



**DESIGN/BUILD**

**OUTLINE SCOPE DOCUMENT**

**SOUTHERN OAKS at  
TELECOM PARK**

**CLASS A OFFICE  
110,000 GSF**

Draft #              A    
Dated:            12/10/07

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## **I. GENERAL REQUIREMENTS**

### **A. INTENT**

1. This scope document, together with the preliminary drawing, dated December 2007 define the general scope of the work for the proposed class A office building, utilizing the services of Ryan Companies US, Inc. (Design/Builder).

### **B. GENERAL PROJECT PARAMETERS**

1. The general project parameters is listed as follows:
  - a. Building Area  
Gross Square Feet of Building = 110,000 sq.ft.
2. Regulatory Requirements:
  - a. Design/Builder shall secure all governmental approvals and permits related to the design and construction of the proposed project allowed.

### **C. QUALITY ASSURANCE**

1. Design/Builder shall implement their quality assurance program for the design and construction of this project.

### **D. DESIGN/CONSTRUCTION SCHEDULE**

1. This scope is based upon a 10 month construction schedule for the base building, with construction commencing on or about February 2008, pursuant to design release by February, 2008. See attached Exhibit A.

## II. BASE BUILDING SHELL

### A. SITEWORK

#### 1. Utilities.

##### a. Water.

- 1) Base building will have water service available for domestic water and fire protection systems. Fire hydrants will be installed by the site work subcontractor.

##### b. Sanitary Sewer.

- 1) Sanitary sewer service shall be available within the base building, provided via one sewer mains stubbed into the building. Cleanouts will be per code.

##### c. Electrical Service.

- 1) The serving electrical utility company will place and connect one (1) transformer per building on the proposed site.
- 2) Building service size has one (1) 2400 amp services at (480/277) volts, 3-phase.

##### d. Telephone.

- 1) A telephone service entrance conduit shall be provided by the local communications company, to the base building telecom room on the ground floor. Tenant is responsible for wiring and connection of the communication system, and set up with the local service provider.

#### 2. Bituminous and Concrete Paving.

##### a. Bituminous Paving.

- 1) 1-3/4" Type S3 Bituminous paving over 6" soil cement over 6" stabilized sub-grade shall be provided for automobiles complete including curb cuts, driveways and parking area stripping as indicated on the plan for areas immediately surrounding the building. Truck/Loading area shall receive 2" paving.

#### 3. Landscaping.

- a. Site landscaping is installed in accordance with the requirements of the master developer and the City of Temple Terrace and as approved by Business Park standards.

#### 4. Site Signage.

- a. Monument sign shall be designed and installed by the design/builder per Business Park standards. Tenant signage will be provided by the tenants themselves.

### B. STRUCTURE

#### 1. Concrete

- a. Concrete Slab. Building Area Floors = Slab on grade 5" thick 4,000 psi. concrete, with 20% slag, reinforced with wire mesh on chairs. Slab will be

placed and finished with a laser screed. Slab on deck 5 1/2" total thickness (3 1/2" concrete on 2" composite deck) 3,000 psi lightweight.

b. A 10 mil vapor barrier conforming to ASTM E1745 will be installed under slab.

c. Structural tilt-up panels, 9-1/4" thick, will be 4000 psi, with chamfers and reveals per architect.

d. Foundations shall be reinforced 3,000 psi min. concrete.

e. Vibro-compaction will be required to improve the bearing capacity of the existing soils to 4000 psf.

## 2. Metals

a. Structural Steel. The structural framing system for the base building shall consist of steel columns, composite beams, composite floor deck, bar joists, and metal roof deck.

b. Floor-to-floor heights are assumed to be 13'6" for all floors.

c. Three sets of steel pan stairs are anticipated for the building.

d. Steel bollards, galvanized and filled with concrete, shall be provided at loading dock areas.

