PROJECT GOALS

General Goals

SITE

1. The building and site development should improve the downtown environment.

2. The complex must address the patterns of downtown land use and traffic flow.

3. The site development must respond to climatic conditions.

4. The pedestrian must feel welcome and within his own realm.

5. On site traffic flow must be easily understood, simply executed, and non-disruptive.

6. An area of urban green would relieve city residents and employees alike.

7. Future land use patterns must be anticipated.

BUILDING GOALS

1. The building must be planned for efficient movement of resources.
2. Delight, acoustical control, and visual relief should be emphasized in the interior design.

3. Public access areas must be clearly defined and articulated. Entrances and exits should be controlled from one point. Security is a vital issue.

4. The structure and systems must be adequately flexible to accommodate future changes in production methods or building use.

5. The building should provide for public contact and interaction at an active, ongoing level.

6. Energy and resource conservation must be integral to the design.

Specific Building Goals

There is a selected group of goals that I wished to address in this building. The problem areas that I concentrated on are the same ones that are problem areas in the existing building. These are the interior environment, energy conservation, circulation and storage of materials, and future adaptability. Additional goals were to contribute to the context of the chosen site in a positive way and to create a more open and modern building image.

INTERIOR ENVIRONMENT GOALS

1. Create a distinct corporate image
2. Create a lobby that would accept visitors without intimidating them (i.e.: a friendly place)
3. Design the offices for the VDT user as a means of accommodating all workers
4. Create a defined separation of public and private access, while allowing the public to see the internal functioning of the newspaper business.

CIRCULATION

1. Delivery of materials and removal of materials should be simple and centralized
2. Employee parking should be part of the building itself, either above or below grade
3. Interior circulation must be simple and clearly apparent upon entering the building
4. Keep all required storage within its associated area

ENERGY CONSERVATION GOALS

1. Provide natural daylighting whenever possible
2. Provide for controlled passive solar gain in an interior atrium
3. Provide for natural ventilation through operable windows and/or vents
4. Use high efficiency lighting and mechanical equipment, with energy recovery systems utilized wherever possible
CONCEPTS & PARTIS

Plan

There are three basic site responsive concepts. The first concept is to end the pedestrian path along Meridian Street by creating a small plaza at Fourteenth Street and a public outdoor space on a closed Fifteenth Street, between the newspaper and the train station. The second concept is to create an entry that will "suck" pedestrians into the building. The goal here is to have a friendly and inviting entry sequence. The third concept was that employee parking should not be at grade level, but be included as part of the building.

Five partis were generated from these concepts. The first three partis (figures 1-3) proposed a pedestrian link to the train station through the newspaper building or complex. This link began as a plaza at the corner of Meridian and Fourteenth Streets and ended at approximately at the midpoint of the block. The final two partis (figures 4-5) guide the pedestrian around the southwest corner of the building and into the outdoor room. Views to the
south would be screened by planters and vegetation. The diagonal within the first three schemes was naturally conducive to drawing pedestrians into the building, particularly in parts one (1) and three (3). The second parti created a complex of two buildings forming a larger plaza. The entry sequence in this scheme was not as distinct as in the other parts. The final two parts addressed the pedestrian through the creation of a small plaza on the corner and through an entry that respected the diagonal movement of people from the corner into the building.

**The Partis**

**FIRST PARTI**

The first parti approached the newspaper as a complex of two buildings. The main building would house the newspaper functions while the secondary building would house an electronic communications center operated by the newspaper. The two buildings were then separated by an outdoor link to the train station.

The basic concept behind this parti is that the departments that required public access (retail advertising, classifieds, and circulation) would be located on the ground floor with immediate access to either the plaza or Fourteenth Street. The press room and composing room would also be located at ground level, where passing pedestrians could observe the operations within those spaces. Those spaces requiring less public access were located on the second floor around a small entry atrium. All loading was handled in a garage along Main Street.

