



## ***MEMORANDUM***

TO: Mayor and City Council  
Board of County Commissioners

THROUGH: Steve Barwick, City Manager  
Jon Peacock, County Manager

FROM: R. Barry Crook, Assistant City Manager  
Scott Miller, Capital Asset Director

DATE: February 19, 2014

MEETING DATE: March 4, 2014

RE: Centennial Issues

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### **Executive Summary:**

Since the summer of 2009 when the Centennial HOA and their attorney brought to the city and the county's attention water intrusion issues at Centennial, the city has been working with the HOA to identify and understand the scope of their problem and determine how to fix that problem and how much that might cost. There is now agreement that the problems involve approximately a total of \$3.24 million in repairs needed to stop water intrusion, replace siding/damage and correct drainage deficiencies. The consultant (Athen Builders) suggest that this should be done over a period of 6 years, although what is necessary is a repair project of some \$2.1 million over the next three to four years (attic, roof, flashing, decks, entryways on the north side of the buildings, other waterproofing details and siding on the southern aspects and return elevations east and west), then an investment of \$1.1 million over a longer period of time – probably as much as 10 years (the northern aspects issues).

The process to date has included:

- The HOA employing the firm of Resource Engineering Group, Inc. and DS Consulting to examine the problem and issue a report and recommendations.
- In early 2010 the City agreed to provide interim project management services to assist the HOA/APCHA/City of Aspen/Pitkin County team in expanding the overall evaluation. The City requested, received, and executed a proposal from Building Science Corporation (BSC), a Boston based engineering and architecture firm with extensive experience in building mechanics, systems, and water management. BSC has conducted numerous forensic examinations and prepared evaluations and solutions for moisture damaged buildings.

- Included as part of the BSC evaluation was a three page report from Michael V. Van Dyke, PhD, from National Jewish Health (NJH) in Denver (engaged at the recommendation of the City Environmental Health Department). He had provided visual inspection of mold presence and extent, and had reviewed one document from DS Consulting (the Centennial HOA retained mold assessment firm). The City Asset staff had provided Dr. Van Dyke with the information it had thus received from the Centennial HOA and management.
- Building Science Corporation (City of Aspen consultant), and Resource Engineering Group (Centennial consultant) collaborated and agreed on a general repair strategy. This revised strategy was more extensive and more expensive than that initially recommended by BSC. It went beyond normal standards for building repair and allows for the building owner to install a new and complete building wrap over 100% of the exterior wall assemblies, detailed a moisture drainage plane, and new cladding.
- In 2013, Athen Builders was engaged to conduct a thorough cost estimate of the repairs agreed to by the city project management staff and the Centennial HOA. As discussed in the first paragraph, the Athen Report has identified a total of \$3,243,813 in repairs needed to stop water intrusion, replace siding/damage and correct drainage deficiencies.

The direction from the elected officials has been consistent over time. It includes:

- Provide technical assistance and help them get started with the BSC recommendation to begin repairs with a few units or a few walls so you can really see what is going on behind the cladding and get a better estimate on projected costs.
- Do not negotiate with the HOA over government assistance to pay for the repairs.
- Get an estimate on an agreed upon scope of work from an agreed upon contractor and report back on the results.

In meetings with the HOA this past fall, the HOA proposes a variety of options, most of which are designed to be so onerous as to not be considered serious options. Their most desired outcome is for the city to assume \$2.4 million of the \$3.2 million cost or 74% of the cost burden – with the HOA taking care of the remaining \$800K.

The latest cost estimate for repairs and rehabilitation of the Centennial buildings appears to staff to be within the ability of residents to pay for. We have recommended an approach where some \$2.1 million be funded for more immediate repairs and the remainder of approximately \$900K be funded over time from the annual contributions they are currently making for capital reserves (\$90K per year). With some \$3.6 million in already realized appreciation (and undoubtedly more in equity from paying down mortgage debt over the years) – most of the residents are able to tap into their equity to pay a cash assessment that ranges from \$13K (for a studio unit) to just more than \$38K for the 3-bedroom units (assuming the assessment is allocated on a square foot basis).

For those who lack such equity, the HOA should be able to secure a loan from a local lender and allow those owners to pay back their assessment over time.

If the elected officials so desire, a loan program using government funds can be created under conditions we would recommend and for which a more general capital reserve policy may be fashioned.

The government entities should also be able to help with energy efficiency upgrades that the HOA and unit owners may wish make and for which loans/rebates can be found and made available.

### **Background:**

The Centennial complex consists of two legally separate segments, one consisting of 148 category three, deed restricted rental units and the other consisting of 92 category four, deed restricted ownership units. They were constructed in 1985 and both segments use the same design, stick built materials, and layout and they are located on the same site at the base of Smuggler Mountain.

The values/principles that have driven the staff effort and the Council/BOCC direction to-date are:

- The community has provided a subsidy for workforce/community housing so that our community can accommodate working class people in an otherwise priced-out housing market. This effort creates an opportunity for workers to be able to afford to live in the community they work in. The subsidy was meant to provide for affordable rents and affordable housing purchase prices.
- The cost of home ownership includes the need to maintain the unit you have purchased – the community’s responsibility has been to subsidize the purchase price, not provide for upkeep of one’s home.
- The interest of the community in maintaining affordability into the future is provided for in the system of category pricing and in the deed restriction that limits future price appreciation. This limitation does not prohibit owners from maintaining their investments, nor make that investment *unaffordable*.
- Deed restrictions allow for only a certain level of appreciation and have matched free market appreciation over recent history.
- Any decisions to subsidize the cost of maintaining one’s home ownership investment must be made in light of the precedent-setting condition it would create. If failure to maintain one’s housing investment is seen as a responsibility of the government, other owners will quickly follow suit – they will cease making their own investment in home maintenance and soon enough come to the government and ask the government to do that for them.
- Government can help owners by providing assistance, advice and direction – but not by taking over their responsibilities for them.