## C. EXTERIOR ENCLOSURE

### 1. Roof System

a. Standard roofing system shall be a 60 mil reinforced, white TPO mechanically attached membrane roofing system. The roofing system materials shall be Class "A", non-combustible, guaranteed free from defects for a period of 20 years by the roofing system manufacturer directly to the Owner.

b. Roof insulation: Polyisocyanurate insulation with an average R value of 20.

c. Sheet Metal and Flashing: All roof edge and exposed metal flashing to be pre-finished aluminum 0.32 inch.

d. Roof Access: One stairway shall be provided for roof access, as part of the base building requirements.

e. Roof overflow scuppers shall be provided on exterior walls.

### 2. Exterior Window System.

a. Windows shall be in-operable and set in anodized aluminum frames.

b. Glass is 1" insulated, tinted exterior lite, Low E on number 3 surface, tempered as required by code. Glass is not required to be impact rated at the business park location. PPG, Viracon, Oldcastle or equal.

c. Aluminum Window Systems. YKK, VistaWall, Kawneer or equal.

1) Curtainwall (multi-story spans): 7-1/4" deep system, aluminum extrusions, steel reinforced as required.

2) Storefront (Typical punched opening): Nominal 5-1/4" non-thermally broken aluminum extrusions.

### 3. Exterior Doors.

a. Main Entrances.

- 1) Entry storefronts consist of one or two standard 3'-0" x 7'-0" glass and aluminum entry doors. Finish matches that of the base building window framing system. Glass is not required to be impact rated.
- b. Exterior Hollow Metal Doors.
  - 1) Exterior egress doors from service areas shall be 3'-0" x 7'-0", 16 ga. flush face, galvanized and insulated hollow metal doors. Hardware includes standard Schlage mortise locksets, weather stripping, sweep strip, heavy duty ball-bearing hinges, and closer.
- c. Exterior Overhead Doors.
  - 1) At the service area, One standard overhead doors shall be 9'w x 9'h, sectional, vertical lift, manual lift with weather seals. Non-insulated. Prefinished white.
  - 2) Dock Equipment: No dock equipment has been included in the building shell.
4. Metal Panels:
  - a. Screen wall at roof: Pre-paint steel metal panel, interlocking flat panels with concealed fasteners.
  - b. Miscellaneous accessories:

#### **D. INTERIOR FINISHES**

1. Lobbies.
  - a. Floors:
    - 1) Porcelain tile or stone tile.
    - 2) Upper floor elevator lobbies shall be carpet.
  - b. Walls: Gypsum wallboard, painted.
  - c. Ceilings:
    - 1) First floor: Gypsum wallboard, painted and acoustic panel ceiling coffers.
    - 2) Upper floor elevator lobbies shall be complete with gypsum ceilings.
2. Public Restrooms (Two per floor).
  - a. Restrooms shall be finished with gypsum ceilings and walls, paint/ceramic wall tile on "wet" walls, and floor tile.
  - b. Restrooms will be complete with plastic laminate toilet partitions, toilet accessories, and solid surface counter tops.
3. Mechanical and Service Areas.
  - a. All common area core mechanical areas and service areas will be complete with appropriate finishes.
4. Tenant Spaces.
  - a. Exterior walls and interior columns shall include metal stud, R-11 insulation, gypsum, tape and finished, ready for paint.
  - b. A 4'x4' suspended ceiling grid shall be installed. Completion of the grid and ceiling tiles shall be by the tenant.
  - c. Floors shall be unfinished concrete.

5. Interior Doors.
  - a. Interior doors to the lobbies, restrooms, and core area rooms shall be 1-3/4" solid core by 8 feet high, cherry veneer with a lifetime warranty.
    - 1) Fire rated doors shall comply with NFPA 80 and positive pressure tested in accordance with NFPA 252 or UL 10C.
  - b. Hardware:
    - 1) Schlage mortise passage and locksets, US 32D finish.
    - 2) Heavy duty ball bearing hinges, US 32D finish.
    - 3) Closers.
    - 4) Door Silencers and wall stops.
    - 5) Kickplates for doors to toilet rooms, mechanical, electrical and service rooms, US 32D finish.
  - c. Tenant doors shall be by tenant.
6. Interior Signage.
  - a. Code related signs: toilet room/ADA accessibility, stairway identification, evacuation signs as required.

