Cathedral Place

- Location and Site: 555 E Wells St., Milwaukee, WI 53202
  - "Juneau Town" Neighborhood
  - south of Cathedral Square Park
  - Occupies east half of the 500 E Wells block
  - Street frontage to Wells, Jackson St, Mason St.

- Occupancy or Function Types: Mixed Use – Commercial/Office, Commercial/Retail, Multi-Dwelling Residential, Parking (Structure)

- Size: 649,000 sqft total
  - Parking – 373,000 sqft
  - Office – 273,000 sqft
  - Condo – 55,000 sqft
  - Retail – 18,000 sqft

- Number of stories above grade – 17 floors (19 w/ Mezzanines)

- Total Levels – 18 floors (20 w/ Mezzanines)

- Property Manager: Pentagon Management

- Tenants:

Office:	Deloitte & Touche (floors 11-14)
	Whyte Hirschboeck Dudek S.C. (floors 15-18)
Retail:	AAA Insurance
	Glow – Salon & Spa
	Yanni's – Steaks, Chops, Seafood
	The Panini Co. – Deli, Bakery, Café
	Eden – Alternative Florist
Residential:	27 Single-Family Condos (floors 1Mezz-10Mezz)

- Building Developer: Van Buren Management, Inc.
- Owner: Cathedral Place, LLP (sub of Van Buren Management, Inc.) **To be verified

- Owner Representative and Construction. Manager: Mike Comerford - Comerford Development Resources

- Residential Developer: New Land Enterprises, LLP
- Architect (Core and Shell): Solomon, Cordwell, Buenz & Associates, Inc.
- Architect (Interior Offices): Gensler Architects
- General Contractor: KBS Construction, Inc.
- MEP Engineering: Arnold & O'Sheridan, Inc.
- Structural Engineering: Magnusson Klemencic Associates
  (formerly Skilling Ward Magnusson Barkshire
- Surveyor: National Survey & Engineering
- Contractors:

Lurie Glass	(curtain-wall)
Otis	(elevators)
Grunau	(plumbing)
US Fire Protection	(fire protection)
Wenninger	(HVAC) – redirected link
Staff Electric Company , Inc.	(electrical)

- Dates of Construction:

Notice to Proceed	January 2002
Demolition, Excavation, and Construction	March 2002
Occupancy and Substantial Completion	November 2004
Anchor Tenant Move-in And Punchlisting	March 2004

- Cost: Hard Costs:

General Construction	$25,000,000
Curtain-wall Construction	$5,600,000
Electrical Construction	$1,700,000
HVAC Construction	$1,500,000
Plumbing Construction	$700,000
Elevators Construction	$1,750,000
Fire Protection Construction	$490,000
Demolition	$180,000
Hazard Abatement	$140,000
Parking Controls	$180,000
Permits	$100,000

Soft Costs:

All A/E/CM Fees, Land Costs, Variance Fees, Bank/Loan Costs, etc.	$15,000,000
Overall Cost (with Soft Cost estimate)	$53,040,000

- Project Delivery Method: Guaranteed Maximum Price – Cost plus Fee (AIE A1.11)

- National Model Codes:

Architecture:	BOCA 2000
Mechanical:	2002 Wisconsin International Enrolled Code (variance granted during State transition)
Electrical:	
Plumbing:	2001 Wisconsin Dept of Commerce Plumbing Code (w/ city amendments)

- Historical Requirements
  - No Local Historic Significance
  - No National Historic Significance
    - Verified by Milwaukee GIS data

- Zoning – C9F(A) from the Milwaukee GIS map website
    - http://www.mkedcd.org/czo/AT_Frame1.htm
    - http://www.mkedcd.org/czo/codetext.asp?index=112
    - Land Use – Commercial, Mixed Commercial and Residential, and Transportation

Residential is limited as such:

a. Single-family Dwelling, Two-family Dwelling, Multi-family Dwelling, Attached Single-family Dwelling or Live-work Unit. No dwelling unit or accessory parking, storage facilities or mechanical equipment shall be located in the street level area.

Commercial is unlimited to:

a. General Office
b. Governmental Office
c. Banking and Financial Institutions
d. General Retail

Restaurant Use is unlimited

Motor Vehicle Use is limited as such:

m. Parking Structure, Principal Use. At least 50% of the street frontage shall be devoted to permitted uses or uses approved by the board.

n. Parking Structure, Accessory Use.

n-1. The parking spaces shall be integrated into a larger structure that houses one or more principal uses of the premises that are permitted uses or have been approved by the board.

n-2. If the structure is in the C9C, C9E, C9F or C9G district, at least 50% of the street frontage shall be devoted to permitted uses or uses approved by the board.

