

# FRAMEWORK for DESIGN EXCELLENCE | OWNERS PROJECT REQUIREMENTS (OPR)

Date: 1 February 2023

Project: Project Name

Project Manager: Project Manager

Owners Authority: Owner Decision-Making Point of Contact

Status: Project Kick-Off, SD, DD

## 1 Design for Integration

- a) Owner’s Vision Statement and Transformative Goals
  - i) This building(s) will This is NOT a project description. *What does the Owner REALLY want to happen? (ex: Transform how we do business while creating a branding opportunity and improving employee health and welfare. Allow for fluctuations in growth through flex spaces and planned, phased expansion. Get us out of a poor work environment and inspire our staff and customers.)*
- b) Design Excellence
  - i) Provide a state of the art **enter building type** that meets the needs of **enter work to be conducted** in a physical environment that is aesthetically pleasing and embodies Owner’s **corporate/institutional/municipal** identity and commitment to **Click or tap here to enter text..**
- c) Integrative Design
  - i) To complement needs of schedule, budget, and programming, this project will demonstrate **Integrative and Inclusive Design**, to include the following aspects of collaborative innovation and decision making:
  - ii) The primary contact for this project is **[person]**
  - iii) The primary decision maker for this project is **[person]**
  - iv) Assemble a diverse project team of: [edit as appropriate to include an inclusive and integrative design team and identify up front what expertise is needed]
    - (1) Owner(s),
    - (2) Occupants and Facility managers,
    - (3) Architect(s) and Engineer(s),
    - (4) Landscape architect and Arborist
    - (5) Historic preservation specialist,
    - (6) General contractor and cost estimator,

- (7) Building enclosure consultant
  - (8) Green building rating system project administrator,
  - (9) Social and physical scientists,
  - (10) Health Care / Service Design consultant,
  - (11) Commissioning agent(s),
  - (12) Food service consultant,
  - (13) Interior designer,
  - (14) Lighting designer,
  - (15) Planner,
  - (16) Security, AV, Connectivity, and Acoustic systems designers,
  - (17) Energy and daylight modelers
  - (18) Furniture and Equipment Specifier(s)
- v) Subconsultants shall include diverse representation of the demographics this project will serve.
- (1) [specific diversity goals]
- d) Collaboration
- i) Conduct one four (4) – hour **Design Opportunities Charrette** early in Schematic Design, to include review of *site conditions*, *a simple box energy analysis*, and *water budget* with a whole-systems approach to building performance and program. This charrette is tentatively scheduled for **Enter date and time**. to be hosted at Location [This workshop will take considerably longer for larger (>100,000SF) projects – up to two days. A simple box energy analysis can be done in Revit by an intern.]
  - ii) **[FOR LARGE SCALE PROJECTS]** Conduct one three (3) – hour **Integrative Design Charrettes** at the start of each subsequent design phase. These workshops are planned meetings on the project schedule and can be part of a broader meeting agenda. [These workshops will take considerably longer for larger (>100,000SF) projects – up to one full day]
  - iii) Project progress meetings with Owner/Owners Rep will take place no [more/less] than every **one/two/three weeks/month**.
  - iv) Architect will share all project documentation with Owner via cloud-based host application, Newforma, provided by [Architect].
- (1) [Newforma Cloud sharing access information here]

## 2) Design for Equitable Communities

- a) ESG Goals

- i) Owner [has/has not] committed to meeting and reporting **ESG** (environmental, social, and governance) goals annually. The design team shall provide a narrative of this project regarding environmental/ecological approach, social equity, and project transparency.
  - ii) Owner wishes to include the following community and user stakeholders in the design process:
    - (1) Neighborhood groups
    - (2) Employee representatives
    - (3) Local officials / commissions
    - (4) Outside user groups
  - iii) This project will be designed taking into consideration supply chain sourcing and human rights.
    - (1) Product and material specifications will include statements on child labor, environmental equity, and cultural impact of manufacturing and mining.
  - iv) Owner intends to leverage this project to contribute to **equitable community** assets and honor **contextual history** of the site through measures such as:
    - (1) Historic preservation / building reuse
    - (2) Public access to grounds and/or shared amenities
    - (3) Archaeological/sacred sites survey
    - (4) Regionally inspired building features
    - (5) Regional artwork / Public Art
    - (6) Historic research and informational markers
    - (7) Inclusion of underserved local population in public outreach
    - (8) Community Wi-Fi – interior and/or exterior
    - (9) Construct a bike share or maintenance station
    - (10) Fair market wages clause for labor
    - (11) Safe bicycle and pedestrian networks
    - (12) Safe, accessible, and desirable public transportation
    - (13) Vegetated streetscapes and access to nature
    - (14) Public daycare
    - (15) Fresh nutritious food access
    - (16) Community gathering spaces (exterior/interior)
    - (17) Community health / wellness
    - (18) Emergency shelter / critical services
- b) Transportation & Parking

- i) Parking will be provided for [###] cars, to include EV charging stations / power infrastructure.
- ii) Site features will connect to [existing/planned] alternative transportation infrastructure:
  - (1) pedestrian-bike path located [location relative to project site].
- iii) public transit system located [location relative to project site].

