I. SUMMARY OF WORK

This project consists of a two story office building of approximately 59,000 square feet, surface parking providing approximately 288 parking stalls, and associated site work as shown on the Design Development drawings.

II. SITEWORK

1. The site has been substantially cleared and is relatively flat. Drainage will sheet flow to retention basins located within the site. Cut material will be used to form berms throughout the site. The site perimeter at the street has curb and gutter, which shall remain except at curb cuts for new driveways.

2. Install utilities including fire and domestic water, sewer, power, gas, and telephone.

3. Accent pavement at the building entry court shall be integral colored exposed aggregate concrete.

4. Asphaltic paving at main driveways shall be 3” A.C. on 4” A.B.C. In surface parking areas, asphaltic paving shall be 2” A.C. on 4” A.B.C.

5. Cast in place vertical and extruded concrete curbs shall be used in parking areas and drives. The extruded curbs shall be located at areas with the least likelihood of vehicle impact.


7. Site lighting shall be 16’ metal halide pole lights at drive areas to provide an average of .5 foot-candles, and landscape accent lighting and bollards at building entries and patios.

8. Provide a 6’-0” high 8x8x16 CMU wall with finish to match EIFS on the building and metal gate at trash enclosure. Provide 6” reinforced concrete slab at trash areas and service areas.

9. For outdoor café/amphitheater, allow approximately 3,000 square feet of integral color concrete, which includes steps, ramps, and seating.

10. Outdoor tables, chairs, and benches at the employee contemplative areas are not part of this package.

11. Provide a small water feature at the outdoor dining area. See Design Development drawings.

12. Provide pre-fabricated metal car canopies for approximately 272 vehicles. Lighting shall be single tube fluorescent strips. The fascias will have a simple custom design.

III. ARCHITECTURAL

Superstructure

1. The office building shall be of Type VN construction. Floor to Floor Height to be 14’-0”.

2. Roof structure shall slope to roof drains and overflow drains. The pitch shall be 3/8 :12. The crickets shall be created by tapered rigid insulation boards.

3. The floor shall be concrete slab on grade. Provide a 14” recessed floor with a floor sink in the computer room for raised access flooring.
Exterior Wall

4. The window system at the two-story lobby area shall be Kawneer FA-SET SSG engineered to withstand wind load requirements for inward and outward pressure per UBC.
   A. Provide for 1 inch thick insulating glass unit.
   B. Glazing shall be Viracocon with Solar Screen 2000 coating on the #2 surface.
   C. Mullion finish shall be custom color Kynar finish on aluminum.

5. The window system at the remainder of the building shall be a Kawneer FA-SET SSG engineered to withstand wind load requirements for inward and outward pressure per UBC. The exterior will include sandstone panels to a height of 4'-0" above first floor finish floor at the piers, integral colored masonry, and EIFS as shown on the drawings.
   A. Provide for 1 inch thick insulating glass unit.
   B. Glazing shall be Viracocon with Solar Screen 2000 on the #2 surface.
   C. Mullion finish shall be custom color Kynar finish on aluminum.
   D. Exterior vertical butt glazed as shown on the drawings.
   E. Mullion spacing shall be 5’ O.C.

6. Mechanical screen shall be EIFS supported by steel framing. Mechanical screen shall start approximately three feet above roof elevation to allow for drainage. Top of mechanical screen shall be 10’ above the roof.

7. Glazing criteria shall include the following:
   A. Vision glass shall be 1 inch thick insulating units.
   B. All insulated units shall be heat strengthened.

8. Exterior doors at the main building lobby and at the café shall be 1/2 inch balanced glass doors (Herculite). All other exterior doors shall be medium stile doors with 3/8 inch tempered glass, color to match adjacent glazing. Provide all entries complete with finish hardware.