### **2009 - 2010**

On August 8<sup>th</sup>, 2009 selected city staff members and the Centennial HOA president, Ed Cross and HOA attorney Fred Pierce sat down to go over what is known about the scope of the problems at Centennial. Problems at units #314 and #316 underscored the nature of the issues. Water damage to structural members and a significant amount of mold in the walls of the above mentioned units forced substantial structural repairs local to those units. The situation was front page news in the newspapers and resulted in a meeting to determine what, if any, part the city or county may play in helping the HOA. For its part the HOA had hired an engineering firm to examine the problem and issue a report and recommendations (enclosed). Mr. Cross summarized the report by saying the engineer recommended scrapping the buildings and starting over again. That would involve 92 condominium homes consisting of 70,000 square feet of space. The association’s insurance, even if completely applicable to the issue, has a \$15,000,000 cap and is not thought to be nearly enough

to replace 92 units. Standard insurance policies exclude mold issues and that reality would probably provide the insurance carrier with further cause to limit the extent of insurance coverage.

Mr. Cross's statements certainly were alarming to all at the meeting and the discussions that followed centered on what could be done by local governments, if anything, to help the HOA cope with the problem. It was clear that more information would be needed to understand the true scope of the situation.

The HOA employed the firm of Resource Engineering Group, Inc. to look at the two units in question -- #314 and #316 – and were able to examine those units while repairs were being conducted. The siding, exterior gypsum board and sheathing had been removed on the south and east facing facades of #314 and the west façade of #316. Some of the interior drywall had been removed in #316. Their observations of those units were:

- The areas of exterior wall that were open for observation showed multiple structural members with significant moisture damage. It appears the predominant cause of this damage is poor waterproofing details in the original construction. This damage extends to the foundation level in many areas.
- The flooring in the kitchen of Unit 314 has swelled due to moisture and created an uneven surface. It appears this is from moisture transported through the structural system from the exterior wall.
- The exterior shower stall wall in Unit 314 was open for investigation and showed signs of moisture damage both of the exterior moisture issue and from improper moisture detailing for shower stall construction.
- There is some moisture damage from a leaking drainpipe in the common wall between Units 314 & 316. However, the structural system in this area is mostly intact.
- We also observed conditions in the crawlspace under this building. In the crawl space, the sill plates of the east facing walls on the north side of the building showed signs of moisture damage and rot. A few joists showed signs of surface mold. One LVL beam showed extensive rot on one end, and others had signs of moisture damage. The air in the crawlspace was damp and most of the passive vents were covered with batt insulation. It appears this is typical of all the crawlspaces.

Their recommendation to the HOA board was to:

- Remove siding on all units in the complex to inspect the level of moisture damage to the structure and repair and replace damaged members. A local inspector should be hired during this time to inspect units on a case-by-case basis to specify which members should be replaced.
- Mechanically vent all crawlspaces for proper humidity control.
- Remove all roofing material to allow for the installation of proper flashing detailing. At this time the roof sheathing would also be inspected. The attic spaces of all units should be inspected for signs of moisture damage on the under side of the sheathing.
- Remove and replace any damaged members in the porches and decks.
- When the wall and roof structural systems are exposed, new waterproofing/flashing details must be installed to prevent moisture damage in the future. These details will need to be provided by the Architect and/or waterproofing specialist.

- Contract with mold mitigation specialists to investigate the level of mold issue in the buildings and determine the proper remediation steps as needed. Based on the observations and report prepared by DS Consulting of the mold conditions found in Units 314 & 316, it is possible that mold could be found in many of the units within the complex.
- We recommend that similar steps are taken at the rental properties adjacent to the units that are part of the HOA.

Their conclusions was: “In our opinion, the moisture damage observed is primarily from poor design and installation of flashing and other waterproofing details, not a lack of maintenance. These details (or lack thereof) have resulted in water flowing within the wall cavity [Lance Sigley has photos documenting this effect] during moisture events (rain and/or snow melt). The wall assembly cannot properly dry out between moisture events; this condition has been largely masked for over two decades by the choice of redwood for siding. Redwood is naturally very resistant to moisture damage and therefore effectively hid the issues within the structure resulting in the possible wide spread damage currently in place.”

Tom McCabe has spoken with the professional property manager for the 148 Centennial rental units, Kim Keilin, to see if they had experienced any of these problems. The rental units are identical in every way to the ownership units and he was interested to see if Kim had experienced the same issues. Kim was very helpful and volunteered that her staff would cooperate fully with the HOA directors to share what they had learned over the years. Kim confirmed that the rental units had been experiencing the same issues and that they had found a way to correct the problem. She also mentioned that the problem was common but not systemic to all the roofs and walls. She speculated that the same would be true of the HOA units. One significant difference between the two management entities is that in the case of the rental units, the problem was found sooner and addressed promptly. This gave the rental management the time needed to budget for doing the repairs over time, as problem areas were discovered in different portions of the complex. Because the rental unit’s management found the problem sooner and responded promptly, the expense has not been a major problem for them. The extent of the damage in the ownership (HOA) units is likely to be larger because they were not aware of, and did not address, the problem sooner.