#### **E. SPECIAL SYSTEMS**

1. Elevators.
  - a. The shell building will be equipped with three 3500 lb. hydraulic, holed, passenger elevators. One elevator shall be equipped for protection pads.

#### **F. HVAC GENERAL CRITERIA**

1. Rooftop unit and coil selection criteria:.
 

Maximum 500 FPM coil face velocity  
Maximum 1500 RPM fan speed.
2. Ductwork design criteria:
  - a. Design maximum static pressure drop = 0.08" per 100 feet.
  - b. Maximum supply air velocity.
    - 1) 800-1000 FPM ductwork downstream of terminal units
    - 2) 1800 FPM maximum upstream of terminal units
  - c. All ductwork downstream of terminal units shall be constructed in compliance with SMACNA one inch WG pressure class construction.
  - d. All other low-pressure ductwork shall be constructed in compliance with SMACNA two inch WG pressure class construction.
  - e. Trunk duct from air handling unit to terminal units will be constructed in compliance with SMACNA three inch WG pressure.
3. Return air ductwork and openings:
  - a. Design maximum static pressure drop = 0.08" per 100 feet.
  - b. Maximum return air velocity = 800 – 1000 FPM, maximum 1500 FPM in shaft.

4. Exhaust air ductwork and openings:
  - a. Design velocity will be 1000 FPM
5. Outside design conditions:
  - a. 93°F DB, 80°F WB summer
  - b. 39°F DB winter
6. Inside design conditions:
  - a. 78°F DB +/- 2°F summer
  - b. 50% RH +/- 7.5% summer
  - c. 40°F DB +/- 2°F winter
  - d. 50% RH +/- 10% winter
7. Building Constructions:
  - a. Wall R Value – 11 insulation, 9.25 concrete tilt panel and 5/8" drywall
  - b. Roof R Value – 20
  - c. Glass Value – U Value – 0.36 shading coefficient, 1.0 U Value
8. Ventilation Requirements per ASHRAE Standard 62:
  - a. 17 CFM/person offices (quantity may be reduced to a lower average CFM/person if ASHRAE Standard 62 guidelines are achieved.
  - b. 50 CFM/wc public restrooms
9. Air Systems
  - a. The HVAC system shall consist of a draw-through, single path, variable volume roof mounted DX units. Constant temperature (55° cold air low pressure trunk ducts shall supply air to system-powered variable air volume (VAV) terminal units serving each temperature controlled zone. Approximate allocation of the terminal units are as follows:
    - 1) Perimeter Zones: one terminal unit with electric heat per 1000 sf
    - 2) Interior Zones: one terminal per 1000 sf
    - 3) Corner Offices: one terminal unit per space
  - b. Elevator equipment and electrical spaces will be provided with cooling from individual ductless split DX units.
10. Roof Mounted DX System:
  - a. The cooling load for this facility is estimated to be 75 tons/floor.
  - b. The basis of design are 4 Trane SEHFC75 (one per floor) 25,000 CFM each, provided with refrigerant reheating coils.
11. Heating Systems:
  - a. Heating for the perimeter zones terminal units will be provided electric reheat coils.
12. Temperature Controls:
  - a. The building management system will be a distributed network, direct digital control (DDC) system and will utilize a computer workstation and graphical interface software. The design will consider using the BACNET system for future adaptability and expandability.
13. Ventilation and Exhaust:
  - a. Outside ventilation air will be introduced to air handling systems directly from the exterior through unit ventilator hoods directly



connected to each RTU. The outside air will be mixed with the return air and conditioned prior to supplying air to the spaces.

