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City of Lawrence

Farmland Industries Business Park City Project No. PW1015 - RFP R1108





October 7, 2011

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David L. Corliss City of Lawrence 6 East 6<sup>th</sup> Street PO Box 708 Lawrence, KS 66044

> RE: Farmland Industries Business Park City Project No. PW1015 City Bid No. RFP R1108

Dear Mr. Corliss:

It has been said the *world is flat*. But rather than being an indication that our view of the world has regressed to medieval days, the statement actually conveys how much closer and interconnected we have all become due to rapidly changing advances in technology. As a result, borders have grown hazy and the boundaries of the marketplace have expanded beyond traditional bounds. This new world presents tremendous opportunities and unique challenges in business and economic development, as the numbers of customers and competitors are growing at exponential rates.

Bartlett & West and CDM understand and share the vision the City of Lawrence has to institute itself within the competitive global market of economic development. We understand this new playing field. The advantages enjoyed by – and the challenges in front of – Lawrence and Douglas County have been clearly identified. We are competitors with other urban markets, not only in this state, not only in this region, not only in this country. Lawrence and Douglas County are now competing on a *global* scale.

To be successful in this new environment, a new approach is required – and the opportunity to achieve this vision is within reach by redeveloping the existing Farmland Industries property into a creative, flexible and unique business park.

We have called our proposal **Achieve the Vision** because, together with City Staff and numerous other important and interwoven stakeholders, we will design a master plan to address today's concerns while also anticipating future needs to achieve the vision of a distinctly unique business park for the City of Lawrence.

During our visit to the site, discussions with you, meetings with various other City Staff and key community stakeholders, three distinct challenge areas became evident. We have identified them as:

### Understand Challenges and Evaluate Opportunities by:

- Completing a thorough investigation of all surrounding components
- Coordinating development & infrastructure with environmental remediation
- Further exploring challenges thru proper planning and site development

### Develop Flexible Solutions by:

- Getting the key stakeholders involved early and often
- Providing creative options and unique design alternatives
- Creating a culture of innovation in the new industrial park

### Deliver a Unique Plan by:

- Exploring and promoting green energy alternatives and ideas
- Developing a powerful marketing plan or distinct "Brand" of the new industrial park to separate it from the competition
- Being wise about costs of the overall development and construction

To Achieve the Vision for City of Lawrence, we will incorporate the experience we garnered from the numerous other community land use plans, master plan designs and public involvement projects. The team assembled brings the needed skills and experience and are highly motivated to see this project come to an exceptional conclusion and do it right the first time.

As businesses, Bartlett & West and CDM have experienced the rapid transformation in our own industry and witnessed the emergence of the global marketplace. We are committed to preserving and enhancing the quality of life and economic vitality of the community and we want to partner with the City of Lawrence in this most important and exciting step toward making Lawrence and Douglas County competitive on a global scale.

Please read our proposal thoroughly. We believe you will find the right team, the right knowledge, the right skill set, and the right enthusiasm needed to help you Achieve the Vision for the City of Lawrence.

Sincerely,

m. R. Annon

Darron R. Ammann, RLA, LEED AP Project Director Bartlett & West, Inc.

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# **Executive Summary**

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A primary goal for the City of Lawrence and Douglas County is the clean-up and timely development of the Farmland Industries property to convert it into a creative, flexible and unique industrial/business park for future development. Bartlett & West and CDM understand and share the vision the City of Lawrence has to institute itself within the competitive global market of economic development. To assist in obtaining the Lawrence/ Douglas County's vision, we have called our proposal **Achieve the Vision** because, together with City staff and numerous other important and interwoven stakeholders, we will design a land use master plan to address today's concerns while also anticipating future needs to achieve the vision of a distinctly unique business park for the City of Lawrence.

Our proposal, Achieve the Vision, identifies three distinct, yet interwoven areas that will help the City of Lawrence obtain its goals for the future:



"Bartlett & West was selected through a competitive process to assist us in the search for, evaluation of, and master plan development of our new 1,000 acre business park, Kanza Fire Innovation Park. Their involvement was integral in evaluation of almost 100 different site selection factors, the planning for necessary rail, road, and utility infrastructure, and innovative approaches for contemporary park designs including environmentally pro-active LEEDS amenities."

> Douglas S. Kinsinger, CCE President/CEO Greater Topeka Chamber of Commerce/ GO Topeka

- Understand Challenges and Evaluate Opportunities
- Develop Flexible Solutions
- Deliver a Unique Plan

**Understand Challenges and Evaluate Opportunities** focuses on the need for a thorough understanding of the existing infrastructure on and around the Farmland Industries property. Bartlett & West and CDM have investigated each of these items in great depth as to how these various constraints and opportunities may impact the future land use master planning of the proposed property redevelopment. Everything from water, sanitary sewer, storm water, water rights, rail access, traffic, access management and community connections have been reviewed. Other existing utilities on or adjacent to the property pose significant constraints that required further study and evaluation such as the large Westar Energy Substation, the existing 16" HP Southern Star Gas Line and the existing Cingular Wireless Cell Tower. Surrounding parcels of land that abut the proposed Farmland Industries property also need to be evaluated and analyzed as to their impacts on the long range land use master plan, those being the existing Catholic Cemetery site, the Auto Salvage Yard, the Douglas County Fairgrounds (4-H Property) and the proximity to the Brook Creek Neighborhood.

Another very important criteria needed to begin the process is to be sure to coordinate the proposed development and infrastructure improvements with the on-going environmental remediation already happening on the Farmland Industries property. The Bartlett & West/CDM design team met and had multiple discussions with Allen Rogers, Chief Chemist working for the City of Lawrence as a sub-consultant dealing with the environment remediation, during our investigations and were informed on the various existing site features and continuing environmental remediation procedures. After having had time to gather pertinent data, talk with key constituents and analyze various important facts about the project, it's required that further

exploring the challenges of providing a proper land use master plan, platting, rezoning, topographic grade challenges and future site cut/fill impacts on the property need to be understood. Bartlett & West and CDM understand this philosophy and want to compile the best possible plan, not only for today, but for the long-term future of the entire region.

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**Developing Flexible Solutions** is necessary to providing a unique one-of-a-kind Farmland Business Park that will differentiate itself from the competition, it needs to be creative...it needs to be innovative....but most importantly it needs to be flexible. The initial step in developing flexible solutions is getting the key stakeholders involved early and often, maintaining an open perspective and compiling a plan. From those initial key stakeholder meetings it's important to provide various creative options and unique design alternatives and incorporate ideas and philosophies from Complete Streets to various flexible lot sizes. Another component of being flexible is creating an opportunity for a culture of innovation to happen in the new Farmland Business Park. This opportunity should be looked upon by both the public and private sector as well as potentially academia to create an opportunity for potential renewable energy within the new Farmland Business Park development.

**Delivering a Unique Plan** offers the opportunity for the City of Lawrence to explore and promote various green energy alternatives that may attract like-minded businesses to the region. Building on the premise to be innovative and green, Bartlett & West and CDM suggests the option to develop a detailed Sustainability Plan that will serve as the vision and roadmap for the future Farmland Business Park. That Sustainability Plan would have multiple steps from Establishing Strategic Goals to Developing Action & Monitoring Plans. It also may include parts of a Green Energy Plan, a Storm Water Green Infrastructure Plan and additional Storm Water Reuse.

Becoming unique also requires the consideration for the development to use a distinct and powerful marketing "Brand" for the new Farmland Business Park. Having this unique image is one way to really provide an opportunity for the new development to outshine its competition and draw attention upon itself.

Last, but certainly not least is the proposed land use master plan and development needs to look at ways to be wise about costs and how those decisions have an impact on the overall planning and development process to bring everything together in unity to **Achieve the Vision** for a creative, flexible and unique Farmland Business Park.

# **Project Approach**

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The selection of a consultant to plan a new business/industrial park for Lawrence and Douglas County is an important decision for our community. It may well be a milestone moment that has the potential to make Lawrence a clear leader on the emerging Animal Health Corridor along I-70, a geographic market of global importance to this special industry as described by the Kansas City Area Development Council (www.kcanimalhealth.com). Companies such as Hills Pet Nutrition, Inc. and Del Monte Pet Products have already established our general area as an important animal health center in the region.

But the opportunity is in front of us to become so much more. All along this zone - Manhattan, Kansas to Columbia, Missouri - serve as homes to prestigious colleges of medicine. There are numerous *good news* stories in the fields of animal health and life sciences, as companies and institutions expand or locate in the Animal Health Corridor. The announced plan by the U.S. government to locate the new National Bio and Agro Defense Facility (NBAF) at Kansas State University in Manhattan has created even more *buzz*. And all around the world the animal health and nutrition industry is taking notice of a region that today is home to companies that already account for over 30 percent of total sales in the \$19 billion *global* animal health market.

Life sciences are not the only shining stars in an otherwise challenged economy. Renewable energy and sustainability practices also present great opportunity. In Kansas, wind is already becoming a rapidly growing source of energy generation, with area community colleges turning out new graduates skilled in this new industry. With such an abundant natural resource in our own state of Kansas, it is only a matter of time before Lawrence becomes involved in this industry as well.

So it is in this type of environment, almost a *perfect storm* of circumstances, that the City of Lawrence is setting forth to chart a course for the future growth of our community. As a corporate citizen in Lawrence, Bartlett & West wants to be a part of that future and assist the City of Lawrence with the public involvement and master planning for a 21<sup>st</sup> century business & industrial park.

The design team of Bartlett & West and CDM stand ready to assist the City of Lawrence in its effort to develop a land use master plan study to anticipate the future economic development needs of a healthy community. We are excited and inspired by the initiative that has already been pursued by the City Commissioners to start the environmental remediation cleanup, and we're looking forward to building on this progress with development of a *creative, flexible* and *unique* land use master plan. Our proposal, Achieve the Vision, identifies three distinct, yet interwoven areas that will help the City of Lawrence obtain its goals for the future:

- Understand Challenges and Evaluate Opportunities
- Develop Flexible Solutions
- Deliver a Unique Plan

Your team of Bartlett & West and CDM strives to improve and enhance the economic development engine in the City of Lawrence to Achieve the Vision of a future business/industrial park that is a unique crown-jewel for business growth within the community.

# Understand Challenges and Evaluate Opportunities

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We are committed to understanding every facet of the existing Farmland Industries property and its surrounding needs using thorough investigation and research as well as conducting discussions with economic development organizations, associated utility companies, adjacent railroad personnel, community neighborhood leaders and City staff to name just a few. We understand the importance of uncovering and evaluating key issues and site constraints early in the process, because no-one wants an unknown, or even worse, costly surprise late in the game.

### Complete a Thorough Analysis

Having a thorough understanding of the existing infrastructure on and around the Farmland Industries property is critical. We've investigated each of these items in great depth, but will try to summarize many of the key components for each of these various areas and how they may impact the future land use planning of the proposed property redevelopment.

#### Water & Water Rights

The Farmland site is located within the Central Service Level for water distribution (see Flow Balance Diagram below).





The 2003 Water Master Plan indicates that an annual usage volume of 77,767,000 gallons was metered at the Farmland site in 2001. Therefore approximately 213,000 gallons per day is allocated to the site. Though many of the upgrades outlined in the Water Master Plan focus on the South Service Level (at left), the Central Service Level upgrades include Harper Tank operational improvements. The Farmland site has an existing four-inch

asbestos water line fed from a sixinch cast iron line on 19<sup>th</sup> Street as indicated on the right.

This line provided City water service to the Farmland laboratory (and potentially other facilities) but should be replaced with new development. The remainder of the site was previously served by well water.

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Industrial Well Usage Summary (Water Right 9391)

Year	GPM	AF	Annual Gallons	MGD
2001	500	954.7	311,089,950	0.852
2000	500	2692.9	877,484,158	2.404
1999	500	2115.7	689,402,961	1.889
1998	500	3095.7	1,008,736,941	2.764
1997	500	2693.8	877,777,424	2.405
1996	500	2653.9	864,775,969	2.369
1995	500	2497	813,649,947	2.229
1994	500	2315	754,345,065	2.067
1993	500	2292	746,850,492	2.046
1992	500	2227	725,670,177	1.988
1991	500	2198	716,220,498	1.962
1990	500	2658	866,111,958	2.373
1989	500	2663	867,741,213	2.377
1988	500	277	90,260,727	0.247
1987	500	2258	735,771,558	2.016
1986	500	1898	618,465,198	1.694
1985	500	2190	713,613,690	1.955
1984	500	1731	564,048,081	1.545
1983	500	1504	490,079,904	1.343
1982	500	1752	570,890,952	1.564
			average	1.905

Authorized Rate: 2,800gpm Authorized Quantity: 3,685.91 AF

The previous industrial usage rate is reported to be the future use allocation. This would provide an additional 1.9mgd for industrial water use based on the historical average. The authorized quantity is approximately 3.3mgd. The previous average daily wastewater discharge flow was documented as 1.27mgd based on the 2000 NDPES permit.

Having the availability and access to a large volume of water rights for this property is a unique asset that can potentially be used as a big incentive for large volume water users who may wish to one day locate in the future industrial park. As mentioned above, we understand that the amount of acquired water rights is somewhere around 1 billion gallons, which is a significant volume of water usage. The City of Lawrence did not abandon those water rights with the purchase of the property and do have the right to use that water. The one caveat is that the City

Though use of these wells discontinued in 2001, the water right is not abandoned as a result of ownership changes and site remediation activities. The City of Lawrence is the landowner as of May 2011. The water right information and previous usage information is tabulated below.



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of Lawrence is only eligible to claim the amount of water usage that Farmland Industries had used when they were open and not actually the full 1 billion gallons, according to regulations it needs to be "specific to the site and specific to the industrial water rights." If the City of Lawrence was interested in converting some of these water rights, as we understand it, they would need to consult

with the Division of Water Resources (DWR) and also calculate the amount of water used & processed while Farmland Industries was open and operational. Essentially, the water which was passed thru and discharged (via NPDES) is what can be used.

Beyond just having access to such a valuable asset for possible future use is determining how best we can use this water in the future property redevelopment. Both Bartlett & West and CDM have intimate knowledge and working experience in dealing with the ramifications of water rights, and will work with City Staff to assess further options as a part of the land use master planning process. We believe this is another opportunity for this development to offer something creative and flexible to prospective tenants.

#### Sanitary Sewer

The Farmland Facility utilized on-site treatment systems for both sanitary and industrial wastewater therefore no connections to the City sewer system exist. The property has City sewer collection systems to the west, south, and east as illustrated in the Wastewater Collection System Map on the following page. Pump Station #13 has a firm capacity of 0.12 million gallons per day (mgd) based on the 2003 Wastewater Master Plan, and Pump Station #25 was upgraded to a firm capacity of 4.0mgd in 2008 with a forcemain upgrade from 8-inch to 12-inch in 2010. Pump Station #13 was identified for an upgrade as part of the General Wastewater Pumping Station Improvements Priority Group IV, but the project has not been completed. The capacity of Pump Station #37 is unknown at this time.

The Horizon 2020 plan encourages consideration of on-site wastewater treatment and disposal especially for larger-scale developments. On-site systems can incorporate sustainable treatment processes, reuse, and energy recovery. The on-going wastewater, stormwater, and groundwater treatment operations required for the existing site restoration may be coupled with new facility effluents to improve treatment efficiency (i.e. carbon and phosphorus sources) and potentially generate reusable energy and water. Phosphorus (i.e. ICL Performance Products LP) and carbon (i.e. waste organics or CO<sub>2</sub>) sources coupled with the nitrogen (nitrate) rich wastewater on-site may provide ideal conditions for algal biomass production which may provide synergy in incorporating greenhouse gas reduction into land use planning; Strategy #3 of the Climate Protection Plan.

Based on the above water and wastewater preliminary service analysis, additional water allocation may need to be addressed by the City dependent on the land use practices adopted. Also, an assessment of the City wastewater collection system capacity and/or on-site wastewater treatment (and accompanying NPDES requirements) must be completed. The current NDPES permit (Kansas #I-KS31-P004, Federal #KS0001601) is issued for remediation activities and indicates a final discharge (001A1) average daily flow of 0.36mgd.

#### Storm Water

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With any new development, the creative and effective management of storm water is an important part of the planning process. The Farmland Industries property itself has various amounts of elevation change, forcing storm water run-off to be routed to numerous locations throughout the property. Essentially, storm water run-off from the various uncontaminated locations is currently collected in three strategically located (unlined) detention ponds. Per our understanding, the content of these existing ponds will either be directed to the existing effluent ponds or diverted to the existing effluent drainage ditch. (Further information can be reviewed by obtaining a copy of the Kansas Water Pollution Control Permit and Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) Permit No. I-KS31-P0004)

Immediately adjacent to the property along the existing BNSF railroad tracks to the north is 100year floodplain. The far north triangular shaped parcel included in the RFP map outline lies within this location and will most likely continue to be used as farm ground and not a target for primary development in the immediate future, if ever. The remaining portion of the Farmland Industries property is not affected by floodplain issues, but the adjacent East Hills Business Park to the east has numerous lots in the 100-year floodplain.

The primary drainage pattern throughout the Farmland Industries property occurs with a large drainage channel that runs south to north almost bisecting the entire site. This drainage channel conveys a large volume of storm water under K-10 Highway through a concrete storm structure from the various developments located in this area. The storm water then flows northward in this channel and eventually reaches a discharge point on the far north side of the property under the BNSF railroad tracks and enters flood plain area along the ditch down E 1625 Road prior to heading to its ultimate destination, the Kansas River. There is also an existing creek on the far west side of the Farmland Industries property which begins along E 1575 Road, runs north past E 19<sup>th</sup> Street thru a residential area and then eventually under E 15<sup>th</sup> Street before heading toward the Kansas River as well. One additional creek runs through the site on the very northwest portion of the property, which originally is taking storm water off of Gennessee Court, collecting it and then releasing it to a creek which flows northeastward around the existing Big Bag Warehouse building and to the same outlet point under the BNSF railroad as the primary drainage ditch.

We are aware of a previous study that was completed in the past for the primary drainage channel to be routed along the west side of the two western most holding lagoons on the current Farmland Industries property. Based on previous conversations with Matt Bond, we also understand that these two holding lagoons will be converted into one very large storm water detention pond to help detain storm water run-off for the new industrial park. We feel having these large holding lagoons already in place will be a huge benefit to the future industrial park and help minimize other areas on the property that will be needed for storm water detention

holding locations. We also believe that this large drainage channel running through the property should not be looked upon as a detriment by flowing right through the middle of all the land, but provides a creative *opportunity* to allow flexible green space connections as well as function to move storm water through the property naturally, as discussed more in our Community Connections section of the proposal.

#### Southern Star Gas Line

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An existing 16" high pressure gas line runs north and south along the far western side of the Farmland Industries property and sits within a 66-foot easement. From E 19<sup>th</sup> Street north toward E 15<sup>th</sup> Street, the current location of this high pressure gas line will not cause much of an issue with any future plans for development. The southern half of this line from K-10 Highway north to E 19<sup>th</sup> Street causes significantly more concern and will need to be closely evaluated regarding several factors, including the development of a possible road connection with O'Connell Road and K-10 Highway that may serve as the main entrance to the new industrial park.

There is one additional gas line currently in service on the property, which serves the existing Lab Building where Allen Rogers currently is located to continue monitoring and working on the various environmental clean-up issues. This two-inch gas service line runs from a small station just west of the large Westar Energy transformers and is owned by ATMOS Energy. It is anticipated when the time comes for future development of the new industrial park and the current Lab Building is to be demolished this gas line will be removed.

#### Westar Energy (Electrical)

On Wednesday, September 28<sup>th</sup>, we met with four key individuals (Mike Solida, Chris Marshall, Daniel Kraus and Bill Black) associated with Westar Energy at our office to get a better understanding of the various impacts their utility lines would have on the future planning of the new industrial park (refer to exhibits on pages 10-11). This meeting was very informative and covered numerous topics, from the understanding of what existing lines are on and around the Farmland Industries property today and what options and associated costs need to be considered for future master planning.