**SECOND PARTI**

The second parti was based strictly on the pedestrian diagonal. In this parti, the complex was united into a single structure built parallel to the pedestrian link, that is, at an angle to the site. This scheme originally did not include the communications center, which was added as the scheme evolved.

Internally, the concept was much the same as the first parti. The ground floor contained those spaces that received much outside traffic, in addition to composing and the press. The big difference in this parti was that the small lobby atrium of the first scheme became an enclosed
galleria into which those spaces opened. The galleria then acted as an interior "street" leading from a small plaza to the train station. The parking garage was entered at an angle from Fourteenth Street. Again, the loading garage was along Main.

THIRD PARTI
The third parti was essentially a variation on the first. The building was split into two portions that encircled an atrium. The diagonal pedestrian path split the atrium and connected the main plaza with the train station. The idea of the interior street continued here, with the main public areas, including a communications center, faced the atrium through their own "shopfront". The goal of this atrium was to personalize the interior and to increase the hospitality of the space.

This was the first parti that did not show off the press or composing, but relegated the production areas to their own sub-building within the main building. Parking and the carrier loading area were provided in the basement and were connected to Main Street via a ramp along Fourteenth street.

FOURTH PARTI
The fourth parti marked a radical change in plan concept from the first schemes. The diagonal link was abandoned and the building was split into two distinct units. This parti was established from the requirements for parking below the structure and for access to the railroad siding.

In this parti, the north half of the building was dedicated to the office and preproduction areas while the south half contained the production and loading areas. The pedestrian path to the train station was routed along the edge of the building, while the entry to the building was placed within the plaza at Fourteenth and Meridian. A central atrium became the focal point of the office spaces and the "streetscape" idea was retained.

FIFTH PARTI
The fifth parti was a variation on the preceding one. The main difference between the two was the extension of the lobby into the garage to satisfy exit requirements. The plaza was also defined by the extension of the building frame along the edge of the site and into a "marquee" along Meridian
Street.

Critique

All of the partis provided for parking below the office and plaza portions of the building. A conflict between the strict structural needs of the parking and the diagonal plan above, was a significant obstacle to the development of the first three schemes. The area required for parking the programmed 40 to 50 cars amounted to approximately 55% of the site, assuming the tightest possible circulation. Ramp placement within the diagonal partis was always less than optimum, either for the internal traffic of the parking area or for the external traffic on Main Street. Partis four and five began with the parking problem as the critical concept. A plan was evolved that made the ramp and the parking continuous; that is, cars would park on the ramp. This meant though, that there could be no ground level office space in the area occupied by the ramp. It did allow for a very simple circulation pattern for the automobile.

The first concept, that of redirecting the pedestrian through the building to the train station, appeared to be a fine urban design response to the problems of the site. The diagonal path proved functionally incompatible with the building. The diagonal was abandoned as an alternative because:

1. it did not allow for an adequate parking system.
2. it subordinated the functional spaces into inadequate arrangements.
3. it seemed to emphasize the existence of the train station over the existence of the newspaper.

When evaluated, it became obvious that the path was too much sacrifice for the building to make for the return. The major factor in the selection of this site was the potential for a railroad siding to the site, facilitating delivery of newsprint. The diagonal path interfered with the efficient operation of such a system. The rail link was inhibited by the major pedestrian link across the tracks and the inability to access three cars without having to move them. Until the diagonal parti was abandoned, the production hall occupied the half block facing Main Street. Without the diagonal, the production hall
could occupy the south half of the site and a single siding parallel to the building could allow all three cars to be accessed simultaneously.

Fulfilling the "vacuum cleaner" concept proved to be quite elusive. Of the five parti, only the third adequately met the desired goal. In all of the other approaches, the entrance was either too subdued or too formal to adequately entice the passerby into the building. Although the plazas tended towards friendliness, they seemed to have a limited interaction with the entrance, when an intense dialogue was required. This proved to be a difficult problem given the restraints of the building form and functions.

