

Design/Build - Outline Specifications for a Parking Garage

The Qualifications section provides specific clarification of scope issues not necessarily identified in the Outline Specifications.

If a specific material or brand name product has been referenced, it is only to show the quality of materil being used. In the final specifiction and during construction of this project, "or equal" products may be installed.

DIVISION 01 - GENERAL REQUIREMENTS

01001 GENERAL

- A. All facilities, labor, material, equipment, and design services that are typically required for the completion of the Work are included in this design/buuild proposal. All Work shall comply with the applicable federal, state and local requirements.
- B. All sections in the Outline Specifications carry a one (1) year Standard Construction Warranty and Guarantee against labor and material defects including Work performed by subcontractors. All equipment warranties greater than one (1) year will be passed to the Owner at project completion.

01002 INSURANCE AND BONDS

Design/Builder's Liability Insurance:

- A. Design/Builder shall purchase and maintain in a company or companies authorized to do business in the state in which the Work is located such insurance as will protect the Design/Builder from claims set forth below which may arise out of or result from operations under the Contract by the Design/Builder or a subcontractor of the Design Builder, or by anyone directly or indirectly employed by any of them, including:
 - 1. Claims under workers' or workmen's compensation, disability benefit and other similar employee benefit laws which are applicable to the Work to be performed;
 - 2. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Design/Builder's employees under any applicable employer's liability law;
 - 3. Claims for damages because of bodily injury, sickness or disease, or death of persons other than the Design/Builder's employees;
 - 4. Claims for damages covered by usual personal injury liability coverage which are sustained by a person as a result of an offense directly or indirectely related to employment of such person by the Design/Builder;
 - 5. Claims for damages, other than to the Work at the site, because of injury to or destruction of tangible property, and
 - 6. Claims for damages for bodily injury of death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle.

- B. The insurance required by the above subparagraph shall be written for not less than limits of liability specified in the insurance certificates submitted with the bid of _____.
- C. The Design/Builder's liability insurance shall include contractual liability insurance applicable to the Design/Builder's obligations under AIA A191 Part 2, Paragraph 11.7.
- D. Certificates of Insurance, shall be delivered to the Owner prior to commencement of design and construction. These Certificates, as well as insurance policies required by this Paragraph, shall contain a provision that coverage will not be canceled or allowed to expire until at least thirty day's prior written notice has been given to the Owner.
- E. Builder's Risk Insurance can be provided by the Design/Builder, but is not included in the bid.

Design/Builder's Errors and Omissions Insurance:

- A. Design/Builder shall carry Architects and Engineers Professional Liability insurance with the following limits:
 - 1. \$2,000,000 per Claim
 - 2. \$2,000,000 Aggregate
 - 3. \$100,000 S.I.R.

Performance & Payment Bonds:

- A. Design/Builder shall provide a Payment and Performance Bond for the overall construction project value.
- B. Design/Builder's Surety will assume no responsibility for any design work performed in connection with this project.

01003 ALLOWANCES

- A. Allowances refer to items of scope or cost which have not been sufficiently defined to date. The stipulated Allowance amount has been included in the base proposal price. Actual billings against these items will be supported by supplier and subcontractor invoices. Actual costs of less than the original Allowance will result in a reduction of base contract price. Actual costs greater than the original Allowance will be billed at cost plus a 15% General Contractor's Fee and result in an increase to the base contract price. Allowance items if anticipated are clearly noted in the Construction Budget Summary.

01004 DESIGN AND SUPERVISION

- A. This proposal includes all required architectural, structural, plumbing, mechanical and electrical engineering design with stamped drawings and corresponding specifications for the garage structure. The cost associated with peer review by the State of _____ is also included.
- B. Supervision:
 - 1. Design/Builder will assign a Project Manager to this job who will be responsible for all project activities from design through construction including coordination with the Owner, Regulatory Agencies, other Prime Contractors, etc.
 - 2. Design/Builder will assign, on site, a full-time superintendent solely for this project.

01050 FIELD ENGINEERING

A. Field engineering services required for proper completion of the Work including but not limited to:

1. Extend base lines and elevations from initial site survey provided by owner.
2. Locate and protect control points before starting work on the site.
3. Layout of all foundations.