The rental unit management team added some concrete pilings to provide additional deck support where needed and replaced some damaged wood. When they discovered water penetration into the exterior walls they had C&M contractors replace the original components with Gold Board, Tyvec and Hardy Board. Pacific Sheet Metal addressed the flashing problems. So, the good news is that there is proven local expertise and solutions that can be utilized to address the challenges.

Direction given / What was done:

1. We initiated disclosure to buyers of what APCHA knows about the problems at Centennial because this represented our obligation as brokers of the sale of units between qualified seller and buyer.
2. Pursue viability of claims against original architect and builder
3. Evaluate liability of insurance carrier – why was claim denied, is there avenue for further pursuit

4. Immediate health and safety evaluation for mold infestation – if a problem, is there any remediation steps that can keep people in their homes? (air filters, etc.)
5. Legal risk analysis for Pitkin County, City of Aspen and APCHA
6. Examination of original plans and approval processes – who was land planner, who approved plans, who issued building permits, who did inspections, who issued COs, etc?
7. Communication Plan to public – appoint a single spokesperson
8. Communicate and coordinate with HOA/owners
9. Analyze any available emergency funding sources
10. Emergency plan for temporary relocations
11. Analyze their capital reserves and capacity for taking on debt
12. Evaluation of a permanent/final remediation plan for both structural/design problems and mold.

## **2010 – 2011**

In early 2010 the City agreed to provide interim project management services to assist the HOA/APCHA/City of Aspen/Pitkin County team in expanding the overall evaluation. The City requested, received, and executed a proposal from Building Science Corporation (BSC), a Boston based engineering and architecture firm with extensive experience in building mechanics, systems, and water management. BSC has conducted numerous forensic examinations and prepared evaluations and solutions for moisture damaged buildings. The City has worked with BSC as the liaison for the US Department of Energy Building America program.

BSC visited the site on June 30<sup>th</sup> 2010. For the investigations the City engaged Rudd Construction (Rudd) to provide manpower, equipment, tools and materials to assist in uncovering areas for inspection, and for replacement and waterproofing repair. Also present on the day of these inspections, at the request of Lee Cassin (City Environmental Health Director) was industrial hygienist and mold expert, Michael V. Van Dyke, PhD, from National Jewish Health in Denver. He provided visual inspection of mold presence and extent.

On August 3, 2010 City of Aspen Capital Asset Department staff presented a report to a joint meeting of the City of Aspen City Council and the Pitkin County Commissioners. The report was prepared by Building Science Corporation (BSC), <http://www.buildingscience.com/>, a building science and consulting firm, with a focus on preventing and resolving problems related to building design, construction and operation. BSC is internationally recognized for its expertise in moisture dynamics, indoor air quality, and building failure forensic investigations.

Also presented at that meeting was a three page report from Michael V. Van Dyke, PhD, from National Jewish Health (NJH) in Denver (engaged at the recommendation of the City Environmental Health Department). He had provided visual inspection of mold presence and extent, and had reviewed one document from DS Consulting (the Centennial HOA retained mold assessment firm). The City Asset staff had provided Dr. Van Dyke with the information it had thus received from the Centennial HOA and management.

The staff presentation was cut short by Ed Cross, HOA president, who highlighted another report from DS which contained sample evidence of elevated mold levels within living spaces at Centennial. City Council and The Board of County Commissioners requested staff to resolve the “dueling experts” reports and return at a later date to complete the report.

We have resolved the questions of differing opinions by obtaining joint letters of agreement from the building experts and from the mold experts. Council and the BOCC asked staff to try and have the “dueling consultants” of the City and the Centennial HOA agree to some background facts.

Other highlights from this time period were:

- The “good news” of these reports was that the city’s consultants did not believe the situation is as dire as was indicated to us by the Centennial HOA back in April 2010 as a result of the report they received from the HOA’s consultant. Instead of a potential \$100K per unit or \$10 million estimate, Rudd Construction had a “big ballpark” working estimate of less than \$4000 per unit or around \$350K to solve the moisture problems.
- Now this was NOT a construction bid and would be subject to change as construction documents are prepared, but it is meant to be an “order of magnitude” number.
- These numbers could be somewhat higher depending on the HOA’s decision about which options to pursue – whether they want to repair the moisture issues or go beyond to additional improvements and upgrades – but even if it were 2 or 3 times that amount it is still nowhere near the HOA’s estimates from last Fall of \$10 million in repairs.
- The bad news was that the HOA needed to reconcile the opinions of the “dueling experts” – the consultants that were hired by the HOA and those we engaged to review the buildings. And they appear to be skeptical of the opinion of the city’s consultants.
- After determining whose advice to follow, the HOA will need to make some decisions about how to plan for and sequence the repairs to the buildings that will deal with the moisture infiltration problems that exist.
- BUT, if the opinions of the city/county experts are accepted by the HOA, it is our conclusion that the repairs are well within the ability of the homeowners to pursue on their own – it is within the realm of their responsibility as homeowners and within their means to afford this work.
- The next steps was for the HOA to be fully briefed by the consultants, to put the HOA experts together with the city/county experts and reconcile their opinions and cost estimates, then for them to begin to make some decisions about which of the options they want to pursue in order to rectify the water intrusion issues . . . and finally to develop their financing options for funding.
- Unfortunately most of these capital investments would NOT be recoverable under the capital improvements limitations set forth in the Housing guidelines. It falls under the “maintenance” expense category – much like roof replacements – and would not meet the guidelines for permitted capital improvements that are recoverable in the sales price.
- If PACE funding becomes operable – some of their investments (for example, window replacement that addressed window flashing issues) might fall under the ability of that loan program and be eligible for that source of funding.