The main topic of interest was the large existing substation that sits directly north of a possible intersection and route that would connect O'Connell Road north to E19th Street at some point during the development of the new industrial park. The current substation is a major hub for electrical lines that serves not only the former Farmland Industries property, but East Hills Business Park and other properties in the area as well. An internal network of lines from the substation throughout the Farmland Industries property are not as critical and will come down as the property is redeveloped, but some of the existing monitoring wells will still need electricity as required. Much of the anticipated re-routing to serve the monitoring wells will come from the north near E 15<sup>th</sup> Street and loop back southward into the property near the existing lagoons, not posing a major impact to current master planning development.

The substation provides power to the East Hills Business Park (EHBP) exiting south from the substation along the north side of K-10 Highway, then running east along the highway, until it reaches the western most platted lots of EHBP where it turns north along a high point ridge and then eventually runs into the business park area. We discussed a couple of options regarding this particular routing of power to the current EHBP and how it can possibly be handled with a new master plan to open up more land for lot development. One possible option was to move the

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existing lines that fed EHBP that are on the ridge further to the east to allow for larger lot development and open up some ground, but keep them as over head lines. This option would probably cost around \$200k+ to move that particular stretch of lines and also take about three to five months to complete, but is an intriguing option for consideration. A second option was to consider an entire re-route of the power source in conjunction with the road alignment idea similar to our illustrated concepts 1A & 1B (see pages 28-29) and bury the new lines underground along the proposed east-west road connection. This option would not only put most of the power lines underground and open up the site for more attractive aesthetics, but would also allow power to be in place for future sites to be pad ready for electrical service. Detailed costs for that option would need further investigation.

Getting back to the topic of the main substation location itself and its importance on the road configuration connections and future land use planning, it becomes vitally important to understand all the considerations that will be needed associated with this item. To purely pick up and move the sub-station itself to a different (non pad site developable) location somewhere on the Farmland Industries property would cost about \$10 million and take approximately two years to complete. The major pluses to this scenario are that it would be out of the way and provide a redundant power source to the entire area, meaning it would almost never have power outages because of the new and current technology associated with it. Obviously time, effort and most certainly cost are some of the most prominent negatives a consideration like this would bring. All of that said, Westar Energy would prefer to just upgrade the current substation by expanding east an area approximately 300' x 300' for a cost of about \$4 million. The expansion eastward poses significant difficulties in connecting O'Connell Road directly north to E 19th Street or E 15th Street and needs to be closely evaluated. It would potentially be possible for the sub-station to be expanded the same size westward, but that would cause the aforementioned 16" high pressure Southern Star gas line to be relocated around the substation in some fashion. In discussions with Westar Energy, they have experienced something similar in the recent past in Topeka and would expect a cost of around \$400-\$500 thousand to allow that to happen.

There are a few other minor Westar Energy power sources in the surrounding vicinity, but the above described items pose some of the biggest areas of concern for future land use master planning and development. The importance of concept layout design and constant communication with the folks from Westar Energy will be critical throughout the entire process in order to have a proper plan in place and address the needs of this property for the long term.

Providing a complete understanding of a site's existing (above ground & underground) components is extremely important on every project, and you can rely on Bartlett & West's past experience. Acquiring a highly detailed field survey to design and master plan from is a very important first step on any project as was the case for the **Lee's Summit Downtown Improvements**. Using the survey data and working with architects, City officials and business owners, Bartlett & West was able to examine various key areas of concern necessary for consideration in the design of ingress and egress to individual buildings, potential infrastructure routing and placement of other site amenities. Developing a cohesive land use master plan that was both aesthetically pleasing and provided the necessary access to all business owners were major planning parts of the **College Hill Redevelopment** project near Washburn University in Topeka, Kansas. Not only did we work directly with the owners and developers, Bartlett & West also worked with community leaders, city officials and university administrators to design a good fit for both the eye and the everyday pedestrian.





Taking inventory of existing site conditions as well as considering innovative material selections has contributed toward the success of our involvement with the **University of Kansas**. In January 2007, Bartlett & West secured a three-year contract with the University for on-call Landscape Architectural Services, which has since been renewed for an additional three years. Within the time-frame we have been involved with this contract; we have assisted the University with several projects, one of which has been the completion of the campus-wide wayfinding and signage development plan. With several visitor destinations situated within the heart of the

University, we worked together with the vice -provost and his wayfinding task force to develop a comprehensive signage system not only within the campus environs, but also throughout the community of Lawrence. Materials designations, signage design, and message scheduling were also major components of this project. All of these items will again be pertinent in planning and developing future wayfinding and signage for a new industrial park and any connections to K-10 Highway and East Hills Business Park.

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In addition to having a thorough

understanding of all the major utility components in the vicinity of the Farmland Industries property, there are various other on-site and adjacent components that need careful evaluation of the effect on land use master planning. Those are:

#### Future Farmland Business Park Access/K-10 Highway Access Management

One of the key considerations for the whole development is improved and safer access to K-10 Highway for all vehicles. The proposed main access into the Farmland Business Park is at O'Connell Road. Due to the expected traffic that will result when Farmland Business Park is fully developed, a signalized intersection at O'Connell Road & K-10 is recommended. The proposed lane configuration for the southbound approach to the intersection will be a left turn lane, through lane, and right turn only lane as shown on the K-10 & O'Connell Road Intersection exhibit (shown on page 14). The construction of a left turn only lane on K-10 for the eastbound approach will also be necessary.

While it is desirable to align the proposed access point for the Farmland Business Park at O'Connell Road, the existing Westar sub-station does provide for challenges. There are numerous transmission lines that will need to be relocated for construction of the road. If the sub -station is not relocated, O'Connell Road will need to be aligned to the east of the sub-station.

Land Use	ITE Code	Land Area (Acres)	Trip Rate (per Acre)	Daily Trips	Trip Rate ( per Acre)	AM Trips	Trip Rate (per Acre)	PM Trips
			Weekday	Weekday	Weekday 7-9 AM	Weekday	Weekday 4-6 PM	Weekday
Industrial Park	130	300	63.1	18,930	8.55	2,565	8.84	2,652

Table 1: Preliminary Trip Generation for Farmland Business Park.

As an alternative to the main access point at O'Connell Road, the intersection at Franklin Road was analyzed to see if it was a possibility for the main access road (shown on page 15). Due to the independent profiles of K-10 and the sharp vertical curve in the eastbound K-10 profile, the access point at Franklin would not be viable due to the lack of intersection sight distance. However, Franklin Road would be a possible access point if K-10 were reconstructed and significantly lowered to the east of Franklin Road.

#### Access Management

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As noted in the 23<sup>rd</sup> Street Corridor Study dated September 2002, the segment of K-10 from Harper to Noria has numerous median breaks.

It is recommended that all of the median breaks between E 1750 Road and Noria Rd be removed except those at O'Connell Road, Franklin Road, and East Hills Business Park. The removal of

the median breaks will reduce the number of conflict points on K-10 and improve the safety of the corridor. Business access should not be adversely impacted by the median break removal because the only business that is served by a median break also has access from the frontage road to the west of O'Connell Road.

### **Community Connections**

Not only the concept of providing a future opportunity for more industrial growth and employment centers is important, but the way in which it relates to its adjacent surrounding land



Looking North down O'Connell Road toward K-10 Highway

uses is also key. The existing Farmland Industries property has various neighbors in all directions and reviewing all of those current land uses is necessary when creating a cohesive plan for immediate and future growth. Bartlett & West and CDM have identified the following connections for further study and evaluation throughout the planning process:

- Enhanced and safer access to K-10 Highway
- A connection to existing East Hills Business Park
- Possible improvements to existing E 19<sup>th</sup> Street west to Harper Street
- A road connection from K-10 north to E 15<sup>th</sup> Street
- Appropriate connection considerations to the adjacent neighbors
- Various Pedestrian/Trail connections in all directions utilizing not only green space, but on-street bike lanes and proposed or existing recreation paths

Considering various modes of transportation and analyzing their impacts on the community will be vital throughout the land use master planning process. Our design team has reviewed numerous traffic management studies, recreation path plans and bicycle improvement connection ideas related to the Farmland Industries location and feel each provides valuable ideas for future connections. All of these ideas will be necessary and require further evaluation when completing the long range land use master plan to allow for a cohesive multi-modal connection to the entire City of Lawrence immediately and into the future.

#### Rail

Relationships have been the key to success on virtually every one of our projects. Our personal experience with key individuals at the City of Lawrence, Douglas County, Kansas Department of Transportation (KDOT), Kansas Department of Health and Environment (KDHE), and other area







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agencies, has allowed us to provide seamless service to clients. This is because we maintain clear communication channels so that all concerns are understood and addressed. The result is a project that is delivered on time, and also one that provides a comprehensive solution.

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assisting with the planning and development of **Kanza Fire Innovation Park** in Topeka, that many global companies are very interested in prospective lots that provide rail line service. The Farmland Industries property is bordered on the north by an existing BNSF railroad line which currently brings multiple spur lines into the site. We are also aware that close to where the main spur line enters the property it changes capacity (or allowable weight of train cars) from a 110# rail to a 90# rail. This will need to be further evaluated or rebuilt depending on the outcome of the final land use master

We know from our recent experience in



Spur lines from BNSF entering the Farmland property

plan including how providing rail access will be accounted for within the development. Having good rail service should not be overlooked and provides a wonderful asset for many global and regional market businesses.

In the specific case of the railroad companies, Bartlett & West has a very special relationship going back over 20 years with the Atchison, Topeka, and Santa Fe Railway Company, now BNSF Railway, at that time headquartered in downtown Topeka. What started out as a simple mapping and data management project has since evolved into a full service department at Bartlett & West now known as our Rail Division. Not only does the Rail Division serve the needs of BNSF in and around Topeka, but we are providing services all along their global network. This expansion of service offerings also includes other new railroad clients, such as the Kansas City Southern Railway. What was once a local mapping service has now grown into a nationwide service operation to the railroad industry. We will put this global knowledge of the railroad industry to work for you to meet the local rail service needs of the proposed industrial park.

#### **Existing Cemetery**

Immediately adjacent to K-10 Highway on the north is an existing parcel of ground which has an old and historic Catholic Cemetery located on the property. It is our understanding that this cemetery will not be moving any time in the near future, if ever. This ground is not immediately adjacent to the limits of the Farmland Industries property as illustrated in the original RFP map, but does pose an important evaluation criteria when looking at the big picture while trying to land use master plan a connection of developable lots between this site and the existing East Hills Business Park. Further land use planning conceptual layout ideas need to take this parcel into careful consideration.

#### **Douglas County Fairground (4-H Property)**

Off to the adjacent west side of the Farmland Industries property is the Douglas County Fairgrounds, a significantly large piece of land that abuts this proposed new industrial park. Specific planning and consideration is a must to understand the current and long range needs of the Fairgrounds location and how that may impact the land use master plan. During peak times, such as every year during the County Fair, finding parking is difficult. Future consideration to allow for possible expansion of the Fairgrounds needs evaluation and proper attention so the needs of appropriate civic space are analyzed as required. It is most likely doubtful, but another scenario is if Douglas County would decide to relocate the County fairgrounds to a new or different location at some point in the future, it would then potentially open up a very large piece of ground close and/or adjacent to this newly planned industrial park. Having a vision or at least thinking about these possibilities is something Bartlett & West and CDM do with every project.

#### Auto Salvage Yard

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Another adjacent property along the west side of the Farmland Industries site is the two Auto Salvage Yard locations. These locations combined account for almost 18 acres of land and may be a future target for expansion of the proposed industrial park as another alternative or idea. With a future connection to E 19<sup>th</sup> Street and the probable upgrades from this new connection west to Harper Street, this location may become very valuable to a specific future business wanting to buy a lot for development in the new industrial park. We feel this is at least something for consideration and an idea that may be worth looking into further during the planning process.

#### **Brook Creek Neighborhood**

Giving very high consideration to the existing Brook Creek Neighborhood homeowners will be extremely important during all of the current and future land use planning for this proposed new industrial park. We realize the City Manager has already met with some of these folks and certainly understand their concerns and issues about the future neighbors, traffic and noise in their backyard. Getting them involved as a key stakeholder group to hear their opinions expressed will be an important part of the land use master planning development process.

#### Antennae Cell Tower

Adjacent to the eastern edge of the Farmland Industries property along the previously mentioned high-point ridge is a large cell tower owned by Cingular Wireless. This tower and small parcel of ground currently sits right in the middle of possible ground for future development and needs to be accounted for with proper land use master planning for the new industrial park layout. At the time of this proposal document submittal, we have been trying to get in contact with the appropriate Cingular Wireless contact who may ultimately consider an option for moving the tower at some point in the future or if they will never even pursue such an option. Regardless, we have looked at some ideas that allow the existing tower to remain, but also may provide *flexibility* to the land use master plan if at some point in the future this tower may be removed or relocated.

### **Coordinate with Environmental Remediation**

Another very important criteria needed to begin this project is to be sure to coordinate the proposed development and infrastructure improvements with the on-going environmental remediation already happening on the Farmland Industries property. We have met and had multiple discussions with Allen Rogers, Chief Chemist working for the City of Lawrence as a subconsultant dealing with the environment remediation, who we see as an invaluable resource on everything pertinent with the existing Farmland Industries property. If given the opportunity to be your chosen consultant for this project, we intended to work closely with Allen throughout the process and use his background and knowledge of items that may impact any future land use master plan for the new industrial park. At our aforementioned meetings with Mr. Rogers, it reaffirmed the selected consultant must have knowledge of the importance of coordinating any proposed development and infrastructure improvements with the current environmental remediation procedures happening on site. Some of those key points are:

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- Understanding that various areas on the existing Farmland Industries property *cannot* be touched and still must be closely monitored and tested regularly
- Knowing the locations that were (and currently are) landfills and will have a major impact on the need to replace unsuitable soils if necessary for development
- Coordinating any future infrastructure or development ideas with the Soil Waste Management Plan on site and that these ideas with be kept in compliance
- Realizing that many of the existing water lines in certain locations of the property will remain in place to pump water to North Lawrence to fertilize existing farm ground. This waterline going North is a six-inch HDPE line that goes half-mile east of the old Grant School and has a riser every half-mile that farmers can tie into to fertilize their ground.
- Analyzing the locations of the various underground lines located within the existing Farmland Industries property. There are a lot of underground transient lines and various other process lines
- Considering the impact of the proposed run-off interceptor trench on the northern portion of the property and how that must be implemented into any design and remain in place to move contaminated nitrate soil/water to a specific lagoon location. We understand there was not enough money to remediate the whole hill, so a plan has been put in place to contain it

Along with some of the key points above, we understand seven building structures will initially remain on the property (Lab, Bulk Warehouse #2, Bulk Warehouse #3, Big Bag Warehouse, the Machine Shop/Parts Warehouse, Tank #5 & Tank #6) and need to be accounted for while compiling the long range land use master plan. All of these items are very important when understanding, evaluating and analyzing the entire picture of land use master planning. Appropriate understanding of key and vital components leads the Bartlett & West and CDM design team down the path of *doing it right the first time*.

### **Proper Planning and Site Development**

After gathering pertinent data, talking with key constituents and analyzing various important facts about the project, further exploring the challenges of providing a proper land use and site development master plan are critical. Bartlett & West and CDM understand this philosophy and want to compile the best possible plan, not only for today, but for the long-term future.

#### Land Use & Growth

Bartlett & West and CDM have a clear understanding of the historical growth patterns in our state, region, and local communities, because we are a part of that history as local business owners. Going back to the days when Bob Billings was laying out plans to develop the Alvamar area, and continuing to this day, Bartlett & West has been engaged in development and infrastructure projects that require us to know and understand the local land use plans for the State of Kansas, Douglas County and City of Lawrence. But beyond just being familiar with the specifics of the local land use plans or growth patterns in Lawrence and Douglas County, we

understand the global principles of urban planning and the driving forces that influence growth and development in nearly any community. We will apply this global knowledge and local experience to this land use master planning study and talk about some of our specific ideas in the next of section of our proposal called Developing Flexible Solutions.

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As a locally led team that is well experienced in the art of land use master planning and major site developments, we have completed many plans in the region, such as **Kanza Fire Innovation Park** and we are able to do so because of the great number of specialized professionals we have in our firm. As a result, the phases and elements of a comprehensive land use development plan – concept planning, surveying, impact studies, permitting, design, cost estimates and project budgets, and construction administration - are all typically provided under *one roof* at Bartlett & West. Whenever we work with an owner to plan for any major site development project or land use plan, we seek to understand the owner's needs and design a project which meets their expectations. But we also consider how a project fits into the context of the neighborhood and community in which it will be built.

#### Planning, Platting and Zoning

Beyond understanding the theory and science of land use planning and growth, Bartlett & West and CDM are well versed in the technical arts of land use implementation. In Lawrence and Douglas County alone we have worked on countless numbers of plats, zoning cases, special use permit applications, and the like. We want to look at all possibilities to make this new industrial park the most creative and flexible development in the region. We envision having portions of strategically placed commercial zoning mixed with primary industrial zoning locations, such as an IG or IL allowed use. But we have always understood platting and zoning are technical tools. We remember these methods are intended to bring about the goals and objectives of the comprehensive plan, and ultimately to serve the greater good of the community on a global level.

#### Topographic and Geotechnical Challenges

In addition to the level of pure planning layouts and conceptual ideas, there needs to be a complete and knowledgeable understanding of how existing site conditions can have substantial impacts on both development opportunities and actual construction costs. The existing Farmland Industries property has approximately 467 total acres of area, with about 302 acres of that ready to be developed immediately. On the entire property lies various levels of limestone rock and subsurface geotechnical challenges related to soil concerns. It also has various topographic elevation difficulties that may be encountered when trying to construct pad ready sites with existing infrastructure.

The property itself has various levels of elevation grade change throughout the property and those factors need to be considered when laying out the potential for future lots and how utilities may be installed to serve each of these locations. In a short summary, the northern portion of the property (by Tank #5 & #6) is primarily located on a large hillside and is sitting in a highly contaminated nitrate soil location and will not likely be an immediate target for development. The existing lagoons will either be converted into storm water detention ponds or remain for holding some of the contaminated water running to them from proposed interceptor trenches. The west half of site (from the existing drainage channel westward) has the least amount of slope. Since that is where the primary location of many of the old Farmland buildings were located, it appears to need the least amount of earthwork to become pad ready. Further east of the drainage channel, running toward the existing East Hills Business Park location, the topography varies greatly and has multiple elevation challenges that will need further exploring when proposing future pad sites and infrastructure connections for development.

#### Site Cut/Fill

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Tying together with the pertinent information above regarding elevation, slope and soils is the review and analysis of impacts related to site earthwork. From a planning standpoint, getting the overall plan to come together and work is key, but then overlaying those ideas onto the actual existing topographic information allows the design team to



see the impacts and amount of earthwork it will take to bring the planning design to a built reality. Bartlett & West and CDM will utilize the power of some new software that we have invested in as a company to quickly review the design and cost implications of site cuts and site fills on a property. Also using detailed soil information we can further examine how to better manipulate the land to be sustainable, but cost friendly. We have included an example of what one would look like while analyzing the cut/fill requirements and cost factors for the project. We feel this tool will provide our team an added edge when reviewing creative design alternatives and their overall cost implications to development projects.

# **Develop Flexible Solutions**

In order to provide a unique one-of-a-kind industrial business park that will differentiate itself from the competition, it needs to be creative...it needs to be innovative....but most importantly it needs to be flexible. Being flexible means that it can adapt to the ever changing trends and needs that site selection consultants will be looking for when searching for a piece of ground to recommend to their clients from all over the world.

### Key Stakeholder Involvement

The first step in developing those flexible solutions is to get the key stakeholders involved early and often. It will be necessary to consider multiple stakeholders that will have an interest in the success of this proposed industrial park master plan and design guidelines. Maintaining an open perspective to what each group has to contribute to the overall plan is a key component to the project's success. Including the public at large, several groups have an invested interest in the project. Bartlett & West and CDM bring the necessary background and skill set to work with multiple stakeholders on a project and manage and maintain sufficient communication avenues for all those involved.

