COUNTY OF BRUNSWICK

Engineering Department

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BOLIVIA, NC 28422
BUILDING G
(910) 253-2500
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February 15, 2016

Request for Proposals
Professional Architectural Design Services
Brunswick Senior Resources, Inc. -- Calabash Senior Center

Brunswick County is located in the southeastern corner of the state in the coastal plain region. The county is primarily rural in nature and has nineteen municipalities located within the county, as well as a growing and diverse population including many seasonal and elderly residents.

Brunswick Senior Resources, Inc. ("BSRI") is the lead not-for-profit agency in Brunswick County providing programs and services specifically designed for adults sixty years of age and older in the county. The agency mission is to promote the well-being and quality of life for all senior adults by offering services at several senior community centers strategically located throughout Brunswick County.

Brunswick County has recently acquired a building in the Town of Calabash and plans to remodel it for use as a senior center. Expected renovations needed will be plumbing, mechanical, electrical, HVAC, and fire protection systems. The building is currently connected to public water and sewer. The county has received a recent structural engineering evaluation report on this building. The approximate project budget including professional services is in the range of $500,000-$750,000.

We are seeking proposals from architectural firms with experience in comprehensive planning and design services of commercial, governmental, and agency buildings to assist us with the remodeling of this building for a new senior center. Anticipated services to be provided are:

- Attend meetings with BSRI and county staff to finalize the space programming needed
- Prepare detailed drawings showing all required remodeling and including all architectural and engineering information necessary to obtain all permits needed for the work
  Note: the building plans review and permit issuance will be by the Town of Calabash
- Prepare an estimate of construction time needed and a project schedule
- Perform shop submittal review and approval during the construction process
- Perform construction observation services during the construction process
- Perform final walkthrough and punch list for project closeout
- Provide clean set of asbuilt drawings in both paper and PDF format

Proposals must include the following information:

- Key principal and associate staff; qualifications of key staff; identification of any associate firms and their key principal and associate staff and responsibilities, identification of Team Project Manager who will be the primary point of contact with county staff
- Project Team organizational chart
- Brief firm history and statement of qualifications
- Relevant project experience on similar type projects
- Statement of current availability of firm staff to begin the project

If interested please submit a minimum of five copies of your submittal by **5pm on March 21, 2016**.

William L. Pinnix, P.E.