- Architecture

Cathedral Place is one of many new construction projects in the downtown Milwaukee area. Few buildings within the immediate vicinity match the height or volumetric size of Cathedral Place, and as such it stands as a new monument to the Cathedral Square Park. What was previously dominated in size and grandeur by St. John's Cathedral to its immediate northeast, Cathedral Place now set a modernistic scene and tone for the upscale retail, business, and residential areas.

As a mixed-use facility, Cathedral Place wonderfully transitions the predominant residential north end of Cathedral Square Park with the principal office-commercial area of the areas to its immediate south. Following the tone of the areas surrounding the building otherwise (and due to code restrictions) the ground-level areas maintain the restaurant and upscale retail façade normally associated with the park's west and southwest areas.

Cathedral Place is an ultra-modern interpretation of "mixed-use". While the façade and skin of the building do not scream such deviance to the post-modern architectural style of the area, it does make a statement toward such an evolution.

The 17-story building has contained within it, a 9-story parking structure, retail space at ground level, 9 stories of residential condominiums, topped with 8 stories of commercial tenant space. The 18th story, while smaller, serves as the penthouse to the building's commercial areas with a considerable balcony and aluminum canopy overlooking north-central downtown, Lincoln Memorial Park, and Lake Michigan. The 10th floor two-level condominiums serve as the residential penthouses given their expanded floor area and much-improved view of Lake Michigan, as well as Cathedral Park.

The retail spaces, while not specifically luxurious do boast a location complete with ample parking, and a clear open facade above them that will not detract from their advertising, signage, or upscale atmospheres.

- Building Envelope

The exterior skin of Cathedral Place does not have a distinct or predominant material or design. Instead, the building is sectioned into two parts that distinguish the use-facilities within the building. Interestingly enough, the two skins are vastly different, but tied together exceptionally well at their seam.

The condominium and office space facades are encased in a curtain wall system. Since the parking structure abuts the office/residential space from ground floor through the 9th floor mezzanine, the south and partial west facades are painted concrete wall, typically with a gypsum board or wood veneer finish depending and the space that it adjoins. From the 10th through the 17th floor, the curtain wall completely surrounds the entirety of the building with a 1" thick insulating vision glass with aluminum composite mullions. On the east façade, up to the main architectural "bubble" at the northeast, the base of a floor is marked by a second 3-foot-high glass panel – a 1" spandrel glass, heat strengthened for greater security at floor level. Delineating the floors from one another, the top portion of each glass section is instead a prefinished aluminum composite panel that matches the color of the window mullions. This spans from 2nd floor to the 17th floor where the perceived (and actual) office/residential sections are.

At the northwest corner's architectural "bubble", the façade looks very similar to the east and north facades, but the entire elevation is simple 1" thick insulating vision glass. As can be seen at this angle and at the 17th floor are the exposed cylindrical aluminum composite sheathed columns supporting the upper floors. Likewise, the balconies and canopies are a similar composite aluminum.

The parking structure has a completely different façade to differentiate its use from the rest of the building. The parking structure is not hidden, but emphasized by the façade's many openings exposing the inclined parking slabs and cars behind it. At ground level the retail spaces have a façade of architectural glass, aluminum composite paneling and mullions, and a 2-foot granite base veneer that blends into and coincides with the precast concrete panels that span the entire height of the parking structure. The panels themselves have a routed groove spanning their lengths that give an impression of stacked block, or vertical strips of stone of which the façade is comprised. These panels give rise to a distinct structure with visual "columns," metal mesh windows, and "empty-space" mullions. In particular locations, as if delineating oversized levels, 6-inch by 18-inch openings in the precast panels allow for an unobstructed glimpse of the interior behind the façade.

At the roof level, the concrete parapets are covered on the exterior by the composite aluminum panel, and on the inside by the same impermeable roofing membrane that spans the entirety of all 16th, 17th, and mechanical roofs. The membrane is covers every square inch of the roof and is supported and sealed at the top of the parapets as well as the 3 foot depression where the mechanical cooling towers are sunk into, what would be, the 17th floor.

- Structural

The structural system is two-fold. Everything from the basement floor to the 9th floor is post-tension concrete slab 6 or 8 inches thick (depending on slab location) supported by concrete columns with long-span concrete beams. At the 9th floor, the concrete columns encase steel columns which, at the 9th floor mezzanine become exposed. From floors 9 through 17, the structural system is steel-frame with the moment frame cross-bracing being supported by the central concrete and encased composite concrete-steel columns. Metal decking with 4 inch slab thickness constitutes the structural flooring in the steel-frame sections.

