Johnson and Wales Culinary Institute

Case Study

Project Facts

Architect of Record:
LS3P Associates

CM @ Risk:
RodgersDooley

Project Team Members:
David Loy (LS3P Assoc.)
Will Caulder (RodgersDooley)
Merlin DeConti (J&W Univ.)

Secondary Team Members:
Crabtree McGrath
(Kitchen)
Cole Jenest & Stone
(Landscape and Civil)
Laurene and Rickher
(Structural)
McCracken & Lopez
(MEP and Fire)
Pic-Tec
(Cost and Scheduling)

Official Project Name:
Johnson & Wales Academic Building

Client:
Johnson & Wales University
Representative:
Merlin DeConti
User:
Peter Lehmuller

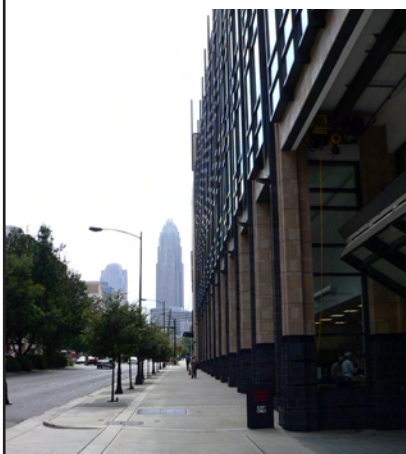
Student Team:
Billy Askey
Brian Watson
Hannah Lippard
Greg Melton
Andrew Jamison

ARC 561
December 1, 2005

Johnson and Wales Culinary Institute

Case Study

Editor:	Billy Askey
Team Members:	Brian Watson Hannah Lippard Greg Melton Andrew Jamison
Architect:	David Loy AIA LS3P Associates LTD.
Contractor:	Will Caulder RodgersDooley
Client:	Merlin DeConti Johnson and Wales



Johnson and Wales Culinary Institute

Project Brief

This case study investigates the design and construction of the Culinary Institute and Office Building located at 801 West Trade Street in Charlotte, North Carolina, commissioned by Johnson and Wales University. LS3P Associates Ltd. was chosen as the architect of record for the 156,000 square-foot, Business Occupancy, Type 1B building in September of 2002. Because Johnson and Wales wished to occupy the building by the beginning of the 2004-2005 academic year, the architect implemented a fast-track schedule. The Guaranteed Maximum Price was set by the contractor Rodgers Dooley at $33 million with a timeline of twenty-two months. As Rodgers Dooley assumed the responsibility of Construction Manager at Risk, they were responsible for hiring all of the subcontractors, excluding a curtain-wall specialist .

The design team, consisting of Merlin DeConti, the representative from the client Johnson and Wales, the architect LS3P Associates, the contractor Rodgers Dooley, city leaders, and the kitchen consultant Crabtree McGrath, gathered in Charlotte for a week-long design charette. During this meeting, the team discussed site location and addressed early schematic design and programmatic issues in order to insure clear communication and networking between all parties.

The outcome of the design charette established lucid expectations for all constituencies involved. The client desired a building that would fit within the urban fabric, while serving as a symbol of their status as one of the premier culinary institutions in the world. Additionally, the building would lay the foundation for the creation of an academic campus. The leaders of Charlotte hoped that the project would continue to strengthen the revitalization and growth of the city, in that the arrival of the world-class university would correlate to increased revenue .

Sqaure Feet
156,000

Occupancy Type
Business

Construction Type
I-B

Start Date
September 2002

Occupancy
July 2004

Architect of Record
LS3P

Construction Manager at Risk
Rodgers Dooley

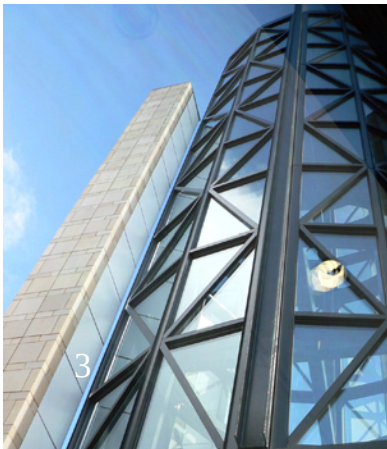
Owner

3

Johnson and Wales Culinary Institute

Project Brief

We believe this project is an example of excellent communication and teamwork between the client, architect, and all constituencies. Without the complete commitment and cooperation of the parties involved, the project would have not have been finished on time and within the budget constraints.



Johnson and Wales Culinary Institute

Open Verification

Open Verification

We ascertain that the material contained in the precedent study on Johnson and Wales Culinary Institute by LS3P Associates LTD. is an accurate representation of events leading toward the realization of the project.

All information contained in this case study is factual to the knowledge of the authors, advisors, and the host firm. It is the understanding of all parties that the final documentation of material will be placed in the NCSU College of Design Library and shared with the American Institute of Architects for broad distribution.

This current document is open verification for a final submittal.

Preparation Team:

Billy Askey..... Date. 12/01/05
Brian Watson..... Date. 12-01-05
Hannah Lippard..... Date. 12/01/05
Greg Melton..... Date. 12/01/05
Andrew Jamison..... Date. 12.01.05

Faculty Advisors:

Hunt McKinnon..... Date.....
Marvin J. Malecha..... Date.....

LS3P Associates LTD.:

David Loy AIA..... Date. 11/14/05

Johnson and Wales Culinary Institute:

Merlin DeConti..... Date. 11-14-05

Peter Lehmuller..... Date. 11/29/05

RodgersDooley

Will Caulder..... Date. 11.30.05

II. Perspectives

Protocols

The web of decision-making for the Johnson and Wales project was multi-faceted yet efficient. The studio culture at LS3P fueled the design decision-making process, utilizing the input of the Principal in Charge Chris Ions, lead project designer Pat Campbell and other members of the design team such as David Loy and Wade Tucker[4]. Because of the fast-track schedule, the initial design phase included a week-long charrette process featuring input from representatives directly and indirectly affected by construction of the new facility. *The list of participants included representatives from: Johnson and Wales, LS3P and Associates, Gateway Village, Center City Partners, Main Academic A/E Team, City of Charlotte and Residence Hall A/E Team*.[5] This method provided an excellent environment to absorb the array of design ideas generated from the various participants. Furthermore, this scenario ensured that each decision was approached from different vantage points, resulting in an understanding of the project that is clearly evident in the final result.

