

**MINNESOTA STATE UNIVERSITY, MANKATO
STUDENT HOUSING FACILITIES**

PRELIMINARY PROJECT DESCRIPTION

10 PROJECT DESCRIPTION

1010 PROJECT SUMMARY

- A. The 608-bed Student Housing Project will be Phase 1 of the replacement housing for the existing 1200-bed Gage Complex scheduled to be demolished. The 608-bed, 4-story, residence hall complex is planned for the existing Rugby Pitch site, west of West Road, southwest of the existing Utility Plant. The 608-bed residence hall complex is planned for upperclass students and will include two 304-bed residence halls. Each 304-bed residence hall will be comprised of 68 semi-suite doubles and 16 semi-suite singles. A detailed Program is included in the Project Description section. The Rugby Pitch will be relocated by MSU as a separate project. The project is to be a 30-year building.
- B. Parking requirements generated by this project will be accommodated by the vacant spaces on elsewhere on campus. Food services will include a convenience store with seating as part of Phase 1.
- C. Occupancy for the 608-bed upperclass residence hall is scheduled for the fall semester of 2007.
- D. Subsequent phases will be implemented as funding is made available:
 - 1. 180-Bed freshman residence hall and First Year Experience on a portion of the existing Parking Lot 13
 - 2. 420-bed residence hall planned for the west portion of Parking Lot 13, connecting to the A Wing of the Crawford Center
 - 3. Demolition of the existing 1200-bed Gage Complex scheduled for 2010

20 PROPOSAL, BIDDING AND CONTRACTING

2010 DELIVERY METHOD

- A. The University has decided to use a "Design-Bid-Build" delivery method for this project with an early site package to comply with the schedule.

A SUBSTRUCTURE

A10 FOUNDATIONS

- A. Foundations: 3000 psi cast in place concrete.
- B. Footings: Spread footings. Borings and a geotech report to be provided by MSU should confirm this assumption.
- C. Slab on grade: 4-inch thick concrete slab on grade, on compacted fill with 24 inches of perimeter insulation, R-7.5 minimum, complying with requirements of ASHREA 90.1. Borings and a geotech report to be provided by MSU should confirm this assumption.

A20 **BASEMENT CONSTRUCTION**

- A. Basement Excavation: Excavate for utility tunnel, and for mechanical and electrical rooms.
- B. Basement Wall: Cast in place concrete, waterproofing, insulation and protection board, R-7.5 minimum, complying with requirements of ASHREA 90.1.
- C. Utility Tunnel walls: same as the basement wall or precast concrete 8 feet by 8 feet

B **SHELL**

B10 **SUPERSTRUCTURE**

B1020 FLOOR CONSTRUCTION

- A. Floor framing: 8-inch precast concrete plank with $\frac{3}{4}$ inch cementitious topping (leveling coat), bearing on CMU load bearing walls.

B1030 ROOF CONSTRUCTION

- A. Roof Framing: 8-inch precast concrete plank with $\frac{3}{4}$ inch cementitious topping, bearing on CMU load bearing walls.

B20 **EXTERIOR ENCLOSURE**

B2010 EXTERIOR WALLS

- A. Exterior Walls: Precast Concrete with integral board insulation and veneer brick - OR -
- B. Exterior Walls: 8-inch load bearing CMU with cavity insulation, air space and brick veneer. The exterior walls will consist of the following components:
 - 1. Face brick: Standard Modular
 - 2. Air space: 1-inch air space
 - 3. Board Insulation: 2 inches of board insulation, R-10 minimum
 - 4. Dampproofing on the CMU
 - 5. Load bearing CMU: 8-inch, load bearing CMU
 - 6. Metal furring and $\frac{5}{8}$ inch painted GWB finish
 - 7. Exterior Sills: Architectural precast concrete.
 - 8. Exterior Heads: Architectural precast concrete
 - 9. Thru-wall flashing
 - 10. Parapet caps shall be sheetmetal as part of the roofing spec.

B2020 EXTERIOR WINDOWS

- A. Architectural Grade Aluminum Windows:
 - 1. Individual operable units with aluminum framing thermally broken.
 - 2. 2-coat fluoropolymer finish, factory applied to all exposed metal. 20 year finish warranty.
 - 3. 1-inch insulating glass, with SHGC (shading heat gain coefficient) complying with requirements of ASHREA 90.1.

- B. Glazed Aluminum Curtain Walls:
 1. Aluminum framing system steel reinforced curtain wall system. Single source manufacturing and installation responsibility for windows and curtain wall system, including all components.
 2. Framing thermally broken.
 3. 2-coat fluoropolymer finish factory applied to all exposed metal. 20 year finish warranty.
 4. 1-inch insulating glass, with SHGC (shading heat gain coefficient) complying with requirements of ASHREA 90.1
 5. System engineering by manufacturer and fabricator's registered professional engineer in the State of Minnesota.