We believe these key stakeholders groups below need to be involved and contacted frequently:

- City of Lawrence—Involving multiple city departments (City Manager's Office, Public Works, Utilities Department, Planning & Development Services Department, etc.)
- Douglas County—Involving multiple county departments
- Lawrence Chamber of Commerce
- Kansas Department of Transportation (KDOT)
- Kansas Department of Commerce

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- Kansas City Area Development Council (KCADC)
- Lawrence-Douglas County Bio-Science Authority (LDCBA)
- University of Kansas
- Lawrence Commercial Realtors
- Brook Creek Neighborhood Residents
- Other Adjacent Property Owners
- Allen Rogers, Chief Chemist working with on-going Environmental Remediation

Our design team has specific tools discussed in more detail below, that we will use to ensure key stakeholder involvement is a priority during all phases of design. We recognize the key to a successful land use master plan rests upon the foundation of *inclusion*.

Following initial project kick-off meetings with the project director or city officials and other identified groups, we will initiate the design process with a Design Charette. An active example of the collaborative design process, the Design Charette will serve as an opportunity to engage specific user-groups and key stakeholders in the collection of feedback regarding the ideas and design elements that will be important to the success of the land use master plan. During this process, members of the Bartlett & West and CDM design team will conduct meetings to gather information about the key stakeholders ideas, opinions and concerns.

In order to take full advantage of the process, we anticipate it will take multiple Design Charette sessions to fully engage the land use master planning process. This is an opportunity to tap into the creativity of each and every key stakeholder and we're looking forward to receiving feedback regarding the future of this new proposed industrial park. Based upon our initial observations, we envision the user groups will primarily be those we have previously noted. We also understand that there may be other individuals who will wish to be involved in this process, and we will work with city officials to determine who they are and to incorporate their ideas wherever possible.

Similar to a targeted strategic planning process, we also look to employ questionnaires as a part of the land use master planning effort, if you so desire, to begin the dialogue between the design team and various user groups. These questionnaires will be distributed via group meetings, email, paper mail and the use of a project website (if desired), facilitated by Bartlett & West and CDM, to make every effort to allow each key stakeholder to have the opportunity to voice their input.

Once relationships have been established



through the Design Charette, we will continue the design process by involving the recommended user groups with regularly scheduled meetings from preliminary design until the adoption of a final land use master plan. A key to success for these meetings will be the utilization of threedimensional rendering software that will allow the stakeholders to visualize the future development of the industrial park. As a result of using 3D rendering software, the following will be accomplished:

- We have the ability to quickly compose multiple three-dimensional models and flythroughs of the space within the time-frame of a public meeting
- Individuals not accustomed to reading site plans will have a more visual means to envision proposed ideas, thus facilitating design communication
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• We will minimize the possibility of miscommunication, thereby keeping everyone on the same page and using our time effectively

At the conclusion of the design process, we will provide city officials a copy of the proposed land use master plan fly-through outlining what it may look like two, five, ten years and even further into the future. Given our previous project experience with land use master planning, Bartlett & West and CDM understand the future development of Farmland Industries property will not happen overnight, and will likely occur in specific phases over the course of years. Once a land use master plan has been outlined, our design team will work to identify specific projects that may be grouped into phases that will work to achieve the vision for the new industrial park. As we identify these phases, we will take into consideration current construction costs and spatial priorities, we will also consult city and local leaders to assemble a phasing plan that is in-line with the priorities of the City of Lawrence.

Bartlett & West knows how to cultivate this kind of key stakeholder buy-in because our in-house team of public involvement professionals has used these strategies before. For the **Topeka and Shawnee County Riverfront Master Plan** project, design charettes were organized to identify residents' expectations, prioritize desired features, tap into participants' creativity and generate enthusiasm for this potentially transformative project. For the **Burroughs Creek Corridor Linear Park & Trail** in the City of Lawrence, multiple meetings were held with neighboring residents, neighborhood leaders, City Staff and the public to gain insight into possible user needs and amenities, gather potential design ideas from the community, effectively present final designs, and secure public support. Three dimensional fly-throughs of the existing and proposed alignment of the trail offered key stakeholders a unique perspective on the design beyond what could be interpreted from traditional, two-dimensional plan view renderings.

Facilitating a community design charette, integrating public design, and keeping the College informed were primary elements in the development of the **Cloud County Community College (CCCC) Facilities Master Plan in Concordia, Kansas**. Bartlett & West worked closely with members of the CCCC staff and community throughout the entire process. Three-Dimensional modeling, public meetings, phasing opportunities and a



Rendering Example developed for the Cloud County Community College Facilities Master Plan

final plan document were provided to aid the college in the development of their future. Obtaining college, local, and community buy-in was necessary over the course of several months to get the project off the ground. This type of consensus building and communication is necessary when working with large groups of people to create an end result everyone will be happy to achieve.

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Organizing timely public collaboration efforts was critical when working on the **Finney County Museum Renovations and Master Planning project in Garden City, Kansas**. Bartlett & West worked with various individuals during the site design and development at this unique location. The project sits within Finnup Park and adjacent to the Garden City Zoo in the Southwest region of the city, providing a great master planning opportunity. A limited amount of time was



Artistic rendering of the Finney County Museum

set aside to prepare a plan and develop various options and solutions. A schedule was formulated and a collaborated three-day design charette was held. Staying on schedule brought the project from start to finish on time and helped meet the client's requirements to complete the project successfully.

Maintaining public meetings and incorporating public collaboration while fulfilling the needs of the Baldwin City Parks and Recreation Department was integral to the success of the **Baldwin City Parks and Recreation Master Plan**. Bartlett & West had the opportunity to collaborate with residents of Baldwin City, City officials and staff members of Baldwin City Parks and Recreation Department to develop a long-range master plan for recreational amenities within their community. We worked to include the ideas voiced by the public and incorporated various amenities that would appeal to all types of users within the surrounding community— both today and in the future. Regular meetings, questionnaires, focus groups, and public presentations were utilized during all phases of design and contributed to the overall success of the project.

Sustainable master planning and green building technology has been a key component for the landscape architects and engineers at Bartlett & West as they worked with the Topeka Chamber of Commerce and the GO Topeka Board to develop **Kanza Fire Innovation Park**: a large-scale green innovation and industrial park south of Topeka, Kansas. With the ultimate goal of promoting the establishment of green collar jobs and adding sustainability industries to the Topeka market, Kanza Fire was designed to support the energy efficiency of it's industries as well as to promote healthy lifestyles among employees. Shared energy sources between

properties incorporate geothermal, solar, and wind generation to help reduce the energy consumption of each facility. Pedestrian trails and tree-lined boulevards provide active connections and inviting walkways throughout the site to encourage movement throughout the development. In an effort to utilize building structures to create a cohesive environment, the landscape architect and engineers specifically wrote a development code that utilizes the building façade to create an inviting corridor for passing pedestrians.



Conceptual rendering of Kanza Fire Innovation Park

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In 2008, Bartlett & West worked with Neosho County Community College to create a Comprehensive Campus Facilities Master Plan to guide the college's future. The school has been expanding and required both immediate and long-term growth plans for indoor and outdoor spaces. The master planning process consisted of regular project meetings, facilities tours and reviews, design charette, and a project website. Utilizing feedback from



Rendering example of Neosho County Community College Facility Master Plan

numerous meetings and public input sessions, Bartlett & West was able to incorporate the needs of the stakeholders while creating a comprehensive master plan and phasing options to assist NCCC plan for their future growth and development goals.

In February 2010, Bartlett & West was again selected by NCCC to develop the satellite campus in Ottawa, Kansas. Our design team worked with college officials to develop a new 27 acre campus which includes an auditorium, classrooms and computer laboratories. In the Spring of 2011, NCCC now has a new facility equipped with indoor and outdoor spaces for both students and the Ottawa community to enjoy the campus experience. Our current involvement with this new NCCC endeavor is a further example of our commitment to our clients to serve your needs from now and into the future.

#### **Opportunities to Implement Complete Streets**

The development of the Farmland Business Park will be an opportunity to expand the Lawrence street network with streets that are safe for all users: pedestrians, trucks, bicycles, buses, cars, etc. The presence of bicycle lanes and sidewalks make drivers more alert and thereby make the roadway safer. Streets with bikes lanes have a significantly lower crash rates then either major or minor streets without any bicycle facilities. Complete streets benefit all users, not just the non-motorized users.

Not only do bike lanes provide a safer area on the road for bicycles to operate, but they also can increase capacity for vehicles because it eliminates the need for drivers to wait behind a bicyclist when an approaching vehicle is coming so they can pass the cyclist and meet the legal separation distance when passing. In a similar example of the mutual benefits of Complete Streets, a street built with bicycle lanes provide trucks a larger paved surface to accommodate truck turning movements without having excessively large curb radii. Smaller curb radii then benefit pedestrians by allowing them to cross perpendicular to the roadway. This is especially beneficial for wheelchair and blind pedestrians.

A Complete Street typical section for Farmland Business Park is shown on the following page. As can be seen on the figure, the street will provide a transportation corridor for bicycles and pedestrians in addition to vehicles. The presence of the center median throughout the business park will be determined by locations of the driveway access for the businesses throughout the development. At driveways, the median can be omitted or narrowed to provide for a turning lane into the driveway. The center median can be landscaped for an appealing aesthetic look, or can be bricked or decoratively paved to reduce the maintenance on the street. The sidewalks shown



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Typical Section for two-or three-lane street in Farmland Business Park.

on the typical section can be widened to create a Shared Use Path along the corridor. Shared Use Paths are generally better along access controlled corridors because of the pedestrian and bicycle conflict points with vehicles at driveways and intersections. Shared Use Paths are generally thought of as supplemental infrastructure to on-street bicycle facilities as noted in the AASHTO Guide for the Development of Bicycles Facilities. As with any development, balancing the available financial resources with the desired improvements can be challenging. Therefore, it is important that the key stakeholders in the project be involved so the appropriate level of Complete Streets is implemented.

#### Bicycles

The Farmland Business Park area is in an optimal location to expand the bicycle network in Lawrence.

Not only can the existing bike network be connected through the implementation of complete streets in the Farmland Business Park, but more beneficially, bike lane continuity can be achieved in East Lawrence by reconstructing and extending 19<sup>th</sup> Street to connect with the O'Connell Road extension from K-10. The proposed east-west road then would continue east

from O'Connell Road and connect



Lawrence Bikeways Map surrounding the Farmland Business Park

the East Hills Business Park to the bicycle network. This will be a critical and direct connection of the high density employment center to the residential area on the east side of Lawrence. The connection of the bicycle network to East Hills Business Park will also provide connection to Noria Road, which is also identified to have bicycle lanes when it is improved in the future.

#### Transit

It is important that transit needs be included in the design of Farmland Business Park Complete Streets. East Hills Business Park is currently served by Route 5 of the Lawrence Transit System (route shown on the following page). Therefore, consideration should be given to including the Farmland Business Park in the Transit network and providing well lit, accessible, and safe bus stops with turnouts within the Farmland Business Park.

#### Pedestrians

Sidewalk design is also an important part of transportation network but is often given less attention than roadways or bridges. Sidewalks should be included on all street corridors and shall be designed to provide a safe and comfortable walking experience. The sidewalks and



Lawrence Transit Route 5 with service to East Hills Business Park.

sidewalk ramps should be wide enough so that two people can walk comfortably side-by-side. Sidewalk intersections should have rounded corners rather than squared to provide a more aesthetically appealing look and prevent bare spots in vegetation where pedestrians and bicyclists 'shortcut' the corners. Mid-block cross-walks with refuge medians should also be considered where appropriate.

### **Providing Creative Options**

For your preliminary use, Bartlett & West and CDM have compiled four conceptual layout ideas for review and discussion. A brief specific description about each conceptual layout is described further below to provide you additional insight into our thought process for each idea. After reading our detailed site analysis earlier in the proposal, you probably realize that this location has many factors to consider when compiling a creative land use master plan layout that needs to be flexible. Please note a few specific comments that we have identified that are relevant to all four of conceptual layout ideas:

- All concepts go beyond the initial boundary limits of the Farmland Industries property as shown in the original RFP, giving insight and thought considerations for immediate and long term land use options for the entire area
- You'll notice that the largest lot size that is initially indicated on any of the conceptual layouts is roughly +/- 75 acres, but we feel there are various other additional alternative options to consider if some of the current site constraints that exist on and around the Farmland Industries property are able to be removed or relocated. One specific constraint as mentioned earlier in our proposal is the location of the existing Cingular Wireless Cell Tower, which at the time of this proposal submittal, contact to those representatives could not confirm the willingness or authority to potentially relocate this tower. Each of the four attached concepts illustrate the assumption that this Cell Tower would not be moved. We believe further discussion and investigation into the possible relocation of this Cell Tower would open up numerous additional options for further review and consideration.

#### Concept 1A & 1B (on following pages)

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These concepts both have the same general road alignments and connections, but illustrate consideration and ideas for flexible platting concepts to accommodate numerous different lot size arrangements. These options propose a signalized main entrance connection to O'Connell Road with the road possibly bend around the existing Westar Substation to the west. On paper the road alignment is worth consideration, but would involve numerous additional discussions with both Westar Energy and Southern Star Gas regarding their previously mentioned utilities earlier in the proposal, both challenges that need specific attention. Concept 1A generally focuses on providing fewer lots that are larger in size, while Concept 1B illustrates more lots options that could potentially be combined if preferred by a specific tenant, but are initially smaller in size. Concept 1B also indicates a possible road connection west to E 1575 Road and more opportunities for commercial redevelopment in the southeast portion of the property.

#### Concept 2A & 2B (on following pages)

Both concepts 2A & 2B again utilize the same primary road network alignment indicated in each layout idea, but differentiate between the varieties of flexible lot sizes that could be accommodated. These concepts propose the connection to K-10 Highway for O'Connell Road be shifted east around the proposed Westar Energy substation expansion and potentially consider realigning the connection south of K-10 Highway as well. The realignment option for O'Connell south of K-10 Highway is inserted following the 4 conceptual layout sheets and illustrates an alternative for rebuilding the future signalized intersection connection. We certainly understand rebuilding O'Connell south of K-10 would not be a first preferred option, but we feel it's important to consider this creative alternative to be cost conscience and avoid the potential impacts of both the Westar Energy and South Star Gas constraints on the overall development.

In general, Concept 2A provides for larger lots with an option for small commercial pad sites along K-10 Highway and consideration for an increase in civic space to accommodate the County Fairground needs along the far southwest side. Concept 2B provides some alternative lot configurations while allowing for potentially larger big box commercial pad sites that may be prime targets for interested developers in the southwestern portion of the property.

### **Create a Culture of Innovation**

We know from our experience that the City of Lawrence works closely with the Chamber of Commerce to ensure they are in alignment with market trends in pursuit of future owners/tenants. The Bartlett & West and CDM design team believe that a foundational premise of the future industrial park is that it needs to be innovative. We believe this will be green including use of (1) renewable energy, (2) storm water green infrastructure and application of (3) green building standards. A bonus would be to secure an industry that has either a green philosophy or is a business that produces green products and services. The team is amply equipped to evaluate and incorporate green strategies, tools and designs for the Farmland Industries site.

Innovation begins with commitment by the community and the city to seek new means of attaining community growth and improvements not stopping at doing what it has always done in the past and getting the same results. Innovation in Lawrence is being driven by both the public and private sectors as well as academia. The University of Kansas in the heart of the city is a well spring of innovation and should be tapped for inspiration, research and expertise. For instance, the joint pursuit between the city and the University to produce biofuels from algae fed from the effluent of wastewater treatment plants has great promise. Private industry can also provide their expertise and perspective in pursuit of innovation which is typically driven by the




















# 3-DIMENSIONAL VIEW OF CONCEPT 1A

Rendering illustrates various types of potential occupants

adage necessity is the mother of invention. One such business in Lawrence is the Bowersock Mills and Power Company harnessing the power of the Kansas River to generate renewable energy. Bowersock is one of only 30 in the country to have attained Low Impact status. These two examples serve as two local models providing a great energy from which to carry over into the Farmland Industry site and build upon.

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The innovation is only as good as the plan to implement it and put it into practice. An important step in creating the plan will be to identify the known innovations in renewable energy, storm water green infrastructure and green building standards as brought forward by the team as well as key stakeholders including the university and key businesses and test them against the community's goals as well as key criteria of feasibility including; socially acceptable, economically viable, environmentally and fiscally sound. These would then support the development of guiding principles of the site development and pursuit of industry.

## Deliver a Unique Plan

After having reviewed, analyzed and thoroughly investigated all the various site factors affecting the existing Farmland Industries location and also developing creative and flexible solutions to those needs, it all must come together with a distinctive, yet unique overall master plan.

## **Exploring and Promoting Green Alternatives**

Building on the premise to be innovative and green, one of the team's first step to approaching this project will be to develop a Sustainability Plan that will serve as the vision and roadmap for the site. Based on discussions with City staff, the Plan will address local government services and community participation – including transportation, water, wastewater, solid waste, buildings, street lighting and site design. For each service sector, strategies and actions, best practices, and institutional/policy recommendations will be identified to achieve the sustainability goals that will be outlined in the plan. If City staff feels appropriate, a step-by-step alternative idea we propose is as follows:



#### Step 1 – Establish Vision and Strategic Goals

At the kickoff meeting, the Bartlett & West and CDM design team will work with the City Staff to develop a sustainability vision statement, set of guiding principles, and list of high level goals that will serve as the foundation for the current design and future sustainability initiatives. Based on the sustainability vision, the meeting will determine focus areas, or the list of sections that reflect the issues that are most important for the City of Lawrence to be addressed in the plan. The meeting will also identify key stakeholders within the City of Lawrence for further participation.

**Step 1 Deliverables:** Half day workshop and kickoff meeting summary report, including a schedule, list of key stakeholders, and the vision, principal and goals of the Plan.

#### Step 2 – Conduct Sustainability Assessment

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Bartlett & West and CDM will review current practices (policies, procedures, ordinances, ect.) and existing conditions to assess and establish a baseline inventory of sustainability. The design team will work with the City of Lawrence to identify service sectors and key performance indicators that will guide the assessment. Bartlett & West and CDM assumes the City of Lawrence will provide available data (energy use data, land use plans, environmental policies) at the project kickoff meeting. The inventory will be established through constant collaboration and communication between the design team and City departments through conference calls. An inperson review meeting is anticipated to present the draft sustainability inventory to the City of Lawrence. The baseline sustainability inventory will be included in the Final Sustainability Plan.

**Step 2 Deliverables:** Draft Baseline Sustainability Inventory, Baseline Sustainability Inventory Meeting Summary Report.

#### Step 3 – Identify and Rank Opportunities

The vision, goals, and sustainability assessment are analyzed to drive opportunities for advancing the City's sustainability program. Opportunities are also captured through facilitated discussions with stakeholders. Bartlett & West and CDM will facilitate a brainstorming meeting with key staff and stakeholders to identify potential sustainability opportunities to include in the Sustainability Plan. The sustainability vision statement and list of high level goals developed during the kickoff meeting will be presented at the brainstorming meeting. The stakeholders will review and comment on the vision statement and goals as a first step in the brainstorming meeting. Bartlett & West and CDM anticipates developing a list of at least 20 opportunities, including options for improving quality of life, energy efficiency at key facilities, recycling, walkability, ect. The design team plans to bring its experience from other sustainability programs to bear early so as to take advantage of lessons learned and provide focus towards the identification of opportunities for use in the Sustainability Plan.

Bartlett & West and CDM will use an interactive process during the meeting and bring suggestions of typical opportunities used in other communities to help solicit ideas from key stakeholders. At the end of the brainstorming process, the group of stakeholders will be asked to individually rank the list of sustainability opportunities. Finally, the design team will obtain input as to the criteria the City of Lawrence would like to have used for evaluating and selecting opportunities and establish the relative importance each criteria is to the City (e.g., very important, somewhat important, not important, etc).

After the meeting, Bartlett & West and CDM will compile the list of opportunities and their alignment with the strategic goals will be evaluated. Following, the design team will rank the opportunities according to a variety of set criteria and considering the City's input.

Step 3 Deliverables: Full day workshop and Brainstorming Meeting Summary Report.