The third parti created a dialogue with the corner through the use of curving masonry walls. These walls marked the transition from the sidewalk to the diagonal path by curving into the plaza. The entrance was formed by a series of nested arches that supported the skylight vault and held the entrance doors. The combination of wall forms and scale changes created a sensuous entry space that was very inviting.

The fourth parti approached the problem of invitation by creating a progression of scales at the entrance. This progression consisted of a stepped arch framing the doors and biased towards the street corner. This created a nice transition at the door, but did little to define the entry plaza or the entry path.

The fifth parti attempted to adjust scale at the edge of the sidewalk by continuing the building frame along the site edge. This created a plaza transition space between the street and the building. This sequence proved less successful than either parti three or four in terms of addressing the actual building entrance, but was more successful in creating a transition zone before the entrance.

Section

There was only one basic section concept. The concept was to have a two story office section with parking below and a two story tall production hall without internal columns. The office section would include a central atrium including the lobby. The atrium would be utilized as a light well for daylighting the internal offices. The only variations in the section were the form and scale of the individual components.

The building section was designed primarily to allow for adequate lighting within the spaces. A ten foot floor to ceiling height was selected for the use of indirect artificial light and to allow space for redirected natural light using light shelves. A four foot floor section was developed to allow for both the depth of beams and the passage of HVAC ducts below the beams. The production hall was designed with a series of eight foot trusses that would carry the roof planes while providing the framework for north facing monitors. The monitors would provide daylighting within the production hall. The monitors would utilize "sun catcher baffles" to reflect direct sunlight back into the monitor, thus providing a higher intensity diffuse light with a broader spectral range than pure north light.
The Preliminary Design

I have already discussed the basic schematic designs in the chapter on Concepts and Partis. I must focus now on the final schematic design. Actual schematic design for the final building began with a reevaluation of earlier approaches. The concept of letting pedestrians slide around the building, instead of passing through the building, made ordering the structure much more simple and efficient.

I began, as with earlier schemes, with the development of the parking system. The structural bay of the building was determined by the needs of the parking system. In this case; a 32 by 43 foot bay was selected. This bay size was within economical building standards and permitted three cars to angle park within the 32 foot column lines. The office section of the building was 129 feet wide (3 x the 43' bay). The production hall could then be 91 feet wide and constructed using typical long-span techniques. The two sections of the building would be separately structured to prevent the
transmission of sound and vibration from the production hall.

The Building Form

The building was perceived as a assembly of two story volumes either one half bay or one full bay in area. The building would step away from the corner of 14th and Meridian streets to form a plaza. The southwest corner of the production hall was curved to direct pedestrian traffic towards the train station. The northeast corner of the building was chamfered in accordance to the zoning code requirement for a building corner setback at the intersection of two major streets. The second floor of the office section stepped back from this corner as a response to surrounding building scales and to provide for a roof terrace. The building structural frame would enclose the terrace areas.

The Parking Level

The parking level was designed as a counter clockwise one-way loop. The first aisle would have parking on both sides, while the second aisle would have parking only on the left side. Motor route carriers would load on the right side of this loop. All parking would be angled at 70 degrees to maximize the amount of parking within a fairly narrow space. The arrangement of the parking dictated that the stairs and elevator for the building be located at the west end of the garage, within the island at the end of the aisle (see Basement Level Plan). This in turn dictated the placement of the entry and lobby on the first floor. Beyond the carrier loading area, a basement level would provide mechanical space for the office section.

The Office Section

The office section posed a dilemma. Because the parking ramp occupied all but 21 feet of the office width, providing adequate emergency egress was a problem. In the early stages of development, a rambling path from the lobby to Main Street was established. The lobby was an atrium space occupying the two central bays of the first floor. One half of the west end contained the stairs and elevator, the other half the entry airlock. The lobby was symmetrical, with the last section narrowing by 7 feet each side to lessen the scale of the space. A 7 foot balcony/corridor surrounded the open space. Originally, the east wall of the lobby contained the restrooms. An exit corridor extended in an "L" shaped path from the restrooms to Main Street.