01310 PROJECT SCHEDULE

A. Design/Builder will provide an overall design and construction schedule. The schedule will be updated monthly.

01410 TESTING SERVICES

A. Inspection Testing:

1. Concrete testing with cylinder breaks for foundations and slabs-on-grade and on-site structural welding tests shall be performed by an independent agency paid by the Owner.
2. The Owner is responsible for all geotechnical services and soil inspections to verify soil bearing capacity for the site. This includes inspection of excavations and footings prior to placement of concrete. Full time inspection if required will be provided by the Owner.
3. Precast concrete manufacturing plant inspections and tests and field installation tolerances in accordance with standards established by the Precast Concrete Institute (PCI). The Owner may provide at his expense independent inspection of precast concrete operations.
4. Additional independent testing required by the governing building codes shall be performed at the Owner's expense.

01500 TEMPORARY FACILITIES AND CONTROLS

A. Temporary facilities and controls needed for the Work including but not limited to:

1. Telephone service for the Design/Builder office trailer.
2. Portable sanitary facilities located on the site for Design/Builder personnel only.
3. Field offices/sheds for Design/Builder construction and office personnel.
4. Temporary electric power and lighting connection to an existing supply within 25' of the site. Metered electricity usage is at Design/Builder's expense.
5. Temporary construction water connection to an existing supply within 25' of the site. Metered water usage is at Design/Builder's expense.

B. Temporary barricades:

1. Elevated deck edge fall protection and deck opening protection.
2. Safety barricades around major excavations in accordance with OSHA guidelines including warning tape and lighted flashers if required.
3. Temporary barricades, traffic barriers, safety lighting etc. if required for partial occupancy are not included in this proposal. The scope of services can be added at a future time when it is defined.

C. Temporary chain link fencing, 6'-0" high including construction safety signs and warnings for the parking garage site is included. Removal at project completion.

01700 CONTRACT CLOSEOUT

A. To provide an orderly and efficient transfer of the completed Work, upon substantial completion of all work:

1. The project will be inspected with representatives of the Owner and Design/Builder for the purpose of itemizing a final punch list.
2. The project will be turned over broom clean and ready for use.
3. Closeout submittal to include but not be limited to:
 - a. Project record documents i.e. "as built" drawings, specifications, shop drawings, etc.
 - b. Operation and maintenance manuals as available.
 - c. Warranties and bonds.
 - d. Keying and keying schedule.
 - e. Spare parts and material extra stock.
 - f. Release of liens.
 - g. List of subcontractors, service organizations and principal vendors.

01710 CLEANING

A. Throughout the construction period, Design/Builder will maintain the building and site in a standard of cleanliness consistent with safe and efficient construction operations.

1. Design/Builder will provide dumpsters for the use of all trades under its contract on this project.
2. All storm drains will be protected from debris during construction.

B. Final cleaning of the structure.

1. Broom clean all decks.
2. Clean and wash all glass inside and out.
3. Clean and empty all sediment baskets on all drains.
4. Clean all flooring materials.

DIVISION 02 - SITE WORK

02110 SITE PREPARATION

A. The parking garage site will be cleared and graded to subgrade elevation by the Design/Builder. All known underground utilities will be relocated prior to excavation.

02220 EXCAVATING, BACKFILLING AND COMPACTION

A. Excavate and backfill foundations as follows:

1. Excavating, backfilling and compacting required to facilitate the installation of all parking structures foundations as stated in Section 03300.
2. Soil erosion control measures with hay bales and fabric mesh as required.
3. Filling and backfilling with on-site material to restore design rough grade elevations.
 - a. Backfill materials free from organic matter and deleterious substances, containing no rock or lumps over 6" in greatest dimension.

B. Hauling of excess or unusable excavated material to an off-site disposal area chosen by the Design/Builder.

02710 STORM AND SANITARY DRAINAGE

A. Roof leaders and floor drains will be connected to the existing storm and/or sanitary sewer system outside the building perimeter.