#### Step 4 – Select Actions and Set Targets

Following the assessment of current progress in sustainability and identification of opportunities, Bartlett & West and CDM will work with the City of Lawrence to reevaluate and refined the strategic goals and focus areas to account for any gaps that may exist. Based on the opportunities ranking and refined goals, opportunities for action are selected for implementation. Measurement metrics and targets are set for the refined goals and are informed by the selected actions.

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**Step 4 Deliverables:** Consensus-based List of Actions, Metrics, and Target Review Meeting Summary Report.

#### Step 5 – Develop Sustainability

Bartlett & West and CDM will prepare the Sustainability Plan to meet the City of Lawrence's vision and goals as identified in the kickoff and stakeholders meetings. The design team will evaluate each opportunity for its sustainability impact. During this process, the design team will contact and/or coordinated with the City of Lawrence regarding sustainability opportunities and implementation issues as appropriate.

The evaluation of each opportunity may include:

- Summary of the opportunity
- Pros and Cons of implementation
- Kilowatt-hour, therms, vehicular fuel (or vehicle miles travelled) savings/generated
- Social benefits
- Capital and annual costs/savings
- Job creation potential
- Greenhouse gas reductions
- Relevant best practices and examples
- Other measures as provided by the City of Lawrence

Bartlett & West and CDM will submit a draft Sustainability Plan to City staff for review. The Sustainability Plan will include an analysis of each opportunity and required backup information as necessary.

Based upon input from the City, the design team will develop a phased implementation schedule that can help support the City of Lawrence's development of the Farmland Industries Site. This schedule will consider available funding, whether other grant monies to be sought or City funds. A review meeting will be scheduled to discuss any comments or questions, and review the opportunities that best suit the need of the City of Lawrence.

#### Step 6 – Investigate Funding Sources

Bartlett & West and CDM considers sustainability a "core" area of business for our companies. Considerable effort and resources are expended to remain current on opportunities presented by federal and state government in the arena of funding for sustainability energy, transportation, and land use projects. The design team tracks federal funding opportunities provided state-wide. We will complete a search of addition funding opportunities that can be leveraged.

**Step 6 Deliverables:** Draft Sustainability Plan, Final Sustainability Plan, Review Meeting Summary Report, Summary of Federal and State Funding Opportunities.

#### Step 7 - Develop Action and Monitoring Plans

For the selected actions, Bartlett & West and CDM will develop action and monitoring plans to streamline resources, determined roles and responsibilities, and established accountability for achieving progress. The information will allow the City of Lawrence to conduct ongoing data collection and track progress for successful implementation.

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Step 7 Deliverables: Action and Monitoring Plans (included in Final Sustainability Plan).

We understand the importance of creating a workable plan, because our team has done this before. On a citywide scale using a similar approach, CDM entered into a partnership with the **City of Asheville, North Carolina**, by providing Research & Development funds to develop the City's award winning **Sustainable Resource Management Plan**. The project applied an integrated planning approach for resource management, addressing the full spectrum of local government services, including transportation, buildings, public facilities, street lighting, water, wastewater, solid waste, and land use planning, and should



provide energy and emission reduction strategies, best practices, and institutional/policy recommendations.

## **Green Energy Plan**

Applying the umbrella Sustainability Plan as the roadmap and utilizing a similar stakeholder based process including technical experts from the City of Lawrence (e.g., Solid Waste, Wastewater, Public Works), University of Kansas and the energy industry the team will explore energy alternatives that are the most feasible, cost effective and meet the sustainability criteria set for the site serving as a model for the community.

There are a number of renewable energy alternatives to explore to support the future energy supply needs of industries that would locate to the Farmland Industries site. These include such alternatives as wind, solar, geothermal and waste-to-energy options or combination of options. There is incentive for industries to have renewable energy supplied onsite. Likewise, there is benefit to both the city and private industry to seek offsite renewable supply alternatives such as cogeneration potential at the wastewater treatment plant just north of the site. For the Farmland Industries site, options will be evaluated not as standalone but a combination of options, alternatives, should explored in an integrated fashion quantifying the benefits and costs of each alternative as well as criteria established during the development of the Plan then selecting that which is best suited for the site and future tenants.

#### **Offsite Energy Options**

One untapped energy source harnessed successfully by other communities around the country is biogas. Cogeneration utilizes energy from the wastewater treatment process to produce heat and electricity. Methane, a byproduct of wastewater treatment plant operations, is used as fuel for generators that produce electricity. Benefits of cogeneration include:

• Methane, a powerful greenhouse gas, is used to generate electricity rather than be released into the atmosphere.

- Efficient energy generation Cogeneration harnesses heat that would otherwise be wasted.
- Cogeneration provides heat for use without having to burn additional fuel sources.

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The **Des Moines Metropolitan Wastewater Reclamation Authority's (WRA)** is a great example where a utility is using biogas as a resource. Currently, the biogas being generated at WRA's wastewater treatment plant is being for cogeneration, and well as being sold to a nearby private industry. To maximize biogas production, WRA receives a large amount of trucked-in waste (approximately 40%) from nearby industries, which maximizes the generation of biogas. WRA receives a significant economic benefit from the trucked-in waste tip fees and the revenue generated by the sale of the biogas. To develop their overall economic plan, CDM developed a Bioenergy Master Plan that evaluated various improvement alternatives and provide recommendations. CDM also provided design and construction phase services for the recommended improvements.

A similar synergy is presently taken advantage of on the Farmland Industries site with the need reduce the concentration of nitrates onsite and thus are able to provide the high nutrient level groundwater to farmers free of charge for irrigating their crops. A win-win for both parties. These opportunities should build upon the collaboration with University of Kansas on efforts like the research on biofuels from algae.

#### **Onsite Energy Options**

Currently, the City of Lawrence is pursuing grant funding to evaluate wind, geothermal and solar energy alternatives onsite seeking to maximize the use of the property particularly areas of contamination and where neither development nor storm water infiltration practices are to be located within in the industrial park.

- CDM has performed both Photo-Voltaic (PV) system feasibility studies and design of PV system for multiple clients. The PV power source operates in parallel with the utility offsetting the power drawn from the utility during the daytime allowing client to reduce their utility demand and energy consumption. CDM has designed solar systems on capped landfill sites taking advantage of otherwise unusable land.
- CDM is a world leader in geothermal technology and has implemented geothermal systems worldwide. Our staff are experts in both shallow and deep geothermal applications and have implemented projects worldwide, including numerous projects throughout Germany. Most recently, CDM has completed a deep heat mining feasibility study for Harvard University's Sustainable Allston Campus Expansion project.
- CDM has the expertise necessary to determine the feasibility of installing wind turbines at a site, select the proper equipment, provide geotechnical and construction services during implementation, and to integrate the system with the existing power grid. Globally, installed wind capacity includes more than 100,000 wind turbines installed in 70 countries producing a total 74,000 MW of power.

#### Demand Side Options

On the demand side of the equation there are building construction material and industrial process alternatives such as lighting, heating and cooling options, building materials selection and reductions in process water that can lead to significant energy savings. To be as flexible as possible for future industries seeking to locate in Lawrence yet achieve a stated goal of

sustainable or green and means to achieve the sustainability goals whether a green oriented or green products industry would be to set standards for those facilities being built and operated in the industrial park. One such set of standards is Leadership in Energy and Environmental Design, LEED.

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As another prime example, design team member CDM has been working for over 10 years with **Catawba County, North Carolina** on the development of one of the nation's first, sustainable, green energy based business and research parks – **the EcoComplex**. The Complex was featured on CNN's Your Money segment, and received an Award for Excellence in Local Government from the Alliance for Innovation, based in Seattle, Washington. CDM was involved in the initial development of the idea helping the County determine that the ideal concept would be one that combined the ideas of industrial ecology, green energy, and state-of-the-art university research. Industrial ecology is the theory



Catawba County, North Carolina green energy based park

of industrial material flows and the waste products and/or end products from one industry can be matched to another to achieve maximum resource conservation and management. So the goal of the EcoComplex is to recruit and match industries that can operate synergistically and use government operations to complete some of the linkages.

Similarly, CMD supported the **Columbus Consolidated Government (CCG)**, **Georgia** who were seeking to extend the life of their existing sanitary landfill to the greatest extent possible. The CCG retained CDM to prepare a study evaluating waste-to-energy based options for accomplishing this goal. CDM proposed the EcoCampus idea suggesting partnerships with Columbus State University and the United State Army (Fort Benning as a potential energy market). CCG's Pine Grove Landfill is immediately adjacent to Fort Benning and the Muscogee Technology Park and is thus ideally suited for development of a green energy based industrial/ business park. A nearby 3M facility and the county corrections facility were also identified as potential energy customers for either electricity from a WTE and/or a landfill gas project. The study was completed in the spring of 2011 and additional financial feasibility work is being done to refine the WTE facility costs for presentation to the City Council.

#### Stormwater Green Infrastructure Plan

As mentioned earlier, the majority of the Farmland Industries site has had significant alterations to topography, soils, addition of impervious area and stream relocations. There is a network of storm sewer infrastructure that is unmapped underground. The eastern portion of the site has been pastured in the past and would appear to have some opportunities to work with existing topography while protecting a couple of intermittent streams that outlet to the old Farmland retention ponds. These ponds are anticipated to serve as the detention for the industrial park while continuing to serve the needs of the reclamation of the contaminated portion of the site. The site presents a number of challenges given the limitations on infiltration and the expectation of large lots for future tenants. Though the site has been heavily impacted, the use of Low Impact Development (LID) strategies still apply with protection and restoration of limited remaining natural streams and the goal of treating the storm water quality near the source (i.e., disconnected roof top and parking lot runoff into green spaces). The intermittent streams

running north/south, reclamation area A on the knoll of the site, the civic space near the Douglas County Fair Grounds, the retention ponds along the railroad track and the cemetery on the southeast corner of the site to be master planned provide interesting anchors that can be connected by greenway and streamways. Although the city has not yet adopted the Stormwater Quality Post-Construction Best Management Practices (BMP) Manual to date, this could be a model application of the BMP Manual's storm water treatment options even serving as a showcase at the east gateway of Lawrence.

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Stormwater management on the site can be seen through the lenses of sustainability providing multiple benefits to the site from functioning to clean storm water and reducing runoff, providing a connecting aesthetic of both native and non-native vegetated elements resulting in a community amenity turning lemons into lemonade. Key elements of the storm water management plan and use of green infrastructure are green storm water BMPs cleaning parking lot, roadway and rooftop runoff, stable streamway conveyance and downstream retention and recirculation for irrigation.

**Steamways and Natural Features.** The stream of particular interest bisects the site carry stormwater from the upper watershed on the south side of K-10 Highway. The stream stability and capacity would need to be evaluated with the future use of the site. It is apparent from the site visit provided by the city that the stream has been impacted by Farmland Industries as well as upstream development. Natural stream restoration providing bank stability and grade controls to step the stream stably down from K-10 Highway to the retention ponds would provide a nice amenity through the center of the site while serving as primary conveyance.

The areas designated as Open Space of the Farmland Industries Redevelopment Plan could be restored with native vegetation providing a natural aesthetic as the back drop of the reclaimed and redeveloped Farmland site. This would also serve as a buffer between the industrial park and the residential neighborhoods to the west. Another opportunity would be to use this area as a natural area park, Reclamation Park, emphasizing the cleanup and showcasing the "green" elements incorporated by the city. This area is not currently designated on the city's park master plan.

**Storm water Facilities.** Using an LID approach, stringing a series of BMPs together in a treatment train will be well suited for this site utilizing roof top and parking lot runoff as well as capturing linear roadway runoff with primary conveyance through the restored natural streamway ultimately being stored in the designated retention area of the site. The challenge will be the phasing of construction of facilities so as not to impact those constructed prior to the pad sites being built upon.

The team has designed numerous storm water BMPs as well as stream stabilization and restoration projects. CDM was part of the team that wrote the BMP Manual for the Kansas Stormwater Consortium and has been adopted by a number of the 19 communities participating in the Consortium.

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Post Construction Storm Water DEST MANAGEMENT PRACTICES Typical BMPs to be considered are:

- Pervious parking can clean storm water while maximizing parking and pad site space.
- Rain gardens and Bio-retention cells clean runoff at the source and work well within and around the perimeter of park lots the adjacent right-of-way of the street network.
- Soil restoration and native vegetation can serve to store, infiltrate and transpire storm water on areas of the tenant footprint not being utilized by building or parking
- Extended detention and wetlands provide a final cleaning of storm water before it is reused or exits the site.

Additionally, green roof systems may be considered for both storm water management but also reduction of heating and cooling needs of industrial facilities with large roof area. With the incorporation of native vegetation throughout the Park's storm water facilities, stream ways and opens spaces it would be a great opportunity to use similar landscape themes with the existing office building at the front of the site to soften the look from K-10. The flat roof would need to be evaluated for loading if a green roof were to be considered ontop this very visible building.

**Storm water Reuse.** There is potential to re-circulate the nutrient rich water from the retention areas back into the site for irrigation needs of primarily non native landscape elements. This high nutrient water is currently being piped to farmers to apply on their fields. Another consideration for the future of the retention ponds rather than cap them once full of nutrient laden sediment may be the creation of constructed wetlands. Wetlands are the kidneys of natural systems and serve an important function in nitrogen cycle/denitrification and would be fitting in the reclamation of the site and the reuse for irrigation purposes within the site. This would be an added amenity to the site and the community. A water balance would need to be conducted to ensure sufficient amount of water is available particularly during the summer months for irrigation as well as meeting the needs of the remediation of the site.

As additional design team experience related to our team, CDM completed a similar review of watershed and storm water management needs for a **future designated business park** in **Lenexa, Kansas** at K-10 and K-7. CDM completed the Cedar Creek Watershed Plan and update to the City of Lenexa's Comprehensive Plan in 2005. The City retained CDM in 2004 to

develop a plan for siting and sizing a system of multi-use storm water facilities designed to respect and protect the natural resources within the watershed, while providing flood control benefits and recreational



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amenities. The storm water facilities were designed so that the hydrologic characteristics of their discharge, after the watershed was developed, would replicate pre-development hydrology and geomorphic conditions in the streams to which they drain. The ultimate goal was to minimize future flooding potential, preserve water quality and stream habitat, and maintain long-term ecologic sustainability in the receiving stream system. An important tool in preparing the Cedar Creek Watershed Plan was a hydro-geomorphic evaluation of the relationship between the changes in the hydrology due to development, and long-term geomorphic stability of a the preserved natural stream system. The Cedar Creek Watershed Plan completed in May, 2005 that included preliminary design of multi-use storm water facilities with both passive and active recreation opportunities including bio-retention, wetlands, preserved remnant prairie and a multi-purpose soccer field all surrounding the preserved stream corridor and outside the built out 100 years floodplain equating to approximately a 50 acre park within the 300 acre future business park. Stakeholder and neighborhood meetings were held to discuss this and other elements of the watershed, transportation and future land use plan. The plan was adopted into the City of Lenexa's Comprehensive Plan in 2008.

#### **Marketing the Industrial Park - Branding**



The theme is green and the need is growth. A significant investment has been made to restore and redevelop the Farmland Industries site. The area north of K-10 is highly visible at the east gateway of Lawrence. The future industrial park could be a signature site for the city demonstrating green tools and technologies alluring industry to locate on the east side of Lawrence. The most significant eye catcher at the east gateway is the Smart Corridor monument. It doesn't say much about

Lawrence and the progressive work the City, University and partners are doing as you enter the community.

Otherwise, the existing East Hills Business Park is not very visible from K-10. The East Hills Business park is 50 percent occupied offering lots of two to 30 acres in size. The anticipated lot sizes on the Farmland Industries site will be flexible with larger lots possibly up to 50 to 100 acres pursuing a different market than the adjacent East Hills Business Park.

The businesses and people that live and work in Lawrence like most people generally want to

feel like they are part of something bigger. Branding and logos help visualize a common bond, belief and future. A logo makes a statement visually about the philosophy or mission of what is being represented with its placement on monument signs,



websites to letterhead. There are number of logos in play in Lawrence now including the Smart Corridor, Kansas Bioscience Authority, Lawrence Regional Technology Center as well as the City and University of Kansas logos.

CDM has experience with branding for the Columbus Consolidated Government, Georgia EcoCampus.

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CDM proposed the EcoCampus idea suggesting partnerships with Columbus State University and the United State Army (Fort Benning as a potential energy market). CCG's Pine Grove Landfill is immediately adjacent to Fort Benning THE ECOCAMPUS

**Progress Through Sustainable Partnerships** 

and the Muscogee Technology Park and is thus ideally suited for development of a green energy based industrial/business park. The logo shown, reflects the theme of the park as well as the three partners in the EcoCampus.

**Deliverable:** There are numerous permutations of possible logos for the Industrial Park brand. The team will work with the City and stakeholders to arrive at three branding/logo options for the new green industrial park.

## **Be Wise About Cost**

An effective and feasible land use master plan should evaluate tying everything together and making a special point to be cost wise for the entire development. It also requires a relentless design team willing to go that extra



Water program branded for the City of Topeka, by Bartlett & West

step to ensure quality, accuracy and timeliness for staying on task and on schedule. Bartlett & West and CDM is that team. We understand that times are tough and every dollar matters, not only to individuals, but to every business owner, and the City of Lawrence is no exception. Identifying creative, yet value engineering solutions to accomplish project goals with accurate and reliable data as well as continuing to move the project forward in a timely fashion will be important not only in the initial stage of ground-breaking development, but with every planned phase of construction.

Constructing the foundation to effective design solutions and being wise about costs will require the following steps.

Accurate Construction Estimating – In order for any project to get off the ground, funding needs to be available to support and construct the proposed design. Some projects get caught up in weeks or even months of delay because inappropriate construction costs were provided during land use master planning or design. We will deliver accurate cost estimating by:

- Using Bartlett & West's very recent local experience in both road and infrastructure design and our involvement with everyday site development construction projects throughout the region. We will deliver reliable and on-target cost estimates for every idea, product or material top to bottom.
- Employing research-proven, cost-effective construction solutions and obtaining up-to -the-minute construction prices.
- Implementing past experience from design and planning projects and providing the necessary research to enable this project to come in on budget.

The benefits can easily be identified when putting Bartlett & West's past phasing and construction estimating experience and use of existing site infrastructure to the test. Having current price quotes from local contractors and material suppliers provides a sense of comfort when clients need to firm up the budget.

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As well as utilizing our recent experience on the **Neosho County Community College Facility Master Plan** and the **MARS Factory for Kanza Fire Innovation Park** for design matrix decisions as part of the process, our expertise is shown in our recent and intimate knowledge of the numerous types of land use master planning projects and related construction costs.

Research, investigation and a thorough evaluation to compare the numerous products and materials was used to facilitate solid critical design decisions necessary to keep the project on schedule and on budget. Whether it is a simple choice between seeding or sodding bare ground or a more important decision regarding concrete versus asphalt for future road construction, every selection has an impact on the bottom line. Getting the design the client envisioned with materials that were on target for the budget succeeded in fulfilling their project requests.

Involve additional quality control perspectives - We intend to bring in key individuals to review project documents at critical intervals to ensure important details or other value engineering ideas aren't overlooked. Once the design team has coordinated the necessary project documents, or prior to any future bid-letting of possible design or infrastructure documents, we will utilize our Peer Review program. The Peer Review program enables professionals within our design team, but largely outside the day-to-day project work, to review documents at critical project intervals with an eye for clarity, discrepancies, errors, and omissions. Neil Dobler, a licensed civil engineer and former Public Works Director for the City of Topeka, now with Bartlett & West, will Peer Review the land use master plan and any potential construction documents and provide an additional level of quality control. Additionally, Neil will be responsible for approving all construction documents and submittals prior to public release. By actively engaging all of our design professionals together as a solid team—from surveying, to data collection, land use master planning to construction documentation and review—we are confident we can provide you with an accurate and successful industrial land use master plan project from start to finish.