A basic assumption made about space allocation was that each department would occupy a single bay or a multiple of the bay areas. By placing the lobby in the central bays of the building, a light well would be created to permit natural light within the offices surrounding the atrium. On the second floor, the atrium area would extend to the east one additional bay and again narrow 7 feet on each side, creating a 14 foot wide skylit corridor. At the end of the corridor would be restrooms and the Lunch/Staff room. Since offices would not occupy the entire second floor area, a roof terrace was proposed on the northeast corner of the building. The terrace would provide for recreation or outdoor dining space in addition to providing a base for future building expansions.

The Production Hall
The production hall was designed as a 91 x 240 foot area, 32 feet high. The southwest corner would be a curved wall with a 32 foot radius, in response to the redirected pedestrian path. The south side would contain three rail loading docks 12 feet wide and a truck loading garage within the southeast bay. The press would be located on a mezzanine extending across the hall, 10 feet above ground floor level. West of the press would be the paper storage area, below the press would be the press support spaces; to the east of the press would be the mailroom and insert storage areas, the waste paper bundling area, and the truck loading dock. The entire production hall floor would be located at loading level (4 feet above grade) for ease of material handling.

Several alternatives for roofing the production hall were investigated. Since diffuse daylighting could be utilized as an energy conservation method, several skylighting schemes were modeled. Monitors would provide even lighting in the space and could be incorporated in the roof truss system. Two basic types of monitor were studied. The first was based on a monitor developed by William Lam and
Associates. This monitor was north facing, but "sun-catcher baffles", vertical reflectors were placed to reflect direct sunlight into the space. The second monitor design was based on the work of Albert Kahn, and consisted of a south and a north facing monitor along the center of the space. Either monitor design would provide fairly even lighting across the space, although subjective evaluation using a heliodon indicated a better performance from the Lam design. The other alternatives would be to utilize "bubble" skylights in a flat roof or to use a flat roof with no daylighting. The Lam based monitor was chosen as the preferred roof type.

The Entry Studies

After the general building layout was established, a series of six entry alternatives was modeled. The schemes had to respond to the stair and elevator placement dictated by the parking level. The six alternatives dealt with ways of humanizing the scale of the entry. The studies continued the concepts involved in the entry of the third design parti.

The schemes ranged from a simple gable ended wall to a form the articulated the entry / circulation components. Except for the gable scheme, all of the entries were formed by recessing plane forms at increasingly smaller scales (see photographs). The planes either mimicked the gable form or a columned arch form. The sixth model was designed to follow the forms of the stairs and the elevator on one side, while a series of stepped rectangular planes decreased the entry scale. It was this alternative that was selected as the preferred form. It provided an articulation and definition to the entry and vertical circulation not matched by other schemes.

Site Schematic

Site development at this stage was fairly simple. I decided that the traffic volume on Meridian Street in front of the building was light enough that the traffic lanes could be narrowed and angle parking be created on the west side of the street for the use of newspaper visitors. Ten spaces were provided starting at the south edge of the building. The parking ended before the entry bay of the building. This
allowed for an island one bay wide to be created in front of the entry. A right turn lane was then provided at the corner.

Tree planting areas were created at the front of the 45 degree angled parking spaces. The tree plantings were part of the system of scale and view control at the south end of the site. The site concept was to limit views to the south and southeast and to direct pedestrian traffic towards the train station. Trees and edge plantings were used to decrease the scale of the space along the building and to focus attention on the far end of the site, where another planted area defined the turn of the sidewalk around the curve of the production hall. The parking area of the train station would then be treated as a pedestrian plaza with one lane auto traffic. The north and east sides of the site were not landscaped.
Areas of Special Study

The first stage of design development involved studies of the building entry, lobby placement, and building circulation. The entry studies expanded into building image studies as I searched for an adequate expression of Anderson Newspapers as a corporation.