02831 PERMANENT FENCING

A. Galvanized chain link fencing included as shown on schematic drawings:

1. Interior lite wall.
2. Security screening at building perimeter, if required.

02900 LANDSCAPING

A. Include landscaping and seeding allowance in the amount of \$_____.

DIVISION 03 - CONCRETE

03100 CONCRETE FORMWORK

A. Provide formwork for all cast-in-place concrete foundations within the parking structure footprint.

1. Concrete foundations including footings and grade beams.
2. Slab on grade.
3. Garage foundation walls.
4. Site retaining walls.

03200 CONCRETE REINFORCEMENT

A. Shop fabricated non-epoxy coated reinforcing bars including all required accessories for all cast-in-place concrete foundations, retaining walls, grade beams, and supported slabs.

B. Welded wire fabric (not epoxy coated):

1. 6 X 6 - W1.4 x W1.4 for grade level pads for stairs and utility rooms.
2. 6 X 6 - W2.1 x W2.1 for slabs at maintenance areas.

C. Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.

03300 CAST-IN-PLACE CONCRETE

A. Reinforced concrete work includes pile cap foundations, raised slabs for the stair pads and utility room floor, foundation walls and miscellaneous concrete work.

1. Standard gray, ready mix concrete for all cast-in-place concrete requirements.
2. 4,000 psi concrete or greater will be used for all slabs, foundations, and walls.
3. Form finish for all exposed concrete with fins removed, snap tie holes filled and honeycomb repaired.

4. All work in accordance with ACI Standards and Procedures.

B. Cast-in-place concrete pour strips and closure strips at cross joints of precast double tees.

03462 PRECAST CONCRETE

A. Fabrication and erection of structural precast concrete pretopped double tees, inverted tee girders, lite walls and columns for the parking decks and vehicular ramps supplied by a PCI certified supplier. Erection procedures and dimensional tolerances in accordance with PCI standards.

B. Fabrication and erection of precast concrete spandrels for the perimeter protection system as noted:

C. Precast concrete stairs.

DIVISION 04 - MASONRY

04200 UNIT MASONRY

A. Conventional concrete masonry units.

1. Hollow Units:

a. ASTM C 90, grade N-1, normal weight.

2. Solid Units:

a. ASTM C 145, grade N-1, normal weight.

B. Mortar

1. Portland cement: ASTM C 150, Type I natural.

2. Masonry cement: ASTM C 91, Type II.

C. Clean, sharp, well graded aggregate free from injurious amounts of dust, lumps, shale, alkali, surface coatings, organic matter and complying with ASTM C 144.

D. Utility Rooms of concrete block masonry, mortar, anchors, ties, joint reinforcement, flashing between the wall and the deck above and tooling of all joints.

E. Masonry walls will be grout filled to a height of 36" above the parking deck for impact resistance. Masonry walls will be sealed and painted.

DIVISION 05 - METALS

05500 MISCELLANEOUS METALS

A. All labor, material, etc. to install any and all miscellaneous metal items including, but not limited to, the following:

1. Loose metal lintels, bollards, pipe guards at all leaders, miscellaneous angles and plates and other miscellaneous fasteners, anchors and inserts.

2. 1-1/2" diameter welded steel tube railings and handrail at stairs.

- B. Ferrous metal primer (2.5 dry mils) for all ferrous non-galvanized metals.

DIVISION 06 - WOOD AND PLASTICS

06100 ROUGH CARPENTRY

- A. Wood, nails, bolts, screws, framing anchors and other rough hardware and other items needed to complete the Work requirements for formwork, wood blocking, framing, cants, etc., required to properly install all doors, frames, finish hardware, roofing, glass and glazing.

DIVISION 07 - THERMAL AND MOISTURE CONTROL

07200 BUILDING INSULATION

- A. Blanket insulation at exterior walls.
- B. Board insulation below topping at office areas.

07270 FIRESTOPPING

- A. Fire rated sealants at joints in all fire-rated partitions, floors, and ceilings.
- B. Fire rated sealants at all penetrations of fire-rated partitions, floors, and ceilings.

07530 EPDM ROOFING

- A. EPDM membrane (0.60) to be provided by Firestone or approved equal. Membrane to be loose-laid with stone ballast.

07600 FLASHING AND SHEET METAL

- A. Counter flashing and base flashing.
- B. Gutters and downspouts.