B2030 EXTERIOR DOORS

- A. Main Entrance Doors:
 1. Stile and rail thermally broken aluminum doors in aluminum framing with 2-coat fluoropolymer finish.
 2. Glazing: Tempered insulating glass.
 3. Hinges: Continuous hinges at entrance doors
 4. Hardware: MSU standard
- B. Non Public Single Doors:
 1. Hollow metal frames, with mitered or coped and continuously welded corners. Fabricated from 0.0635-inch (1.6 mm) thick galvanized steel sheet. Factory primed, field painted
 2. Steel doors 1-3/4 inch (44 mm) thick, Level 3 and Physical Level A (Extra Heavy Duty), Model 1 heavy duty, full flush design, metallic coated steel sheets Commercial steel Type B, with an A40 (ZF120) zinc-iron-alloy coating, stretcher level standard of flatness.
 3. Hardware: MSU standard

B30 ROOFING

B3010 ROOF COVERINGS

- A. Low Slope (Flat) Roofs:
 1. 4-ply built up roof system
 2. Tapered polyisocyanurate board roof insulation, installed with staggered joints. R-25-30 Minimum (ASHREA 90.1)
 3. A post construction infrared survey (recorded on film) required prior to final acceptance of the roof.
 4. No annual roof service is included.
- B. Energy Star rating

C INTERIORS

C10 INTERIOR CONSTRUCTION

C1010 INTERIOR PARTITIONS

- A. Fire Ratings (Minimum): Corridors walls: 1 hour; Walls between dwelling units – 1/2 hour. Stair wells: 2-hours; Shaft walls: 2-hours

- B. Acoustical Ratings (Minimum): 50 STC between dwelling units
- C. Load bearing walls: 8-inch load bearing CMU with furring and 5/8 inch gypsum wall board on the unit side.
- D. Stairwell wall, elevator walls, mechanical room walls: 8-inch CMU
- E. Other interior partitions: Metal studs and 5/8" abusive resistant gypsum board
- F. Mechanical duct shafts: Metal shaft wall studs and 5/8-inch gypsum board

C1020

INTERIOR DOORS

- A. Solid Core Flush Wood Doors:
 - 1. Faces: Select white maple, plain sliced
 - 2. Grade: Premium with Grade AA faces
 - 3. Construction: 5 plies
 - 4. Core: Glued blocked core
 - 5. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.
 - 6. Stiles: Same veneer as faces.
 - 7. Finish: Transparent, AWI System TR-2 catalyzed lacquer or TR-4 conversion varnish. Factory applied.
 - 8. Fire Ratings: as required by Code.
 - 9. Frames: Hollow metal frames, typically
 - 10. Frames: Wood frames and prehung doors within the units
 - 11. Hardware: MSU Standard

C1030

INTERIOR SPECIALTIES

- A. Toilet Room Accessories and Mirrors. Stainless steel, campus standard.
- B. Unit shower compartments: Fiberglass
- C. Toilet Compartments and Screens for Public Restrooms: Solid Plastic: High density polyethylene (HDPE) with homogenous color throughout. Doors and partitions at toilet and shower rooms.
- D. Interior Identifying Devices: Building Code signage and ADA signage. Other signage to comply with Owner's standards. Signage to include Braille lettering. Signage to include Emergency Plan on the back of each residential door.
- E. Postal Specialties: Rear loading gang style mailboxes for internal campus mail delivery system.
- F. Bulletin Boards
- G. Storage Shelving
- H. Casework: Control Desk, AWI Premium Grade, factory applied transparent finish
- I. Window Treatments: At residence units, surface mounted
- J. Fixed Foot Grilles: At entrances.

C20 **STAIRWAYS**

C2010 STAIR CONSTRUCTION

- A. Stairs – Steel stair with metal pan treads and risers concrete filled treads and landings
- B. Stair Finishes
 - 1. Stair Railings – Steel pipe and tube railing system shop primed, field painted.
 - 2. Treads and landings at Communicating Stairs: Sealed concrete

C30 **INTERIOR FINISHES**

C3010 WALL FINISHES

- A. Gypsum Wallboard (GWB) Finishes:
 - 1. 5/8-inch GWB throughout. Moisture resistant wallboard at toilet rooms
 - 2. Generally, Level 4 finish throughout
 - 3. Shaft wall where required for fire rating
 - 4. Three coat latex paint finish
 - 5. Corner guards at all exposed corners
- B. Concrete Masonry Units (CMU): Painted
- C. Ceramic Tile (CT): At public restrooms
- D. Prefabricated fiberglass shower enclosures: At residential units