THE ENTRY STUDIES

The entry studies were extensions of the entry studies done during schematic design. Two study models were made to evaluate potential entry developments and fenestration patterns. Both studies incorporated essentially the same entry form as the schematic design. Instead of stepping the building away from the corner of 14th and Meridian, both studies examined angling the front wall approximately 15 degrees. The reason for angling the facade was to present a clearer expression of the door by addressing the path from the corner more perpendicularly. The entry could then stand out from the wall. Another focus
of the models was to unify the expression of building corners. The schematic treated each major corner of the building differently, and I sought to remedy the situation.

The major problems with these studies was the awkward space formed by the intersection of office and production areas and the weak relationship that the angled form had with Meridian Street. The pedimented form made an exquisite expression of entry location, but the form could not be read until the pedestrian reached the corner north of the site. The banded form created an interesting group of spaces but did not address the location of the entrance, and thus the entrance became lost in the building wall. In addition, structural necessity dictated that the bands interconnect, forming a stepped wall in front of the building proper. This effectively precluded the use of windows in this wall. These studies demonstrated that the original schematic form seemed to work best given the functional and aesthetic needs of the building. They also demonstrated that a simple fenestration system was required.
LOBBY STUDIES

The lobby studies dealt with lobby location and alternative building organizations, particularly in respect to parking. These were quick studies that tended to disprove possibilities. Since one of the serious problems of the schematic was the lack of second exit from the lobby, several alternatives were studied. In addition, some of the alternatives addressed alternate placement for the parking.

The options investigated included two schemes with a basically linear lobby between the production hall and the office section and two alternatives for the central lobby scheme of the schematic, including a split-level building scheme.

Linear Lobbies

The two lobbies dividing the buildings addressed the problem of building separation and exposure to the whole newspaper process. They also provided a clear link between Meridian and Main streets. The first was a purely linear scheme with a 22-foot wide galleria. The second was a wedge-shaped atrium wider on the Meridian Street side than the Main Street side. Because of the configuration of the block, the two bay long office spaces were too long for the required offices in most cases. The extra deep spaces also reduced the effectiveness of daylighting within the space. The lobby prevented departments that required direct access to the production hall form having that access. The linear approach had an awkward connection to the predetermined vertical circulation system.

Using the linear lobby, I also looked at roof level parking. Roof top parking is desirable from a structural standpoint for two reasons. One, it allows for a column free parking area and, two, parking loads are typically lower than office floor loads and close to roof design loads. The problem with roof top parking for this design was the intrusion of the ramp into the ground floor and the parking level. If the atrium occupied the 22 feet not required by parking within the office section width, then the ramp had to restrict the amount of parking. Because of the organization of the building, a ramp to a second floor level would have to be along the north end of the site, along Fourteenth street. This would place the entrance too close to the intersection. It would also block much of that side of the building from development as offices, thus limiting the amount of available daylight even further.

From this I concluded that roof top parking was not feasible on this site, given the allocation of space on the site. I also concluded that a mid-block entry was not feasible for the reasons already cited.

Central Lobbies

The central lobby schemes deal with lobbies in the same location as in the schematic. The two alternatives were a split level lobby and a lobby with a central corridor to the garage. These lobbies addressed the problems of daylighting and bay sizes suitable to the office spaces. They did prevent the visitor from becoming involved in the total newspaper process, but they fit the actual functioning of the paper. The critical problem with the schematic was the unclear exit route to Main Street. The second of the two
schemes addressed this problem.

The first lobby alternative was actually an investigation into a split-level building with roof level parking. The reasons behind partially recessing the office section were to improve energy conservation by reducing exposed wall, to create a transition from the north wall to the sidewalk with sloped glazing, and to allow the second floor to be level with the raised production hall floor. The lobby would be at grade level. The stumbling block to this concept was the roof top parking, as was described in the previous section. The relationship between the wall and the sidewalk proved very interesting, but also seemed hazardous in a building where security was considered vital.