07800 METAL FRAMED SKYLIGHTS

- A. Metal framed skylight and sloped glazing. Provide manufacturer 5-year warranty.

07920 CAULKING AND SEALANTS

- A. Caulk and sealant joints to provide a positive barrier against passage of moisture and air.
 1. Control joints between precast double tees.
 2. Precast deck pour strips at interface of precast double tees and cross joints.
 3. Precast tee/precast spandrel interface.
 4. Sealant around all columns penetrating parking decks.
 5. Caulking of all door frames.
 6. Standard color for all caulks and sealants.
 7. Joint filler to be 1/2" thick premold.
 8. Caulking will be two part urethane by _____.

DIVISION 08 - DOORS, WINDOWS AND GLASS

08110 STANDARD STEEL DOORS AND FRAMES

- A. 18 gauge hollow metal door and hollow metal frame, fire ratings as required by code.

08200 FLASH WOOD DOORS

- A. Five-ply solid core flush wood doors.

08710 FINISH HARDWARE

- A. Butts, hinge4s, locksets, latchsets, dead bolts, closures, push plates, door pulls, exit devices, door stops and tamper-proof screws, as required, for all doors stated in Sections 08110 and 08200.
- B. Hardware finish shall be US32D - Dull Stainless
- C. Interior hardware to be commercial, medium duty. Exterior hardware to be commercial heavy duty.

DIVISION 09 - FINISHES

09250 GYPSUM BOARD

- A. Gypsum board assemblies, including fire-rated and non-rated partitions, ceilings, and bulkheads.

09300 TILE

- A. Unglazed ceramic floor tile and base.
- B. Glazed wall tile.
- C. Quarry tile flooring.

09500 ACOUSTICAL CEILINGS

- A. 2' X 2' panel ceiling.

09678 RESILIENT WALL BASE

- A. 4" vinyl wall base.

09680 CARPETING

- A. Include allowance of \$_____ per square yard.

09900 PAINTING

- A. All non-galvanized miscellaneous metal specified in Section 05500. A will be painted with a standard color finish coat to match the color scheme of the garage.

1. All fire lines will be painted red or the color required by local code.
2. All doors and frames will be painted to match the building color scheme.
3. All stair tower handrails will be painted one color per tower.
4. All field applied paint will be single coat epoxy or urethane with a minimum of 3 mils dry film thickness.

B. Single line parking stripes, arrows, lines and hatch marks for all decks.

DIVISION 10 - SIGNAGE

10150 TOILET COMPARTMENTS

A. Metal toilet compartments (floor mounted).

10202 LOUVERS AND VENTS

A. Fixed aluminum wall louvers.

10400 SIGNAGE

A. Include allowance of \$_____.

10500 METAL LOCKERS

A. Single-tier lockers (floor mounted).

10520 FIRE EXTINGUISHERS AND CABINETS

A. Recessed wall-mounted fire extinguishers and cabinets.

10800 TOILET ACCESSORIES

A. Toilet accessories at all toilet areas.

DIVISION 11 - EQUIPMENT

11000 PARKING EQUIPMENT

A. Include allowance of \$_____.

DIVISION 12 - FURISHINGS

A. Include window treatment allowance of \$_____.

DIVISION 15 - MECHANICAL

15000 PLUMBING

- A. A complete plumbing system including:
 - 1. Fixtures as shown on schematic drawings.
 - 2. Sanitary and storm risers.
 - 3. Drains and piping for all roof levels and parking levels.
 - 4. Potable water supply to all fixtures and to hose bibbs at each parking level.

15500 FIRE PROTECTION

- A. Garage Areas (no sprinkler)
 - 1. Fire Standpipes at stair towers with valve stations at each level.
- B. Offices Areas (sprinkler system)
 - 1. "Wet" system, including piping and sprinkler heads per code.

15600 HEATING, VENTILATION, AND AIR-CONDITIONING

- A. All office and core areas are to receive cooling supplied by packaged roof-top air handling units distributed by ductwork to all areas. Variable air volume fan units are installed at several zones for even distribution.
- B. Automatic temperature control system.