10. Exterior walls shall be insulated with R-13 insulation.

Roofing

11. Provide R-30 rigid insulation at the roof.

12. Roofing shall be single-ply mechanically fastened with a 10-year warranty.

13. The balcony at the building shall be waterproofed with Tremco Tremproof 60 fluid applied membrane. Balcony finish shall be pavers on Tremco Kingpin pedestals.

14. Mansard roof shall be concrete tile roofing with 26 ga. G.I. battens over 30# felt over metal deck and steel framing. Fascia to be EIFS.

Interior Partitions
15. Lobby walls, toilet cores, Janitor Rooms, private offices, boardroom, conference rooms, café/lounge/kitchen areas, and Mail Room walls shall be full height to the bottom of the structure with one layer of 5/8” gypsum board on each side of 3-5/8” metal studs at 16” O.C. Provide 3-1/2” acoustical insulation in these walls.

16. Telephone/Electrical Room walls shall be one-hour fire resistive walls, full height to the bottom of the structure with one layer of 5/8” type “x” gypsum board on each side of 3-5/8” metal studs at 16” O.C. Provide 5/8” A-C plywood over the gypsum board at the interior of the telephone rooms.

17. Elevator shaft and mechanical shafts shall be non-rated gypsum board shaft walls. Stair enclosures are not required.

18. Water resistant gypsum wallboard shall be used at “wet walls” and four feet of the adjacent wall and shall continue floor to ceiling.

19. Window sills and heads at the exterior wall shall have 5/8” gypsum board on 2-1/2” metal furring 16” O.C. Gypsum board and furring at the head shall continue to the structure above.

20. Computer Room walls and openings shall be one-hour fire resistive construction and shall be full height to the bottom of the structure with one layer of 5/8” type “x” gypsum board on each side of 3-5/8” metal studs at 16” O.C.

**Interior Finishes**

21. Lobby shall be:
   A. Floor: 2’ x 2’ x 1 ¼” thick sandstone mud set over recessed floor slab at the first floor.
   B. Walls: Painted gypsum board with 12” sandstone base.
   C. Ceiling: Painted gypsum board with coffers, linear diffusers, recessed downlights and cove lighting.
   D. Recessed entry mats: Equal to “Pedimat”, to be provided at building entry doors.
   E. Guardrails at balconies: Cantilevered glass guardrail similar to Blumcraft RG-450 EN with custom milled hardwood cap.
   F. Exposed columns to be integral colored masonry full height with 4’ sandstone wainscot.

22. Toilet Room finishes shall be:
   A. Floor and base: 4” x 4” premium grade American Olean, unglazed porcelain tile, thinset installation. Grout shall be water cleanable 100% solids epoxy.
   B. Walls: Tile full height on all wet walls and walls adjacent to lavatory tops, tile will be 2” x 2” standard grade American Olean unglazed porcelain tile with cushion edges, thinset installation. Provide two colors in a pattern to be determined. Grout shall be water cleanable 100% solids epoxy. VWC at all other locations.
   C. Ceiling: Painted gypsum board with downlights and cove light over lavatory and toilet fixtures.
   D. Countertops: Granite with underside mounted sink fixtures.
   E. Toilet partitions shall be floor mounted overhead braced metal partitions with brushed stainless steel finish. Provide wall hung urinal partitions to match toilet partitions.
23. Café’ finishes shall be:
   A. Floor: Carpet and sheet vinyl.
   B. Walls: Painted gypsum board.
   C. Ceiling: Vinyl faced ceiling tile and painted gypsum board.

24. All other rooms shall have painted walls and/or vinyl wall covering. Ceiling grid and tiles shall be 2x2 Centricitee grid and 2x2 USG Glacier tile. Mail Room and Janitor’s Room to receive VCT flooring. Electrical/Telephone Rooms to have sealed concrete floors.