The second lobby alternative was the one used in the final design. Two changes in the building parti were required. The first was to alter the lobby from a symmetrical stepping to an asymmetrical stepping. The original lobby stepped in 7 feet on each side in the second and third bays. In the alternate, the balcony and skylight were straight
along the south side of the lobby and stepped in 14 feet in the two bays on the north side. The result of this change was a shift in the axis of the lobby to nearly perpendicular to the doors. Instead of providing an exit corridor along the production hall, an corridor was extended from the south side of the lobby into the garage. This corridor was placed where parking existed in the schematic. This parking was moved to the south side of the garage, where the corridor existed in the schematic. This solved several problem, besides the exit problem. It allowed for two building entrances from the garage, both of which could be controlled by the information desk in the lobby. It allowed me to place the mechanical room for the office section below the corridor. The north wall of the corridor could then be a large mechanical chase. On the second floor, the corridor could be completely skylit, which improved the daylighting in the south offices. The corridor simplified the organization of the plan, making the building much easier to interpret. This concept proved so simple and effective that no other form was evaluated. This concept
addressed all of the problems of entry, circulation, and lobby.

**FINAL DESIGN DEVELOPMENT**

**The Building Interior**

The lobby became the focus of corporate identification, setting the atmosphere for the entire building. In the schematic, a system of curved and straight office walls placed below the balcony were used to create a dramatic, amorphous volume. This same arrangement was used in the final design. Open entries were used for the major public use offices (circulation, classifieds, and library on the first floor; retail advertising and ad service on the second). The newsroom on the first floor was closed to public access but open to public view. In all of the off-lobby spaces, large windows subdivided into 1' x 1' squares were used to admit natural light and for the public to see the internal activities. The 1' x 1' square panes were used to reduce scale and to break up the view through the windows. This type of window treatment was carried over to the transoms over the department entries.

In all of the public use departments, a sub-lobby was employed to create a feeling of individuality and territory. The lobby generally would provide a small waiting bench and would be dominated by a counter. Entry to the work areas would only be through a door controlled by the employees.

All offices were planned using an open concept. In most cases, partitions would be lower than 4 feet, to allow visual continuity through the space and to provide some acoustical control. Managers and assistant managers would have their own private offices.

**The Building Exterior**

In the schematic design, the exterior walls were assumed to be brick with a concrete masonry backup. The horizontal bands at floor and ceiling level would be limestone or cast stone. The basic window unit was a rectangular bay window approximately 11 feet wide by 8 feet high. This turned out to be an awkward
window size for the interior spaces, although it was well scaled to the exterior walls.

In development, I rediscovered an earlier concept of letting signage resemble type blocks. This idea returned to the exterior of the building as concrete or limestone "blocks" 4 feet square on the north elevation. This became the inspiration for the grid that developed on the elevations. The grid is 8 inch wide concrete 4'-8" on center, creating 4 foot square centers. These centers would then be infilled with brick, windows, or the letter panels described above. In this way, windows and graphics throughout the building could be unified (recall the 1'x1' window grid on the interior). Copings and parapets would be stone. All concrete would be with a warm earth tone cement. The base of the building would be stone panels against a concrete wall. All windows would be of a "Solar-bronze" type.

The Site Development

The site remained little changed from the schematic. An outdoor seating area was used to strengthen the path to the entry while providing for public seating. The idea here was to allow people to sit and read their papers outdoors beneath some trees. The plaza itself was raised 2 feet above grade at the corner to help level the site and to provide a stronger transition between the plaza and the sidewalk. A fountain / planter / seating area was designed for the sidewalk in the center of the entry bay. The fountain would include a three-dimensional stainless steel sculpture of the logo, to act as an identifier. The lower wall band would extend over the sidewalk to act as a marquee. On the north side, this lower band would carry an electronic signboard.

The area to the south of the paper was undeveloped, other than the inclusion of parallel parking next to the sidings. The trees remained on the west side. At the end of the sidewalk, a 5 foot high retaining wall controlled the views south while providing a planting bed. Pedestrian traffic would be diverted towards the train station. Another "baffle wall" was built west of the train station to mark the diversion of the sidewalk from the south.

