

Appendix D

**2019 Shelter Retrofit Project Submittal Form
EMPA Base Grant Task 8.A
Ref: Section 252.385(3), Florida Statutes**

2019 SHELTER RETROFIT PROJECT SUBMITTAL FORM
EMPA Base Grant Task 8.A
Ref: Section 252.385(3), Florida Statutes

INSTRUCTIONS

1. The Division's hurricane shelter retrofit program is generally limited to high wind and flood hurricane-resistance improvements (e.g., ASCE 7 engineering assessments, window and door protection, masonry wall reinforcement, etc.)
2. Please review the following web addresses below before beginning the project identification process.

<https://www.floridadisaster.org/dem/response/infrastructure/shelter-retrofit-report/>

<https://portal.floridadisaster.org/shelters/External/Archives/ARC4496-Prescriptive-Summary-Table.pdf>

Note all construction deficiencies for individual buildings.

3. Prepare an individual Shelter Retrofit Project Submittal Form for each individual building being evaluated. DO NOT combine several buildings or a campus onto a single submittal form. An Open Plan building that has a common exterior wall and roof system (building envelope) may be considered a single building. If there are significant differences in construction found in the same building (i.e., major addition constructed to a more wind-resistant design), prepare separate forms and indicate structural separation barrier on a sketch.
4. For entries that provide a multiple choice format, choose the response that is "typical" for the individual building being evaluated. For buildings that have multiple construction materials (or characteristics) and cannot be described with a single entry, provide a description (and sketches) of the building. Assume the weakest materials will be a soft spot, and therefore the limiting factor with respect to wind performance.
5. Multiple projects can be submitted for each individual building (e.g., window shuttering, door hardware improvements, gable-end bracing, generator rewiring, etc.). Please describe the tangible benefits that will be provided by each individual project (e.g., 250 additional shelter spaces if shuttering is performed) and a cost estimate for each individual project.
6. The definitions of reinforced and partially reinforced masonry, as needed for both General and Wall Construction Type description, are provided below:

Partially Reinforced Masonry (PRM) - For 8-inch hollow concrete masonry units (CMU), the maximum spacing of vertical reinforcement (rebar) at exterior walls shall be 8'-0"; 12" CMU rebar can be extended up to 11'-4". Rebar are located at each side of wall openings, corners and wall-to-wall intersections. An alternative to reinforced cell construction is tie-column (or pilaster) and beam systems. For 8-inch CMU, the maximum spacing between tie-columns shall not exceed 13'-6"; 12-inch CMU tie-columns can be extended to 20'-0". Horizontal reinforcement must be present at roof and floor levels, and above and below wall openings. Interior masonry bearing and/or "core area" walls shall meet the same reinforcement requirements as exterior walls.

**2019 SHELTER RETROFIT PROJECT SUBMITTAL FORM
INSTRUCTIONS, Cont'd**

Reinforced masonry - Reinforced masonry has the same definition as partially reinforced masonry above, except the maximum spacing of the principal vertical reinforcement cannot exceed six (6) times the wall thickness or 4'-0". The presence of tie-columns does not have an effect upon a masonry walls classification as reinforced masonry.

7. For the purposes of this report, standard weight (wgt) concrete will have a minimum density of 100 pounds per cubic foot and minimum compressive strength of 2500 pounds per square inch.

8. These additional budget limitations apply to 2019

9. Shelter Retrofit Report projects:

- a) No more than \$500 per general population hurricane evacuation shelter space gained per individual building, or for campuses/sites with multiple buildings, a campus-wide average of no more than about \$350 per space; or
- b) A maximum of \$350,000 total per facility, excluding Standby Electrical System (SES) work; and,

SES work may be considered separately from hurricane wind and flood retrofit construction. SES is limited to \$350,000 total per facility campus/site. (Thus potentially a limit of \$350,000 in SES work, plus \$350,000 in other construction/structural mitigation work, for a combined total limit of up to \$700,000.)

2019 SHELTER RETROFIT PROJECT SUBMITTAL

County: _____

Latitude: _____ Longitude: _____

Facility Name: _____

Building Number or ID: _____

Address: _____

Current Ownership of Facility: (Public, Private) _____

Is Facility currently used as a high wind shelter? Yes No

If answer is No, why? _____

HURRICANE EVACUATION SHELTER TYPE AND CAPACITY

Is the building proposed to be designated by local Emergency Management (EM) to serve as person(s) with special needs (PSN) public hurricane evacuation risk shelter (SpNS)?

Yes No

If yes, what is the estimated PSN client space capacity at 60 sq.ft./usable space? _____

Is the building proposed to be designated by local EM to serve as a general population hurricane evacuation risk shelter?

Yes No

If yes, what is the estimated client space capacity at 20 sq.ft./usable space? _____

Is the building designated by local EM to serve as a pet-friendly hurricane evacuation risk shelter?