25. Millwork shall be as shown on the program and the Design Development drawings.

26. Doors and Frames:
   A. Interior doors to be 3’-0” x 8’-10” stain grade. Frames to be painted hollow metal.
   B. Hardware shall be satin stainless steel finish, mortise locksets with levers, butts and closers.
   C. Doors and frames at loading dock and other exterior back of house areas shall be painted hollow metal.

27. Lobby stairs shall be a custom designed cantilevered steel stair with stone treads and risers, glass guardrail with a custom milled hardwood cap and handrail. Exit stairs shall be premanufactured steel stairs with concrete filled metal pans at treads and landings. Provide pre-molded rubber treads, risers, and flooring at landings. Decorative metal railing shall have spacing between members so as to prohibit the passage of a 4-inch sphere through the railing. Finish to be a custom color as selected by the Architect.

Roof Access

28. Two metal ladders with safety posts shall be provided for access to the roof. One shall be located at each side of the lobby roof which separates the two areas. The roof hatches shall have a minimum opening of 6 s.f. each.

Building Specialties

29. Provide a motorized Mechoshade at the Boardroom. Provide mini-blinds elsewhere.

Passenger/Freight Elevator

30. Hydraulic with 5,000 pound capacity, 100 fpm, Dover Oildraulic Continental 50.

31. Elevator entrance size to be 4’-0” x 8’-0”. Hoistway doors and frames to be satin stainless steel. Cab dimensions to be 5’-8” x 8’-5” and height to be 9’-0” with an 8’-6” ceiling. Cab shall meet ADA requirements.

32. Satin stainless steel returns with control panels on both sides. Provide an allowance for finishes on three walls, ceiling and floor of $2,800.

33. Manufacturer’s standard call buttons and hall lanterns shall be provided at each floor.

Signage

34. Signage is not part of this package.
IV. STRUCTURAL

1. Roof Framing
   A. The roof shall be designed using open web steel joists and either wide flange steel beams or open web steel joist girders supporting 1 ½ " deep steel deck. Roof profiles shall be as determined by the Owner and Architect.
   B. The floor at the mechanical area shall be designed using either open web steel joists or wide flange steel beams supporting concrete over steel deck. Concrete shall be approximately 4 inches thick above the top of steel deck, and shall extend a minimum of 4 feet beyond mechanical units. Roof screens shall enclose the mechanical area.

2. Floor Framing
   A. If steel joists are selected as the most economical structural system, the floor shall be designed using open web steel joists spaced approximately 6'-0" on center and open web steel joist girders supporting 3 ½" of normal weight concrete over 1 ½" deep steel deck. Several framing schemes have been investigated, and these are presented as the attached sketches 1, 2, 5, and 6.
   B. If composite steel beams are selected as the most economical structural system, the floor shall be designed using composite wide flange steel beams and girders. Concrete and steel deck profiles vary depending on the exact framing scheme selected. Several framing schemes have been investigated, and these are presented as the attached sketches 3, 4, 7, and 8.
   C. Design floor loads shall be 100 psf (20 psf for partitions and 80 psf remainder reducible per 1994 UBC).

3. Columns and Foundations
   A. Steel columns shall be 10" wide flange steel shapes, one piece full height.
   B. Footings are reinforced concrete square spread footings.
   C. The ground floor slab is a 4" concrete slab over 4" of Type II select granular material.

4. Lateral Force Resisting System
   A. Lateral wind and seismic forces shall be resisted by steel rigid frames composed of wide flange steel columns and either wide flange steel beams or open web steel joist girders.

V. HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS

1. Basic Scope of Work
   A. Furnish and install a complete heating, cooling and ventilating System consisting of three 25,000 cfm roof mounted low temperature evaporative condensed VAV air-handlers with 6,000 cfm heat wheels and indirect gas heat.
   B. Conditioned air will be distributed to each floor via loop supply ducts (sized at 0.15 inwg. maximum) to multiple pressure independent variable-air-volume terminal boxes (sized at a maximum 1,800 cfm each). Return air will be plenum type. Acoustically lined sheet metal boots will be required over all conference rooms and individual offices to allow air to return to the duct return riser.
   C. Control of the HVAC equipment will be by a simple DDC building management
system allowing complete monitoring and control of all components from a single location

2. Heat Rejection Systems

   A. Air-handlers:

      1. Packaged unit.
      2. UL listed as an assembly
      3. (2) plug fans.
      4. DX Cooling coil and Evaporative Condensing section
      5. Full air-side economizer.
      6. Indirect gas heating section.
      7. Duct smoke detector with each fan.
      8. Dessicant heat wheel.
      9. Casing: Heavy gauge galvanized, minimum 18 GA.
     10. Access doors.
     11. Similar to Energy Labs or Governaire

3. Heat Distribution Systems

   A. Ductwork

      1. All ductwork shall be galvanized sheet metal. Fabricate and install all ductwork in strict conformance with the latest SMACNA manual for Duct Construction Standards. Ductwork shall be constructed for a minimum of 1" static pressure.
      2. Each duct system shall be complete with all required ductwork fittings, turning vanes, splitter dampers and supports, and extractors at all right angle takeoffs and tees.
      3. All round ductwork shall be spiral seam.
      4. Ductwork shall be galvanized, prime-grade, lock-forming quality steel (LFQ) having a galvanized coating of 1/4 ounces total for both sides of one square foot of a sheet.
      5. Crossbreak all sides of all ducts. Ductwork shall be installed so that the system operates with no objectionable noise. Contractor shall provide any additional stiffeners required to stop any vibration or drumming.
      6. Longitudinal seams shall be Pittsburg lock groove, hammered flat, with all transverse joints taped with 8 oz. canvas and sealed with Arabol, air tight.
      7. All round duct branch takeoffs shall be provided with spin-in and balancing damper.
      8. Ducts shall be substantially supported with hangers to the structure or otherwise depending on location conditions, placing supports not over 8 feet apart along the length of the duct. Hangers shall conform to all SMACNA requirements.
      9. Flexible round ducts to outlets shall be UL 181 Classified, a maximum length of 5'-0" long.
B.  Ductwork Thermal/Acoustical Lining

1.  All sheet metal duct as follows:
   •  Ducts 15'-0" from fans

2.  Scope and Thickness:
   •  All ductwork exposed to weather 2 inches.
   •  Material: Minimum 3 lb. heavy density coated fiberglass duct liner suitable velocities up to 4,000 FPM complying with NFPA 90A.

C.  Ductwork - Thermal Insulation


D.  HVAC Piping

1.  Schedule 40 black steel or copper.
2.  Grooved piping on condenser water system only: Victaulic or approved equal.

E.  Pipe – Thermal Insulation

1.  Fiber glass.
2.  Molded: one piece, maximum 0.26 K factor at 75°F mean temperature.
3.  Manville APT 2000 Pipe Insulation or equal.
4.  All piping except condensate.

F.  Terminal air units

1.  Pressure independent type.
2.  1,800 cfm maximum.
3.  NC30 maximum.
4.  Electric resistance reheat coil.
5.  Sound attenuator.
6.  Factory mounted controls.
7.  Similar to Titus

G.  Exhaust Fans

1.  Description: Provide all labor, materials, equipment, and services necessary to furnish and install exhaust fans.
2.  Products: General - Provide roof caps, wall caps, factory curbs, speed switches, approved vibration isolators.
3.  Provide internal disconnecting means and overload protection on all units ½ hp and smaller and/or 120 volt, single phase.
4.  All belt driven exhaust fans shall have adjustable motor sheaves for fan speed control. Rate belts for 150% of motor rated HP.
5.  All fans, except toilet exhaust fans 200 CFM and below, shall be AMCA certified and approved.
H. Grilles, Registers and Diffusers

1. Furnish and install all grilles, registers, ceiling diffusers and door grilles. They shall be of size and model required. Diffusers shall be as follows:
   - Supply Air – Titus Model OMNI, 2 x 2
   - Return Air – Titus louvered, 2 x 2

2. All grilles, registers, and ceiling diffusers must be set flush and true to wall or ceiling to prevent air leakage around edges. All units shall be provided with neoprene gasketing around the inside of the frame.