Architectural Subsystems

STRUCTURAL

The structural grid for the office section of the building was the 32' x 43' bay dictated by the parking level. The structure within the parking level would be concrete for fire protection. All exterior columns would be concrete encased steel members. A brass ring at the base and capital would be used as an accent. Interior columns would be steel with a plaster cover and the same brass detail. A two tiered square base was used for exterior columns and interior columns on the first floor. All other structure above the basement would be steel. Fireproofing would be accomplished through fire rated ceilings.

In the production hall, a free span of 90 feet was required. Because of the monitor design, an 8 foot deep steel truss was used to carry both the roof and the monitors. The monitors would include operable window vents and would be roofed with a metal roof. The trusses would be supported
on columns in the 32 foot bay dimension. Steel sections and decking would be used for all intermediate framing. Column bracing would occur just below the window line. The press floor would be of steel framing with a dimpled steel deck. The ground level (actually +4'-0") would be concrete slab on engineered fill.

MECHANICAL

In the office section, the HVAC system would be a variable volume system with electric reheat. This system would provide the necessary flexibility for the office spaces. A package compression chiller / cooling tower would be roof mounted. All fresh and exhaust air would be routed through the large mechanical chase. Return air would be routed through an air-to-air heat exchanger. An energy wheel system that recovers sensible and latent heat would be preferred, but space was too limited for such a system. An energy miser cycle would be provided, to allow outside air to be used for cooling or ventilation whenever outside temperatures were in the moderate range (to 65 or 70 degrees).

In the production hall, rooftop package cooling units with reheat would be used. Although temperature ranges would not be as critical as in the offices, humidity must be kept in the 40 to 50% range for the stored paper. Because of the particulate matter created during a production run, no return air would be provided, and exhaust air would be filtered. Fresh air could be drawn through ducts within the hall to provide some preheating or precooling before entering the HVAC units. An energy miser cycle would be used in this space also.

ELECTRICAL

The newspaper requires approximately 75kva three phase service. The majority of the electrical load is involved in machinery and HVAC. A transformer vault was provided north of the loading dock. A backup diesel generator would be provided for the press and emergency lighting. Switchgear would be located below the loading dock and satellite panels would be located throughout the building.

In the offices, floor boxes
would be used to supply power
to the office panel system.
Supplemental power would be
provided by a flat tape system,
as would communications wiring.

ELEVATORS

A 3500lb capacity hydraulic
elevator would be provided for
the office section and an 8000lb
capacity freight elevator would
be provided for freight
delivery. Material handling to
the press floor level could be
handled by forklift (10' reach)
and hand truck.

FINAL COMMENTS

In response to final
criticisms, I would have made
several changes in the
building. The first would be
to remove the "marquee" at the
entrance. The second would be
to extend the exterior columns
in the production hall to their
full two story height. The
third would be to make the
production hall windows fit the
language established in the
rest of the building.

I want it to be known that I
am pleased with this building,
given the tortuous path by
which it was developed. When
presented with the schematic
design, I received favorable
comments from the Production
Director and the General
Manager of Ancerson Newspapers
Incorporated. I hope they are
favorably inclined towards the
final project.

This has been a complicated
project, more so than I would
have expected for a 65,000
sq.ft. building. When I chose
to do the newspaper, I
understood to a degree the
complexity of fitting the many
functions into one building. I
had been conditioned by their
existing facility to expect the
parts to work together fairly
simply. I was not prepared for
the actual complexity of
getting this project to meet
the criteria and goals that
were established at the
beginning of the year. It is a
pleasure to think that I have
arrived at a simple looking
solution. I only wish it had
not taken so long to develop.