It was clear that moisture intrusion issues have long been known to the Centennial HOA Board and that studies have been repeatedly done over the past 20 years. Some work has been done, but much of the recommended repairs have been continuously deferred. Capital reserve recommendations have been ignored – indeed a rebate was provided to owners in one year, even though the need to save for repairs was readily apparent.

#### Construction Repairs/Recommendations/Alternatives

- Building Science Corporation (City of Aspen consultant), and Resource Engineering Group (Centennial consultant) have collaborated and agreed on a general repair strategy. Note that this revised strategy is more extensive and more expensive than that initially recommended by BSC. It goes beyond normal standards for building repair and allows for the building owner to install a new and complete building wrap over 100% of the exterior wall assemblies,
- detail a moisture drainage plane, and new cladding.
- BSC has noted that if this repair approach is taken, the owner may wish to also replace windows and doors with more modern and thermally efficient units (an additional cost).
- Both the original and the expanded repair strategies will allow moisture damaged areas to be uncovered and examined for deeper damage and mold. Once uncovered, and only when uncovered, can any accurate estimate of mold remediation be determined, and those repairs should be undertaken in that process.

#### **History of moisture issues at Centennial – what did they know and when did they know it?**

In August of 2010, city staff requested that the Centennial HOA board provide copies of any and all available meeting minutes, financial reports, or anything else that would help staff understand the history of moisture intrusion issues, the HOA's finances, and what has been done to mitigate the moisture problems. The HOA's management company, First Choice Properties & Management, Inc., immediately provided electronic copies of meeting minutes, budgets, and financial statements from 2007 through 2010. However, staff was told that all other records were stored in an office in Glenwood Springs and would be difficult to produce. In December, 2010 some records dating back to 1986 were scanned and e-mailed to staff. While these records were by no means a complete record, many years' records are still missing; they provided a good snapshot of discovery of the moisture problems, HOA board discussion of those problems and attempts to remedy the problems.

The following bullet points document some of the more important events in a timeline from 1986 to the present. This is by no means a comprehensive study of all the facts:

- 11/24/86- Capital reserve study considered replacement of exterior stain, parking lot paving and roofs only. Beginning fund balance was \$12,000, out year contributions started at \$16,000, inflated each year by 3.5%, anticipated a capital reserve balance of \$409,010 by year 2010.
- 5/19/87- board meeting minutes mention broken window seals throughout complex..
- 6/17/87- board meeting minutes mention window problems and possible developer liability.
- 8/12/91- James J. Wilson Building Consultants, Inc. / Code Analysis and Design hired to study water damage.
- 10/17/91- Wilson hired to perform comprehensive study of moisture damage and recommend remedial measures.
- 11/20/91- Board letter to all homeowners identifies “potentially serious problem” of moisture infiltration behind siding, “causing deterioration”. Possible causes include; lack of roof



overhangs, lack of exterior caulking, poor ventilation of baths and appliances, sprinklers directed at siding, lack of crawl-space and attic ventilation. Possible remedies predicted to be “costly and complicated”. Increases fees by 15% for 1992.

- 1/7/92- Wilson progress report discusses possible mold, decay, and “extensive moisture damage”.
- 3/9/92- Wilson progress report discusses latent defects and possibility of legal action.
- 11/23/92- Letter to all homeowners further discusses water infiltration, Wilson report, and 15% fees increase to study problem, install dryer vents, repair water damage, install prototype roof drip edges.
- 11/17/93- Minutes of annual meeting reports that roof overhangs were installed on south side of all buildings for \$47,595.50. No increase in fees for 1994.
- 11/30/94- Minutes of annual meeting anticipates a surplus at year end of \$40,000- \$45,000.
- 1/24/95- Replacement Cost Study by Wilson Building Consultants, Inc. recommends total funding for repair and replacement of \$892,279.
- 2/1/95- First Choice revises total replacement costs from Wilson report down to \$264,834.
- 2/8/95- Board meeting minutes note “now that replacement study has been completed, the surplus will be passed on to the owners as a credit” to reduce 1995 assessments.
- 12/9/98- Board meeting minutes note “not enough money in the reserve fund”. Reserve assessments will be increased “twofold”, getting assessments back to same level of “five years ago”.
- 4/19/99- Wilson Replacement Cost Study recommends Replacement cost funding of \$804,700 for next 5 years.
- 9/1/99- Board meeting minutes state that reserve account is not sufficient. Will likely need to increase both operating and replacement assessments for next year.
- 10/20/99- Board meeting minutes state that association finances are under budget.
- 12/1/99- Annual meeting minutes state assessments will increase no mention of amounts.
- 6/16/09- REG, Inc. prepared study recommending removal of all building exteriors to repair/replace any and all moisture damaged building components.

The capital reserve studies and expert reports as early as 1991 pointed to a large problem with moisture intrusion and potential damage to all buildings if a comprehensive program of repairs funded by a large increase in capital assessments was not undertaken immediately. While some repairs were done, and assessments were increased slightly, by and large the expert’s recommendations were not heeded. Wilson Building Consultants has published a study undertaken in 1991 and completed in 1992 that explains the scope and the urgency of the problem. This report was the basis of updated reports by Wilson in 1995 and 1999 which repeated the scope of the problem and recommended very large increases in the HOA’s capital reserves to pay for the needed repairs. These recommendations were not followed.