14. Temperature Controls:
  - a. The building management system will be a distributed network, direct digital control (DDC) system. Consideration should be given to integrating the building HVAC and lighting controls. Acceptable manufacturers are Trane, Automated Logic and CSI.

#### **G. FIRE PROTECTION SYSTEMS DESIGN.**

A properly zoned, supervised, hydraulically designed fire protection system consisting of automatic fire sprinkler system and standpipes will be provided utilizing the following Design Criteria:

- A. NFPA 13, Installation of Sprinkler Systems
  - B. NFPA 14, Standpipe and Hose Systems
  - C. NFPA 20, Installation of Stationary Pumps
  - D. NFPA 24, Installation of private service mains and their appurtenances
  - E. NFPA 25, Inspection, testing and maintenance of water-based fire protection systems
  - F. Florida Fire Prevention Code
1. Scope.
    - a. Entire facility shall be 100% sprinklered in accordance with all current NFPA codes. The scope of work for this project shall include providing a complete and operable wet pipe sprinkler system. The building shall be provided with pendent sprinklers in areas with ceilings and upright sprinklers in areas without ceilings. Sprinkler layout shall be in accordance with the spacing criteria as set forth by NFPA 13 for each occupancy classification.
  2. All office areas, public areas, and other like areas will be designed as follows:
    - a. Occupancy: Light Hazard Flow Density: 0.10 GPM/SF over hydraulically most remote 1500 SF of area. Area Coverage: 225 SF maximum per sprinkler head.
    - b. Proposed Sprinkler Head Types:
      - 1) Standard upright or pendant in exposed areas;
      - 2) Semi-recessed in hard or acoustical ceilings, except 1<sup>st</sup> floor lobby and elevator lobbies.
      - 3) Concealed type in 1<sup>st</sup> floor lobby and all elevator lobbies
      - 4) Sidewall type where applicable.
  3. Storage, Mechanical Rooms, Electrical Rooms, and other like areas will be designed as follows:
    - a. Occupancy: Ordinary (Group 1) Hazard Flow Density: 0.15 GPM/SF over hydraulically most remote 1500 SF of area. Area Coverage: 130 SF maximum per sprinkler head.
    - b. Proposed Sprinkler Head Types: Standard upright or pendant in exposed areas; semi-recessed in hard or acoustical ceilings; sidewall type where applicable.
  4. Unfinished Tenant spaces will be designed as follows:

- a. Occupancy: Ordinary (Group 2) Hazard Flow Density: 0.20 GPM/SF over hydraulically most remote 1500 SF of area. Area Coverage: 130 SF maximum per sprinkler head.
  - b. Proposed Sprinkler Head Types: Standard upright or pendant in exposed areas; semi-recessed in hard or acoustical ceilings; sidewall type where applicable.
- 5. All materials and equipment, including piping (Schedule 40 black steel in sizes 2 inches and smaller, Schedule 10 in sizes 2-1/2 inches and larger) will be UL listed and FM approved.
- 6. A hose allowance of 250 GPM will be added to the sprinkler demand and compared to data provided by a required fire flow test to assure that adequate flow is available to protect the building, its contents, and occupants.
- 7. The fire protection system will be provided with a 150 hp (1000 gpm) electric-driven fire pump sized to properly provide the amount of water required by the number of standpipes and to achieve a required pressure of 100 psi (residual) at the hydraulically remote roof manifold. The specification of the fire pump will be made in strict accordance with Chapter 20 of the National Fire Protection Association (NFPA). This pump will be sized per hydraulic calculations of our design using the water flow test data from the area's water source as a reference point.
- 8. Exclusions: Water storage design, storage occupancies, rack storage systems, clean agent / inergen system, preaction system, and dry pipe system.