Yes No

Facility Name _____

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Is the proposed facility located in a county recognized to be a multi-county hurricane evacuation risk shelter destination for counties with very limited or no Category 4/5 sheltering options?

Yes

No

If yes,

What is the estimated out-of-county SpNS client space capacity at 60 sq.ft./usable space?

What is the estimated out-of-county general population space capacity at 20 sq.ft./usable space?

Building ownership and availability for use as a public shelter, check only one response as appropriate:

Public Facility/Full Availability

Private Facility/Full Availability

HURRICANE HAZARD INFORMATION

If proposed facility has been surveyed by division staff, consultants, or locally acquired architectural/engineering (A/E) or building inspection services, please attach applicable survey report(s) and proceed to Page 9, **SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL**; please check appropriate response.

FLDEM Least-Risk Decision Making (LRDM) report attached

Other A/E survey report or LRDM attached

No LRDM available, please complete **FACILITY DESCRIPTION** below

Facility Name _____

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FACILITY DESCRIPTION, (cont'd):

Construction Year _____, Major Addition(s) _____, _____

Has building been surveyed by structural engineer, architect, construction technician, or other building design & construction specialist? Yes No

Are construction drawings (architectural & structural) and specifications available? Yes No

Structural wind load code or standard used in the design and construction of this facility, check only one response:

- | | |
|--|---|
| <input type="checkbox"/> SBC or MBMA, Edition 19 | <input type="checkbox"/> ANSI A58.1-1982 |
| <input type="checkbox"/> SFBC, Edition 19 | <input type="checkbox"/> ASCE 7, year _____ |
| <input type="checkbox"/> IBC or FBC, Edition _____ | <input type="checkbox"/> Other: _____ Edition, year _____ |

General Construction Classification, check only one response:

- | | |
|--|--|
| <input type="checkbox"/> Light Steel Frame* | <input type="checkbox"/> Heavy Steel Frame (I or W section) |
| <input type="checkbox"/> Reinforced Concrete Frame | <input type="checkbox"/> Reinforced Concrete or Tilt-up Wall |
| <input type="checkbox"/> Reinforced Masonry/PRM wall-bearing | |

*includes Pre-engineered Metal Building (PEMB) Frames.

If not included in above choices, stop here.

If multistory, what is the number of concrete floors elevated above grade? _____

Facility Name: _____

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FACILITY DESCRIPTION, (cont'd):

Exterior Wall Construction, check only one response as appropriate:

- | | |
|--|--|
| <input type="checkbox"/> Reinforced Masonry
(Rebar @ 4 ft. o.c. or closer) | <input type="checkbox"/> Light Wood or Metal Stud
w/ 1/2"+ wood structural panels |
| <input type="checkbox"/> Partially Reinforced Masonry
(Reference Instructions 6)
(includes EIFS) | <input type="checkbox"/> Light Wood or Metal Stud
w/ light non-plywood |
| <input type="checkbox"/> Unreinforced Masonry
(or rebar spacing unknown) | <input type="checkbox"/> Glazed Panel or Block |
| <input type="checkbox"/> Poured-in-place or Precast
Reinforced Concrete (2" min. thick) | <input type="checkbox"/> Metal Sheets or panels
Light Architectural Panel |

Roof Construction, check only one response as appropriate:

- | | |
|---|---|
| <input type="checkbox"/> Cast-in-place Reinforced Concrete
(standard wgt concrete, 3 inch min.) | <input type="checkbox"/> Plywood on wood or metal
joist or truss |
| <input type="checkbox"/> Precast Concrete Panels
("T"s, "Double T"s", Planks, etc.) | <input type="checkbox"/> Wood boards or T & G deck
on wood joist or truss |
| <input type="checkbox"/> Metal Decking w/ standard wgt
concrete (2" min. thick) on
steel joist, truss or beam | <input type="checkbox"/> Precast Cement-fiber (eg, tectum)
panels on wood or metal joist/truss |
| <input type="checkbox"/> Other Metal Decking Systems
(insulating concrete and/or rigid
insulation or other light coverings) | <input type="checkbox"/> Poured Gypsum on Formboard
Decking on wood or metal joist or
truss |

Facility Name _____

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FACILITY DESCRIPTION, (cont'd):

What is the roof geometry type, check appropriate response:

- Flat or low slope (< 1:12)
- Gable-end
- Hip System
- Other _____

Are Roof Eaves/Overhangs (width greater than 2 ft.) present that connect directly to the roof structure?

- Yes
- No

Are appropriate loadpath connections present for the building's construction type? (e.g., hurricane clips and straps for wood-frame construction)

- Yes
- No

If Parapet(s) are present and roof ponding is a hazard, are emergency overflow scuppers present?

- Yes
- No

Are there any tall structures/trees that are close enough and large enough, that if they fell over, they could strike the building with enough force to significantly breach the roof/walls?