After a ten-year period of very little discussion or action on the problem, the HOA hired REG to perform another study of the moisture problems in 2009. In this report the study’s author August Hasz, recommends wholesale removal of all building cladding, roofing, windows and doors and removal of all damaged members. This report is the basis for the HOA’s seeking approximately \$10,000,000 for repairs to their buildings.

REG, Inc. prepared study recommending removal of all building exteriors to repair/replace any and all moisture damaged building components Staff's conclusion is that if the HOA had acted sooner on the recommendations of several experts, it could have mitigated most of its problems rather painlessly. However, even today the problem is not a \$10,000,000 problem and if a sensible program of capital repairs is undertaken, the HOA can fund this program with an increase in capital assessments and doing repairs over a several year period, making the most serious repairs a high priority.

Conclusions:

The inspections reports all corroborate and identify the initial requirement to repair the construction issues that result in water intrusion. Once the excess moisture intrusion is mitigated mold will not grow.

The costs we can estimate from this investigation are well below the suggested outcomes from 2009. If the mold mitigation is added, and considering some contingency for unforeseen conditions the per-unit cost of repairs may be below \$7,000.

Buildings depreciate. Regularly scheduled repair and maintenance are necessary to avoid deterioration, correct deficiencies, and maintain function and value. Homeowners routinely incur periodic repair expenses with any structure. In the case of multifamily homeownership, those repair costs are shared, typically through reserves, special assessments, or other financing.

The 2009 extrapolation of costs based on what was experience and projected by the HOA was \$100,000 per unit but involved, as best we could discern, a comprehensive redesign and reconstruction of the buildings, inside and out.

This redesign and rebuilding approach is potentially attractive in some respects (essentially a "new building") but it is well beyond what most building owners would prudently consider, unless there was expectation of an outside funding mechanism or other value windfall. The HOA has suggested equity increase and borrowing potential by removal of the affordable housing program deed restrictions. That discussion is beyond a Staff level purview. However, home ownership and building ownership requires owner responsibility for regular maintenance and preservation of the depreciable elements. It would be highly unusual for an original builder or a mortgagor to carry maintenance as an outside responsibility while granting fee ownership, and forced removal of agreed-upon terms and conditions is unknown.

The 2010 BSC investigation was accompanied by a local construction firm which provided manpower and equipment. They have performed similar work locally. Based on their observations and discussions with BSC they felt considerably less work would be required than was suggested in 2009. We spoke with DS about mold work and received "very worst" case numbers for attic mold clean-up. Together the total per unit cost was less than \$7,000. Again, the building science experts and mold experts have agreed that the prudent approach is to stop the moisture intrusion, and then identify and repair damaged areas. The record indicates the HOA had similar information and recommendations for as much as 20 years.

Direction provided at that meeting was:

1. Provide technical assistance and help them get started with the BSC recommendation to begin repairs with a few units or a few walls so you can really see what is going on behind the cladding and get a better estimate on projected costs.
2. Do not continue with cost estimating efforts under RLB nor negotiate with the HOA over government assistance to pay for the repairs.

**2012**

Results to-date are encouraging and suggest a total project cost much more in keeping with our original estimates of less than \$10,000 per unit. This is an amount that is reasonably within the ability of the Centennial HOA to finance through assessments and loans from a bank (which loans banks are ready to make), and can be done over the course of several years (See memo dated 8/1/2012 and part of Attachment 5).

A repair estimate from Summit Consulting (cost split between the HOA and the governments) will:

- review the Building Science Corporation (BSC) report dated 02.21.2012 and solicit feedback from Athens Builders (the HOA's current Contractor); John Forster (HOA representative); and BSC.
- A narrative for the following estimate option will be prepared prior to commencing the estimate phase.
- Once approved, master bid forms will be assembled and quantity surveys will be performed. Select subcontractor feedback will be solicited to market validate the estimate. The estimate will be accompanied by a Basis of Budget attachment.

The approach/estimate option that will be the basis for the estimate will be similar to the approach taken by the Centennial rental project:

- An estimate to replace the exterior wall envelope of the south and west facing aspects based upon BSC feedback . The north and east facing aspects will be reviewed for water intrusion areas and particularly for repairs/replacement of flashing details at the roof/wall juncture.

Over the course of the past year:

- Athen Builders, the same contractor who has been working on the Centennial rental buildings, was selected by the HOA to conduct repairs on three units, on their worst south and west exposures.
- The HOA and contractor determined it was not possible to remove and restore the existing siding. Instead new siding was used on those south and west exposures (this is how the Centennial rental project has proceeded). This had a cost impact.
- The selected sample appears to be costing \$7-10,000 per unit, based on the small quantity. Athen believes a larger selection of units will increase efficiency and allow for quantity materials costs.
- A review of deteriorated decks indicates costs for those could be \$2,500 to \$3,000 per deck.

Conclusions from that work

The inspections reports all corroborate and identify the initial requirement to repair the construction issues that result in water intrusion. Once the excess moisture intrusion is mitigated mold will not grow.

The costs we can estimate from this investigation are well below the suggested outcomes from the HOA's 2009 scenario and our original estimates. If the mold mitigation is added, and considering some contingency for unforeseen conditions the per-unit cost of repairs may be below \$7,000.