Staying on-task and on-schedule - Bartlett & West and CDM understand the importance of developing a schedule and sticking to it. More specifically, in regard to the development of the proposed land use master plan, we understand that budget constraints and community input will make it all the more necessary to establish a specific timeline. In order to further appreciate the demands of this project, we have developed a preliminary timeline encompassing all phases of planning and design. This timeline shall serve only as a preliminary schedule. Our design team has both the professional staff and the time available to make this project successful. Should we have the opportunity to be involved in the development of this land use master plan study, we will work with City staff to produce a more definitive schedule in accordance with all other future City of Lawrence calendars.

## **PROJECT SCHEDULE** Farmland Industrial Park Master Planning/Platting/Public Improvements

		20	)11				2012										2013			
No.	Task	Nov	Dec	Jan	Feb	Mar	Apr	Мау	June	July	Aug	Sept	Oct	Nov	Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec	
1.0	Define Project Scope & Schedule																			
2.0	Master Planning	┨																		
3.0	Kickoff Meeting with Key Stakeholders	+																		
0.0		-																		
4.0	Progress Meetings with Key Stakeholders	1																		
		1																		
5.0	Public Info & Commission Presentation	]																		
		_																		
6.0	Preliminary Conceptual Layouts (3-5)																			
		+																		
7.0	Refine Conceptual Layouts (Top 2 or 3)	+																		
8.0	Finalize "Preferred" Conceptual Layout	+																		
0.0		-																		
9.0	Presentation of Final Concept to City Commission, Key Stakeholders, Public,	Etc.																		
		Ţ																		
10.0	Surveying	1																		
		]																		
11.0	Preliminary Platting	-																		
		+																		
12.0	Initial Submittal for Preliminary Plat/Rezoning	+																		
13.0	Preliminary Plat/Rezoning Planning Commission Meeting	+																		
13.0		+																		
14.0	Preliminary Plat/Rezoning City Commission Meeting	+																		
		1																		
15.0	Rezoning (Task To Be Potentially Completed by City Staff)	1																		
16.0	Final Platting (Administrative Process)	+																		
		+																		
17.0	Phase 1 Public Improvement Plans (Streets, Water, San. Sewer)	+																		
18.0	Public Improvement Plans - Bidding Phase	ł																		
10.0		ł																		
19.0	Construction	ł																		
													J							
	BARTLETT																			
								<b>.</b>												
	SERVICE. THE BARTLETT & WEST WAY.					Jommunic	ation Plar	1 - Coordii	nation with	i Public, C	Jity, Key S	stakeholde	ers, KDOT	, and Utili	ties					

Communication Plan - Coordination with Public, City, Key Stakeholders, KDOT, and Utilities

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In summary, during the planning and design for the proposed land use master plan, the team of Bartlett & West and CDM will work to set the foundation and provide strong continuity for all anticipated phases of the project. We look forward to assisting the City of Lawrence in their effort to develop the existing Farmland Industries property into a creative and flexible land use master plan that provides a future vision for area residents, businesses, and City staff. By **understanding challenges, evaluating opportunities,** and **developing flexible solutions** to **deliver a unique plan** for future land use, growth and job opportunities in the community, we stand ready to help the City of Lawrence Achieve the Vision.

On the following pages you will find additional information regarding the make-up of our design team, resumes of team members and project descriptions of some of our past work. Bartlett & West will be the local and overall team leader and oversee all phases of the land use master planning, platting and future infrastructure development. CDM will be heavily involved throughout the land use master planning phase and play a key role with the investigation of green and sustainable solutions that can be incorporated into all facets of the proposed plan and development.

Applied Ecological Services is also a member of our team and will provide support in review, coordination and specific consideration for adaptable plant species that will play an integral role in the completion of the new Farmland Business Park. We are very excited about this project opportunity and believe we have compiled a team of professionals to complete the land use master plan with *creative*, *flexible* and *unique* design solutions.







## Darron Ammann, RLA, LEED AP Project Director



**Technical Specialties** 

- Project Management
- Landscape Architecture
- Large-scale outdoor recreational facilities and parks
- Environmental Design
- Long-range Land Use
   Master Planning
- Commercial and Residential Site Design
- Industrial Park Developments
- Site Investigation Reports
- Code Analysis and Evaluations
- Subdivision Planning & Layouts
- Property Zoning and Platting

#### Education

- B.S. in Landscape Architecture, North Dakota State University, 1998
- B.S. in Environmental Design, North Dakota State University, 1997

#### Organizations

- American Society of Landscape Architects
- Kansas Recreation and Park Association
- Missouri Parks & Recreation Association
- United States Green
   Building Council

#### Registrations

- Registered Landscape Architect - Kansas, Missouri, North Dakota, Iowa, Oklahoma
- LEED Accredited Professional

Darron's passion for landscape architectural design and land development projects is both innovative and visionary. Darron approaches a site plan development, land use master plan, or park design with an imaginative flair and a careful eye to detail. He is extremely proficient when providing conceptual site layouts along with site grading design ideas and utilizes that capability to its fullest when meeting the needs of his clients. Darron also has a thorough understanding of the numerous ADA guidelines necessary for today's site development projects and offers various ideas to client's to properly handle these required situations.

As an experienced senior project manager, clients value his wide range of knowledge from land use master planning and park & trail design to commercial retail developments and university projects. Darron has numerous project responsibilities including code interpretation, platting and zoning, public presentations, site design, coordination with government and public agencies, construction bid document preparation, construction administration and many others. Some of his more recent projects are:

- Kanza Fire Innovation Park Topeka, KS Project Landscape Architect responsible for working with the community, GO TOPEKA, and creating conceptual layouts and a master plan for the new industrial park.
- MARS Factory Kanza Fire Innovation Park Topeka, KS Project landscape architect responsible for developing a landscape plan that incorporated LEED concepts and extensive native plantings as well as irrigation design.
- Seward County Community College Facilities Master Plan Liberal, KS -Project Manager responsible for guiding the vision of future campus development and working to create a cohesive relationship with the local Area Technical College. Involved with public meetings, project presentations, conceptual design, site master planning and creating budget estimates and long range phasing plans.
- Neosho County Community College Facilities Master Plan Chanute, KS
- Picerne Military Housing Forsyth Neighborhood Parks and Trails Master Plan

   Fort Riley, KS
- Cloud County Community College Facilities Master Plan Concordia, KS
- Labette Community College Master Planning Parsons, KS
- Citywide Parks and Trails Master Plan– Baldwin City, KS
- Riverside Business Park Master Planning Lawrence, KS
- USD 501 Technology Park Master Planning Topeka, KS



## Joe Caldwell, PE



SERVICE. THE BARTLETT & WEST WAY.

Joe serves as the Lawrence office location manager and works with municipalities on a wide range of projects including roadway, storm sewer, and sanitary sewer and water line improvements. Clients value Joe's exceptional project coordination and development abilities. He conscientiously follows a project from inception to completion with an eye for detail and a thorough management knowledge base. Some of Joe's municipal projects have included:

- 13th & Oregon, Stormwater Improvements, Lawrence, KS Project Manager to prepare a Letter of Map Revision (LOMR) for the recently completed drainage improvements project. The LOMR included HEC-RAS modeling, duplicative effective modeling, floodplain mapping, and a FEMA application. The LOMR application has been submitted to FEMA and is pending approval.
- Wakarusa Water Reclamation Facility Lawrence, Kansas -Bartlett & West is working as a sub-consultant to Black & Veatch on the pre-design phase of the Wakarusa Water Reclamation Facility. During the pre-design, Bartlett & West was involved in the site selection process, substantial interaction with the public, and corridor selection for a major force main and gravity sewer system. In addition, Bartlett & West is providing surveying and platting services. Finally, Bartlett & West will be working on the design phase portion of the project as a part of a potential design/build team with Black & Veatch leading the effort. Joe's responsibilities on this project included project management of the different aspects of Bartlett & West's work.
- Kasold Road Bob Billings Parkway to Clinton Parkway, Lawrence, KS -Project Manager to provide a preliminary engineering study and final construction documents for this one mile stretch of Kasold Drive. Services included: field surveys, utility coordination, public involvement, alternative alignment studies, drainage design, traffic signal design, roadway improvements, retaining wall design, water main design, sequencing/detours, opinions of construction costs, and right-of-way and easement descriptions for the project. Project construction costs: \$4 million.
- **25<sup>th</sup> Terrace Roadway, Lawrence, KS** -The 25th Terrace project included a new roadway with two lanes, four-foot bicycle lanes, storm sewer, and sidewalks on both sides. In addition, a new 12-inch DIP waterline will be installed on the south side of the roadway. At the intersection of 25th Terrace and O'Connell Road, Bartlett & West also designed a roundabout which will accommodate a WB-50 in all directions.
- **George Williams Way, South of Harvard to 6<sup>th</sup> Street, Lawrence, KS -** George Williams Way is a combination of two-, three-, or four-lane asphalt sections. These sections vary depending on adjacent access locations and the 6th Street intersection. Bike lanes, curbs and gutters, and sidewalks are also a component of the project's improvements. A concrete roundabout was constructed at the intersection of Harvard Road and George Williams Way and a 600 foot stretch of Harvard Road was constructed as well. The project included 10 foot x four foot and 10 foot x seven foot RCBs both of which were designed with drop basin outlet structures.

Two utilities were extended due to the construction of this project. First, a 12-inch waterline was installed on the west side of the roadway throughout the project limits and a 12-inch waterline was installed on the new portion of Harvard Road. Second, a sanitary sewer main was extended to cross George Williams Way; providing future sewer access to the west side of the project.

#### **Technical Specialties**

- Project Management
- Roadway Design
- Storm Sewers
- Drainage Analysis
- Waterline Design
- Sanitary Sewer Collection System Design
- Grading Design
- Site Planning
- Subdivision Design and Platting

#### Education

- M.B.A. Washburn
  University, 1997
- B.S. in Civil Engineering, University of Kansas, 1993

#### Registrations

 Professional Engineer – Kansas, Missouri



## Neil Dobler, PE

#### SERVICE. THE BARTLETT & WEST WAY.

BARTLET

Neil joined Bartlett & West in 2006 with 25 years in both private and municipal experience, including 12 years with the City of Topeka. Neil's work in both the private and government sectors affords his clients a unique perspective on the projects he is involved. His ability to circumvent challenges that may arise by different parties involved in a project has earned him high praise and respect throughout the industry.

His work with the City of Topeka began as a project engineer with the Public Works Department where he was responsible for transportation and stormwater projects. Neil served as project manager for development of a stormwater utility for the City and managed the project from conception through implementation. In that position, he also initiated the first comprehensive stormwater modeling for the City of Topeka.

Neil served as the deputy director of the Public Works Department for two years and was responsible for the management of the Engineering, Street Maintenance and Traffic Engineering departments. After taking a five year break from the public sector with a local firm, Neil returned to the City as the Director of the Public Works Department. Neil served as Acting City Manager, transitioning the City from a strong mayor-council to a council-city manager form of government.

Throughout his career, Neil has been involved in numerous high profile projects and has been involved in the establishment of new revenue streams including a stormwater utility fee and a ½ cent sales tax initiative. In addition, Neil has been involved in:

- Neil worked directly with Go Topeka Economic Development organization to coordinate public meetings and the development of Kanza Fire Innovation Park.
- As Public Works Director, Neil helped formulate the ½ cent sales tax for Shawnee County for infrastructure/economic development projects.
- Directed the Public Works Department towards APWA accreditation during his tenure as director. Topeka was the 29<sup>th</sup> municipality to receive that honor.
- Oversaw the implementation of a stormwater utility for the City that now generates over \$4 million in revenue annually.
- Developed the funding strategies to replace a major river crossing in downtown Topeka – the \$50 million Topeka Boulevard Bridge. Ultimate funding was a combination of sales tax, general fund and federal funds.
- Oversaw the purchase and development of a combined City Office building which moved departments from three leased office buildings into a combined space with a central customer service area.
- Began the implementation of a Public Works-wide enterprise information system, tied to GIS. This system ultimately replaced over 15 separate database applications with one.

#### **Technical Specialties**

- Project Management
- GIS/GPS
- Strategic Planning
- Public Works Financing
- Urban Infrastructure

#### Education

- Masters of Public Administration, University of Kansas, 1998
- BS in Civil Engineering, Kansas State University, 1982

#### Organizations

- National Society of Professional Engineers
- Kansas Society of Professional Engineers
- American Public Works
   Association

#### Registrations

 Professional Engineer -Kansas



**Technical Specialties** 

Road Design

Education

2002

Registrations

Traffic Analysis

• Hydrology and Hydraulics

 B.S. in Civil Engineering, Kansas State University,

Technical Drafting Certificate, Kaw Area Technical School, 1997

Professional Engineer –

Kansas, California

Professional Traffic

**Operations Engineer** 

## Brian Austin, PE, PTOE



SERVICE. THE BARTLETT & WEST WAY.

Brian has worked on a broad range of projects since graduating from Kansas State University in 2002. After graduation, Brian worked for an engineering consulting firm in San Bernardino, California where he worked on a number of different projects in the transportation industry. Since joining Bartlett & West in 2004, Brian has primarily worked on municipal street projects in NE Kansas.

**Route 1055/6<sup>th</sup> Street – Baldwin City, KS** - Brian designed the street improvements for approximately 1 mile of Route 1055 north of US-56 on the northern end of US-56. As part of this project, Brian and the Bartlett & West project team, along with Douglas County and Baldwin City, were able to secure Corridor Management Funds from KDOT for the intersection improvements at US-56 and Route 1055. This project will add turn lanes on Route 1055 at US-56 and transform Route 1055 from a 2-lane rural road to a 3-lane urban road with curb and gutter, storm sewer, and sidewalks. It will be constructed in 2012.

**SE Croco Road – Shawnee County, KS** - Brian worked extensively on the design of the SE Croco Road improvements, having designed the projects at: SE 29<sup>th</sup> and Croco Road, SE 45<sup>th</sup> and Croco Road, Croco Road from 29<sup>th</sup> to 21<sup>st</sup> Street, and Croco Road from Sycamore to 6<sup>th</sup> Street. His duties included roadway geometrics design, shared use path design, hydrology and hydraulic analysis, sequencing and traffic control design, utility coordination, and cost estimating.

Brian has been involved with the design on many other street improvement projects, including:

- Kasold Road Lawrence, KS
- NW 46<sup>th</sup> Street Shawnee County, KS
- SW Wanamaker Road Topeka, KS
- Tanner Bridge Road and Ellis Blvd Intersection Jefferson City, MO

#### **Traffic Impact Studies/Traffic Analysis**

Brian has been instrumental on several projects teams leading the traffic impact analysis portions of those projects. These have covered schools, commercial developments, residential developments, and intersection analysis.

- 29th & Fairlawn Traffic Study City of Topeka, KS
- Eastgate Development Traffic Impact Study Ottawa, KS
- Rockin' Z Ranch Traffic Impact Study Lyndon, KS
- Eastacres PUD Traffic Impact Study, SE 15<sup>th</sup> & Adams Topeka, KS
- Traffic Impact Study for Farley Elementary School Topeka, KS



## Jeff Jones, PE



SERVICE. THE BARTLETT & WEST WAY.

During his years at Bartlett & West, Jeff has been involved in a wide variety of civil engineering projects for a number of municipalities and private development clients. Through his experience, he has learned the importance of fully understanding his client's needs. Jeff enjoys working closely with each client to produce a successful project. He has been an active member on project teams for over 20 projects. A list of his recent projects includes:

- BNSF Economic Development Concept Sketches Jeff manages a team of technicians that produce conceptual rail alignment and track chart exhibits for BNSF economic development industry customers. These exhibits are developed for BNSF for all potential new customer sites and existing customer sites where site improvements are desired. Exhibits must comply with BNSF's strict standards.
- Kasold Drive, 31<sup>st</sup> Street to Clinton Parkway, Street, Storm Sewer and Sanitary Improvements - Lawrence, KS – Jeff was responsible for all aspects of design. Jeff's duties included coordination with KDOT, preliminary and final design for all aspects of the roadway and drainage systems, quantity takeoffs, cost estimating, and public involvement.
- Logan Street (K-68) Street and Storm Sewer Improvements Ottawa, KS This project was needed to accommodate the new Neosho County Community College building and included adding a turn lane to Logan Street. Jeff lead the roadway and drainage design effort and coordinated all improvements with KDOT and the City of Ottawa.
- Kasold Drive, Clinton Parkway to 15<sup>th</sup>, Street & Storm Sewer Improvements -Lawrence, Kansas - Jeff served as a project engineer for the reconstruction of this major thoroughfare. He was primarily responsible for giving assistance for the drainage design on this project.
- Delaware Street 8<sup>th</sup> to 9<sup>th</sup> Lawrence, KS Jeff served as lead project engineer for this block of benefit district roadway in historic downtown Lawrence. A new public roadway was needed to serve two private developments on the east and west sides of Delaware Street. Jeff worked closely with the City's Stormwater Engineer to make needed improvements to the City's Storm Sewer system at the intersection of 9<sup>th</sup> and Delaware. This project has yet to be constructed.
- O'Connell Road Street & Storm Sewer Improvements Lawrence, Kansas -Jeff served as a project engineer for the reconstruction of a two-lane county route with roadside ditches into a three-lane urban section with curb and gutters and sidewalks. Jeff's duties included designing the storm sewer system, preparing the sideroad and driveway profiles, providing intersection details, and compiling the final plans.
- George Williams Way Harvard to 6<sup>th</sup> Street Lawrence, KS Jeff served as project engineer for the design of this new collector street that now serves a number of neighborhoods. Jeff was responsible for all aspects of roadway and drainage design, including utility and survey coordination, preliminary and final design, quantity takeoffs, and cost estimating.

#### **Technical Specialties**

- Conceptual Rail Alignment
- Project Management
- Intersection Design
- Urban Roadway Design
- Drainage Design

#### Education

- M.B.A. University of Phoenix, 2004
- B.S. Civil Engineering, University of Kansas, May 2002

#### Organizations

- American Public Works
   Association
- Kansas Society of
   Professional Engineers

#### Registrations

 Professional Engineer – Kansas, Missouri, Louisiana, Georgia



## Stacey Lamer, PE, LEED AP, BCEE



SERVICE. THE BARTLETT & WEST WAY.

Stacey has nearly fifteen years of wastewater treatment operations and project engineering experience. She has completed design and construction service work for municipal and industrial wastewater entities. Stacey is proficient in the evaluation and design of wastewater treatment and reuse systems and is well-versed in environmental compliance permitting, training, monitoring, and reporting. She evaluates each project for cost savings from both a capital and long term operational standpoint. Stacey has recently been involved with energy-related projects with the City of Lawrence, Kansas (*see the listed publication*), Johnson County, Kansas, and the City of Hays, Kansas.