### 3) Design for Ecosystems

- a) Greenhouse Gas (GHG) reporting requirements
  - i) Project team will provide GHG life cycle analysis from <development footprint through disposal and deconstruction>. Calculations shall follow the <specific> guidelines for GHG reporting.
- b) Ecological Diversity and Conservation Goals
  - i) Site and landscape design will include native and adaptive habitat for threatened and diverse species, including pollinator landscapes and connected/contiguous greenspace. (on site and/or building roof?)
  - ii) Owner wishes to minimize environmental impacts of land development. Design and construction team shall minimize the area of disturbed land in this project.
  - iii) [Buildings will be designed to Audubon [Bird-Safe Building Guidelines](#). Glazing, light sources, and landscape (interior and exterior) will be designed to limit avian strikes.]
  - iv) [Development will limit light/sound pollution and disturbance to local wildlife.]

### 4) Design for Water

- a) Water Efficiency Goals
  - i) [This project will be designed to be net zero water *capable*, designing a low-water system that can eventually be supplied by water capture and treatment on site.]
  - ii) This building will be designed for [one/two (2)] [current/potential] water supply sources – potable and non-potable (double-pipe system). Toilets/urinals and other non-potable end-uses shall be sourced from a separate supply line capable of connecting to non-potable or grey water now or in the future.
- b) Site and Landscape
  - i) The property [is/is not] in a flood zone.
    - (1) The ground floor and spaces below grade shall be structurally resilient with sacrificial spaces/finishes. Critical building systems shall be located at least [3'-12'] above grade or per local code, whichever is higher.

- ii) Landscape shall incorporate native and adaptive species of plantings and drought tolerant grasses to eliminate need for irrigation and reduce cost of maintenance. If irrigation is required, only non-potable water resources shall be sourced.
- iii) Stormwater runoff will be managed on-site through passive measures such as pervious hardscape, [curb elimination](#), [green roof](#), [rainwater capture](#), and rain gardens.

## 5) Design for Economy

### a) Project Budget and Timeline

- i) Target design and construction of quality to optimize [\[adaptability and building performance\]](#) and reduce potential schedule delays with the goal of completing the project on time and on budget. The construction budget is \$0,000,000 [inclusive/exclusive](#) of site and landscape work, and the target occupancy date is [Click date](#).

### 1.1.1 Funding Source Requirements

- ii) Owner anticipates utilizing the following funding sources and incentives:
  - (1) [Rehabilitation Tax Credits/incentives – federal / state / local \(20%/10% credit via NPS\)](#)
  - (2) [Energy Efficiency 179D Tax Credits/incentives – federal / state / local / lender \(\\$1.80/SF credit for 50% energy savings over ASHRAE 90.1 \(2016\)\(2019\)\)](#)
  - (3) [Low Income Housing Tax Credits/incentives – federal / state / local \(70%-30% present value credit thru state/local authorities\)](#)
  - (4) [\[economic development grants, donor gifts, revolving funds with conditions\]](#)
- iii) Where life cycle cost assessment (LCCA) provides rationale for investing in high performance systems and durable materials, payback period for recovering the cost of investment will be within [ten \(10\)/twenty \(20\)/thirty\(30\)](#) years and shall take into account associated avoided capital costs resulting from higher performance.

### b) Program Spaces Included in Project Budget

- i) Summary of Program needs:
  - (1) See Appendix [\[X\]](#) for Program Documents.
  - (2) [Click or tap here to enter optional program narrative.](#)

### c) Commissioning, Inspection, and Q.A.

- i) An experienced Commissioning Agent (CxA) working independently for the Owner shall verify *mechanical, electrical, plumbing, and renewable energy systems* operation through commissioning services that include:
  - (1) Review this OPR and the Basis of Design (BOD)
  - (2) Conduct commissioning review of design drawings