- Yes
- No

If yes, describe the tree(s) or structures: _____

Facility Name _____

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FACILITY DESCRIPTION, (cont'd):

Describe General Condition of the Building:

Describe other construction features (features that enhance and detract from shelter usage) and/or site specific special hazards (e.g., close proximity debris sources or laydown hazards, etc.) associated with this facility that should be considered by the Division of Emergency Management:

Describe wind or other storm effects damage history of this facility (e.g., severe roof leaks, etc.):

Facility Name _____

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FACILITY DESCRIPTION, (cont'd):

NOTE: IF available, please attach completed ARC 6564 or other mass care survey form and proceed to SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL.

Which of the following descriptions best describes the food preparation capabilities of this facility, check appropriate response?

- Full Kitchen
- Warming Kitchen
- Home Ec Clsm
- None

Which of the following descriptions best describes the food serving capabilities of this facility, check appropriate response?

- Restaurant
- Cafeteria
- Other _____
- None

Seating Capacity, if known? _____ persons

Are sanitary facilities directly accessible from shelter area(s)?

Toilets Yes No

Showers Yes No

Potable Water Yes No

Which of the following best describes the potable water source of this facility), check appropriate response?

- Public Utility
- Onsite Well
- Other _____

Which of the following best describes the sanitation utility of this facility), check appropriate response?

- Public Utility
- Onsite Septic
- Other _____

Facility Name _____

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SHELTER RETROFIT/MITIGATION PROJECT PROPOSAL

Describe type of project(s) to be undertaken and what impact it will have upon the shelter characteristics of the facility (e.g., shuttering, generator pre-wiring, roof bracing, etc.); indicate the pre and post retrofit shelter capacity and whether the retrofits will only improve the safety of existing spaces; describe what impact the project will have upon the local and regional shelter deficit situation; provide cost estimates (+/- 15%), source of cost estimates, copies of cost estimate takeoffs if available; and, the time period necessary to complete all projects if construction is performed concurrently. Also provide detailed information on availability of other cost-sharing sources (local or other). Attach additional sheets if necessary.

Project Type	Impact (safety/capacity)	Cost estimate, \$
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Is this project listed in the County’s Local Mitigation Strategy? Yes No

Estimated project design and/or construction timeline duration? _____ Months

Facility Name _____

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Attachment A

2019 Shelter Retrofit Report Preliminary Budget Worksheet

Project #1		
Descriptive Title: _____		
Line	Item Description	Cost Estimate
A	Salary & Benefits	\$
B	Other Personal/Contractual Services (e.g., Vendor)	\$
C	A/E Service Fees	\$
D	Expenses	\$
E	Operating Capital Outlay	\$
F	Fixed Capital Outlay	\$
G		\$
H		\$
I	Contingency (10% maximum*)	\$
J	SUB-TOTAL	\$
K	Admin Expenses (5% maximum)	\$
L	TOTAL ESTIMATED PROJECT COST	\$

*-Contingency is limited to 10% unless detailed justification provided.

Project #2		
Descriptive Title: _____		
Line	Item Description	Cost Estimate
A	Salary & Benefits	\$
B	Other Personal/Contractual Services (e.g., Vendor)	\$
C	A/E Service Fees	\$
D	Expenses	\$
E	Operating Capital Outlay	\$
F	Fixed Capital Outlay	\$
G		\$
H		\$
I	Contingency (10% maximum*)	\$
J	SUB-TOTAL	\$
K	Admin Expenses (5% maximum)	\$
L	TOTAL ESTIMATED PROJECT COST	\$

*-Contingency is limited to 10% unless detailed justification provided.

Facility Name _____

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Attachment A

2019 Shelter Retrofit Report Preliminary Budget Worksheet

Project #1		
Descriptive Title: _____		
Line	Item Description	Cost Estimate
A	Salary & Benefits	\$
B	Other Personal/Contractual Services (e.g., Vendor)	\$
C	A/E Service Fees	\$
D	Expenses	\$
E	Operating Capital Outlay	\$
F	Fixed Capital Outlay	\$
G		\$
H		\$
I	Contingency (10% maximum*)	\$
J	SUB-TOTAL	\$
K	Admin Expenses (5% maximum)	\$
L	TOTAL ESTIMATED PROJECT COST	\$

*-Contingency is limited to 10% unless detailed justification provided.

Project #2		
Descriptive Title: _____		
Line	Item Description	Cost Estimate
A	Salary & Benefits	\$
B	Other Personal/Contractual Services (e.g., Vendor)	\$
C	A/E Service Fees	\$
D	Expenses	\$
E	Operating Capital Outlay	\$
F	Fixed Capital Outlay	\$
G		\$
H		\$
I	Contingency (10% maximum*)	\$
J	SUB-TOTAL	\$
K	Admin Expenses (5% maximum)	\$
L	TOTAL ESTIMATED PROJECT COST	\$

*-Contingency is limited to 10% unless detailed justification provided.

Facility Name _____

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