For example, the client representative, Merlin DeConti, Senior Vice President of Facilities for Johnson and Wales, felt it was necessary to have a loading dock and delivery area on the bottom floor of the facility. The city of Charlotte required that the lower façade be free of any punctures such as an entrance for delivery vehicles. Together with the architect they were able to remedy the problem with the design of an operable curtain-wall that allows entry

[4] Loy, David. E-mail. October 12, 2005.
[5] RodgersDooley Coordination Meeting Schedule.

into the loading zone while concealing it when it is not in use[6]. Closely following the charrette, all the information was carefully examined and then utilized to move forward into the design development phase of the project. Intermittent design reviews conducted by a design committee, headed by one of the firm's principles, established the hierarchy of designers while establishing the studio's progress, design decisions and efficiency. As the process continued, the web of decision-making gained threads of complexity as it became time to begin the initial phases of construction which involved attaining the necessary permits for construction, although design was not complete. RodgersDooley, the general contractor and Construction Manager at Risk (CM at Risk), provided cost estimates that aided the client and architect in crucial design decisions pertaining to the project budget.[7] North Carolina Senate Bill 914 established the idea of the CM at Risk in 2001 to try and guarantee that more public projects would finish on time and under budget. In order to for this idea to happen, the general contractor would need to be brought on board earlier in the project schedule to help inform the design process.

The building was then divided into segments responding to the order it would be constructed. This action was taken in order to accelerate the process of reviewing shop drawings as they were submitted. Foundation and steel shop drawings were the first of these items to arrive. The speed of construction prohibited the traditional request of shop drawing resubmission if the shop drawings were incorrect. Instead the architect requested that the contractor and

[6] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.5
[7] Loy, David. Personal Interview. September 13, 2005.

manufacturers meet on site to discuss any revisions necessary to prevent time-loss occurring during normal resubmissions. The project was so complex that some shop drawing submissions consisted of up to one hundred and twenty pages[8].

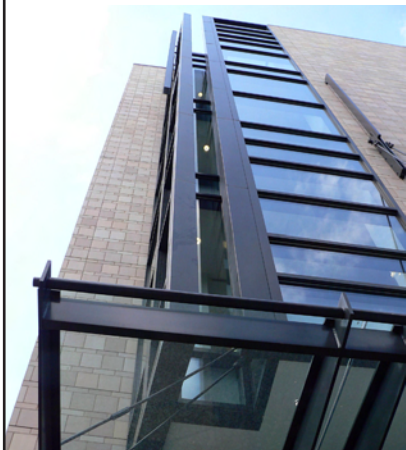
Weekly meetings involving the architect, client, general contractor and selected specialist, such as Crabtree and McGraft, the food service designer, allowed questions and issues to be raised preventing future project delays and costly mistakes. In the end it was this intricate web of communication that linked all parties from client to sub-contractor that allowed for such a complex project to be designed and executed in a mere twenty-two months.

Constituencies

Communication is the cornerstone to a successful project, forming the adhesive that bonds all parties involved in the design and construction of a project. The many factors which made the design and construction of Johnson and Wales Charlotte campus unique also presented numerous challenges towards communication between the client, architect, and all contractors. A successful resolution required good communication between all parties throughout the process, beginning with a clear understanding of the client's needs.

Officials from Johnson and Wales faced a new problem when beginning their process of constructing a new campus, as they had never had the opportunity to form an educational campus from scratch. The new project would

[8] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.5



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[4] Loy, David. E-mail. October 12, 2005.
[5] RodgersDooley Coordination Meeting Schedule.

The client's willingness to form a clear and concise look at the needs and ideas incorporated into their project allowed a good start to the communication process that would develop between Johnson and Wales, LS3P, RodgersDooley, and all parties involved in the project. The design charrette that began this process allowed an interaction between all relevant parties, including representatives of Johnson and Wales, representatives of the adjacent Gateway Village, Center City Partners, the City of Charlotte (including the mayor), the construction team for the complex - the architect, urban planning associates, civil and structural engineers, kitchen designers, and a cost and schedule consultant.[12] All of these attendees helped to outline and define the ideas and figures realized by the client. By confronting these issues early on, everyone was able to hear the client's voice. This interaction provided for an efficient exchange of information between all parties, including the surrounding community, who would play a large role in the experience of the finished building.

RodgersDooley set up a series of weekly coordination meeting between subcontractors which went along with the construction timeline.[13] As the Construction Manager at Risk, it was their responsibility to insure that the building construction finished on time and under budget. These meetings allowed the contractor to keep an eye on all aspects of the project. The kitchens were one area of importance as they contained many different building functions which required numerous subcontractors. RodgersDooley addressed this by assigning a construction team member to oversee each area of the work in order

[12] RodgersDooley Coordination Meeting Schedule
[13] Loy, David. Personal Interview. September 13, 2005.

to keep the building on schedule. Approximately four months from completion, Eric Reichard, the project executive, began running the subcontractor meetings to make sure that the project was completed on schedule and to confirm that all issues were addressed.[14]

By providing a clear line of communication between all parties, beginning with the design charrette, the Johnson and Wales Culinary Institute was completed on time and considered an extremely successful project by the client, the city of Charlotte, and the other members of the design team.