- (3) Develop initial commissioning plan
  - (4) Verify installation and performance of commissioned systems
  - (5) Perform systems functional performance testing
  - (6) Develops final commissioning report
  - (7) Compile Current Facilities Requirements (CFR) and Operation and Maintenance (O&M) Manual
- ii) [Not required, but highly recommended for optimal energy efficiency] The CxA will verify systems performance through enhanced commissioning to include the following services.
- (1) Review contractor submittals.
  - (2) Verify inclusion of systems manual requirements in construction documents.
  - (3) Verify inclusion of operator and occupant training requirements in construction documents.
  - (4) Verify systems manual updates and delivery.
  - (5) Verify operator and occupant training delivery and effectiveness.
  - (6) Verify seasonal testing.
  - (7) Review building operations 10 months after substantial completion.
  - (8) Develop an ongoing commissioning plan.
  - (9) The Cx consultant, CM/GC, and all subcontractors whose systems were commissioned shall meet with the Owner's O&M staff quarterly during the first year after Substantial Completion to offseason test, optimize, and otherwise troubleshoot all commissioned systems.
  - (10) An onsite meeting will be conducted 10-11 months after Substantial Completion to review building performance with all applicable parties – Occupants & users, Design team, GC and systems Subcontractors.
- iii) [Not required, but highly recommended to reduce building leaks and reduce energy] An experienced Commissioning agent shall execute a *full envelope* commissioning process in accordance with ASHRAE Guideline 0-2005 and the National Institute of Building Sciences (NIBS) Guideline 3-2012.
- iv) General Contractor shall respond to commissioning report and take corrective action

## 6) Design for Energy

- a) High Performance Building
  - i) A whole building energy simulation **will/will not** be provided during schematic design and updated iteratively through design development for informed design decisions.

- ii) [This building will be designed as net-zero energy *capable*, with targeted energy use levels low enough that rooftop, building integrated, and/or reasonable on-site renewable energy systems can meet or exceed net demand.] Design team shall integrate efficiency measures, focusing on load reduction and HVAC-related strategies (passive design and super-efficient equipment) appropriate for the facility.
  - iii) Empty conduit will be provided from rooftop to primary electric panel to accommodate **future/planned** renewable energy systems.
- b) Energy Efficiency Goals
- i) Owner desires that this building shall perform
    - (1) **xx%** better than ASHRAE 90.1 [2007 / 2013 / 2016 / 2019]
    - (2) At a level to meet **minimum energy** performance allowed by law (IECC per state)
    - (3) to meet energy targets as presented below [LS3P provide appropriate target options per project type – recommend do not leave this section with links/blanks]
      - **[more/xx% less/average]** energy compared to similar building types according to current Energy Star Portfolio Manager data
        - (i) Reference data source from Energy Star Portfolio Manager:  
<https://portfoliomanager.energystar.gov/pdf/reference/US%20National%20Median%20Table.pdf>
      - **xx%** less than Owner’s current best building operating with an EUI of **xx** kBtu/GSF
      - **xx** kBtu/SF in line with Architecture 2030 targets and global climate goals.
        - (i) Reference data source from Architecture 2030 Zero Tool  
<https://zerotool.org/zerotool/>
  - ii) This building **[can / cannot]** participate in current or future demand response programs offered by the utility due to critical temperature requirements.
- c) HVAC Systems Requirements
- i) HVAC system controls will be compatible with **[proprietary system type]**

## 7) Design for Well-Being

- a) Occupancy Requirements
- i) The facility shall be regularly occupied and conditioned [10 hours per day 5 days per week / 24 hours per day 365 days per year].
  - ii) This facility **[will/will not]** serve as **emergency shelter/essential operations** during natural and non-natural disasters and shall be designed for structural, climate, and operational resilience.
  - iii) The facility shall be operable for [X] **hours/days** without grid/infrastructure support.