DIVISION 16 - ELECTRICAL

16000 ELECTRICAL

- A. Conductors - 600 Volt
 - 1. THHN copper conductors for feeders and branch circuits.
 - 2. MC cable for branch circuit where concealed.
 - 3. MI cable for two-hour rated emergency feeders, including fire pump.
 - 4. 15KV cable shall be EPR 133% copper.
- B. Conduit:
 - 1. EMT for feeders exposed and/or concealed.
 - 2. EMTE for branch circuit where exposed.
 - 3. 1/2" conduit minimum.
 - 4. All EMT fittings shall be die cast compression.
 - 5. PVC 40 for underground, ductbanks and/or slab.
 - 6. All stub ups for PVC conduit shall be galvanized rigid steel elbows and riser.
- C. Wiring Devices:
 - 1. 20 amp duplex receptacles #GE5362 or equal.
 - 2. 20 amp light switches #GE5951 or equal.
 - 3. Device plates shall be stainless steel.
- D. Fire Alarm:
 - 1. The main fire alarm panel shall be Simplex #4004 series or equal.
 - 2. All wiring shall be solid copper and installed in raceways.
 - 3. 1/2" minimum conduit.
 - 4. Audio/visual devices shall be horn/xenon synchronized strobe.
 - 5. Smoke detectors shall be photoelectric type.
 - 6. Duct smoke detector with remove test/indicator station.

- E. Lighting Fixtures:

1. Fluorescent lamps and ballast shall be T9 rated.
2. Ballast for compact fluorescent shall be high power factor type with Class P thermal protected.
3. Ballast for HID shall be constant wattage autotransformer or regulator, high-powered type.
4. All fixtures shall be supported from the structure.

F. Distribution Equipment:

1. Equipment shall be manufactured by General Electric, Square D or Westinghouse/Cutler Hammer.
2. Panelboards shall be door to door.
3. Circuit breakers shall be bolt on thermal mag trip.
4. Panelboards shall be aluminum bussing.
5. Ratings shall be:
 - a. 42KAIC 480V distribution
 - b. 22KAIC 480V branch circuit
 - c. 22KAIC 208V distribution
 - d. 10KAIC 208V branch circuit

DESIGN CRITERIA

Information Supplied by Owner

- Design/Build Request for Proposal dated _____.
- Parking Garage Security and Operational Considerations dated _____.
- Topographic survey at 1":20' showing limits of parking garage site and existing utilities.
- Report on Subsurface Investigations.

Building Code

- Prevailing _____ State Building Code.

Traffic Circulation Pattern

- Two-Way Traffic
Stall Angle - 90 Degrees
Aisle Width - Approximately 24'-0"

Headroom Clearances

- Minimum Clearance: 7'-0"
- HC Van Access Clearance: 9'-6"

Number of Levels

On-Grade 1
Elevated

Total Levels:

Ramp Slopes

- Park-On Ramp slope: 6% (maximum recommended)

Approximate Floor Areas

- Parking Levels:

QUALIFICATIONS

The following items are specifically included in the Base Proposal:

1. Recognition under the prevailing _____ State Building Code that the project is classified as an "Open Parking Structure."
2. Connection to permanent utilities on or near site, including power, sanitary, water, and storm systems.
3. Dry standpipe fire protection system as required by Code (open parking areas)>
4. Sprinkler protection system as required by Code (office use areas).
5. Lighting for all parking areas providing an average light levels of 8 foot candles on all parking surfaces and an average of 20 foot candles at all stair and landing areas.
6. One masonry enclosed, unheated, mechanical/electrical room at grade level.
7. Standard parking stall size is 8'-6" x 18'-0" typical; compact stall size is 7'-6" x 16'-0".
8. Lighted emergency signage as required by Code.
9. Fully enclosed stair towers at all levels, with fire rating as required by Code.
10. Foundations designed for base bid only with adequate bearing assuming 8000 psf soil bearing capacity.
11. Exterior facade includes precast spandrel panels.

Specifically excluded from the Base Proposal:

1. Performance and payment bond.
2. Builder's risk insurance.
3. Building permits, certificate of occupancy, and inspections.
4. Unknown underground obstructions.
5. Removal or disposal of contaminated or hazardous materials.
6. Owner costs for peer review.