Stories

The public campaign to bring a premier culinary university to Charlotte began in earnest on June 20, 2002, whereby a press release officially announced Johnson and Wales intentions to open a new campus in Charlotte, North Carolina. This press release also announced the university development team, led by Tom Dwyer, Chief Financial Officer from Rhode Island. Dwyer would report to Jack Yena, Johnson and Wales President and also from Rhode Island. Bernice Parenti received the designation of leading the local Johnson and Wales office. Her role was to act as the university's local contact as well as recruit prospective students. LS3P was able to win the job for the new university building by repeatedly placing themselves in front of these influential people to show their high level of interest in the project[15].

[14] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.6
[15] Loy, David. E-mail. October 11, 2005.

Johnson and Wales Culinary Institute

Case Study

The successful design, construction, and completion of the Johnson and Wales University Culinary Institute hinged on teamwork. Clear lines of communication enabled all parties to work cohesively within the project's restrictions. Examples of the various constraints that the design team faced included an abnormally short schedule, an urban site containing unforeseeable conditions, and a unique program. However, good design entails developing creative solutions to complex problems. Instead of letting circumstantial problems have a negative impact, the design team used the solutions to these restrictions to make the project more engaging.

One of the main problems the team faced was the fast track schedule to make sure that building would be completed by the fall of 2004 so that the university could be opened for classes. In order to overcome this issue, advance planning was an absolute necessity. The design team overlapped phases of the design process to compact the overall schedule. Production of shop drawings for items with long lead times such as steel and exterior skin types began after the awarding of the contracts to insure that said items would arrive at the proper time. This staggered process revealed itself in the design, as the building was divided into an "A" side and "B" side. Because the "B" side housed the commercial kitchens, and therefore specialized equipment with long lead times, the mechanical, plumbing, and electrical systems had to be in place first before installation of this equipment could occur. While the "B" side was being refined, steel was still being erected on the "A" side![16] None of this would have been possible without good communication between all of the constituencies.

[16] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.6

The building was thus considered a great success. Understandably, despite the well organized methods of construction and cooperation, the rushed schedule did create a few problems when the university had to begin operation. Lack of time made it impossible for heavy kitchen equipment to be tested before occupation, nor was the HVAC and kitchen ventilation system tested during a cooking experiment. Any discrepancies, such as a phone being mistakenly placed above a sink, could not be corrected. A soft opening could not be scheduled to test things such as hot water supplies, refrigeration, bathroom appliances, etc. Nonetheless, the dean of the university, Peter Lehmuller, admitted that he would not have wanted to do the project any differently, knowing that a set of new issues would most likely arise with changes.[17]

Another interesting facet of the project that illustrates how proper teamwork led to a successful design revolves around challenging site issues that arose during the course of the project. For example, the proposed building was positioned less than four inches from an existing parking deck, meaning that the deck's footings would interfere with the building's foundation. Structural engineers Laurene & Rickher, in coordination with a geotechnical engineer and RodgersDooley, presented a solution that used micro-pile tiebacks and shoring for parking deck while creating multiple long and narrow footings that combined columns. As the site was long and narrow, an expansion joint broke the building into two sections, which aided with the aforementioned staggered construction of the building.[18]

[17] Lehmuller, Peter. E-mail. November 1, 2005.
[18] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.6

Another effect of the restrictive urban site was that the building would obviously have to be vertical; yet the nature of the culinary arts program is horizontal, where there is a desire for an easy connection and progression between event space and kitchen area to make food service manageable. The building unfortunately makes this aspect very difficult, where most food preparation occurs on lower floors and service is above. In addition, the fact the building is vertically split into two wings, with the administration section being substantially smaller, results in the absence of a central entry space. Instead, one enters towards either end of the building with long corridors (up to 176 feet) stretching in between. In spite of these less desirable features arising from the site's conditions, Peter Lehmuller emphasizes that "the physical impact and statement of the building outweighs the functional desire to be out in a field or a suburban office park".[19]

Will Caulder, senior project manager for RodgersDooley, stated, "Commercial kitchens are the most complicated things you can build."[20] The fact that the program included eighteen kitchens made the coordination of the mechanical, electrical, plumbing ductwork extremely complex. Several months were spent working on the coordination drawings for these systems so that conflicts were avoided and resolved.[21] What really makes this project interesting is that despite the complexity of the kitchens, many were placed along West Trade Street, the primary focal point for the project, to reveal the building's

[19] Lehmuller, Peter. E-mail. November 1, 2005.
[20] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.10
[21] Ibid. p.8

nature.[22] This solution is clear evidence of using seemingly restrictive parameters as a genesis for creative design solutions.

The project representatives learned many lessons as a result of dealing with the design challenges and the extremely tight schedule. Many parties thought the overall design and construction process was very stressful because the time period was so short. Eric Reichard, project executive from RodgersDooley, when asked if he thought there was ever a point when he did not think they would finish it, replied, "Everyday." However, great teamwork and communication positively contributed to the project's success. Merlin DeConti, representative of the university, said that Reichard "looked me in the eye and said there was no way he was to let us fail. He gave me his commitment that the building would open on time and he kept that commitment." Reichard also made it point to praise subcontractors for their good work, as he noted that "Praise goes a long way."[23] Another important lesson learned was that having the contractor on board from the outset and giving them responsibility in the project enabled the project to come in under budget while also preventing problems from escalating out of control.

All of the teamwork and the good communication demonstrate the trust that each of the parties had invested in the others. Trust enabled each group to know that even though the project included many difficult design and construction issues, not to mention the very small window of time, that the building could still be completed as originally planned. Even though there were coordination

[22] Loy, David. Personal Interview. September 13, 2005.
[23] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.6

systems nightmares between plumbing, electrical, mechanical, and kitchen equipment, each consultant placed trust in the others that they would be able to work out all of the details. The construction manager at risk was a key cog in this entire process, as he was responsible for maintaining the high level of trust and communication. The weekly schedule of meetings that RodgersDooley developed laid out a timeline for interaction between all of the consultants. Since this step was taken early on in the design process, potential problems were avoided.