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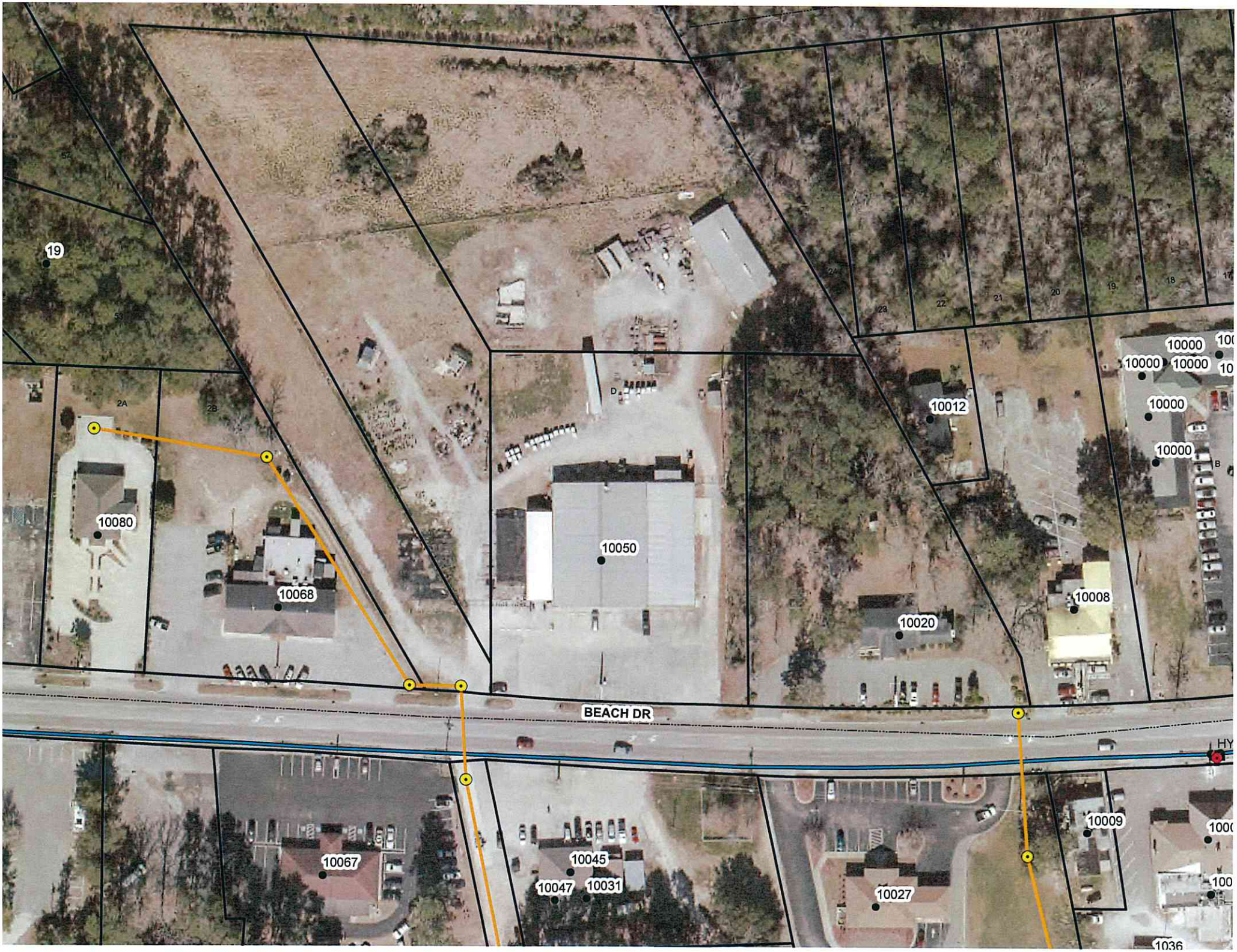
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Coastal River
ENGINEERING, PLLC

ENGINEER'S REPORT

COMMERCIAL STRUCTURAL INSPECTION

12,000 s.f. BUILDING
AND
2,400 s.f. OUTBUILDING
LOCATED AT 10050 BEACH DRIVE, CALABASH

Developed for:
Mr. William L. Pinnex, P.E.
Brunswick County – Director of Engineering
Post Office Box 249
75 Courthouse Drive NE, Building I
Bolivia, North Carolina 28422

November 2015

COASTAL RIVER ENGINEERING, PLLC
PO Box 4065
Calabash, North Carolina 28467

(910) 575-4213 (Tel) • (910) 575-7045 (Fax)

CRE Project No. 151101

Subject Property: 10050 Beach Drive, Calabash, North Carolina

Date of Inspection: November 11, 2015

Introduction:

Reporting Engineer was contracted by Mr. William Pinnix, P.E. to inspect the subject property with for structural adequacy on behalf of Brunswick County, North Carolina.

Scope of Report:

The Engineering Inspection reported herein is of limited scope, and serves to ascertain what deficiency, if any, is causing the reported issues. The inspection is limited to:

i. Visual inspection of structure exterior
ii. Visual inspection of structure interior (as may be visible)
iii. Visual inspection of foundation and anchoring (above ground)
iv. Limited measurements such as spacing of foundation elements, etc.
v. Review of available reports, certifications, and plans for subject property

Further, observations will be interpreted per applicable NCBC (the Code) in effect at time of construction, and its references.

Background:

Brunswick County is performing due diligence on the subject property as part of the proposed purchase of same for use as a regional Senior Center.

Observations:

1. The building was reportedly erected in 1983 (main 80' x 100' section), with a 42' x 100' addition in 1993/1994, per former owner's report. The 30'x80' outbuilding was erected within a couple of years of the addition.