- iv) [recommended for all residential] The facility/portion of facility will be designed for passive survivability in the event of a prolonged power failure.
- b) Indoor Environmental Quality
  - i) Indoor air quality will meet the standard minimum requirements of ASHRAE Standard 62.1-2010, Section 4-7, Ventilation for Acceptable Indoor Air Quality (with errata).
  - ii) Ventilation will be designed to operate in a mode that addresses ongoing potential threat of airborne pathogens per latest ASHRAE infectious disease mitigation guidelines, utilizing energy recovery ventilation, ultraviolet germicidal irradiation, and/or similar appropriate energy efficient approach for high ventilation conditions.
  - iii) Occupants of [specific building spaces] shall have individual control over temperature and lighting. Temperature and lighting in building spaces shall be centrally controlled through a Building Management System, with occupancy and daylight sensors to reduce energy consumption. **These two statements contradict each other.**
  - iv) Design team will conduct daylighting analysis no later than design development to verify and optimize effective daylighting impacts.
    - (1) This building will target daylight autonomy in regularly occupied spaces.
  - v) HVAC system noise will be minimized for optimal acoustics, [with a not to exceed target of [45 dB recommended for offices, 35 dB for classrooms]].
  - vi) [recommended for higher occupancy buildings and spaces: classrooms, conference rooms, assembly, open offices, etc]. Additional ventilation will be automatically activated by a 10% rise in CO2 levels beyond the setpoint established in ASHRAE 62.1-2010, Appendix C
  - vii) [Building space/s] must maintain consistent settings / can follow ASHRAE adaptive comfort settings for temperature, ventilation, and humidity per ASHRAE Standard 55. This allows for a broader range of acceptable indoor temperatures that reflect seasonal change and clothing.
  - viii) HVAC and ventilation systems can/cannot be set back when the building is unoccupied.
- c) Building Materials, Interior Finishes and Furnishings
  - i) Building materials, interior finishes, and furnishings shall / shall not utilize currently known toxic ingredients and manufacturing methods.
    - (1) Red List materials shall be avoided / eliminated due to known human and/or environmental health and toxicity concerns. Red List: <https://living-future.org/lbc/red-list/>
    - (2) Avoid/permit common products known to be carcinogenic at some point in whole lifecycle. (e.g. vinyl, vinyl flooring – LVT, VCT, chrome finish, chemically treated wood, formaldehyde, etc)
- d) Air Quality Testing



- i) [Not required, but highly recommended to preserve occupant health] Air quality testing will be conducted prior to occupancy. The gravimetric method shall be used to test spaces totaling no larger than 5,000SF clusters and large assembly spaces.
  - (1) The following air quality contaminants will be measured:
    - (i) Formaldehyde (max 27 ppb) ASTM D5197; EPA TO-11 or EPA Compendium Method IP-6, ISO 16000-3
    - (ii) Particulates (max 50 micrograms per cubic meter) EPA Compendium Method IP-10, ISO 7708
    - (iii) Ozone (max 0.075 ppm) ASTM D5149-02, ISO 13964
    - (iv) Total VOCs (max 500 micrograms per cubic meter), EPA YO-1, TO-15, TO-17, or EPA Compendium Method IP-1, ISO 16000-6
    - (v) Target chemical listed in CDPH Standard Method v1.1, Table 4-1, except formaldehyde (max CDPH Standard Method c1.1-2010 Allowable concentrations, Table 4-1, ISO 16000-3, 16000-6
    - (vi) Carbon Monoxide (max 9 ppm, no more than 2 ppm above outdoor levels) EPA Compendium Method IP-3, ISO 4224
- e) Communications and A/V Systems
  - i) This building requires a [whole building / partial] communication system.
    - Preferred system manufacturer is [manufacturer]
  - ii) The following space types require integrated AV systems:
    - 
    -
  - iii) This building will feature a live display of on-site energy generation and building air quality metrics (CO2/VOC monitor with values on public display–.
- f) Safety & Security
  - i) Passive security measures [will/will not] be incorporated into building and landscape design to create a secure but visually welcoming facility.
  - ii) The building [requires / does not require] a security system.
  - iii) [recommended for mixed-mode building systems with operable windows] Security system will integrate with operable (open) window notifications.
- g) Hazardous Materials Storage
  - i) Hazardous materials [will / will not] be stored in this facility: [Click or tap here to enter a list of anticipated hazardous materials](#). Hazardous materials storage will be separately ventilated with negative pressure and airtight access from regularly occupied spaces.

Class	Hazard
1.1 – 1.6	Explosives ordered by severity and sensitivity
2.1 – 2.3	Compressed Gas
3	Flammable Liquid
4.1 – 4.3	Flammable Solid, Spontaneously Combustible, or Dangerous when Wet
5.1 – 5.2	Oxidizers or Organic Peroxides
6.1 – 6.2	Toxic or Infectious Substances
7	Radioactive
8	Corrosive
9	Miscellaneous

## 8) Design for Resources

### a) Construction Materials

- i) Building materials shall be USA-sourced to the extent possible, except [specific owner requirement].
- ii) Owner requires whole building carbon LCA at each phase transition for building materials. Minimum output of global warming potential in studies, broad study can include ( in addition to GWP) ozone depletion, acidification, eutrophication, smog, and non-renewable energy consumption potential.
- iii)

### b) Furnishings and Equipment

- i) Furnishings will be chosen with preference and regard for human health and sustainability. Examples include:
  - (1) low-carbon materials
  - (2) environmental declarations/certification appropriate for product type
  - (3) recycled material and recyclable at end of life
  - (4) repairability and durability
  - (5) Preference for 3<sup>rd</sup> party evaluation – EPDs/HPDs/Cradle-to-Cradle
  - (6) Ergonomics to support function and comfort of users
  - (7) Flexibility and variability to support evolution of workplace and workforce
- ii) Owner will furnish the following:
  - (1) Network/Building management electronics
  - (2) Kitchen appliances (Energy Star rated)

(3) Specific fixtures/equipment for food service:

- [list equipment]

(4) Moveable furniture

(5) Signage: branded and wayfinding

(6) Solar panels / Inverter

(7) [Misc...]