For the concrete slabs, differentiation of structure occurs at the junction between parking structure and office/residential. Two completely separate slab and wall sections have a continuous expansion joint extending from west façade to east façade. The steel-frame structure on top of these two structures, however, is continuous throughout.

Foundations are simple concrete footings at the base of each column of varied dimension. (foundation plans were not given by the architect, but have been requested. RFI may go directly to the structural engineers instead. Deep-foundation information is as of yet unknown.)

**More to come.

- Mechanical

The mechanical system of the building, like the structural system, is two-fold. For the condominium and retail spaces, individual heating and cooling packages are used. The spaces utilize water source heat pumps for the sectionalized areas in both heating and cooling conditions. The hot water supplies and returns, as well as the condensate supplies and returns run through the basement to the main pumps and steam-to-water heat exchangers connected to the city steam services. Water returns first run to the evaporative fluid cooler on the roof before returning to the pumps in the basement for recirculation directly to the heat pumps through a valve or the heat exchangers (depending on desired temperature of the fluid).

For the office section of the building, packaged terminal air conditioning units are located at each floor and provide the heated or cooled air to the entirety of a floor. Separate pumps for condensed water and for hot water are also located in the basement which return/supply water to the packaged terminal units from the cooling towers located on the roof, or the steam-to-water heat exchangers located in the basement. General 16” diameter duct layout was provided in four closed loops for future expansion and tenant fit-out as necessary by the tenant’s mechanical designer. The retail spaces at ground level are treated similarly, working off of the same condensed water and hot water loops as the office levels, but with water source heat pumps individualized like the condominiums.

The parking structure is unheated save the 9th floor mezzanine level which has (water) unit heaters for half of the space. Exhaust air is channeled through the parking structure areas and general airflow is supplied by the vast number (and various sizes) of the opening in the parking structure’s walls.

Other spaces, varied and few in number, have cabinet unit heaters, air cooled condensing units, and general air handling units for different (again few) heating and cooling needs.

- Electrical

Because electrical systems are typically divided by the section of usage, the variety of spaces does not increase the complexity of the electrical system for Cathedral Place. WEPCO provides the electrical connections to the vault at 13.2kv parallelized to the A and B sides of the Main Switchgear in the basement. This MSG connects to two 2000/2660KVA transformers (one per side) taking the 13.2kv primary delta-connected 3-phase to a 480/277V wye-connected 3 phase secondary at the Office Main Distribution Board. This OMDB is connected A-B by a 3000A bus tie. From the OMDB a 2500A bus rises up to floor 10 and begins servicing the tenant high and low voltage panels. This A side also serves the tenant ACUs as well. The B side feeds all of the house utility panels (lighting, receptacle, and HVAC loads). It feeds cooling towers, roof fans, office and service elevators, and the emergency panels. It is connected via ATS-es to the Emergency Distribution Panel for the elevator and emergency service condition loads.

The Condominium Main Distribution Board serves the 1200A busduct up to the 9th floor servicing all of the switches and resulting tenant meters and panels at each floor. A separate circuit serves the condo-side house panels, rooftop evaporative fluid cooler, elevators, and house emergency panels. The latter two are also connected via ATS to the EMDP panel. This panel is serviced directly by a WEPCO-provided transformer at 480/277V in the electrical vault separate from the main utilities room.

The parking structure has its own dedicated distribution panel from which high and low voltage parking and house panels are fed, but from a separate closet. It services the lighting, house, and emergency panels, as well as 4 elevators in the structure. Similarly, the retail distribution panel is separately located on the first floor (serviced by conductor from the Main Distribution Board) services all of the retail high and low voltage panels.

The Emergency Main Distribution Panel is served by the 350kw diesel generator on the 1st floor and connects via the ATS-es only to the emergency loads at the house panels. In the case of electrical system failure, the building has no temporary, nor extended electrical service source.

Transformers are located along the north wall of the utility room to reduce voltage for the low-voltage house panels located in the basement. There are 4 total transformers in the basement, with the remaining transformers being located at each floor of the office space and retail space provided by those tenants. The transformer for the condominium space is also provided by WEPCO and provides 208/120V service to the CMDB.

- Lighting

The lighting for the public spaces within the building are a variable 277V fluorescent and/or 120V incandescent with a number of 12V track lighting accents located throughout the lobbies. Tenant lighting is designed separately and is not considered (yet) for this space.

The major lighting design in the building is contained in the entrance lobby. Nick Bowers created a number of luminaires that resemble the blooming of a flower as unique accents for the space. These architectural pieces, while numerous, are supplemented by recessed single-lamp lensed fluorescent troffers and recessed compact fluorescent downlights through the lobbies of the building.