C3020 FLOOR FINISHES

- A. Concrete Floor Finishes (CONC): Clear hardener sealer: Service areas
- B. Dimension Stone Tile Pavers (DST): Lobby
- C. Ceramic Tile (CT): 2-inch by 2-inch, unglazed porcelain ceramic mosaics, at public restrooms and residential bathrooms
- D. Carpet: (CPT): Campus standard at corridors and common spaces
- E. Resilient Flooring (VCT): 12 by 12-inch in residence rooms, trash rooms and kitchen floors
- F. Epoxy Flooring (EPX): laundry
- G. Vinyl Base (VB): 4-inch high

C 3030 CEILING FINISHES

- A. Gypsum Wall Board Ceiling Finishes (GWB): 5/8-inch GWB painted with 3 coats of flat latex paint; Moisture resistant at toilet rooms
- B. Acoustical Ceiling Panels (ACP): 2-feet by 2-feet mineral fiber panels in narrow face exposed metal grid. Panels with fine textured surface with factory applied latex paint at corridors and lounges

- C. Spray-on acoustical finish on precast concrete plank in the residential units

D **SERVICES**

D10 **CONVEYING SYSTEMS**

D1010 **ELEVATORS**

- A. Hydraulic passenger elevator:
 1. Capacity: 3500 pounds
 2. Center opening doors
 3. Cab size to accommodate emergency stretcher
 4. Single elevator controls
 5. Five stop, 100 fpm
 6. Front opening
 7. Cab Finishes: Standard stainless steel mesh, vandal resistant finish, flooring VCT
 8. Quantity: Two (2) elevators for each, 304-bed residence hall

D20 **PLUMBING SYSTEMS**

D30 **HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)**

- A. Mechanical System: Extension of chilled water and central steam are to be distributed to the individual residence halls from the campus system. Air handler units will be on the roof. The AHUs on the roof (enclosed in mechanical penthouse) will provide dehumidified make up air to the 2-pipe fan coil units servicing the residential units. The system is to comply with requirements of ASHREA 90.1.

D40 **FIRE PROTECTION SYSTEMS**

- A. The Fire Protection Design will be in accordance with Factory Mutual Standards and NFPA 13. UL rated CPVC piping is acceptable. Fully concealed sprinkler heads required.
- B. The installation of the fire protection system shall conform to NFPA and Factory Mutual recommendations.

D4010 **SPRINKLERS**

- A. Sprinklers: hydraulically designed wet pipe, light hazard sprinkler system.
- B. Quick response fully recessed sprinkler heads shall be provided throughout the building.
- C. Piping shall be black steel schedule 10 piping with steel fittings or rated CPVC approved by the authority having jurisdiction.

D50 ELECTRICAL SYSTEMS

D5030 COMMUNICATION AND SECURITY

- A. Card Readers: Campus standard card reader system at exterior entrance doors, hallway doors and major function spaces
- B. Security Cameras: Infrastructure for security cameras at exterior entrance doors -
- No security cameras provided under this project.
- C. Communication cabling to be provided.

E EQUIPMENT AND FURNISHINGS

E10 EQUIPMENT

- A. Kitchen Appliances: Microwave, Range/Oven, waste disposal
- B. Washer, Dryers: NIC, provided by contract vendor

E20 FURNISHINGS

- A. Fixtures, Furniture and Equipment (FF&E) will be provided by the University under their soft cost budget.

F OTHER BUILDING CONSTRUCTION

F20 SELECTIVE DEMOLITION

- A. The Rugby Pitch site for the 608-bed upperclass residence hall will require minimal selective demolition.

G BUILDING SITEWORK

G10 SITE PREPARATION

G20 SITE IMPROVEMENTS

G2030 PEDESTRIAN PAVING

G2040 SITE AMENITIES

- A. Benches, trash receptacles, ash urns, bicycle racks – NIC (Fixtures, Furniture and Equipment (FF&E) will be provided by the University under their soft cost budget.)

G2050 LANDSCAPING

- A. Soil preparation, lawns and grasses, trees, plants and ground cover, and landscape maintenance.

G30 **SITE PLUMBING UTILITIES**

G3010 WATER SUPPLY

- A. Water lines are directly east of the site

G3020 SANITARY SEWER

- A. The depth of both the existing sanitary sewers at the intersection of Maywood and West Road

G3030 STORM SEWER

- A. The depth of both the existing storm sewers at the intersection of Maywood and West Road

G40 **SITE HVAC UTILITIES**

- A. Chilled water is directly east of the site.
- B. Utility tunnel running directly south from the southwest corner of the utility plant to the new building site would carry the steam, and condensate. Chilled water would be outside the tunnel.

G50 **SITE ELECTRICAL UTILITIES**

- A. Tunnel running directly south from the southwest corner of the existing utility plant to the new building site would carry the high voltage electrical, telephone, data and cable TV.
- B. Site Emergency Phone: Campus standard site emergency phone

End of Preliminary Project Description