain in the entry. It provides access to the Outdoor Patio, with its view of the roof-mounted photovoltaic panels. Visitors can access the second-floor outdoor pathways that wind through part of the “green roof” plantings on the garden roof.

Rainwater is collected in a 15,000-gallon cistern, providing water for the Main Street entry fountain and garden.



Second-floor Outdoor Patio

The Media Center occupies the entire second floor of the building.



Media Center offices flank the south wall

Offices for Media Center staff flank the south wall of the second floor, with a small conference room located in the southwest corner of the second floor.

Support for the Media Center’s programs and activities will be provided by the four-person professional staff, guest faculty members, and volunteers.



Second-floor Conference Room

The Internet Radio Studio overlooks Main Street from its perch on the northwest corner of the second floor. It will be equipped with a Logitek Electronic Systems digital radio console. Citizen journalists will create Internet Radio programming from the Studio for both live distribution and on-demand access.

The double-paned interior windows look south into the Recording Studio which can be used for producing interviews, live music, and other programs.



Logitek Pilot digital console



Internet Radio Studio



Local band "Black Rabbit" recording a demo disc

A small Recording Studio is located next door to the Internet Radio Studio. Media Center patrons will have access to a digital recording system featuring Adobe System's Audition audio editing program for recording music and creating CDs, recording audio programs, and recording audio tracks for videos being produced in the Media Center.

We anticipate equipping the Recording Studio with a Yamaha LS9-32 audio mixing console and a variety of recording microphones and equipment.

The unique Herman Miller workstations designed and installed by ReSources of Kansas City will support the Media Editing Laboratory. The Lab will feature 16 high-end workstations equipped with Adobe Systems' Creative Suite Master Collection, consisting of 18 Adobe content creation, editing, and production software programs.

Citizen journalists of all ages will have access to the Media Editing Laboratory. Through a partnership with the Kiowa County Public Schools – USD 422 – the Media Center's complete facilities will be used to provide specialized classes for students of all ages.



Sixteen-station Media Editing Laboratory workstations

The Media Editing Laboratory will enable the Media Center to host local, regional, and national workshops dedicated to training individuals in various aspects of video, audio, and graphics production and editing. One special focus will be a series of environmental documentary workshops designed for a national clientele.