2. The building is a pre-engineered steel building, with corrugated aluminum exterior cladding. Manufacturer is unknown.

3. The building is in generally good condition, excepting a few minor issues to be discussed. It appears to be well-built and well-maintained.

4. Common building features:

    a. Main Wind Force Resisting Structure (MWFRS) is a "moment frame" clear-span design with main columns & beams spaced 25' o/c.

    b. Roof and end walls are constructed of channel columns and beams, with Z purlins, Z girts, and some C girts. Purlins and girts are all 8", apparently

12 gage thickness. Columns are all 10" C channels, apparently 12 gage, some doubled.

c. Side wall and Roof Cladding is attached every 3' horizontally at each girt or purlin, with (2) fasteners per foot at eaves and ridge.

d. End wall cladding is fastened every 12" horizontally at each girt. This construction creates a stiffer diaphragm to resist shear and lateral forces.

e. Each main section column is anchored to foundation with four (4) bolts, apparently 1" diameter. Each addition section column is anchored to foundation with two (2) bolts, apparently 1" diameter.

f. Secondary columns (in end walls) are spaced at 20' maximum, and anchored to foundation (apparently with ¾" anchors).

g. At least every other purlin is braced to the main beams with angle struts.

h. Store Front walls are braced to the ridge purlins with a heavier angle strut.

i. Main Store Front has a glass section approximately 32' L x 6'6" H. There are 4'W x 8"Th. brick pilasters at each end of glass, with three (3) 10" Channel columns, one at each outside edge of pilasters, and one in the center (approximate 20' spacing).

j. Addition Store Front is similarly constructed, without the brick pilasters.

k. Cable stay X-bracing is provided in the two center "bays" from wall to wall.

l. All bolted connections are made with ¾" or 1" bolts.

5. One column at the rear of the main section was slightly bent at the interior flange. See photos & recommendations.

6. At the marriage line between the sections, a shallow valley is formed, and a gutter conducts to the rear of the building, to discharge into a large grate, presumably connected to storm water duct. It was reported by current owner that this gutter area had leaked in the recent past, has been repaired, and survived the recent heavy rains with no leakage.

7. The roof cladding is in acceptable condition, excepting some rusty gutter ties and cap pieces. All rusty components were still serviceable, with surface corrosion. The roof should provide many years more of service.

8. Facing the storefront, at left is an open shed adjoining the building. At the rear of this shed, Engineer noted that the exterior wall base shows heavier than normal rust. This area seems to be related to the adjacent rear of the shed rood, which likely experiences heavy runoff at the wall during rain.

9. The foundation appears to be a raised 6" slab, on a masonry stem wall atop a buried concrete footer. No major slab cracking was visible, nor was any issue observed in the masonry stem wall. The footer appears to be buried 16" at the building front, reducing to 12" at the rear due to the slope of the site. Width of footer could not be determined, but appears to be adequately wide, as no foundation cracking or settling was evident in any location. It is presumed (no way to corroborate) that a compacted, engineered fill was installed under the slab – the lack of cracking would support this presumption.

10. Two loading docks exist at the side and rear of the added section. Open frame canopies overhang these docks, each supported by moment beams properly x-braced. The docks and one ramp are in adequate condition.

11. The site is paved at the road front, with concrete sidewalk at the storefront. The Side yards slope back to the rear right, where a culvert picks up storm water to be conducted to an adjacent ditch. Non paved areas adjacent to the building are covered in gravel, and are firm. A lower, wetter grassed area lies between the rear yard and the outbuilding.

12. The outbuilding is of similar construction to the main building, on a similar 6" slab over footer foundation.

    a. Building is 30' x 80', divided into two sections with two bays each, served by roll doors.

    b. Building is non-heated, and is ventilated by a ridge cap vent.

    c. Framing is very similar to the main building, with moment frame MWFRS, 8" Z girts/purlins, and 10" Channel columns. Cable x-bracing is applied in every other bay.

    d. Main slab is at grade level on a buried footer about 16" deep.

    e. An 8' wide concrete apron extends along the 80' L front, with an 8' wide canopy overhang. The apron appears to be at least 12" deep, at the edges, possibly indicating a "turned-down" slab construction.