Client

As a former building code official for the city of Providence, Rhode Island, and structural engineer, Merlin DeConti represents a very knowledgeable client. This allowed smooth communication between, client, architect, and contractor when confronting any building design or construction issues. However, many problems presented themselves throughout the duration of the project which required knowledge and attention. One of the most important aspects of a building, cost, became an issue early on in the project, which allowed all parties to work early on in order to confront the issue. The client estimated that the entire Johnson and Wales campus, including student housing and educational building, would require a thirty million dollar bond. DeConti stated that by going through the initial design charrette and consulting a cost estimator, the total cost of the project was estimated to be seventy two million dollars. By learning of the cost difference early on, the situation was resolved by Johnson and Wales getting a fifty million dollar bond instead. Cost was an issue throughout the

project, which required an organized effort in cutting costs wherever they were most appropriate and would not affect the quality of the project.

Finding ways to meet the final budget of thirty-three million dollars while providing a building which met all of the goals of Johnson and Wales representatives became a daily task for all involved in the project, including Merlin DeConti. He explained that it was his goal to keep the building as a functional as possible while creating an exciting environment for the faculty and students of the university, and that cost cutting is often a give and take between the client and architect in terms of aesthetics versus functionality. Mr. DeConti stated that as the building cost was lowered, glass was taken out of the building. This saved cost, while helping to rectify a problem which would be found later. Glass was removed from the administration portion of the building, which would have been shaded by an exterior louver system. Though much of the glass was removed to save money, that which remained became a problem for the occupants of the space, as the louver system did not provide enough shading for the occupants. This issue required the university to install interior blinds to fix the problem, which may have been worse had the glass not been removed. Glass was also removed from the interior of the building, including the main stairway that had to be fire rated. The original design called for the stair to be enclosed in fire resistant glass, which would have added one million dollars to the project budget. In order to save money, the stair was enclosed by concrete block instead of glass. DeConti stated that fire resistant glass in other parts of the building has been found to fail with bubbles forming in the fire resistant layer

between glass panes. DeConti said that he was glad that the glass had been removed from this staircase, as it would have created a very expensive problem had that glass also failed.

As time was a large factor in this project, the permit approval process became very important. DeConti described a couple situations in which permits were not approved in time to get work done when scheduled, which delayed the project and cost money. He stated that this is a situation which is out of the control of all parties involved in a project, and that in this case the client ate the extra cost. One other instance in which time became a factor resulted from a disagreement between the architect and contractor determining when prints needed to be completed. This caused permits to be late as the plans were not turned in on time, resulting in a loss of work.

Permitting may be a matter of opinion when reading a building code, which resulted in an expensive design change in this project. DeConti spoke of a disagreement concerning the mechanical penthouse atop the building. According to the building code, this space was deemed unoccupied, but was interpreted by the building inspector as an occupied space. This resulted in the building being classified as a high-rise, which resulted in an abundance of extra requirements to be met. DeConti made the decision to change the penthouse design in order to classify the space as unoccupied, costing the client time and money. Decisions like these were prevalent throughout the project, but helped to ensure that the building would be successful and meet the client, architect, and city's expectations.[24]

[24] Deconti, Merlin. Personal Interview. November 1, 2005.

Contractor

Inter-team communication played a crucial role during the design and delivery phases of the project. Initially RodgersDooley provided important budget information concerning many facets of the project, most notably the mechanical, plumbing and electrical systems. Along with the cost estimates, RodgersDooley supplied the sub-contractors with specific information relevant to their work. This permitted the sub-contractors to create coordination drawings. Producing the coordination drawings required the all the subcontractors manually draw their equipment and required services on the same document. This step enabled everyone to locate problem areas where services overlapped and come up with solutions accordingly. Because of the complex mechanical systems in the building, the mechanical contractor played a pivotal role in producing and coordinating the documents.

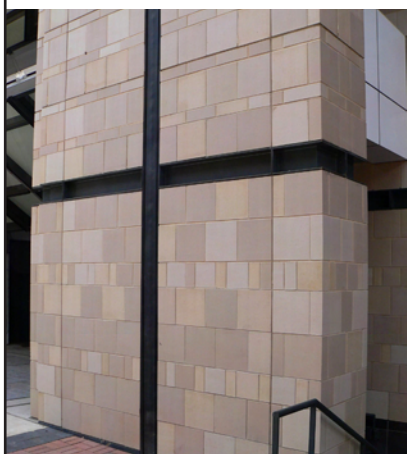
One of the more important issues handled by RodgersDooley was permitting. While the design team at LS3P was making progress on the construction documents, RodgersDooley began to apply for construction permits in phases. The order the permits were attained were as follows; grading permit, foundation permit, superstructure permit, shell permit, interior up-fit permit. Phasing the permits enabled RodgersDooley to begin construction before the construction documents were completed. As the project progressed, the importance of teamwork became increasingly present. In one instance a scheduling conflict occurred concerning the delivery and installation of the kitchen equipment and the completion of the building envelope. RodgersDooley

was nearing the point of drying in the building ahead of schedule. The only problem was that the larger kitchen equipment was not going to be delivered for quite some time. Ordinarily this would have caused major delays in construction, but because of good communication and teamwork a solution was devised. The curtain wall sub-contractor agreed to omit several large panels in the façade of the building. This provided the needed openings for the delivery of the equipment. Several of the interior walls were not constructed for the same purpose. After the equipment was delivered, the panels and walls were constructed as originally designed. This solution saved valuable time and headache.