## 9) Design for Change

a) Future-Ready Design

i) Building will be designed for phased implementation.

ii) Building will be designed for planned expansion over time.

iii) Design decisions will take into account impacts of changing climate.

(1) This facility will [limit hours of operation during extreme temperature events / be designed to take into account extreme temperature events and accommodate temperatures outside of historic norms for extended periods of time.]

(2) Site design will leverage site design elements to accommodate stormwater rate and duration greater than historic averages. It is understood that catastrophic stormwater events will require evacuation to [high ground / upper levels of the structure.]

iv) Project incorporates existing built feature on site in new project

(1) Embodied carbon savings of building/feature reuse will be calculated

b) Emergency or Backup Power

i) The building [requires / does not require] emergency backup power.

ii) Backup power will be provided by [solar powered battery storage (e.g. Tesla Power Pack, NEXtera Energy, Fluence/AES) / high efficiency natural gas generator, fuel cell generator (e.g. Bloom Energy), diesel generator (not recommended)].

## 10) Design for Discovery

a) Green Leasing

i) [Include this item if applicable] This [building/space] utilizes a green leasing structure, to include energy and water metering by leasable space and green tenant design guidelines provided by the Architect.

b) Building Certifications

i) The project will be certified under the following green building system(s):

(1) Green rating system pull down with specific focus on [focus topic]

(2) Green rating system pull down

- ii) **OR** The project will be designed and built to meet Green rating system pull down without certification, with proof of actual building performance to be verified with Owner one year from construction completion, to include energy and water consumption.
  - iii) The project will be designed to facilitate future certification by the Owner under LEED EB O&M / Green Globes EB / Energy Star / LEED Zero / Living Building Challenge Zero Energy.
- c) Operations Training
- i) Training Plan

Training Plan – Sample				
Trainer	Training Topic	Trainee	Content Summary	Frequency
Design Team	Sustainability Features	Building Users / Faculty	e.g. Instruction on daylighting controls, movable partitions, waste	Yearly / Quarterly
CxCO Commissioning Company	[Benchmarking Tool Name]	Facility Management	Instruction how to use and update the [Benchmarking Tool Name]	Post-RCx and when a new Manager is hired
POWERCO Our Utility Company	[Utility Bill Analysis Tool Name]	Facility Management	Instruction how use the [Benchmarking Tool Name]	Post-RCx and for a new Managers
CxCO Commissioning Company	Cx Measures	All Building Staff	Review all identified and implemented RCx measures	Post RCx and for new Technical Staff
CONTROLS CO Controls-R-Us Company	Building System Sequences of Operation	Building Technical Staff	Review as-operated sequence of operations	Post RCx and new Technical Staff
CxCO Commissioning Company	Monitoring Action Plan	Building Technical Staff - Controls	Instruction on the purpose of the plan how to effectively utilize it.	Post RCx and new Controls Technical Staff
CxCO Commissioning Company	Calibration Plan	Facility Management and Technical Staff	Instruction on the purpose of the plan and how to effectively use it	Post RCx and new Managers and Technical Staff are hired
CxCO Commissioning Company	Sensor Calibration	Building Technical Staff assigned to calibration	Instruction on how to implement the <i>Calibration Plan</i> into existing PM program	Post RCx and new Technical Staff (periodic review for complex sensor or procedures)

- d) Post Occupancy Data
  - i) Owner will share energy and water consumption data with Architect [and USGBC] for [two [five] years following occupancy.
  - ii) A post-occupancy evaluation will be conducted to assess success of project goals. Owner / occupants / project team will be surveyed within ## months of occupancy and at ## year(s).
- e) Awards and Publicity
  - i) The Owner grants the design team permission to submit this project for industry design awards with/without Owner as co-submitting entity.
  - ii) Owner will credit Architect in project publicity. Architect [will/will not] share Owner's identity in publicity and competition submittals.
  - iii) Specifically, Owner wishes design team to submit this project for [award/magazine feature].

**Owner's Project Requirements: Version History**

- Click date. Project Phase Description
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