Recommendations at that time:

- Continue with the effort already underway to do a side or two at a time (the south and west facing aspects) on selected buildings. Let the HOA continue to assess the efficacy of replacing windows and help them secure outside funds where possible for that effort. Let the HOA assess their desire to deal with decks and how to deal with the individual deck's owner's responsibility.
- Engage a local consulting firm to evaluate and extrapolate on the work scope undertaken by the rental property and the HOA in 2012. Get a professional estimate for the entire project using an approach that emphasizes the effort on the south and west facing aspects of the building (taking off the siding and reviewing what needs to be done) and a review of the north and east facing aspects for flashing detail repairs, particularly at the juncture of the roof and wall.
- We do not believe it is wise, nor necessary, for government funds to pay for the responsibilities of home ownership. The repair costs that are underway at Centennial are a necessary part of being a home owner – and in fact have been somewhat neglected for a long time (as evidenced in the meeting minutes of the Centennial HOA since the early '90's). There are opportunities for energy-related grants to be made available to Centennial owners to defray a portion of their repairs/maintenance costs. Policy discussions have been underway about some ways of helping an HOA raise capital reserve funds (e.g. a payment to be assessed and collected at each sale – something already in place for Burlingame transactions). It is anticipated that this will be a topic for consideration at the upcoming Housing Summit in September.

Direction provided at that time:

1. Continue with the effort outlined.
2. Get the estimate and report back on the results.
3. Take up on a policy level the issue at the Housing Summit

## **Current Discussion**

### **2013**

Athen Builders was engaged to conduct a thorough cost estimate of the repairs agreed to by the city project management staff and the Centennial HOA.

The Athen Report has identified a total of \$3,243,813 in repairs needed to stop water intrusion, replace siding/damage and correct drainage deficiencies. They suggest that this should be done over a period of 6 years, although what is necessary is a repair project of some \$2.1 million over the next three to four years (attic, roof, flashing, decks, entryways on the north side of the buildings, other waterproofing details and siding on the southern aspects and return elevations east and west),

then an investment of \$1.1 million over a longer period of time – probably as much as 10 years (the northern aspects issues).

The HOA proposes a variety of options, most of which are designed to be so onerous as to not be considered serious options. They outline dire consequences of having to pay for the repairs themselves and choose short amortization schedules to buttress those conclusions.

Their proposed options are to:

- 1) Get a loan for the amount of repairs chosen to initiate; dues increase depends on loan amount. Projected impact on owners varies from dire (75% default rate/migration out rate) to somewhat less dire (30% default rate/20% migration out rate).
- 2) Pay cash special assessments for the amount of repairs chosen to initiate; assessment per unit varies depending on amount of repairs chosen. They calculate \$35K +/- per unit.
- 3) Small loan, small cash contribution from capital reserves – fund only \$1.25 million in repairs – results in small monthly dues increase.
- 4) No loan; no special assessment; no change in current monthly assessments; takes 36 years to effectuate repairs.
- 5) City/County buys out owners; condemns property; sells property to private developer; pockets profit (if it exists).
- 6) Cancel further repairs; cancel \$90K current capital reserve assessments; reduce monthly assessments to handle essential services of snow plowing and water; cancel landscaping, irrigation, cable and maintenance; wait.
- 7) City/County form a partnership where the cost of reconstruction is shared and the HOA receives financial assistance in whatever form that can be provided...loans, grants, gifts, manpower and equipment.

**Their most desired outcome is for the city to assume \$2.4 million of the \$3.2 million cost or 74% of the cost burden – with the HOA taking care of the remaining \$800K.**

This would set a precedent and undermine any notion currently existing in the deed-restricted homeowner communities that THEY as owners are responsible for the cost of home ownership – instead the message deed-restricted HOA boards and owners would understand is that the city would assume a disproportionate responsibility for taking care of their communities in addition to subsidizing their purchase of a home.

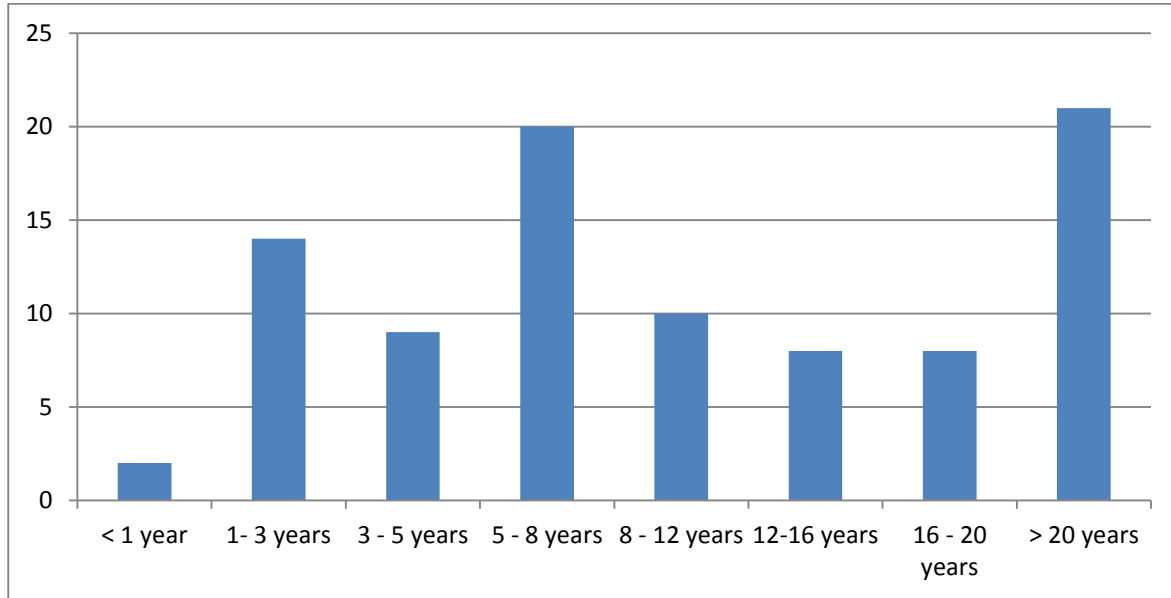
### **What is at Centennial?**

There are 92 units owned at Centennial – all are Category 4 units.