## **H. PLUMBING SYSTEM DESIGN**

- 1. Plumbing Design Criteria
  - a. The following publications will be used as reference for design of the plumbing systems on this project:
    - 1) 2004 Florida Plumbing Code with 2006 Amendments.
  - b. Without limiting the generality thereof, the design will include but is not necessarily limited to, the following:
    - 1) Domestic water system with booster pumps.
    - 2) Sanitary sewer system shall be a gravity system.
    - 3) Storm/Roof drainage system shall be a gravity system.
    - 4) Condensate drain system shall be a gravity system.
    - 5) Multiple wet stack locations shall be provided throughout the shell base building. Each wet stack location shall contain a cold water, sanitary, vent, condensate & possible rainwater stack.
    - 6) Plumbing fixtures, hot and cold water systems.
    - 7) Mop sinks in Janitor's closets.
- 2. Water Distribution
  - a. The domestic water piping system shall be distributed to various pieces of equipment and plumbing fixtures through an adequately sized system of type L copper tubing and fittings. Domestic water piping system velocity shall not exceed 4 fps (Feet Per Second), in order to reduce pressure drop, noise and water hammer.

- b. The domestic water system shall utilize a booster pump system to deliver a capacity of approximately 130 gpm at 65 psi. Final booster pump system selection shall be provided after a new water flow test from the site is conducted. Backflow device (estimated max pressure drop of 10 psi) and city water meter (estimated max pressure drop 5 psi) shall be located on site. The civil engineer shall provide further information regarding exact pressure drops across the backflow device and water meter, as well as the exact location of these devices.
  - c. One electric, storage type water heater shall be installed on each floor to provide hot water for the core restrooms. Hot water shall be stored and distributed at 120°F to all toilet room fixtures requiring hot water. A hot water recirculation system shall be provided to maintain a consistent flow of 110°F hot water to all lavatories. All hot water piping from storage type water heater shall be provided with fiberglass thermal insulation.
  - d. Multiple wet stack locations shall be provided throughout the shell base building
  - e. The mechanical area located on the roof shall have hose bibs located within the screened enclosure.
  - f. Each toilet room located on all floors shall have floor drains with trap primer connections. Trap primers shall be the automatic water supply fed type. Automatic trap primer unit shall be located within the janitors closet.
  - g. Water hammer arrestors shall be provided on both hot & cold water piping at each fixture drop.
  - h. Provide shut-off valves for each toilet room above ceiling.
3. Sanitary Sewer
- a. The sanitary sewer drainage system shall be provided to serve all plumbing fixtures and floor drains.
  - b. Underground sanitary sewer system shall be constructed using DWV type, sch. 40, PVC piping
  - c. Aboveground sanitary sewer & vent system shall be constructed using service weight cast iron soil pipe and fittings with "no-hub" joints with heavy-duty couplings and copper type DWV piping with soldered joints.
  - d. Condensate drain piping shall be of the same materials utilized for sewer and vent piping. Per the building official from the City of Temple Terrace, all condensate discharge shall be terminated into the sanitary sewer system.
  - e. Cleanout shall be provided as required per code and at the base of all stacks.
4. Storm/Roof Drainage
- a. The storm drainage system shall be provided to serve all roof drains. All primary roof drain vertical leaders shall be collected into an underground storm drainage collection system. Secondary roof drainage shall utilize scuppers.

- b. The below ground storm system shall be constructed using service weight cast iron soil pipe and fittings with "hub and spigot" gasketed joints.
  - c. The above ground storm system shall be constructed using service weight cast iron soil pipe and fittings with "no-hub" joints with heavy-duty couplings.
- 5. Plumbing Fixtures
  - a. All plumbing fixtures shall be commercial grade. Accessible fixtures shall be provided as specified by the Uniform Federal Accessibility Standards (UFAS).
  - b. Water closets shall be wall mounted with wall hung carriers, and vitreous china with flush valves, designed for 1.6 gallons per flush.
  - c. Urinals shall be wall-hung, vitreous china with flush valves, designed for 1.0 gallon per flush.
  - d. Lavatories shall be vitreous china; countertop, drop-in type and/or wall mounted with ADA approved trim. Faucets will be single lever type with 0.5 gpm discharge.
  - e. Electric water coolers shall be self-contained units with bi-level dispensers meeting ADA mounting requirements.
  - f. Mop sinks shall be floor mounted cast stone units with stainless steel wall mounted splashguards and wall mounted faucet set.