Within the office floors, the only lighting provided explicitly are those in the bathrooms. Linear troffers line the sink and mirror locations, while recessed downlights provide the illumination for the remainder of the bathroom space. Stairwell lighting is provided by wall-mounted linear fluorescent fixtures and exit signage is a clear plastic LED fixture to accentuate the architectural looks of certain public spaces.

Exterior lighting is recessed into the ground at ground level, and face mounted on the 16th floor rooftop area. External tubular fixtures (measuring approximately 3 feet in height) are used as street/façade lights for the Jackson Street side. Parking lighting is a standard, lensed, vandal-resistant surface-mounted fixture with ceramic metal halide lamps. Utility spaces, and service corridors use basic 4-foot strip light with 32W fluorescent lamps for the most part, and basic surface-mounted incandescent for smaller spaces. The parking-elevator lobbies reflect more of an interior look utilizing recessed downlights at the elevators and door entrances.

Of particular note is the use of occupancy sensors throughout the building to gain efficiency in power consumption when the building is not in great use. However, given the vast curtain-wall system, it is surprising that daylight sensors were not used at the perimeter locations at the very least. In addition to these sensors, a large relay system is used for lighting of the parking structure, exterior lighting, and some of the interior space.

- Plumbing

The plumbing system of the building is fairly standard, and developed only for the core and shell (i.e. for the main bathroom spaces and supplied to capped fixtures for future tenant work). Clearwater Waste Pumps and Sumps and Sanitary Sumps and Pumps are located in the main mechanical room, and in the southwest corner utility space at the basement level. Main plumbing risers run through the southern “core” of the north building section, and through a main shaft off of the northwest corner of this section. At the 9th floor, the main riser shifts into the core of the office structure supplying the bathrooms and running coincident with the mechanical piping risers. All other plumbing necessities and specialties are(were) developed specific to the locations and needs of the tenants, and for the most part at the retail level.

- Construction

The selection of the General Contractor went out "to bid" in an informal process. Form the winning bidder, estimates for building cost were given July 1st 2001. The selection of KBS Construction as the General Contractor was made August 1st and addendums and cost balancing continued through until November 2002. The Notice to Proceed was given in January of 2002, and by November a formal contract with Guaranteed Max Price including the cost plus fee for construction was agreed upon.
The construction of the building went relatively smoothly and efficiently. Few conditions occurred to stop the progress of construction, and of those (i.e. sprinkler pipe freezing due to lack of insulation and not draining prior to winter before occupancy). Construction punchlisting took place in March of 2004 and the building is only being altered in minor detail for architectural sidewalks and, of course, for tenant occupancy.

- Fire Protection

Fire Protection systems within Cathedral Place are typical of any structure. The sprinkler system extends to all floors with standpipe risers located in the stairwells. Fire flow monitoring points, tamper switch monitoring devices, as well as the typical fire pullstations and fireman's phones are located in all of the lobbies, and at all stairwells. Fire speaker/strobe combinations are located throughout the building and specified by their candela output. Fireman's phones and speakers are located in all elevators as well.

Fire Access Control Panels control the alarm and strobe systems at floors Ground, 4, 8, 12, and 15, with 8 and 15 defined as the control points for elevator shunt and recall. These control panels, especially the elevator control and recall are routed through the security desk as well as the Fire Fighter Control Center on the ground floor.

- Transportation

Vertical transportation is by 5 distinct elevator banks. A 2 car bank exists at the southeast corner of the parking structure servicing parking decks 1-9. Another 2 car bank exists at the northeast corner physically (and aesthetically/functionally) connecting the main building to the parking structure. In the core of the main building section, a 4 car elevator bank services the upper office floors 10-17. Immediately adjacent to this public bank is a single car service elevator for all service technicians, deliveries, security personnel, etc. This car services all floors including the basement and two mezzanines. Lastly, a two car bank exists in the sectioned residential lobby just west of the main core bank (although side by side in the same shaft space with a 2 car office bank). This bank serves floors 1-9 of the residential area.

These elevator banks distinguish the mixed use functions of the building and differentiate which areas typify which use simply by the access they grant the public. All elevators are Otis elevators with details on their weight capabilities and speeds forthcoming.

- Telecom

The main telecom panel for voice and data goes through the basement utility room at the northwest corner. Telecom rooms are provided at all of the office floors and differentiated from the main “house” telecom there for protection of sensitive data and communications. Voice and Data jacks are provided for the necessary lobby and commonspace areas, as well as for the security stations, but given the fact that the building requires its own tenant fit-out, further detail on size, number, and specification lay with the tenant.

- Specialties

  The building is 120 feet wide and 365 feet 6 inches long. The property boundary is 120’ 4.375 inches wide and 365 feet 9 inches long.