Some of Stacey's recent wastewater projects include:

- Completing an evaluation of Kansas City metropolitan area *industrial high-strength waste* as valuable feed stocks for the **Johnson County Kansas Wastewater** Douglas L. Smith Middle Basin wastewater treatment plant *anaerobic digestion and cogeneration process*.
- Assisted the City of Hays, Kansas in aeration basin and anaerobic digester system improvements including blower, variable frequency drives, dissolved oxygen control, and supplemental mixing and boiler and heat exchange system considering biogas recovery as a fuel source.
- Assisted in design upgrade of an *anaerobic digester* fixed cover and mixing system for the **City of St. Joseph, Missouri**.
- Environmental on-call services for **Goodyear Tire & Rubber Company**, Topeka, Kansas. Services include operational assistance with the sanitary and industrial wastewater treatment systems, and SWPP, SPCC, and integrated contingency plans. An *energy evaluation* of the aeration and cooling tower processes was completed.
- Providing on-call assistance in the operation and maintenance of a 150,000 GPD conventional activated sludge wastewater treatment facility for **Blue Township** in Pottawatomie County, Kansas and studying the effects of *un-equalized high-strength* **Tallgrass Brewery** wastewater on the plant microorganism diversity (filamentous bulking).
- Design-build construction of an activated carbon adsorption system for the pretreatment of 30,000 GPD industrial wastewater for *cooling tower reuse* at an Animal Healthcare Pharmaceutical Company in Shawnee, Kansas.
- Environmental on-call services for the operation and maintenance of a 50,000 GPD industrial pretreatment facility at **Unilever Bestfoods**, New Century, Kansas. Other services include regulatory reporting, environmental compliance, stormwater pollution prevention plan (SWPPP), spill prevention control and countermeasure (SPCC) plan, and semi-annual environmental training program. Investigated evaporative sludge dewatering process with *water reuse*. Reviewing wastewater operations in Sunnyvale, California and Baltimore, Maryland.
- Completed a preliminary evaluation of the 30,000 GPD industrial wastewater treatment and *irrigation system* for **Burgers Smokehouse** in California, Missouri which included the study of *high-salinity* influent on the biological treatment process.
- Preliminary engineering report for the minimization of surcharges related to industrial wastewater discharge to the City of St. Joseph, Missouri for SaraLee Foods, Inc. with water reuse systems investigated.
- Completed a preliminary evaluation of the 12,000 GPD industrial wastewater treatment and *irrigation system* for **Hills Pet Nutrition**, Topeka, Kansas. The research facility houses 800 dogs and 400 cats.
- Completed the conversion of a Smithfield Foods 250,000 GPD industrial wastewater plant to a Redbarn Pet Products 30,000 GPD *non-discharging facility* in Great Bend, Kansas. This project included the evaluation of a Class I disposal well.
- Design of two industrial wastewater solids pumping stations and sludge dewatering lagoons for a 2.5 MGD **South St. Joseph Industrial Sewer District**, St. Joseph, Missouri facility. Provided a preliminary engineering evaluation that included a financial analysis of the system operation and maintenance and the wastewater surcharge rates associated with the *13 contributing industrial users*.
- Completed design and construction administration of a carbon adsorption odor control system for Plant #20 operated by the Unified Government of Wyandotte County/ Kansas City, Kansas.

#### **Technical Specialties**

- Industrial Wastewater Pretreatment
- Wastewater Collection & Treatment
- Environmental Compliance
- Water Treatment

#### Education

- B.S. in Chemical Engineering, University of Kansas, 1999
- M.S. in Environmental Engineering, University of Kansas, 2011

#### Organizations

- Air & Waste Management Association, *Board Member*
- National Society of Professional Engineers
- Kansas Society of Professional Engineers, Board Member
- Water Environment
   Federation
- Kansas Water Environment Association, *Committee Member*
- American Academy of Environmental Engineers
- US Green Building
   Council

#### Registrations

 Professional Engineer – Kansas, Missouri, Colorado

#### Publications

 Sturm B.S.M. and Lamer S.L., 2011, An energy evaluation of coupling nutrient removal from wastewater with algal biomass production, Applied Energy



## Karen Dunbar, ASLA, LEED AP



SERVICE. THE BARTLETT & WEST WAY.

Karen's passion for landscape architecture is evident in her attention to detail and quality of the final product. She takes an artistic approach to each project and enjoys unique and creative problem solving. She has gained experience on various site designs, master planning, site grading, graphic renderings, landscape plans and project evaluation analysis. Karen's unique blend of project experience provides clients a well-rounded design approach that optimizes outcomes.

Karen realizes that sustainability is not only more prevalent in contemporary business and design but a necessity. She took a step in a greener direction by becoming a LEED AP in order to provide knowledge, insight and experience in sustainable design solutions. Her appreciation of nature has also lead to an interest and experience in native planting design and water conservation. Karen has been involved on numerous projects including the following:

- Kanza Fire Innovation Park Topeka, KS Project landscape architect responsible for assisting in development of project graphics and renderings to be used as marketing materials.
- MARS Factory Kanza Fire Innovation Park Topeka, KS Project landscape architect responsible for developing a landscape plan that incorporated LEED concepts and extensive native plantings as well as irrigation design.
- Picerne Military Housing Forsyth Neighborhood Parks and Trails Master Plan – Fort Riley, KS – Project landscape architect responsible for developing and planning overall trail connections, park amenities and cost estimating.
- Seward County Community College Facilities Master Plan Liberal, KS Project landscape architect responsible for assisting in public involvement, master plan concept development and preliminary cost estimates.
- Citywide Parks and Trails Master Plan– Baldwin City, KS Project landscape architect responsible for planning trail connections and trailhead locations as well as compiling design guidelines.
- Citywide Parks and Trails Master Plan– Russell, KS Project landscape architect responsible for inventory and analysis of existing parks and trails systems as well as helping to incorporate and address the public's opinion at several informational, public meetings.
- Neosho County Community College Facilities Master Plan Chanute, KS Project landscape architect responsible for coordinating and collaborating with college officials to develop a comprehensive campus facilities master plan.
- University of Kansas Wayfinding and Signage Project Lawrence, KS Project landscape architect responsible for working with University officials to design, develop and locate signs on the KU campus.

#### **Technical Specialties**

- Landscape Architecture
- Renderings-Computer
   generated & hand drawn
- Detailed Commercial and Residential Site Design
- Master Planning
- Native Planting Design
- Planning outdoor recreational facilities including trails and parks
- Inventory and Analysis
- Multiple software programs – AutoCAD, Sketch-Up/3-D Modeling, Photoshop, Piranesi, InDesign, Impressions

#### Education

• B.S. in Landscape Architecture, Michigan State University, 2008

#### Organizations

- American Society of Landscape Architects
- NetWORK
- Kansas Recreation and Park Association
- The Western Nursery and Landscape Association
- Missouri Parks and Recreation Association
- United States Green
   Building Council



**Technical Specialties** 

Project Management

Mapping of Projects

Survey

Education

1987

Construction Staking &

Certificate: Surveying,

John Tyler Community <u>College Chest</u>er, VA,

Associates Degree in

Technology, J. Sargeant

Reynolds, Richmond, VA

Civil Engineering

Registrations

Kansas

Registered Land

 Professional Land Surveyor– Missouri

Surveyor-Virginia,

Topographical Surveys ALTA/ACSM Surveys

## Steve Marino, PLS, RLS



SERVICE. THE BARTLETT & WEST WAY.

Accuracy and efficiency are Steve's trademarks when it comes to surveying. He works closely with design professionals to ensure proper interpretation of field information for use in the design phase of a project. One of his special skills lies in anticipating and troubleshooting potential issues before they affect a project.

Steve joined Bartlett & West in 2008 as survey manager for the Topeka field services division. Steve directs all resource planning for the numerous survey crews based in the Topeka offices. He also coordinates and is responsible for the teams' completion of ALTA/ACSM boundary surveys, subdivision lots, topographical surveys and calculations for all the different types of construction layouts. Steve also coordinates the mapping of various easement plats, right of way dedication plats and different types of location survey plats and has recent experience with various airport surveys and the appropriate FAA documents.

His typical duties include working with survey clients, both internal and external, preparing project proposals and cost estimating for project bidding purposes. Steve is also involved in procuring research and consults with attorneys and title companies regarding land and survey issues.

Steve is also directly responsible for coordinating training and supervision of Bartlett & West field crews in the performing boundary, topographical surveys, construction surveys, construction staking, project mapping and other typical surveys.



#### **Technical Specialties**

- AutoCAD
- Land Development
   Desktop
- Corel Draw
- Corel Photopaint
- Sketchup

#### Education

 Diploma in Drafting and Design, Platte Business College, 1987

## **Roger Watson**

Roger's expertise in design makes him a valuable team member on all of the projects in which he has been involved. His approach to a project is one of world class client satisfaction, with an eye for detail and quality.

He is responsible for various design and drafting aspects on private, commercial and retail development sites. Included in these projects are storm sewer layout, parking layout, grading, drainage, and detailing. In addition to his drafting and design skills, Roger is also experienced in graphic design and has employed this talent in designing reports, covers and presentation graphics. Some of his projects include:

- Downtown Lawrence Beautification, Lawrence, Kansas Lead designer responsible for plan production and presentation graphics.
- Murphy Tractor, Kansas City, Missouri Lead designer responsible for site layout of twenty acre site, plan production and coordination with city officials, architect, contractor and others.
- Johnson Controls, Riverside, Missouri Lead designer responsible for site layout of twenty-five acre site, plan production and coordination with city officials, architect, contractor and others.
- **Prairie Spirit Trail, Welda, Kansas to Iola, Kansas** Lead designer for a 17-mile rails-to-trails project, responsible for trail layout, site layout for three separate trailhead locations and project coordination with state and local officials.
- Hill's Pet Nutrition, Topeka, Kansas Lead designer for two building additions, extensive berm grading, pet trail layout, parking lot addition and multi-firm project coordination.





#### Education

M.S. – Forestry, Southern Illinois University, 1995

B.S. – Forestry, Southern Illinois University, 1992

#### Certification

Certified Public Manager (CPM): Kansas, 2007

#### Training

Kansas Environmental Leadership Program (KELP), 2006

University of Kansas Leadership Program, 2005

Missouri Dept. of Conservation Leadership and Facilitation, 2001

#### Experience Highlights

- Lenexa, KS Stormwater Manager, 2002 - 2010
- LADWP Commercial, Industrial and Institutional Sector Conservation Potential (2010)
- Chair of WEF Stormwater Advisory Sub-Committee (2011)

## Michael T. Beezhold, CPM

Senior Planner

Mr. Beezhold is a senior planner with nearly 20 years of water resources planning experience. He has supported a variety of municipal, state and federal clients, such as the U.S. Army Corps of Engineers (USACE), the Environmental Protection Agency (EPA), and the U.S. Forest Service (USFS), as well as all branches of the military, on water resource challenges throughout the country. Mr. Beezhold has nearly 10 years experience in water demand forecasting and conservation evaluation for communities and basin planning. Also, Mr. Beezhold has 10 years experience in the application of green infrastructure and low impact development (LID) techniques for managing stormwater for multiple benefits.

Stormwater BMP Specialist & Facilitator, Omaha, NE Regional Stormwater Design Manual Update, 2011. Mr. Beezhold is supporting the BMP Manual update with facilitation of staff and stakeholder meetings. He is also lending his experience with BMP and LID implementation to the selection, prioritization and necessary operations and maintenance considerations of the Manual.

**Task Order Manager, FEMA Region VII, 2011 &-2012.** Mr. Beezhold oversees the review of applications for the Hazard Mitigation Grant Program for the State of Kansas. The support to FEMA is for \$2.2 million over two years. The project addresses risk mitigation projects resulting from 10 declared disasters since 2007.

**Project Manager, Neosho River Water Supply Alternatives Analysis** (Kansas), 2011. Mr. Beezhold is currently the Project Manager of this Task Order under an IDIQ contract with the USACE Tulsa District. The analysis is costing the design and construction associated with four potential reservoir locations within the Neosho River Basin that would supplement existing USACE reservoirs. Water demands are projected to exceed supplies in the next decade.

Task Manager, Conservation Potential for the Commercial, Industrial and Institutional (CII) Sector: Indoor Water Use for the Los Angeles Department of Water and Power (LADWP), 2010. In support of the LADWP's Urban Water Management Plan and future requirements of the 20x2020 (twenty percent reduction in water use by 2020 in California), CDM conducted an analysis of potential savings for indoor water use within the CII Sector. LADWP provided water use data which were married with employment data from Dunn & Bradstreet. End use assignments of CII indoor water use by subsector were made based on a literature review of research and studies completed in the last decade. Likewise, potential savings by end use were derived from the literature and applied to actual and projected CII water use estimates. A recommendation is to conduct a full conservation baseline study to more accurately represent saturation and project potential savings (absorption) within the LADWP service area.

#### Prior to CDM

Watershed Manager, Lenexa Public Works Department, Lenexa, Kansas.

Program – a nationally recognized approach to stormwater management, natural resource conservation and restoration, and citizen engagement. This award winning program involved the implementation of flood reduction strategies, water quality improvements, and recreational/education opportunities in Lenexa. He also managed the city's stormwater utility (\$3.5 million in revenue), prepared the watershed division budget, and managed the capital improvements plan (over \$50 million since 2002, including award winning projects like Lake Lenexa). In addition, Mr. Beezhold's responsibilities involved overseeing water quality monitoring; managing the city's NPDES Phase II Stormwater Management Plan, permit and reporting.

During his tenure, Mr. Beezhold oversaw the implementation of numerous stormwater BMPs in both new and redevelopment for public and private infrastructure including bioretention cells, wetlands, sediment forebays, rain gardens, bioswales in parking lots, stream setbacks and native vegetation buffers, pervious pavements, green infrastructure on linear roadway projects, amended soils, structural soils in combination with tree planters, and proprietary systems. He also initiated numerous watershed studies and watershed-based future land use plans for the City's Comprehensive Plan updates. Studies included geomorphology of developed watersheds, BMP monitoring research, hydrology studies to better size BMPs to the appropriate storm for stream stability and evaluation of performance of existing detention and potential for water quality improvements. As a result, Mr. Beezhold participated in the creation of several products of the EPA's Municipal Handbook Series including the Water Quality Scorecard (2010).

Watershed Conservationist, Missouri Department of Conservation, Kansas City, Missouri. Mr. Beezhold was responsible for promoting comprehensive watershed management in the Kansas City Metropolitan area. He met with county and municipal staff and elected officials to promote green infrastructure; facilitated stakeholder involvement; conducted outreach and education; coordinated watershed activities, workshop, and training sessions among department divisions; and promoted state and federal cost share opportunities.

#### **Professional Activities**

Chair, Water Environment Federation, Stormwater Advisory Sub-Committee of the Stormwater Council (2011).

Co-chair, 4A Collaborative (a professional collaboration that brings together members of APWA, AIA, APA and ASLA to address sustainability in the Kansas City Metropolitan area) (2009)

Member, American Public Works Association (2002)



#### Education

M.S. - Earth Sciences, Montana State University, 1999

B.S. - Geography, Louisiana State University, 1997

#### Certification

Leadership in Energy and Environmental Design Accredited Professional (LEED AP), 2007

#### **Honors/Awards**

2005 Smart Growth Achievement Award, Mississippi Department of Marine Resources

## David A. Spector, LEED AP

Principal

Through both education and experience, Mr. Spector has defined himself as a broad-based environmental scientist and planner, and has been effective at finding middle ground between economic and environmental perspectives in his consulting, planning, and volunteer work. As a senior project manager, he is responsible for developing and managing a diversity of projects geared towards solutions that balance the built and natural environment. He is an assistant market leader for integrated planning, an initiative to advance tools and expertise in development of sustainable, multiple-benefit project approaches and solutions. He also serves as a resource for climate change planning where he is responsible for internal technical development and knowledge transfer related to climate change mitigation and adaptation. And he contributes to CDM's sustainability delivery team, charged with continuing to incorporate sustainability practices into the corporate business model and project delivery protocols.

**Project Manager, City of Asheville Sustainability Management Plan, Asheville, North Carolina.** Mr. Spector developed strategies, best practices, and institutional/policy recommendations for energy management, greenhouse gas emissions reduction, and operational sustainability are being developed to address a cross-section of local government services, including transportation, buildings, public facilities, street lighting, water, solid waste, and land use planning, in order to assist the city in meeting their greenhouse gas reduction goal of 2 percent per year until and 80 percent reduction is achieved.

**Project Manager, Powering Renewal: Rebuilding Gulf Coast Communities with Clean Energy.** (November 2006 to present) The goal of the program is to infuse and to institutionalize renewable energy and energy efficient technologies into long-term development of Hurricane Katrina-impacted communities. The project has three primary elements: Implementing geographically-distributed demonstration/ educational renewable energy projects in highly visible areas throughout impacted coastal communities; crafting a strategic media and marketing campaign; and providing implementation tools and exchange among communities with successful renewable energy. To date, initial funding has been provided by an internal CDM Research and Development grant, and external grant funding from the Mississippi Department of Marine Resources will be available in April 2009.

Project Manager, Pearl River County, Mississippi Comprehensive Smart Growth Plan. (August 2006 to present) Pearl River County, a rural South Mississippi community, has experienced rapid growth in the last decade which has only been exacerbated by hurricane "refugees" from Louisiana and Coastal Mississippi seeking to relocate to higher elevation. To help the County adapt to the current growth rates, the plan will provide policy and planning guidance on the future physical development of the County, and address a wide range of issues including land use, transportation, housing, utilities, economic development, and capital improvements

**Project Manager, Hancock County, Mississippi Comprehensive Planning.** Hurricane Katrina made landfall in Hancock County, Mississippi. There has been tremendous impact to the business community, housing stock, public facilities and infrastructure, and to the fabric of the community. Mr. Spector is responsible for updating the county's comprehensive plan and land use ordinances, with particular focus on housing, economic development, and natural resource preservation strategies.

**Project Planner, Urban Metabolism Model for New Orleans, Louisiana.** Mr. Spector worked in cooperation with MIT and New Ecology, Inc. to develop a systems modeling tool for comparing alternative rebuilding strategies and guidance to city planners for rebuilding New Orleans.

Senior Planner, Master Plan for Lake Charles, Louisiana. Mr. Spector provided technical guidance and review for the city's land use master plan for post-Rita economic development.

Project Manager, Mississippi Department of Environmental Quality ID/IQ Contract for Water Quality Management and Basin Planning Support. Task orders Mr. Spector managed include developing a State monitoring program and regulatory framework for wastewater discharge to wetlands; nutrient and organic enrichment TMDLs for tributaries of the Bay of St. Louis; development of a capacity building strategy to empower local watershed groups in priority watersheds; and pathogen study to identify and develop solutions to reduce the sources and impacts of bacteria in the Turkey Creek watershed.

Project Coordinator, City of Asheville Water System Improvement,

Asheville, North Carolina. This was a fast-tracked, high-profile design process to support replacement of 100+ year-old water infrastructure in the Central Business District and to provide a more efficient Town Mountain distribution system. He served as local client representative, developed project GIS, assisted in logistics, coordinated utility locates and survey subconsultants. Projects are currently under construction.



#### Education

M.B.A. – Business Administration, University of North Carolina at Chapel Hill, 1990

M.S. – Environmental Engineering, University of North Carolina at Chapel Hill, 1997

B.S. - Civil Engineering, Drexel University, 1993

#### Registration

Professional Engineer: North Carolina (1989), Georgia, and Alabama

#### Honors/Awards

Board Certified Environmental Engineer (BCEE), American Academy of Environmental Engineers

## Joseph F. Wiseman, Jr., P.E., BCEE

Vice President

As a senior engineer and Vice President, Mr. Wiseman has 26 years of environmental engineering experience focusing primarily on projects throughout the southeastern United States. He has spent his entire career with CDM and has been involved in projects involving water and wastewater distribution, collection, and treatment as well as solid waste and hazardous waste cleanup. With master's degrees in both environmental engineering and business administration (accounting and finance concentration), he understands both the technical as well as financial aspects of managing engineering projects and programs. He has also been involved in water supply, distribution, and treatment including water treatment plant design, water quality analyses, and remedial investigations and feasibility studies to determine measures to clean up contaminated groundwater.

Project Director, EcoComplex Development, Catawba County, NC. For more than 10 years, Mr. Wiseman has served as CDM's Project Director helping to develop the nationally recognized EcoComplex. The EcoComplex is a sustainable, "green"energy based business and research park. Projects that Mr. Wiseman has been involved with include: pump station and force main to deliver EcoComplex wastewater to the city of Newton system; a landfill gas collection optimization study; a \$1.4 M LEED Silver biodiesel research facility for Appalachian State University; study and 60% design of a biosolids drying facility; landfill and landfill gas to energy complex air permitting; air permitting for a wood gasification to energy project; a joint study with UNC-Charlotte to evaluate the feasibility of constructing an anaerobic digester for food and animal waste; a campus-wide potable water and wastewater reuse study; and, an infrastructure improvements study to accommodate a 40-acre greenhouse facility, among other projects.