Discussion & Recommendations:

Engineer focused this report on the structural condition, and did not review any other building features in detail, except to note that the building condition is generally sound. The building was well-built, in accord with the applicable codes at the time as far as can be visibly determined. As the intended Brunsco use will change the building to an Assembly occupancy, there will be a need for checking adequacy of life-safety provisions as well as Mechanical, Electrical and Plumbing systems.

Engineer did not have access to any designs for the building to check code adequacy, but the MWFRS appears to be in accord with similar steel frames designed for coastal region use. The foundation and slab appear to be in very good condition.

Using the 1978 NC Building Code as a guideline (presumed to be close to the applicable code at time of construction), Engineer checked original design wind loads as being based on the old 110 MPH "fastest mile" windspeed. Analysis of the MWFRS is beyond the scope of this survey, but a check of similar Z purlin span tables indicates that the roof structure should be adequate for the original design loads.

A few minor issues were observed:

A) All installed canopies are cantilevered structures with moment beams. The attachment to the MWFRS could not be observed in detail, and should be inspected during renovation. If a deficiency is found, a simple remedy is to install columns at outside edges. Columns may provide aesthetic opportunities for architectural designs, as may be undertaken during renovation.

B) MWFRS structural details could not be observed fully, due to interior cladding. No issues are expected, based on other observations, but it is wise to acknowledge this fact.

C) Corrosion of about 8' to 10' of exterior wall base at Left side at rear of open shed. Appears to be related to shed runoff.

D) One rear wall column (beside door) in main section is dented, as if impacted by equipment at some time. The dent is minor, but should be addressed.

E) Rusty gutter ties and rust at eaves on top of roof should be addressed.

F) Rear canopy fascia material is dented – no structural issue.

G) Past leakage of Cricket Gutter at roof marriage line – no current issue, but could recur in future.

Considering the above, Engineer recommends:

1. During renovation design development, make provision to strip interior cladding sufficiently to check all connections and support features, per (A) & (B) above.

2. Remedy limited exterior wall base corrosion at rear of open shed. Provide alternate shed rainwater collection if feasible.

3. Repair dented column (D above) by straightening, and scabbing a section of similar C channel to back side, lapping dent at least 18" each side.

4. Replace gutter ties and check eave & roof edge condition. Remedy as needed (roofing contractor).

5. Repair dented fascia sections (rear canopy, etc.) as required.

6. Have roofing contractor check the cricket gutter area and remedy as needed.

Conclusions:

The building in general is structurally sound, and appears to have been designed and built in accord with the applicable codes at time of construction. A few minor issues were noted, for which we have listed recommendations.

Since some structural features of the Main Wind Force Resisting System (MWFRS) were not visible due to interior cladding, it is advisable to further check these features during renovation design development. Engineer does not expect any major issues to be discovered, and is of the opinion that the building can be used as intended by Brunswick County.

Prepared by James L. Lewis, PE
Please contact Reporting Engineer with any questions or comments regarding report.

PHOTOS

Main Storefront

Addition Storefront

Addition Storefront Inside

Typical Storefront Bracing

Typical Addition Moment Frame

Typical MWFRS Base Anchorage

Typical MWFRS Moment Frame

Dented Column

Left Exterior Wall at Rear of Open Shed

Corrosion at Wall Base – rear of Open Shed

Main Moment Frame

Main Roof Framing

Main End Wall Framing

Marriage Line – Inside

Cricket Gutter above Marriage Line

Rusty Eaves

Rusty Gutter ties

Rear Dock Canopy

Rear Main Downspout

Rear Lowest Corner – Footer 12" deep at this point

Outbuilding

Outbuilding Canopy