## **I. ELECTRICAL SYSTEMS**

- 1. Basic Design Criteria
  - a. Reference and Codes:
    - NFPA including NFPA 70- National Electrical Code
    - IEEE
    - 4A3, The State of Florida Fire Protection Code
    - Accessibility Requirements Manual – Latest Version
    - Florida Department of Community Affairs
    - Underwriters Laboratories
    - Florida Energy Efficiency Code
    - Rules, Regulations, and Requirements of the Local Utility Companies
    - Illuminating Engineering Society (IES)
    - Florida Building Codes
- 2. Site Electrical Power.
  - a. Electrical service will be provided from Tampa Electric Company (TECO), via underground primary service to a pad mounted transformer located on the site. Power will be provided at 480/277 volts, 3-phase, 4-wire to the main distribution panel located in the main electrical room. Power will be distributed from the main distribution panel to the various electrical panel(s). Large motor loads such as HVAC equipment will be fed at 480 volts, 3-phase; lighting AT 277 volts, receptacles, and miscellaneous loads will be fed at 120 volts.
  - b. Building metering for energy demand and consumption shall be in accordance with utility company requirements. A single meter will be mounted adjacent to pad mounted transformer.

- c. Site Lighting fixtures. Approximately (12) Single Head 400W MH at 30' above finished grade, (11) Double Head 400W MH at 30' Above finished grade, (1), Triple Head 400W MH at 30' above finished grade, and (16) Illuminated 100W MH Bollard. Light fixture pole to be concrete.
- d. Illuminated signage connections at entry.
- e. Irrigation pump and controller connections.
- f. There will be landscape lighting and decorative lighting in the shared courtyard area.
- g. Emergency Generator: Emergency power for means of egress lighting, elevator, and fire pump will be through the use of an exterior standby diesel generator. The generator is calculated to be rated at 350KW. Generator pad will be located near the Utility transformer area. A skid base tank will be included and run a minimum of 10 hour run time. The generator enclosure shall be sound attenuated.
- h. There will be an additional generator pad for future tenant generator adjacent to the generator listed above. Provide separate empty 3" conduit and 1" control conduit (8 total) to each sub electrical room for each of levels 1,2,3, and 4 for future use.

3. Electrical Power

- a. The main electrical service switchgear for the facility will be arranged with a main and distribution sections. The main breaker for this configuration will be 3000 amperes, 480/277 volt, 3 phase, 4 wire. The construction of the switchboard will be compartmentalized individually mounted main and group mounted feeder breakers. Transient voltage surge suppression devices will be provided at the main service entrance equipment.
- b. The circuit breakers will be fully adjustable, solid state trip, insulated case breakers for sizes above 400 amperes. For sizes 400 amperes and below, molded case breakers with instantaneous adjustments will be utilized.
- c. All empty conduits will be provided with a pull wire
- d. Minimum size power conduit will be 3/4 inch
- e. All wiring will be copper. Conductor size for power circuits will be minimum No. 12 AWG. Conductors No. 10 AWG and smaller will be solid copper. Conductors larger than No. 10 AWG will be stranded copper.
- f. All conduits and raceways will be provided with a grounding conductor sized per NEC
- g. A four-inch (4") high concrete housekeeping pad will be provided under all electrical distribution panels, transformers, and other floor-mounted equipment.
- h. The distribution panel will be designed to distribute power to the following items for each level 1,2,3, and 4:
  - 1) Electrical lighting/power panelboards
  - 2) Capacity and breakers for future tenants
  - 3) Mechanical equipment.
  - 4) And other miscellaneous items.