3. All units shall be factory finished, of color selected by the Architect, or as otherwise indicated.

4. Paint all ductwork, turning vanes, insulation, etc. that is visible through grilles, registers, or ceiling diffusers flat black.

4. HVAC CONTROLS AND INSTRUMENTATION

A. Temperature Controls and Wiring

1. A full DDC EMS with computer shall be supplied and installed.
2. Power wiring shall be under Division 16.
3. Temperature control wiring and proper operation of the mechanical equipment is included under this Division.
4. All wiring shall be routed in conduit except where code allows plenum rated wiring or cable.
5. All equipment shall be provided with one (1) electrical power connection point. Furnish and install transformers where necessary for lower control voltages.
6. All integral starters, relays and other control devices shall be included under this Division (Division 15).
7. All equipment, devices and wiring shall conform to the National Electric Code.
8. Verify voltages, phases and electrical connections with the Electrical Contractor before ordering equipment, and if any discrepancies occur, they shall be brought to the attention of the Architect for his decision.

5. HVAC SYSTEMS TESTING, ADJUSTING AND BALANCING

A. Air Balance

1. Perform complete testing and balancing for all mechanical systems in accordance with AABC or latest standards.
2. Before acceptance and final payment, it shall be demonstrated that all apparatus is functioning properly and efficiently. The contractor shall make a thorough test of each supply, return and exhaust system to assure that each diffuser and register has the proper quantity of air in accordance with AABC or NEBB.
3. Hydrostatically test condensate drain piping to highest point in system and hold for four hours.
4. Repair all leaks until systems are watertight.
VI. PLUMBING SYSTEM

1. PLUMBING FIXTURES

A. Water Closets: Wall mounted, vitreous china with flush valve.
B. Urinals: Wall mounted, vitreous china with flush valve.
C. Lavatories (Core): Countertop mounted, oval, vitreous china with self-closing mixing faucet.
D. Mop Sink: Floor mounted terrazzo basin. Wall mounted faucet with hose thread and wall brace.
E. Electric Water Cooler: ADA dual-bowl, wall mounted, stainless steel, refrigerated.
F. Coffee Bars: Stainless steel sinks with faucet. See drawings for locations.
G. Café' plumbing requirements to be determined.

2. DOMESTIC WATER DISTRIBUTION SYSTEM

A. Hot and cold water will be provided to fixtures.
B. Hot water piping will be insulated.
C. Electric water heater(s) will provide hot water. Provide "insta-hot" water heaters at coffee bars.
D. Materials: Above ground - Type L copper, soldered joints, lead-free solder.
E. Valves: 2" and smaller - ball valves, 2- ½" and larger – butterfly or gate valves.

3. SANITARY DRAINAGE AND VENT SYSTEM

A. Sanitary waste from plumbing fixtures will be drained by gravity.
B. Materials: Hubless, service weight cast iron pipe, and couplings with neoprene gasket and clamp.

4. STORM DRAINAGE SYSTEM

A. Flat roof areas will have roof and overflow drains, with separate leaders to the exterior of the building.
B. Overflow Drains: Cast iron with removable dome strainer.
C. Materials: Hubless, service weight cast iron pipe, and FM-approved couplings with neoprene gasket and clamp.

5. NATURAL GAS DISTRIBUTION SYSTEM

A. Natural gas will be provided for mechanical equipment.
B. Materials: Schedule 40 black steel pipe with cast iron threaded fittings, and steel butt-weld fittings.