Another example of teamwork and schedule coordination occurred when it came time to construct the masonry portion of the façade. A horizontal steel channel is one of the more prominent architectural elements in the masonry portion of the façade. The problem arose as the time neared for the channel to be set in place and the details were not fully resolved in the drawings. To remedy this, RodgersDooley agreed to begin the masonry work on the floor above where the channel was to be located. This provided sufficient time for the channel to be detailed without hindering the work on the façade. After the details were completed the masons returned to the portions of the façade that were incomplete and finished the remaining work.[25]

As exhibited in the perspectives from the main constituencies in the project, the client, the architect, and the contractor, one can see how teamwork made it possible for the project to be successfully completed. Although each

[25] Caulder, Will. Personal Interview. November 8, 2005.



party had different concerns, they were able to focus their efforts through trust and communication to avoid conflict and resolve issues.

Ideas

The Johnson & Wales University Academic Center incorporates innovative use of design, materials, and construction methods that were executed in order to complete this project in a short amount of time. The methods of design were unique in that a design charrette was held involving LS3P, Johnson & Wales, city officials and members of the engineering and consulting teams. The big ideas behind the building were developed in this charrette, which took place over the course of a week. The building style that developed was a modern gothic style that utilized light and open structure, contiguous vertical glass, masonry skin, and vertically striated forms. The client wanted the building to take on a monumental scale in order to represent the university and the reputation that it has as a world-renowned culinary arts facility, while also relating to the surrounding Gateway Village along the primary entrance to downtown Charlotte.

The building design and construction was done in a way that the building could be built in sections in order to speed up the process. This process required an innovative use of scheduling and execution of design process, the review process, and the construction process. The skin of the building was simple in its materials, but unique in its methods. Masonry units of standard sizes were laid in a pattern which emulates a method of laying stone. Dark bricks were used at the bottom of the building and separated from the lighter brick above with a custom

metal channel.[26] The building facades were designed so that each side of the building takes on a different characteristic while using a consistent material palette but varying the method of combining the materials.[27] The curtain wall was adapted for each side, making the fabrication coordination very important. The designers had to incorporate a service entrance on the front side of the building due to site conditions and traffic patterns surrounding the building. In order to carry out this demand without sacrificing the face of the building, a vertical bi-folding door was designed to mimic the language of the façade when in the closed position.[28]

Due to the nature of a culinary arts institution and the philosophy that one can eat what is cooked, some special considerations had to be taken into account in order to adapt the building for potential weight gain of the students over fours years of school. The seats in the auditorium were designed to be wider that a typical seat as well as toilet stalls being enlarged. Additionally, elevators were moved away from the main circulation paths and replaced by large stairways to invite students to walk more and therefore burn off more calories.[29]

The teamwork involved in the project fostered creativity and innovation within the framework of the project. This progressive thinking manifested itself in all aspects of the project, from the large ideas to the minute details and led to a successful project.

[26] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.5
[27] Loy, David. Personal Interview. September 13, 2005.
[28] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.5
[29] Loy, David. Personal Interview. September 13, 2005.

Measures

Johnson and Wales University officials were eager to admit their first freshman class as soon as possible in its new Charlotte location. Thus, with incoming students arriving in September of 2004, the schedule for the project was a fast-tracked 22 months. Considering the building was essentially a 33 million dollar complex laboratory facility at 156,146 square feet, the schedule was extremely tight and demanded organization and good communication among constituencies. The first schematic sketch was drawn in September of 2002, the projected total amount of steel was ordered in February of 2003, and the building was completed in July of 2004. [30]

In relation to the measures of the architect, LS3P impressively met the projected budget, bringing the final square foot cost to 211 dollars per square foot. Because of the fast-tracked schedule, the project could not afford any mistakes that would require major change orders. Details and shop drawings had to be correct and understood initially to prevent further expenses. This was accomplished primarily by two means. One was that RodgersDooley provided clear and accurate cost estimates in the beginning, nearly eliminating possible changes in construction costs.[31] The second was that LS3P remained in constant communication with the client and contractors. Lengthy meetings became the norm in order to ensure information was relayed directly rather than a send, check, and revise routine.

[30] Loy, David. Personal Interview. September 13, 2005.
[31] Ibid.

More accurate and detailed cost measures were not disclosed, and they did not have to be since the project was a private one. David Loy stated that he could not reveal the figures without the client's permission, and Merlin DeConti would not grant such permission.[32]

Johnson and Wales deemed the building to be a great success. The most important measure was student attendance. The university had projected student enrollment to only be 800 students; instead, they were happy to accept 1200, while predicting the number to triple in three years.[33] Eventually, they hope the Charlotte-based university campus will become its premier location. Another measure was the immense satisfaction of faculty and students concerning the facilities. The design of the state-of-the-art spaces and their adjacencies to the urban fabric allowed the students to work within an ideal environment aimed at developing their potential to the fullest.[34]

The city of Charlotte was also very pleased with the building. The economic impact was a significant measure, with the university initially estimating a 60 million dollar contribution each year from expenditures.[35] In addition, the city stands to gain fame because of the inevitable possibilities of culinary professionals founding a collection of high-end restaurants that attract more business and visitors.

[32] Loy, David. Personal Interview. October 20, 2005
[33] Natali, Lynda. *From the Ground Up*. p.5
[34] Ibid. p.7
[35] Natali, Lynda. *From the Ground Up*. p.5

Although there was a strict function and utility to the project, LS3P went beyond what was needed and provided a thoughtful design that gave a unique sense of character with which the client could identify and take pride.