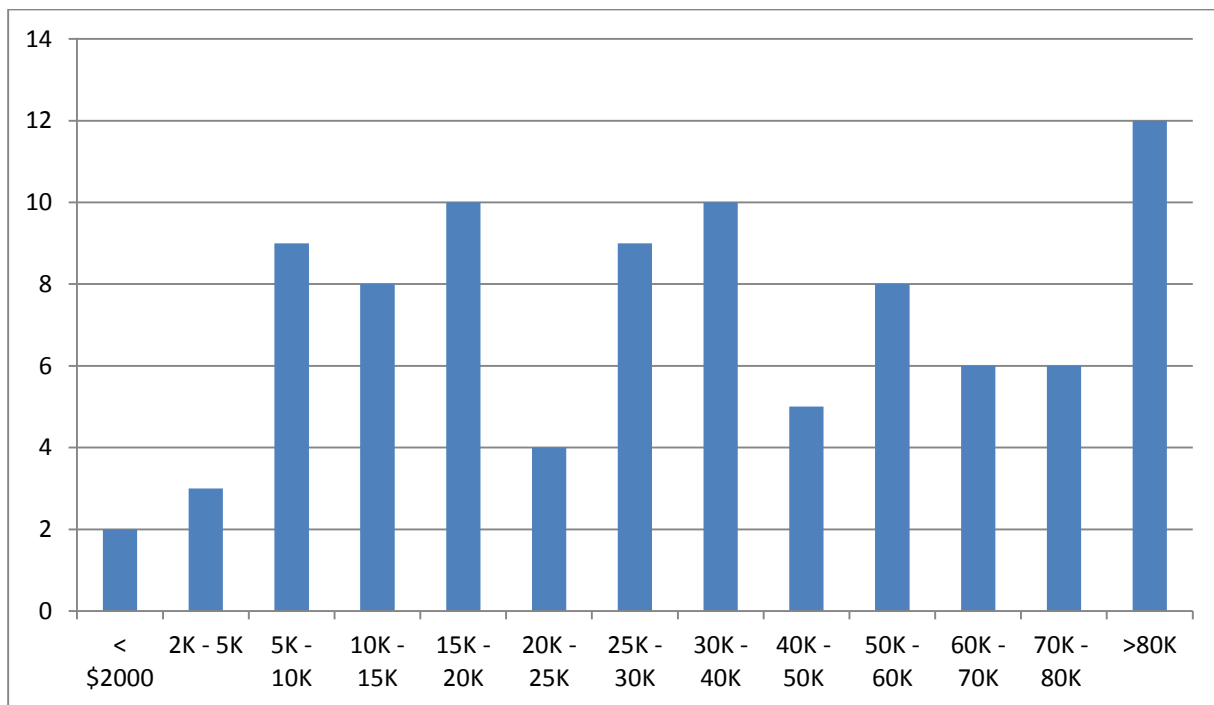
- 10 – Studio units
- 38 – 1-bedroom units
- 39 – 2-bedroom units
- 5 – 3 bedroom units

Of the 92 units, most have appreciation caps of 3% or CPI, whichever is less. However 29 of the units have caps of 6% or CPI, whichever is less.

Owners have tenure in their units ranging from 2 months to over 28 years. The distribution is shown in the following graph:



**With this kind of ownership tenure total unit appreciation is \$3.57 million, with a range from \$544 to \$103,051.** The distribution is shown on the graph below:



- Just more than half of all owners have appreciated their original purchase price by \$30,000 or more.

**The Current HOA Dues Structure**

The existing monthly assessments are:

<u>Unit Size</u>	<u>Monthly Assessment</u>	<u>Per Sq Foot Basis</u>
Studio	\$262.04	\$0.58
1-Bedroom	\$319.67	\$0.44
2-Bedroom	\$438.82	\$0.50
3-Bedroom	\$612.08	\$0.47

This includes water and cable, and of which approximately \$82 per unit per month is for capital reserves.

Assuming this is allocated on a square footage basis, this yields capital reserve assessments as follows:

<u>\$90K Capital Assessment</u>	<u>1.25 / sq foot</u>	<u>Monthly</u>
studio	\$ 569.18	\$ 47.43
1-bdrm	\$ 748.07	\$ 62.34
2-bdrm	\$ 1,102.09	\$ 91.84
3-bdrm	\$ 1,636.25	\$ 136.35

And this provides for a 2013 HOA budget of:

Operating Assessment	261,820
Replacement Assessment	90,000
Interest Income	300
Late Fees/Finance Charges	750
Cable Fees	44,500
Water Fees	15,000
Pet Registration	700
<b>Total Income</b>	<b>\$413,070</b>

**What would it cost individual homeowners to do?**

We will consider a scenario where the immediate need for \$2.1 million is borrowed/cash accumulated and the existing capital reserve assessment is used to take care of the additional \$1.1 million over time.