VII. FIRE PROTECTION SYSTEM

1. AUTOMATIC SPRINKLER & STANPIPE SYSTEMS

A. Complete water-based automatic sprinkler system, wet standpipe system, and electric fire pump, in accordance with NFPA 13, 14 and 20.
VIII. ELECTRICAL SERVICE AND DISTRIBUTION

1. BASIC SCOPE OF WORK

A. One (1) 3000 amp 277/480V, 3 phase, 4 wire, 65,000 A.I.C. rated service entrance section with ground fault protected main circuit breaker. Quantities and ratings of feeder breakers dependent upon number of panelboards required.

B. Distribution and branch circuit panelboards will be located within the core electrical rooms on each floor. Distribution panelboards will be used for distributing to branch circuit panelboards. Panelboard voltages will be 277/280V, 3 phase, 4 wire for lighting and miscellaneous large HVAC loads and 120/208V, 3 phase, 4 wire for general convenience outlets and small HVAC loads.

C. Conduit: Rigid Galvanized Steel: All conductors for the electrical system, unless otherwise noted, shall be run in rigid steel conduit, including all wiring in grouted masonry and in or under concrete, earth or fill. Where installed in earth or fill, conduit shall be coated with polyethylene tape, Scotch #50 or approved equal spiral wrapped, 1/2 lapped to an overall thickness of not less the 20 mills. Exposed conduit will only be accepted in those areas specifically defined by the architect or owner.

D. U.L. approved Schedule 40 PVC conduit may be used for underground runs and shall have wrapped rigid steel conduit elbows on sizes 2" and larger.

E. Electrical Metallic Tubing: EMT shall be acceptable in concealed wall and ceiling construction. EMT conduit shall not be used in or under concrete, earth or fill, including grouted masonry walls. Conceal conduit in wall and ceiling construction in finished areas. EMT conduit shall be acceptable in electrical rooms, mechanical rooms and similar areas where at least 18” above finished floor elevations and not subject to physical damage. Exposed conduit will only be accepted in those areas specifically defined by the architect or owner. EMT conduit shall not be installed outdoors, unless at least 48” above finished floor or grade elevation. EMT conduit shall not be used for any conduit extending from exterior building wall construction, including elbows.

F. Wire: All wiring shall be annealed, soft drawn 98% conductivity copper wire rated for 600V unless otherwise noted. Wire shall be uniform in cross-section, free from flaws, scales and other imperfections.

1. Conductors No. 6 AWG and smaller shall be type THHN/THWN.
2. Conductors larger than No. 6 AWG shall be THHN/THWN or XHHW.
3. Minimum conductor size for power and lighting shall be No. 12.
4. Wire No. 8 AWG and larger shall be stranded.
6. Conductors exposed to outside ambient shall have XHHW insulation.
7. Conductors shall be No. 10 AWG throughout circuit on 20 am, 120 VAC circuits in excess of 100 feet; and 20 amp, 277 VAC circuits in excess of 200 feet.

G. Café’ electrical requirements to be determined.

IX. COMMUNICATION SYSTEM

A. Provide in each equipment room a 3/4” thick by 8’ high x 4’ wide plywood telephone mounting board.
B. Provide a raceway system for the communication system(s) as shown on the drawings.

X. SPECIAL SYSTEMS

A. Fire Alarm System: Provide a Class “A” analog addressable system with automatic and manual detection devices. Design and system performance shall comply with NFPA 72A, 72B, and 72C.

XI. ELECTRICAL TESTING

A. All testing shall be performed in accordance with the National Electrical Testing Association - Acceptable Testing Specifications for Electrical Power Distribution Equipment and Systems.

B. Field acceptance testing shall be performed on the following system components:

1. All switchboard assemblies.
2. All ground fault systems.
3. All adjustable trip low voltage power circuit breakers.
4. All power and distribution transformers.
5. All switchboard metering instrumental devices and associated current and potential instrumentation transformers.

C. Submit certified test reports at the completion of the project.

END OF SPECIFICATIONS