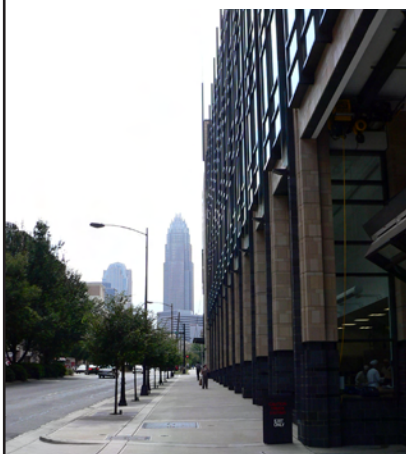
III. Substantive Analysis

Client

A primary reason for the success of this project can be found in the resolve and commitment of the client, Johnson and Wales University, to build a progressive facility in Charlotte. In order to meet their continued growth as a university, the client decided to consolidate their regional campuses in Charleston, South Carolina and Norfolk, Virginia to a single location. Merlin DeConti, Senior Vice President of Facilities for Johnson and Wales, and Tom Dwyer, CFO, looked at existing buildings and sites in Charlotte. In return, the city of Charlotte actively recruited the client in hopes of helping to continue the economic growth downtown. To facilitate this move, an alliance of public leaders and city officials proposed a site in a prominent location and offered various other incentives.[36]

Because the client desired a building that would serve as a landmark, they first held an invited competition in order to try and find the highest level of quality. This competition-based selection involved many stages, from the initial firm background questionnaire to the visit and interview in which the firm had to prepare and deliver a presentation that basically stated what they would bring to the table and why they should be chosen to help execute the project. In the end,

[36] Loy, David. E-mail. October 12, 2005.



Johnson and Wales chose LS3P Associates as the architect of record for their strong reputation, the depth of their previous experiences, and their ability to meet the tight schedule that was necessary in order to open the school in the fall of 2004.[37] LS3P was also chosen because they were able to convey Johnson and Wales' vision, a "building that complemented the urban environment, especially the nearby Gateway Center – something equally creative yet uniquely institutional" into fruition.[38]

The values of Johnson and Wales were evident not only in their determination to create an important, noteworthy academic center, but also in their commitment to the community. Rather than ignoring the urban environment and the people within, the university instead sought to interact and engage everyone. As a result, they coordinated with the construction team to work around key city activities such as holiday parades and arts festivals. At the building's groundbreaking, attending guests and supporters were asked to bring new or used kitchen pots and pans to donate to Crisis Assistance Ministry, which helps provide aid to people in need. As Charlotte campus president Art Gallagher professed, "Civic-mindedness is a large component of the school's mix of education and experience."[39] Clearly, the client understood how Charlotte could help provide an infrastructure for success for them while they could help boost the economy of Charlotte as well as provide culinary experts down the road. This aspect relates back to the success of the actual building project, as

[37] Loy, David. E-mail. October 12, 2005.
[38] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.1
[39] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.4

the interaction and teamwork between the parties involved helped everyone overcome obstacles.

In terms of the development of the building, the client had a very active hand in programming and schematic design. During this phase of the project, they communicated their expectations and desires to LS3P, who tried to convey these ideas three-dimensionally while RodgersDooley provided constant cost analysis to aid in keeping the project within budget. Trust was important throughout the project, especially on the part of the client. In fact, with eight months to go and the project a month behind schedule, only the strong relationships and teamwork that had already been established could have kept the project progressing. As DeConti said, "Although many more months of hard work were ahead of us, I knew the team would not let the project fail."[40]

Business

LS3P is a multidisciplinary firm with offices throughout the Southeast United States. By offering services such as interior architectural design, architecture, and planning, the firm seeks to confront a wide array of design opportunities. Projects range in scope from the design of small city parks to master plans for large downtown revitalization projects. The firm is based in Charleston, South Carolina and has been in business for over thirty years. Founded in 1963 under the name of Lucas and Stubbs Associates, Ltd, the firm has grown through mergers and acquisitions of various other firms to form what is today known as LS3P Associates Ltd.[41]

[40] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.3

[41] www.ls3p.com. November 9, 2005.

Johnson and Wales Culinary Institute

Case Study

LS3P is a design oriented firm that sees every project as a unique problem with a unique solution. The firm itself is split into several studios which focus on different sectors of design and construction. This split may also be seen in the type of service which the firm provides. One of these "studios" may focus on a strong service oriented delivery while another may seek innovative ideas, concentrating on design. This allows the firm to focus on various facets of design while keeping a healthy business model in order to continue to be financially secure.

LS3P focuses much of its work in the Southeast, but it is a large national firm, completing work throughout the United States. By keeping quality design and delivery at the forefront of the practice, LS3P receives sixty percent of its work from repeat business. The importance of client relationships is expressed by the firm as stated, "Always maintain formal and informal relationships; enlarge your circle of friends."[42] Repeat work is lucrative, as a relationship is already formed between the firm and client, allowing better communication and a better end product. The firm's marketing team works to strengthen the image of the firm by promoting the design oriented approach of the firm in its past and present projects. Promotional work allowed LS3P to begin it's courtship of Johnson and Wales by promoting the firm's previous design work on and around the culinary school's new Charlotte site. As a design oriented firm, LS3P seeks to use an image of exemplary design to further its business practice. This is evident in its work on Johnson and Wales, as the project was seen as a success even though it did not produce profit for the firm. Members of LS3P see the project as a

[42] Loy, David. E-mail. October 12, 2005.

success as it has won design awards and opened the door for future work with Johnson and Wales and other clients seeking innovative design.[43]

LS3P learned of Johnson and Wales' intentions of building a new campus in Charlotte through rumors and rumblings throughout the community and tried to find who was representing the university and who was representing Charlotte in informal conversations. As official announcements were made concerning Johnson and Wales' intentions LS3P began aggressively working to place the firm in front of the people perceived to be influential participants in Johnson and Wales' decision towards the hiring of an architecture firm. Representatives of LS3P made phone calls to the city of Charlotte to speak with Justin Hunt, Vice President, Headquarters and International Development, to express interest in the job. LS3P also worked to strengthen their relationship with Cousins Properties, the developer of the nearby Gateway Center, home to Bank of America's Operations Center, which was to donate space for Johnson and Wales' temporary offices. Through meetings and letters, representative for LS3P, including the CEO, worked to express their interest in working with Johnson and Wales. Through communications with the main office in Providence Rhode Island, LS3P was informed of the head of the local Johnson and Wales office, Bernice Parenti. In early July, 2003, LS3P sent a formal letter of introduction and credentials package to Parenti at the temporary offices in Gateway Center.[44]

[43] Loy, David. Personal Interview. October 12, 2005.
[44] Loy, David. E-mail. October 12, 2005.