Project Director, EcoCampus Feasibility Study, Columbus Consolidated **Government (CCG), GA.** Seeking to extend the life of their existing sanitary landfill to the greatest extent possible, CCG retained CDM to prepare a study evaluating waste-to-energy based options for accomplishing this goal. CDM proposed the EcoCampus idea suggesting partnerships with Columbus State University and the United State Army (Fort Benning as a potential energy market). CCG's Pine Grove Landfill is immediately adjacent to Fort Benning and the Muscogee Technology Park and is thus ideally suited for development of a "green" energy based industrial/business park. A nearby 3M facility and the county corrections facility were also identified as potential energy customers for either electricity from a WTE and/or a landfill gas project. The study was completed in the spring of 2011 and additional financial feasibility work is being done to refine the WTE facility costs for presentation to the City Council. Mr. Wiseman concurrently led CDM's participation in the design of the EcoCampus' first facility - a new MRF. The facility is slated to be LEED certified and will be capable of handing both curb sorted and single stream collected materials. Mr. Wiseman is handling the LEED commissioning of the facility, equipment procurement, and the development of an RFP for private operations of the facility.

Project Director, Landfill Gas to Energy Facility, Buncombe County, NC. For nearly 20 years, Mr. Wiseman has served as the Project Director for all projects at Buncombe County's Alexander Subtitle D Landfill. Most recently, he helped the County develop a landfill gas to energy (LFGTE) project. He developed the strategy to use the County's bioreactor landfill project as the basis for securing \$3 million in ARRA grants and loans as well as a \$500,000 congressional earmark for the LFGTE project. CDM developed the construction drawings and permitting in time to be classified as "shovel ready". The "green" energy aspect of the project qualified it for special "green" set asides in the SRF portion of the ARRA. The total cost to construct the project was \$4.3 million thus more than 81% of the project was funded from outside sources. The County expects to net more than \$750,000 in energy and REC sales per year making the payback on the project less than two years.

Officer-In-Charge, Business Case Evaluation for the South Gwinnett Sewer System. The objective of this BCE was to determine if it was more cost-effective

for the county to continue to send 5-mgd of wastewater to DeKalb County or to treat it at a Gwinnett County facility. He also served as officer-in-charge for a study of the county's 48-inch PCCP water transmission main that runs on the eastern side of the county. The goal of that project was to identify segments of the pipeline that had no service connections and could be taken out of service for condition assessment. For those areas with connections, CDM made recommendations for permanent alternative service so that those segments could be assessed as well. Mr. Wiseman is also serving as the officer-in-charge for the expansion of the Alcovy River wastewater pump station.

#### Publications

Weeman, J.F. and Carter, L.S., "Repair/Rehabilitation of an Active Landfill Gae Migration Control and Recovery System," presented at SWANA's 33<sup>rl</sup> Annual International Solid Waste Exposition, Baltimore, Maryland, October 23-26, 1995.

Wseman, J.F., P. Carter, and P.R. Chabot. "Provision of Cost-effective Landfill Services Through Proper Planning and Construction Management," presented at SWANA's 33<sup>rd</sup> Annual International Solid Waste Exposition, Baltimore, Maryland, October 23-26, 1995.

#### **ELLIOTT DUEMLER, BA** NURSERY MANAGER, KAW RIVER RESTORATION NURSERIES





EDUCATION B.A. in Science, 2004 University of Wisconsin, Stevens Point

#### SUMMARY OF EXPERIENCE

Elliott provides native plant industry leadership in the greater Kansas City Area as the Nursery Manager for Kaw River Restoration Nursery (KRRN) located near, Kansas City, Kansas. His responsibilities in this position include public education, propagation and care of native plants, custom seed collection and general operations oversight of the nursery. In addition, Elliott has been instrumental in the set-up and organization of our nursery-build project for the City of Albany, NY and the Albany Pine Bush Nature Preserve dedicated to the restoration of the endangered Pine Bush Ecosystem

Elliott received his degree from University of Wisconsin, Stevens Point, where he studied biology – majoring in General Resource Management. He has previous experience working as a Prairie Restoration Intern for the Missouri Botanical Gardens. He also has experience working as a wildlife surveyor in Colorado.

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#### JASON DREMSA, BS CONSTRUCTION MANAGER, RESTORATION ECOLOGIST





#### EDUCATION

B.S. in Reclamation, Environment and Conservation. Minor in Environmental Science and Biology, 2001, University of Wisconsin – Platteville

#### **PROFESSIONAL INFORMATION**

S 130-190 ICS-100 Intro to Wildland Fire Behavior, Firefighter Training

Commercial Pesticide Applicator License: WI, IL, MO, KS

First Aid/ CPR Certified

Career advancement track

Developing Management Skills University of Wisconsin

#### **AFFILIATIONS**

Grasslands Heritage Foundation

Grow Native!

KAWS

Society of Wetland Scientists

K.C. Wildlands, Executive Committee

#### SUMMARY OF EXPERIENCE

Jason provides field services for the implementation and maintenance of all AES restoration projects in the Great Plains Region. He has over seven years of professional experience in ecological restoration and management, including projects to restore streams, shorelines, wetlands, woodlands, prairies and oak savannas. Dremsa is also wellversed in erosion control practices, native seed collection, prescribed fire and native landscaping vegetation identification. Dremsa is active in all phases of the restoration process, including marketing, planning, estimating, propagation, installation and management. His experience includes a wide variety of significant project sites throughout the Midwest. In the Kansas City area, Dremsa is the primary field manager and client contact for the Zona Rosa mixed-use development and Rush Creek restoration project. He has also coordinated the construction processes for the Enchanted Lake Shoreline Stabilization, Johnson County Transit Center Native Landscaping, and Higlandview **Bioretention Gardens.** 

#### SELECT PROJECT EXPERIENCE

Zona Rosa Stream Restoration, Protection and Enhancement. Kansas City, Missouri

Highland View Biorentention Gardens. Overland Park, Kansas

Johnson County Transit Center Infiltration Research. Olathe, Kansas

Resurrection Park. Lenexa, Kansas

Ernie Miller Park Honeysuckle Removal. Olathe, Kansas

Gleason Glen Wetland Park. Lenexa, Kansas

Platte West Wetland Mitigation. Omaha, Nebraska

The Wilds Stormwater Treatment Trains. Belton, Missouri

Indian Creek Channel Improvements. Olathe, Kansas

Enchanted Lake Shoreline Restoration. Shawnee, Kansas

Clear Creek Channel Native Seeding. Shawnee, Kansas

Chicago Botanic Gardens Shoreline Restoration. Chicago, Illinois

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## Kanza Fire Innovation Park Topeka, Kansas

## THE PROJECT

In August 2009, Bartlett & West was selected by GO Topeka, the economic development arm for Topeka and Shawnee County Chamber of Commerce, to initiate a site investigation of three potential locations of 500-1,000 acres to be considered for the development of a leading industrial and technology park. Throughout the course of five weeks, Bartlett & West worked with an experienced team of consultants to thoroughly analyze three site development opportunities, select one site for the purpose of design development, and assembled two design concepts that illustrated how the identified location could be constructed to attract global leaders in this area. A substantial amount of effort was put forth to accurately collect vital site information to guide the selection and, ultimately, the design of this development. This report was assembled to record the collected information as well as to present two design concepts that were innovative, attractive, and flexible.

There were many locations within the Topeka/Shawnee County region that could be considered for site selection but, due to the nature of the Business/ Industrial Park development, it was important to go through a screening process that narrowed down the many potential areas to three specific sites for further analysis. Utilizing City and County GIS information in conjunction with predefined site criteria, Bartlett & West conducted a screening process to identify the best site. We developed a Decision Matrix that effectively guided the final decision.

The final report included a final master plan with a rendering and fly-thru along with cost estimates for each phase of the required infrastructure that provided an innovative, attractive, and flexible Business/Industrial Park for Topeka and Shawnee County to attract global leaders in the bioscience and alternative energy industries.

The landscaped boulevard collector street along with sanitary sewer, water, and gasoline are currently under design or under construction (2011) for phase I.

### THE STATS

#### HIGHLIGHTS

- Innovative, Attractive, & Flexible Concepts
- Cooperation between many stakeholders to achieve desired solution

#### Lead Design Firm

Bartlett & West, Inc. 785.272.2252

#### CONTACT

Doug Kinsinger Topeka Chamber of Commerce 120 SE 6th Avenue, Suite 110 Topeka, Kansas 66603-3515 785. 234. 2644

THE TEAM John G. Ladson, PE Project Manager

Neil Dobler, PE Project Manager

Steve LaCasse, PE, LEED AP Project Manager

Darron Ammann, RLA, LEED AP Project Landscape Architect

Wendy Van Duyne, RLA, LEED AP Project Landscape Architect



## USD 501 Science and Innovation Park Master Plan Topeka, Kansas

## THE PROJECT

Bartlett & West is working directly with the Unified School District (USD 501) Superintendent and his staff in creating a Comprehensive Master Plan for their 100+ acre property surrounding the district's existing regional amenity, Hummer Sports Park.

The property, once the home of the Topeka State Hospital, is a beautiful campus setting currently with existing buildings inviting re-purposing as well as an arboretum with international planting species. The vision for this development is the creation of a mentoring environment for students to learn about alternative energy and other evolving technology through hands-on participation. High-tech and alternate energy firms will be based on campus and provide ongoing learning opportunities as part of the campus development covenants. A wind turbine, substation and education center are currently under design by Bartlett & West and will be the first alternative technology located on campus.

In the early stages of the master plan process we held a design charette to garner ideas from the USD 501 staff, Board of Education State office holders and community leaders. We have blended those concepts with the USD 501 vision to produce two Master Plan drafts that are currently under consideration by the district. Once a final concept is chosen we will proceed with finalizing the Comprehensive Master Plan and move forward with the platting, zoning and infrastructure design for the property to facilitate the development of this school district and regional asset.

#### THE STATS

#### HIGHLIGHTS

- Learning/Mentoring technology campus
- Pre-purposing existing structures
- Platting, zoning, infrastructure design
- Wind turbine, substation and education center currently under design

#### CONTACT

Larry Robbins, SPHR USD 501 Executive Director of Operations 785.295.3016

#### THE TEAM

Angela Sharp, PE, LEED AP Project Manager

Darron Ammann, RLA, LEED AP Project Landscape Architect

Wendy Van Duyne, RLA, LEED AP Project Landscape Architect

Karen Dunbar, Assoc ASLA, LEED AP Project Landscape Architect

# **Relevant Bartlett & West Experience**

## City of Lawrence

City of Atchison, KS Shannon Industrial Park Gary Heer Director of Public Works

The project included the

achieve construction and construction administration the of a new industrial park west of Atchison, Kansas vision and included site planning, drainage and stormwater retention, gravity and forcemain sewer construction, potable water distribution and storage and street grading and paving. Tasks performed by Bartlett & West for the project included,

913.367.5561

Development of Preliminary Concepts; Design Surveys; individual & group meetings with property owners; Design & Plan preparation; Right-of-Way Plan preparation; Design Study Report; Resident Inspection and Construction Staking.

#### City of Sabetha, KS Sabetha Airport Industrial Park Doug Clark Mayor 785,284,2133

The project included the platting of 160 acres for an Industrial Park. Construction drawings were completed for grading planning, airport planning, compete utility planning and roadways. Included in the project was construction administration. Tasks performed by Bartlett & West for the project included the following: Development of Preliminary Concepts; Design Surveys; individual & group meetings with property owners; Design & Plan preparation; Right-of-Way Plan preparation and Design Study Report. City of St. Joseph, MO Mitchell Woods Business Park Fred Kamps Project Manager Q22D 608.242.4100 Ext. 31433



"Mitchell Woods Business Park has proven to be a great success story for the City of St. Joseph and economic development for the region...Bartlett & West has provided surveying, platting, and design services for the 329 acres in the second phase of the development." Mitchell Woods Business Park has proven to be a great success story for the City of St. Joseph and economic development for the region. Mitchell Woods Business Park emerged from rolling farm land with Platting of the first phase of the development, consisting of 130 acres, in 1995. In 1999, Bartlett & West contracted with the St. Joseph Business Park Corporation to proceed with the second phase of the development. The second

phase of the development included 200 acres from the original plan with an additional 129 acres on the north side of Mitchell Avenue added to the development.

Bartlett & West provided surveying, platting, and design services for the 329 acres in the second phase of the development. The surveying included boundary surveys, topographic surveys and construction layout. Platting included preparation of final subdivision plats and lot line adjustment plats necessary to adapt the development tracts to the ever changing needs of companies building in the business park. Design services included site grading, sanitary sewers, storm sewers, streets, coordination with the private utility companies extending service to the development and the preparation of construction plans and specifications for the project.



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# **Relevant Bartlett & West Experience**

City of Lawrence

achieve

the

vision

Topeka, KS Harlan Industrial Park Steve Harlan Phone 785.836.2347

Bartlett & West provided zoning and platting services for a 127 acre industrial park in south Topeka located adjacent to the BNSF railroad. Two small streams enter the property and join into a larger stream exiting the property. The park was subdivided into lots to accommodate stream buffers and other features such as existing utilities, railroad, and streets. The development provides large shovel ready lots for potential industrial employers.

#### Lawrence, KS Westar Lawrence Operations Center Building and Storage

Yard Expansion Pat Tryon, AIA Westar Energy 785.575.8206

This project consisted of all<br/>topographic and boundary<br/>surveying, zoning variances,<br/>site grading, concrete paving<br/>design, multiple<br/>underground stormwater<br/>detention facilities, retaining<br/>walls, fencing and<br/>landscaping design<br/>associated with the 35,000<br/>square foot building<br/>expansion and 1.3 acre expansion to the<br/>service yard. The project is currently under<br/>review for an anticipated LEED Silver"[Kansas Definition facilities, park and Transmitter<br/>master plating<br/>flexible form<br/>and growth

Bartlett & West provided civil engineering, survey and site design services for the project.

- LEED Silver Certification Anticipated
- 1.3 acre service yard expansion
- 35,000 square foot service center expansion
- City of Lawrence forcemain relocation

This traditional bid type project provided greatly increased traffic and routing operations for the Westar work crews to increase their efficiency and timeliness in response to service calls for their Lawrence area customers. The design team focused on sustainable measures to provide a facility and site that will benefit the community into the future. These efforts correlated with Westar's desire to be a leader in sustainable design by seeking one of the highest levels of LEED certification.

#### Kansas Department of Wildlife & Parks Kaw River State Park & Trail Master Planning

Michael Wilson Kansas Department of Wildlife & Parks 785.296.2281

"[Kansas Department of Wildlife & Parks] For the Kaw River State Park and Trail System, the working master plan was prepared in a flexible format to allow for change and growth as the park develops." Bartlett & West worked with members of the Kansas Department of Wildlife & Parks to create a plan of development for Kaw River State Park. The working master plan was prepared in a flexible format to allow for change and growth as the park develops. Project tasks included seeking focus group input and integrating the plan with existing trails near MacLennan Park.

The following goals and objectives were used as guidelines during the planning process to provide:

- a quality recreational experience
- a network of trails for hikers, runners and bicyclists
- an area for wildlife viewing and environmental education



# **Relevant Bartlett & West Experience**

## City of Lawrence

# achieve the vision

- a trail network that would require various navigational skill levels
- and protect resources through conservation and protection practices
- a bicycle skills training area
- a youth bicycle training trail
- boat ramp access to the Kansas River
- and become a statewide trails training center.

Bartlett & West was able to team with the Kansas Department of Wildlife & Parks to plan and prepare a document for a Master Plan that would enhance the State Park for years to come.

Involving multiple user groups in the planning process helped to prioritize efforts and provided individuals an opportunity to express opinions and offer ideas concerning the facility's outcome.

#### Topeka, KS Midland Hospice of Topeka Long Range Property Master Planning

Karren Weichert Midland Hospice of Topeka 785.232.2044

Midland Hospice is located on a large piece of property in the City of Topeka, Kansas and provides many services to families in the community. Bartlett & West worked with staff members of Midland Hospice to plan and design numerous unique and usable areas throughout their property.

The long range planning process was comprised of various steps of information gathering, evaluation, analysis, and designs to fully understand the client's needs. The result was a multi-year phasing plan that has elements of picturesque landscape gardens, future building locations, and outdoor memorial spaces for past loved ones along with a paved pedestrian walking trail around the entire property.

#### Riverside Business Park North Iowa Street Lawrence, KS

Bartlett & West was intimately involved in the layout and planning for Riverside Business Park in Lawrence, KS. Our team provided topographic and boundary surveying, preliminary and final platting, sanitary sewer study, drainage study, concept and final layout and public improvement plans for storm sewer, sanitary sewer, waterline and street design for Riverside Business Park which is approximately 38.5 acres. Bartlett & West staff also worked closely with city staff to adequately determine a buffer for the existing residential neighborhood adjacent to the southern boundary of the property. This business park created seven lots which range from 2.5 to 8.3 acres in size. In addition to the original industrial park design, Bartlett & West has since replatted portions of the property for future potential uses.



"[Midland Hospice] The long range planning process was comprised of various steps of informational gathering, evaluation, analysis, and designs to fully understand the client's needs."



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#### **Key Features**

- "Green" energy based business and research
  park
- LEED Silver certified biodiesel research facility
- Landfill gas, biodiesel, and wood gasification alternative energy components

### Client: Catawba County, North Carolina

Project Dates: 2001 – Ongoing



## Sustainable, Green Energy Business and Research Park – the EcoComplex Catawba County, North Carolina

For more than 10 years, CDM has been working with Catawba County, North Carolina on the development of one of the nation's first, sustainable, "green" energy based business and research parks – the EcoComplex. CDM was involved in the initial development of the idea helping the County determine that the ideal concept would be one that combined the ideas of industrial ecology, "green" energy, and state-of-the-art university research. Industrial ecology is the theory of industrial material flows and the waste products and/or end products from one industry can be matched to another to achieve maximum resource conservation and management. So the goal of the EcoComplex is to recruit and match industries that can operate synergistically and use government operations to complete some of the linkages.

The initial foundation of the EcoComplex was the County's 3-MW, landfill gas to energy complex. The County recovers gas from its on-site sanitary landfill and generates about 3-MW of "green" electrical power. The first industry recruited to the EcoComplex was a large lumber mill owned by Gregory Wood Products. The presence of the mill allowed the County to recruit Pallet One, a major national pallet manufacturer who could obviously use the wood products from the mill. The County is stepping in to take the wood waste from both of these facilities to serve as fuel for a new wood gasification facility being procured from Nexterra Systems Corporation. The gasification facility will generate approximately 2.5 MW of electricity and varying quantities of steam. The electricity, like the County's landfill gas generated electricity, will be sold to Duke Energy. The steam will be used to heat a \$40 million, 40-acre greenhouse facility. The County will also use waste heat from their LFGTE complex to provide hot water to the greenhouse project. The County is also in various stages of negotiation with a data center (cloud computing); a specialty brick manufacturer, and their municipal partners in a biosolids drying facility.

In 2009, CDM was retained by the County to design a biodiesel research facility that would be run by Appalachian State University (ASU). The \$1.4 million facility was designed to allow researchers to easily produce varying grades and mixtures of biodiesel, and test them in a dynamometer installed in a test vehicle within the facility. The facility achieved LEED Silver certification. CDM designed a system to capture waste heat from the landfill to energy complex and utilize it in the biodiesel production process and to heat the building. During construction, a construction waste recycling rate of more than 90% was achieved. The County has contracted with local farmers to grow biodiesel feed crops (sunflowers and canola) in the landfill buffer areas.

# Sustainable, Green Energy Business and Research Park – the EcoComplex

Catawba County, North Carolina

CDM has completed 60% level design plans for a new biosolids drying facility at the landfill. Biosolids generated across Catawba County are currently composted at a regional facility. The new facility would dry biosolids to greater than 90% solids with the resulting product used in the greenhouse facility as a soil supplement and/or to increase the organic content in landfill final cover soils to promote better vegetative growth. The longer range plan is to combust the biosolids for additional energy production in the wood gasification facility. Research is being conducted at UNC-Charlotte to better understand the biosolids gasification process and facilitate permitting.

Other projects that CDM has been involved with related to the EcoComplex development include: a pump station and force main to deliver EcoComplex wastewater to the city of Newton's wastewater collection system; a landfill gas collection optimization study; landfill and landfill gas to energy complex air permitting; air permitting for the wood gasification to energy project; a joint study with UNC-Charlotte to evaluate the feasibility of constructing an anaerobic digester for food and animal waste; a campus-wide potable water and wastewater reuse study; and, an infrastructure improvements study to accommodate the 40-acre greenhouse facility, among other projects. CDM is working with UNC-Charlotte to help them establish a footprint at the EcoComplex as well.