As my final act, I would
like to note that I have
enjoyed my years at Ball State
and the company of a group of
people too numerous to mention
but for whom I retain both
affection and admiration.
FINAL DESIGN
APPENDIX A

COMPUTER AIDED DESIGN

I intended from the beginning of the thesis to make use of the capabilities of the Apple [+] computers, belonging to the College of Architecture and Planning. In particular, I made use of the Houston Instruments Hipad Digitizer and its accompanying software; and Apple World, a perspective drawing program developed by Paul Lutus. Apple World was used extensively for evaluating a variety of design decisions from massing concepts and site context to room shapes. The program proved quite helpful in evaluating different entrance schemes and approaches.

Apple World requires the user to enter the cartesian coordinates for each endpoint of a line to be drawn. These coordinates had to be entered individually on the computer keyboard. The program would then compute the lines as they would appear in three point perspective and draw that perspective on the monitor. The image could then be rotated along any axis, translated along any axis (moved forward or away
from the viewer), or the scale of the drawing could be changed to include more or less of the figure without changing the viewpoint. The user could then save onto diskettes any view he selected for later viewing or printing.

Printing any images was accomplished through a program titled POLAROID2 or POLAROID3, developed by Jane Suddarth and myself in 1983. This program allowed one to recreate picture files created by Apple World, the Hipad, or any other picture drawing program on a Centronics dot matrix printer. A limitation to this process was the relatively coarse image quality provided by the Apple and thus the printer. A limitation of the Apple World drawings was the lack of hidden line removal. This means that each drawing by Apple World included lines that would normally be blocked by the figures in front of it. In complicated drawings with a variety of objects, these drawings proved difficult to interpret. This limited the usefulness of the program.

The Hipad Digitizer is a device that returns two dimensional coordinates through the use of a cursor device. The digitizer allows one to reproduce drawings onto the computer or to create drawings using a drawing program. During the final quarter of thesis, I developed a program, Digiworld, to simplify the creation of the data files used by Apple World. The program would use the digitizer to determine the X and Z coordinates of a location in plan and add it to a text file that could be used by Apple World. Changes in the Y coordinate could be input on the keyboard. This program greatly simplified the creation of data files since the computer determined the location of all points in plan. In Apple World, the user first had to determine the location of all points and their order of input. This process required extensive time for all but the simplest of spaces. Digiworld made creation of complex forms much easier and considerably faster. The only problem with Digiworld is that it was easy to exceed the memory capacity of the computer, a problem that has not yet been solved.

Use of the computer to model spaces or systems is a valuable tool in understanding and evaluating them. The advantage of using the computer, over sketching or drawing, is that it can create a precise drawing that can be manipulated repeatedly in short time. I found this to be an valuable tool when evaluating entries, as it allowed me to "walk" through the sequence of entering the building. Such an evaluation can be difficult using sketches or models. The Apple handles larger scale drawings, such as overall building form or building clusters better than small scale, complicated spaces. This is due primarily to the limits of the computer memory and the limits of the monitor.

A more responsive program than Apple World could improve this though. Most large scale drawing systems allow for more complete manipulation of drawings than is possible on the Apple. Another improvement would be the use of a Vector type screen for line drawings such as Apple World's and the capability to reproduce them on a plotter instead of a dot printer. Those students who begin using the Intergraph CAD system, scheduled to be installed in the fall of 1984, will be able to use the power of these machines to improve the evaluation and presentation of design ideas over the "simple" Apples.
I found my experience with the Apples to be very valuable. I regret that the College has not seen fit to emphasize the use of these machines for their graphic CAD capability. I also regret that I became involved with those same capabilities too late in my career here to develop more responsive and useful software for use by students. I would expect that an entirely new system of design expression will result from the use of the Intergraphs. I fervently hope that the College allows innovative students to experiment with the machines in order to expand their own capabilities, as well as to discover the capabilities of these wonderful tools.

As a final note on the subject, I appreciate having word processing software available to the students. It has made producing this work a more enjoyable and creative process.
RESOURCES

INDIVIDUALS

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10-3-83  Tom Cernera
10-31-83 Production Director
2-7-84    Anderson Newspapers Incorporated

10-3-83  Charles Laughlin
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10-3-83  Bob Hosier
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