In anticipation of the architect selection process, LS3P began to select and interview preferred engineering partners and consultants, as they wanted their "A" team in place if they were to be asked to compete for the job. During this time, representatives from the marketing team researched the operations of Johnson and Wales at their operating campuses throughout the country in order to better understand their operating procedure and business procedure.

LS3P's marketing efforts were awarded when they were asked to complete a qualifications questionnaire for Johnson and Wales, along with a credentials package. The marketing department went as far as to prepare supplementary material explaining the advantages of the consultants which they had selected. The written response from LS3P had to demonstrate competence, delivery performance, and depth of resources, along with the history of the firm and past and present projects. They supplied Johnson and Wales with examples of past projects which displayed evidence of resolved challenges and innovative solutions as cases studies. In order to provide a visual differentiation from other firms, LS3P provided graphics which related to the culinary program, including a history of the profession. The report was organized similar to a food presentation helping to ignite the senses and provide anticipation for something enjoyable to come.[45]

When Merlin DeConti called to inform LS3P that they were a finalist, work began on the interview. In a brainstorming session principals decided that the presentation would be a participatory endeavor divided into two parts. The first session was held in a conference room as a mild charrette analyzing the client's

[45] Loy, David. E-mail. October 12, 2005.

need for programming explaining solutions which respond to existing conditions on the site addressing the adjacent hotel, parking garage, transportation system, and other various conditions. The second half of the interview was set in the firm's studio where a model was placed in the middle of the room. Participants stood around the model and presented an interactive look at the attributes of the site and alternative methods of dealing with the site. The whole interview was planned to include all aspects of the presentation including a climax at the end where all aspects were put together in order to leave the client with a lasting impression.[46]

Within days, Johnson and Wales informed LS3P of their decision to retain their services for the design of the new culinary facility. LS3P completed various services in addition to the basic architectural design including a "solutions through listening" process which occurred prior to the contract and represented an additional thirteen percent of the basic services fee. Overall the project did not make a profit for the office with the margin being .66 percent on the overall fee. The overall design fee was two million three hundred thousand dollars which included the consultants' fees.[47] Though the project itself was not profitable for the firm in terms of dollars, David Loy believes that the project has projected a good image for the firm both to the city of Charlotte, and to those associated with Johnson and Wales, and will provide opportunity for work in the years to come.[48]

The project was handled by a design team consisting of members from the Charlotte office of LS3P, similar to all projects at the firm laid out in the studio

[46] Loy, David. E-mail. October 12, 2005.
[47] Loy, David. E-mail. October 24, 2005.
[48] Loy, David. Personal Interview. September 13, 2005.

format. The studio involved in this project was head by a project manager and project architect who oversaw all coordination and planning of the project. This process went smoothly despite the time constraints caused by the fast track schedule.

Delivery

The delivery of this project was unique because it utilized the process of Construction Management at risk. To execute the multi-faceted project an alliance was formed between Rodgers builders, a contractor specializing in ground-up construction and R.T. Dooley builders who specialized in high-end interiors, restaurants and corporate headquarters. Pat Rodgers, the president of Rodgers builders, states that, "This alliance assists us on achieving our most important objective, meeting customers' needs efficiently and effectively with the highest quality professional services possible."[49] The resulting firm RodgersDooley, the construction manager at risk, became an integral part of the project team very early in the process, providing construction expertise and cost analysis to David Loy and the LS3P design team.

The cooperation between the two companies provided both parties with an intimate understanding of the project. Rodgers-Dooley became aware of the intricacies of the mechanical and structural layout of the building, most notably the layout of the eighteen hot kitchens, the dining rooms, mixology lab, meat lab and storeroom lab.[50] The LS3P design team received up to date cost analysis responding to their design decisions. Value Engineering was used in areas of

[49] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.2
[50] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.2

the building as the project progressed. Sun-shading devices were omitted from the façade and interior glazing was deleted in areas where it was not necessary. In turn, Rodgers-Dooley was able to establish a GMP, Gross Maximum Price, of $33,000,000.[51] The overriding project delivery condition was that the academic facility must be completed by fall 2004 in order for the university to begin classes.

From the beginning the project was defined by its complexities. After breaking ground on February 11, 2003, unusually heavy rains proceeded to flood all the areas below grade on the site.[52] In response to the flooding Laurene & Rickher P.C engineering firm redesigned the foundation system.[53] Because of setbacks the schedule was nearly a month behind when 2004 began. Time became the largest risk management issue of this project. Digital communication by way of web-based application Constructionware was one of the means of information exchange in the project but more importantly, because of the close proximity of the architect's office to the site, telephone calls and on site conferences became the primary means of communication between contractor and architect. The site brought its own set of problems and intricacies to the project. To avoid disrupting vehicular traffic along Trade Street, RodgersDooley was able to lease one traffic lane from the City of Charlotte. This lane facilitated equipment movement along the street and deliveries which were scheduled to occur only after 4:30 p.m. on weekdays. Three full-time workers were in charge directing traffic around the site to ensure safety. In the end the organization and

[51] DeConti, Merlin. Personal Interview. November 1, 2005.
[52] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.2
[53] Ibid. p.7

communication provided by the process of construction management at risk ensured that the "The new Johnson and Wales University Charlotte campus opened on schedule and with budget in fall 2004, with a freshmen class of 1,200 students, nearly double the number of students expected in its first year."