**Progress Through Sustainable Partnerships** 

#### **Key Features**

- "Green" energy based business and research
  park
- LEED certified material recovery facility
- Landfill gas and waste-to-energy alternative energy components

Client: Neal Kendust & Murray, P.C. (local proxy for Columbus Consolidated Government)

Project Dates: February 20010 – October 2011



## **EcoCampus Feasibility Study** Columbus Consolidated Government, Georgia

Fresh off a difficult siting process where Columbus Consolidated Government (CCG, a consolidated government of the City of Columbus and Muscogee County) had to swap land with Fort Benning in order to come up with a new landfill site, CCG, through a local architectural firm Neal Kendust & Murray, P.C., hired CDM to prepare a feasibility study of options to extend the life of the new Pine Grove Landfill to the maximum extent possible. CCG was focused on proven approaches and had been investigating waste-to-energy technology for a number of years.

CDM first conducted a regional waste stream analysis focused on determining future waste quantities and composition, and well as existing waste handling programs in the Valley Partnership region - a seven county area that straddles the Alabama-Georgia state line in the Columbus area. Simultaneously, CDM began the process of evaluating existing and emerging waste reduction technologies ranking them according to a number of screening criteria. While there are many exciting and interesting emerging waste reduction technologies, mass burn WTE emerged as the preferred alternative primarily because of the vast number of successfully operating facilities across the U.S. and the world. CDM and CCG used this information to construct four project alternatives ranging from a WTE facility for the waste that CCG collected (residential only within Muscogee County) to full involvement of all of the Valley Partnership local governments. CDM conducted a financial analysis of all four options including waste hauling costs for waste outside of Muscogee County. The analysis showed, as expected, that the larger the WTE facility, the lower the unit costs to the participants. At this time, CCG is still evaluating the results of the report as they chart the course forward.

As part of the energy market and siting analyses for the project, CDM recommended consideration of the EcoCampus concept where the proposed WTE facility, or a landfill gas to energy project, could be sited at the Pine Grove Landfill and fuel surrounding businesses and government operations. The Pine Grove Landfill is ideally situated next to Fort Benning, a CCG corrections facility, the closed Shatulga Road landfill, and the Muscogee Technical Park and thus there are many potential customers for "green" energy produced from a WTE or LFG project. CDM also recommended that Columbus State University be considered as a partner to insert a research component into the EcoCampus. CCG has embraced the EcoCampus concept proposed by CDM and has adopted a logo for the complex designed by CDM.

The first facility in the EcoCampus will be a new, LEED certified recycling materials recovery facility (MRF). CCG currently collects

## **EcoCampus Feasibility Study** Columbus Consolidated Government, Georgia

and sorts recyclables at the curb and processes them at a downtown facility. CCG's desire is to use the existing riverfront location for a higher use and move the MRF to the EcoCampus. The new MRF will have the flexibility to process curb sorted materials as well as single-stream collected materials if CCG moves to that form of collection in the future. CDM assisted the local architectural team with the design of the facility and is serving as the LEED commissioning agent. CDM is also developing an RFP for equipment procurement as well as private operations of the facility.

## Hartford "Green Capitols" Hartford, Connecticut

The City of Hartford "Green Capitols" project was completed around the historic state capitol with numerous green infrastructure improvements, to demonstrate to Connecticut municipal officials and homeowners the potential use of these new technologies. The improvements include a rainwater harvesting system which will capture roof water for use in site irrigation, permeable paver and pervious concrete walkway areas, porous asphalt parking areas, and urban and residential rain gardens and a green roof. The "green" design elements were installed to demonstrate how these new technologies can be integrated into the urban landscape for stormwater runoff control and treatment, so that it does not go into drainage systems.

This project is a joint collaborative effort of the Metropolitan District, Connecticut DEP, and State Capital Facilities to integrate these Green demonstration areas on the historic Capitol grounds. The planning and design phase for this project was a group effort over the last 18 months with implementation occurring late summer and fall 2010.

The Green Capitols project seeks to highlight green infrastructure retrofits in and around state capitol buildings to demonstrate these opportunities to public and municipal officials. The Environmental Protection Agency (EPA) is providing design and other technical assistance to several state-municipal partnerships committed to



Client: Connecticut Department of Environmental Protection

Project Dates: October 2009 – November 2010



## Hartford "Green Capitols" Hartford, Connecticut

implementing wet-weather management projects using green infrastructure approaches on Capitol grounds, and streets and sidewalks immediately adjacent to the capitol.

A number of green infrastructure programs and demonstration projects are currently underway in municipalities, capitol cities, and campuses across the country. By limiting the amount of stormwater runoff entering our stormwater systems, these projects have verified that green roofs, porous pavements, vegetated swales, rain gardens and other forms of green infrastructure can serve as cost-effective, environmentally preferable alternatives to conventional stormwater conveyance and treatment structures.



Sustainable design is integral to CDM's work on the Harvard Allston campus development project.

#### nati and con

Client: Harvard University

Project Dates: October 2006 – October 2016



## Sustainability Utility Design for Harvard Campus Expansion Cambridge, Massachusetts

Harvard University is embarking on a multi-decade expansion of its 200 acres of land in the Boston neighborhood of Allston. Guided by a set of university-wide sustainability principles, the Allston campus development project reflects Harvard University's commitment to environmental stewardship. New buildings will incorporate Leadership in Energy and Environmental Design (LEED<sup>®</sup>) features; renewable or "clean energy" sources will help power the campus; stormwater strategies will focus on pedestrian-friendly environments; services will protect, treat, and replenish groundwater; and streetscape transportation initiatives will reduce carbon dioxide and other emissions.

CDM is designing a campus-wide utility delivery system that will provide for all thermal, electrical, and wet utilities, including steam, natural gas, heating and chilled water, electricity, stormwater, water and sewer, and facilities and associated utilities that will be constructed across the campus, the first of which will be below-grade, a more than 1-million-square-foot interdisciplinary scientific research center that will house Harvard's program for stem cell research. This 9-megawatt cogeneration plant will provide electricity and highpressure steam for medical research within the facilities.

Replacing one large, central energy facility with multiple smaller facilities strategically located across the campus has several benefits. In addition to the cost benefit of installing capacity only as energy demands require, Harvard can take advantage of any new technology or better energy solutions that arise. All distributed energy facilities will incorporate LEED features and will be located within or built in conjunction with planned buildings. CDM will also be designing the utility delivery package, including utility tunnels, water mains and sewer inceptors, and electricity and telecommunications systems.

Other important sustainable campus design components being considered include a state-of-the-art stormwater plan that maximizes retention, reuse, and groundwater recharge through natural landscaping and subsurface infiltration galleries. CDM is also evaluating the possible use of heat recovery systems, which could capture and utilize heat from a cross-campus sewer inceptor, as well as thermal storage strategies that will chill and store water in the evening to minimize peak-demand operations.

In addition, CDM is providing an array of environmental consulting and field services to support the project. Services include soil and groundwater sampling and characterization; regulatory filing and reporting; and construction-related monitoring of dust, vibration, and noise.

## Sustainable Resource Management Plan Asheville, North Carolina

CDM entered into a partnership with the City of Asheville, North Carolina, by providing Research & Development funds to develop the city's Sustainable Resource Management Plan. The project applied an integrated planning approach for resource management, addressing the full spectrum of local government services, including transportation, buildings, public facilities, street lighting, water, wastewater, solid waste, and land use planning, and should provide energy and emission reduction strategies, best practices, and institutional/policy recommendations.

As a member of both ICLEI and the U.S. Conference of Mayors "Mayors Climate Protection Agreement," City of Asheville leadership has committed to conservation of natural resources and to minimizing impact on the environment by reducing greenhouse gas (GHG) emissions from both city operations and the community at large. In April 2007, City Council passed a resolution committing to the reduction of city greenhouse gas emissions by 2 percent per year from 2007 emissions until an 80 percent overall reduction has been achieved from the city's baseline emissions of Fiscal Year 2001-2002. Having completed their baseline emissions analysis and set the above emission reduction goals, Asheville now requires a plan for achieving this objective.

Client: City of Asheville, North Carolina

> Project Dates: March-December 2008

CDV

The goals of the city's Resource Management Plan are as follows:

- Identify existing conditions and initiatives within each service area.
- Identify potential projects, best management practices, and policy ideas to guide the city towards achieving emission reduction goals, including realistic "early wins" and long-term strategies.
- Identify cost-effective energy reduction strategies that enable the city to realize operational cost savings.
- Identify strategies to enhance operational sustainability through decision making processes, employee management, purchasing and procurement, accounting and budgeting, and customer service.
- Identify strategies to reach beyond government operations to residential, commercial, and institutional sectors, with the intent to change behaviors across a diverse cross-section of the community.
- Provide an opportunity to enhance intergovernmental cooperation on community-wide emissions reduction efforts

## Sustainable Resource Management Plan Asheville, North Carolina

The project drew upon many of CDM's core and emerging services, including water, wastewater, solid waste, transportation, green building, and smart growth land use planning, and serves as a case study for an increasing number of communities interested in taking a leadership role in reducing greenhouse gas emissions.

This project won the 2010 Sustainability Award from the North Carolina Chapter of the American Planning Association.

## Waste-to-Energy Facility Hillsborough County, Florida

Since 1987, CDM has been providing operations and maintenance monitoring, as well as annual inspections and contract administration for the Hillsborough County waste-to-energy (WTE) facility in the Tampa Bay area of Florida. This renewable energy facility thermally converts household trash into electricity, producing 30 megawatts (MW) of electrical energy every day. Based on its success, the county decided to expand the facility's capacity from 1,200 to 1,800 tons per day, producing a total of 47 MW of electricity daily.

Serving as owner's representative for the expansion, CDM renegotiated the long-term service and construction agreements, creating performance specifications and establishing the design basis for the expansion. CDM also assisted with permitting and is providing construction services.

A portion of the energy produced will be used to power the adjacent wastewater treatment plant, pump station facility, and administration building—enabling them to run on 100-percent renewable energy and saving approximately \$450,000 in annual electricity costs. The county is able to sell the remaining 40 MW of electricity produced to the local utility. CDM is leading negotiations on a new power purchase agreement with this utility.

utility. CDM is leading negotiations on a new power purchase agreement with this utility. The \$126.5 million expansion, which includes an additional municipal waste combustor unit and a new turbine generator, will convert 200,000 tons of municipal solid waste into renewable energy annually. The many advantages of the expanded facility include reducing the volume of waste required to be landfilled by 90 percent, along with the associated gas and leachate reductions; producing electrical energy from renewable fuels; and reducing greenhouse gas emissions. With only the remaining 10 percent of ash (by volume)

This renewable waste solution employs the most advanced air pollution control equipment—achieving Clean Air Act compliance and meeting New Source Performance Standards—and protects human health and the environment. In addition, the U.S. Environmental Protection Agency considers electricity from WTE facilities to be among the cleanest produced. The Hillsborough expansion has the country's lowest nitrogen oxide emission limitation.

going to landfills, WTE technology vastly extends the longevity of

Client: Hillsborough County

Project Dates: 1987—2011

landfill sites.





## The University of Kansas KU Wayfinding Development and Campus Analysis Lawrence, Kansas

### THE PROJECT

As part of Bartlett & West's oncall Landscape Architectural

services for the University of Kansas, we worked directly with University Landscape Architects Peg Livingood and Marion Paulette to develop the design and layout of a comprehensive signage system. Shelley Rosdahl from Star Signs in Lawrence was also a notable team member involved with this project and provided her expertise in the area of signage design and construction. Due to the visibility of the project, several meetings were held with the KU Wayfinding Task Force to develop and approve the design of the wayfinding system as well as to ensure that the signs were within compliance of University trademark standards.

Bartlett & West and Star Signs worked closely with DCM Landscape Architects to conduct a thorough analysis of campus destinations, street classifications, and campus entrances to design a detailed signage plan designating the exact location and message schedules of each sign within the campus framework. Both vehicular as well as pedestrian considerations were taken into account with this project as it was important to clearly identify and convey ADA entrances to campus buildings. As an important component of this project, the design team compiled a comprehensive wayfinding manual for the University outlining the approach, signage locations, legibility distances, signage design, construction details, and message schedules for the implementation of future signage in and around campus.

Communication and coordination between many team members—from Landscape Architects at Bartlett & West and KU DCM, to signage designers and fabricators at Star Signs, to the KU Wayfinding Task Force and other campus officials—were integral to the success of this unique project.

### THE STATS

### HIGHLIGHTS

- Comprehensive Signage Plan for the University of Kansas
- Design of a cohesive family of wayfinding elements
- Establishment of specific guidelines to direct future implementation of signage standards

### CONTACT

Peg Livingood University of Kansas Office of Design and Construction Management Room 114 Carruth O'Leary Hall 1246 W. Campus Rd. Lawrence, Kansas 66045-7505

### NUMBERS

Signage Prototypes Installed August 2008 Installation ongoing on a case-by case basis

### THE TEAM

Darron Ammann, RLA, LEED AP Project Manager

Wendy Van Duyne, RLA, LEED AP Project Landscape Architect



## Cloud County Community College Campus Facilities Master Plan Concordia, KS

### THE PROJECT

Bartlett & West became involved with Cloud County Community College in the effort to develop a Comprehensive Campus Facilities Master Plan. Collaborating as a design team, we worked to pinpoint specific user needs and issues through the use of idea festivals, public meetings, questionnaires and a project website. By utilizing several focus groups comprised of students, staff, alumni, and community members, and incorporating public design efforts wherever possible, the team was able to provide a comprehensive master plan with various phasing opportunities to help guide the future of campus development.

### THE BENEFIT

Cloud County Community College now has a vision for the growth of their campus.

### THE STATS

### HIGHLIGHTS

- A campus master plan was established to direct future construction and additions
- Existing buildings will be updated and incorporated wherever possible

#### CONTACT

Robert Maxson VP for Administrative Services Cloud County Community College Concordia, Kansas 800.729.5101 ext. 202

#### THE TEAM

Darron Ammann, RLA. LEED AP Project Manager

Wendy Van Duyne, RLA, LEED AP Project Landscape Architect



## Neosho County Community College Campus Facilities Master Plan Chanute, KS

### THE STATS

- A facility master plan guides future development of campus
- Both immediate and longterm solutions for campusgrowth
- A detailed phasing plan is developed to facilitate implementation of the campus master plan

### CONTACTS

Ben Smith Dean of Planning and Operations Neosho County Community College 620.431.2820 ext. 221

Dr. Brian Inbody President Neosho County Community College 620.431.2820 ext. 212

### THE TEAM

Darron Ammann, RLA, LEED AP Project Manager

Wendy Van Duyne, RLA, LEED AP Project Landscape Architect

Karen Strauss, Associate ASLA, LEED AP Project Landscape Architect

Casey Colbern, EIT Project Engineer

Roger Watson Designer

### THE PROJECT

Bartlett & West and Places Architects in Wichita, KS teamed together to create a Comprehensive Campus Facilities Master Plan to guide Neosho County Community College's future. The school has been expanding and required both immediate and long-term growth plans for indoor and outdoor spaces. During a two-day idea festival, Bartlett & West and Places Architects worked with several stakeholding groups including students, staff, alumni, and community members to assess individual and group needs in relation to the Facilities Master Plan.

The idea festival consisted of public meetings, questionnaires and a project website. Using the feedback from the idea festival Bartlett & West was able to incorporate the needs of the stakeholders while creating a comprehensive master plan and phasing options to assist Neosho County Community College plan for their future growth and development goals.



## Seward County Community College/ Area Technical School Campus Facilities Master Plan Liberal, KS

### THE PROJECT

Bartlett & West is currently working with SCCC to create a Comprehensive Campus Facilities and Land Use Master Plan to guide Seward County Community

College's future. The school has recently merged with the Area Technical School in Liberal, and is in need of both immediate and long-term growth plans for indoor and outdoor spaces. During a four-day design charette, the design team worked with several stake-holding groups including students, staff, alumni, and community members to assess individual and group needs in relation to the Facilities and Land Use Master Plan. The design team has utilized a proven process consisting of public meetings, questionnaires and a project website. Using the feedback collected from these outlets, Bartlett & West has been able to incorporate the needs of the stakeholders while creating a comprehensive master plan and phasing options to assist Seward County Community College plan for their future growth and development goals.

### THE STATS

### HIGHLIGHTS

- A facility master plan will guide future development of campus
- Both immediate and longterm solutions for campusgrowth
- A detailed phasing plan will be developed to facilitate implementation of the campus master plan

#### CONTACT

Dr. Duane Dunn President, Seward County Community College/ Area Technical School 620.624.1951 ext. 1010

### THE TEAM

Darron Ammann, RLA, LEED AP Project Manager

Wendy Van Duyne, RLA, LEED AP Project Landscape Architect

Karen Strauss, Associate ASLA, LEED AP Project Landscape Architect

Casey Colbern, EIT Project Engineer

Roger Watson Designer



## Tierra Verde Development LLC 157 Acre Multi-use Development Bel Aire, Kansas

### THE PROJECT

Tierra Verde's development evolved from the client's vision for a 157 acre mixed-use development that incorporates sustainable design practices while promoting the health and well-being of both the users of the site and the environment. The program currently includes a health spa, assisted living facilities, medical facilities, athletic fields, multi-family and single-family residential, and a commercial development including a town center and entertainment venue. Although still in the master planning phase, several design charettes have been conducted with landscape architects, architects, engineers, and the client to evaluate sustainable design options.

With the idea of a healthy, natural and "green" environment for this distinctive development, numerous groups are interested in funding the project. The project is intended to be funded by private groups, interested developers and various types of individual investors. The client has established interested relationships in the Wichita region with hospitals, sports teams, church groups, hotel developers, residential developers and organic food retailers just to name a few. The idea of a development offering personal health and well-being alternatives as well as an aesthetically pleasing environment, provides a unique investment opportunity to this region of Kansas.

Currently private investors are being sought out to assist with the development of the property.

### THE BENEFIT

The desired outcome of the development will be attained by implementation of LEED certification on a case by case basis for each tenant. The educational goals of the development will be pursued through a farmer's market and community festivals to inform the public on sustainability, general health and wellness. To emphasize the importance of nature and reduce impervious surfaces a common green space will connect all site elements and will contain a trail to promote exercise and general exploration of the environment. Several preliminary lessons learned include the challenges of coordinating necessary submittals with the city, United States Green Building Council (USGBC), and the client. The design also demands sensitivity to the delicate balance of integrating sustainable building practices and large mixed-use developments. In addition, it is the goal of the project to coordinate and satisfy all tenants' personal economic, environmental, and social goals toward one common sustainable goal.

### THE INNOVATION

The program elements were selected by their ability to contribute to a sustainable future in the Wichita area. A sustainable development of this magnitude and array of uses currently does not exist in the region. The client hopes the development will serve as an educational tool and platform for the public on sustainable topics.

### THE STATS

### HIGHLIGHTS

- Sustainable design practices
- Multiple function 157-acre development
- LEED certification encouraged for each tenant/ resident

### CONTACT

Tierra Verde Development LLC 8108 Peachtree Lane Wichita, KS

### THE TEAM

Darron Ammann, RLA, LEED AP Project Manager

Wendy VanDuyne, LA, LEED AP Project Landscape Architect

Joe Caldwell, PE Project Engineer

Casey Colbern, EIT Project Engineer



### **OUR SERVICES**



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- Ecological Research, Assessment, Inventory, Analysis and Monitoring
- Mine, Quarry and Landfill/Brownfield Remediation
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- Environmental and Water Resources Engineer
- Ecological Landscape Architecture
- GIS Services and Mapping
- Regulatory Permitting
- Public Process and Visioning
- Comprehensive Wetland Services
- Wildlife Studies and Management
- Threatened and Endangered Species Studies
- Streambank and Shoreline Stabilization
- Stormwater Management Design
- Sustainable Development Services
- Environmental Legal Discovery and Mediation

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- Prescribed Burning
- Prescribed Herbicide Application

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