- 5) life safety items (emergency lighting, fire alarm, etc)
  - i. No power grid in future tenant areas. Future tenant renovations will run conduits to panel in respective floor electrical room as required. All branch panels shall be copper bus with bolt on breakers.
  - j. Conductors shall be minimum THHN #12 AWG Copper conductors. Branch circuit wiring for receptacle power, lighting, and other miscellaneous loads will be routed in EMT conduit.
  - k. Panelboards 400 amp and smaller will be Lighting and Appliance type; 600 amp and larger will be Distribution type.
- 4. Lighting
  - a. Lighting will be designed to meet the requirements of the Florida Building Code 13-415 with both lighting power density and control. A lighting control system will be installed with time clock and relay panel at each sub electrical room and main electrical room. The lighting control system will control both exterior and interior lighting.
  - b. First floor lobby area lighting shall use recessed downlight compact fluorescent fixtures. Exit signs will be edge lit style.
  - c. Corridor areas will be 2'x 2' recessed parabolic with fluorescent lamps. Exit signs will be standard contractor style.
  - d. Electrical, mechanical, janitor, fire pump, and other back of house type rooms will have industrial strip fixtures.
  - e. Mail and receiving rooms will be 2'x 4' recessed acrylic lens fixture with fluorescent lamps.
  - f. Restrooms lighting shall use recessed downlight compact fluorescent fixtures and strip fluorescent cove and indirect lighting.
  - g. Each elevator lobby use recessed downlight compact fluorescent fixtures.
  - h. Stairwell lighting will be general purpose type suspended fluorescent fixture in exposed areas and recessed parabolic fluorescent in acoustic panel ceilings.
- 5. Lightning Protection System
  - a. Provide a complete class 1 lightning protection system UL letter of certification to be handed over to the owner at completion.
- 6. Fire Alarm System
 

The fire alarm system will be an intelligent addressable system. The fire alarm system will be designed in compliance with NFPA. The fire alarm panel will be located at the main electrical room with terminal cabinets at each sub electrical room (levels 1,2,3,4). A fire alarm annunciator will be located at the main entry lobby with exterior knox box.

  - a. Alarm initiating devices shall be include manual pull stations, smoke detectors, duct mounted smoke detectors, heat detectors, and sprinkler flow switches.
  - b. Alarm signaling devices shall include audible horn and visual flashing strobes in compliance with the American Disabilities Act (ADA).
  - c. Minimum size fire alarm conduits will be 3/4".
  - d. Supervisory functions shall include the monitoring of sprinkler system tamper switches, backflow preventer switch, and post indicating valve switches.

- e. Interface with other systems will include outputs to the HVAC system for AHU shutdown, and a signal to elevator controllers for elevator recall.
  - f. The fire alarm system shall be connected to the emergency power system, with integral battery/charger located within the fire alarm control panel for generator start ride through or failure of the generator.
  - g. The fire alarm system shall be provided with surge protection.
7. Communications
- a. Base building conduits will be diverse routing from the first floor communications room to the property edge for utility connections. There will be minimum of (2) 4" conduits for each route. These will be empty conduits with pull string for future respective Verizon and Brighthouse use. Include plywood backboards with fire resistant paint in communication rooms for device connections. Future tenant renovations will be responsible for extending their communication conduits as required. Also provide all ground bar and grounding requirements in each communications room.
  - b. All general purpose data / voice outlet will be empty conduits with bushings and pull string.
  - c. Minimum size communications conduit will be 1".
  - d. Two (2) – 4" conduits between Buildings "A" and "B".

### III. EXCLUSIONS

#### A. EXCLUSIONS

- 1. The following items are not included in the scope of work proposed herein:
  - a. Water treatment or conditioning.
  - b. Telephone equipment, telephones or communication wiring.
  - c. Security systems other than code required base-building system.
  - d. Dedicated electrical circuits or other special computer wiring.
  - e. UPS system.