Services

Johnson and Wales required an extensively coordinated group of services that revolved around fitting a large prominent building on a restrictive site that involved multiple consultants for a specialized program. LS3P Associates performed all architectural services, including schematic design, design development, construction documents, and construction administration. Within these services were programming and interiors. RodgersDooley provided construction management services, including sequencing the two building phases so that consultants could concentrate on the kitchens and classrooms in the first phase, and then turn their attention to the administration half later.[54]

Cole Jenest & Stone provided urban land planning and civil engineering. Laurene & Rickher provided structural engineering, working with the geotechnical engineer and RodgersDooley to closely monitor ground conditions in order for the building's foundation to not interfere with the existing parking deck's, which was less than four inches away from the site. Crabtree and McGraff provided kitchen facility design, and Pic-Tec was the cost and schedule consultant. MEP and fire protection was through McCracken & Lopez, who had the challenge of installing individual pull stations in each of the eighteen kitchens for the building's

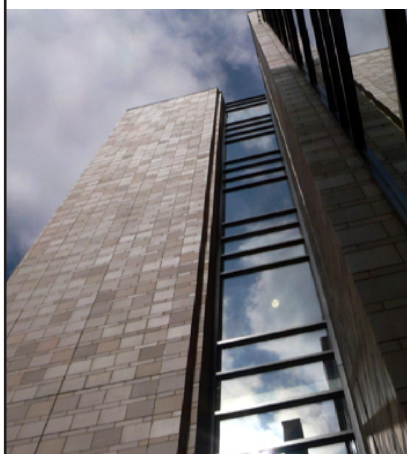
[54] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.6

hood suppression system in case of fire.[55] In addition, Johnson and Wales hired a commissioning agent to complete pre-function testing of the complex mechanical system to ensure proper operation and performance efficiency.

Relationships

There were many important resources that were used to complete this project including community groups, unique design processes, and a group of very experienced people who made up the project team. The Charlotte Center City Partners, which consists of public officials and corporate leaders, played a major role in the decision to bring the new campus for Johnson & Wales University to Charlotte. They marketed their city to the executives at Johnson & Wales as an ideal location for the new campus and offered the school incentives to come to uptown Charlotte. The city officials knew that the school would bring considerable economic activity to the area.[56] The architects at LS3P implemented a unique design method they call the Solutions Though Listening Advance Planning Charrette, which condenses the design process (which can take months) down to a couple of weeks. The charrette for this project lasted for one week which is something that requires a group of people that is very focused for that period of time.[57] This process was necessary in order to meet the twenty-two month, design and construction, deadline.

The construction team was made up of two contractors that were very experienced in the Charlotte area and had worked together on previous projects



[55] Ibid. p.5
[56] Loy, David. E-mail. October 12, 2005.
[57] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.1

and had an excellent working relationship. The contractors Rodgers Builders, and R.T. Dooley combined to form the alliance RodgersDooley with a mission "to pursue special, community-focused projects, and achieving the most important objective, meeting customers' needs efficiently and effectively with the highest quality professional services possible." The two companies bring differently but equally important experience to the table.[58] Rodgers Builders was very experienced in ground-up construction in difficult urban sites, and R.T. Dooley brought experience in high-end interiors, restaurants, and corporate headquarters.[59] Bank of America also played a significant role in the recruiting of the Johnson & Wales University to Charlotte by offering incentives for the college to select Charlotte.[60] Bank of America has been an important entity in the growth of Charlotte for many years and more recently in developing the adjacent site where the mixed-use Gateway Village is located.

IV.

Case Study Summary

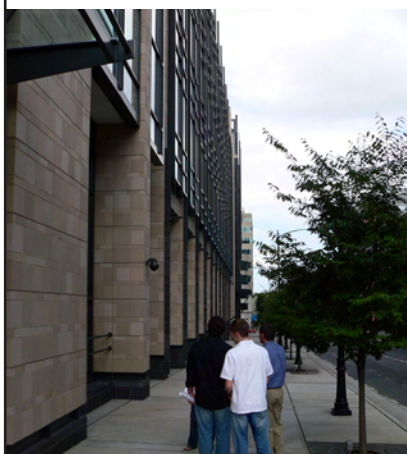
Various building projects are constantly being completed, not only in Charlotte but also across the region, so one would postulate that there are many similarities across the board. However, the Johnson and Wales University Culinary Institute provides a unique and insightful view into the process of completing a building using the Construction Management at Risk method. Sure, many other projects have also used the CM at Risk delivery method, and there

[58] Ibid. p.2
[59] 2005 Building Design and Construction. "Building Team Project of the Year Awards." p.2
[60] Loy, David. Personal Interview. September 13, 2005.

have also been many university buildings. That being said, there have been few truly urban university buildings within the state, and what really makes this project rare is the extraordinarily tight twenty-two month schedule to accommodate the university's need to have the building ready for use at the beginning of the fall 2004 semester. The CM at Risk delivery method enabled this project to be completed according to the client's rigid schedule primarily because of communication trust, and teamwork.

Good communication was present throughout the duration of the project. In the beginning, clear communication of the project goals allowed all of the constituencies to fully understand the expectations and their own responsibilities. By having that information from the outset, each party was able to work accordingly to make sure that they upheld their end of the contract. Communication carried the team through a short design phase and into the construction arena, in which coordination drawings prepared by sub-contractors allowed each group to understand how all of the building's systems would cooperate. The good communication enabled the team members to have enough trust in the others to uphold their project responsibilities. During construction, the demands of the site, large kitchen equipment, and other systems made teamwork an absolute necessity.

Because all of the team members worked together in an efficient manner, the new Johnson and Wales University Culinary Institute opened on time *and* on budget, a rarity that adds to the uniqueness of this project. Whenever challenges and obstacles such as time constraints, coordination issues, or cost problems



confronted the team, they used the framework of communication, trust, and teamwork that had been formed initially to develop appropriate and efficient solutions. The Johnson and Wales University Culinary Institute provides an excellent insight into the process of the Construction Management at Risk delivery method and the reasons this system can be successful.

Johnson and Wales Culinary Institute

Appendix A