Assuming the assessment is allocated according to square footage, the following would be required of homeowners:

<b>\$2.1 million assessment</b>	<b>\$/per square foot \$ 29.19</b>
studio - 455 ft2	\$ 13,280.98
1-bdrm - 598 ft2	\$ 17,455.00
1-bdrm - 600 ft2	\$ 17,513.38
1-bdrm - 720 ft2	\$ 21,016.05
1-bdrm - 733 ft2	\$ 21,395.51
1-bdrm - 805 ft2	\$ 23,497.12
1-bdrm - 841 ft2	\$ 24,547.92
1-bdrm - 878 ft2	\$ 25,627.91
2-bdrm - 780 ft2	\$ 22,767.39
2-bdrm - 832 ft2	\$ 24,285.22
2-bdrm - 840 ft2	\$ 24,518.73
2-bdrm - 850 ft2	\$ 24,810.62
2-bdrm - 881 ft2	\$ 25,715.48
2-bdrm - 922 ft2	\$ 26,912.22
3-bdrm - 1308 ft2	\$ 38,179.16

Looking at each individual unit, and given the amount of appreciation in the units, all owners would be able to refinance their units and pay all or some of the assessment in cash – increasing the payout on their loans. Most would be able to completely pay their assessment by tapping into their appreciation equity, some would only be able to pay for a portion of that assessment. Thirty-three (33) of the unit owners would need to borrow some or almost all of the assessment in order to meet their obligations.

For the \$2.1 million assessment, \$1,726,398 could be paid in cash by the unit owners by accessing their accumulated appreciation (assuming they haven't already borrowed against that amount). Given the length of time it would take to be credited with significant amounts of appreciation, a large portion of these owners should have additional equity that could be tapped to buy down the remaining \$373,631 that might need to be borrowed in order to meet the assessment total.

Since we have no information on this, and for calculation's sake, we assume that no equity derived from paying down a mortgage is used to finance the assessment, and that 33 owners would need to borrow \$373,631 in amounts that vary from \$1,308 to \$30,935. We have sought out information from local bankers and they would make a 15-year loan to the HOA at prime + .75% (we used 4% for purposes of the calculation), thus a monthly payment of \$2,763.70 would be necessary to service that loan. Allocating the monthly payment on the basis of square footage and the portion of the each individual unit's share of the total loan amount yields payments that vary from \$5.83 to \$225.87 per month per unit. It seems rather obvious that some of the unit owners would avoid this additional borrowing – either by borrowing from some other source or tapping into their equity acquired by virtue of having paid down their original mortgage (for example, one unit would need to borrow an additional \$819 to complete their share of the assessment).



**How affordable is this approach?**

On a per square foot basis this would add to the monthly housing outlay anywhere from \$0.01 to \$0.31 per month.

The existing monthly assessments are:

<u>Unit Size</u>	<u>Monthly Assessment</u>	<u>Per Sq Foot Basis</u>
Studio	\$262.04	\$0.58
1-Bedroom	\$319.67	\$0.44
2-Bedroom	\$438.82	\$0.50
3-Bedroom	\$612.08	\$0.47

With the additional assessment required to service the debt, units would have monthly assessments that look like this:

<u>Unit Size</u>	<u>Monthly Assessment</u>	<u>Per Sq Foot Basis</u>
Studio	\$262.04 + \$25.40 to \$94.21	\$0.58 + \$0.03 to \$.16
1-Bedroom	\$319.67 + \$5.83 to \$155.18	\$0.44 + \$0.01 to \$.12
2-Bedroom	\$438.82 + \$25.00 to \$148.77	\$0.50 + \$0.03 to \$.17
3-Bedroom	\$612.08 + \$90.16 to \$225.87	\$0.47 + \$.10 to \$.17

And therefore the new monthly assessments and the resulting percentage increases ranges from:

<u>Unit Size</u>	<u>Monthly Assessment</u>	<u>Percentage Increase</u>
Studio	from \$287.44 to \$356.25	5.2% to 27.6% increase
1-Bedroom	from \$325.50 to \$474.85	2.3% to 27.3% increase
2-Bedroom	from \$463.82 to \$587.59	6% to 34% increase
3-Bedroom	from \$702.24 to \$837.95	21.3% to 36.2% increase

In preparing for the 2012 Housing Summit, we performed some work on affordability – looking at the cost of home ownership (including mortgage, HOA dues, utilities and insurance) as a percentage of income across the various categories/dependent numbers/unit sizes (see Attachments 1 and 2).

One generally accepted debt-to-income ratio threshold (including principal, interest, insurance and taxes) for conventional home loans has been 28% of gross monthly income; FHA loans allow for a slightly higher ratio at 29%. Many analysts will tell you that ratios in the 30%+ range may put some pressure on households, but the amount of income devoted to housing does not become onerous until you are well into the 40%+ areas. Remember, our calculations INCLUDE HOA assessments not normally included in the “accepted debt-to-income” ratios.

When you factor in the increases contemplated under the funding approach outlined above, the **MAXIMUM INCREASES** associated with the 33 units that will need to pay additional monthly assessments produces the following results:

% of monthly income	Cat4	
	Min	Max
0 / Studio	23.4%	14.4%
0 / 1BR	26.9%	16.5%
0 / 2BR	31.0%	19.1%
0 / 3BR	37.7%	23.2%
1 / Studio	21.4%	13.6%
1 / 1BR	24.7%	15.7%
1 / 2BR	28.4%	18.0%
1 / 3BR	34.6%	21.9%
2 / Studio	19.8%	12.9%
2 / 1BR	22.8%	14.9%
2 / 2BR	26.2%	17.1%
2 / 3BR	31.9%	20.9%
3 / Studio	18.4%	12.3%
3 / 1BR	21.2%	14.2%
3 / 2BR	24.4%	16.3%
3 / 3BR	29.6%	19.9%

For those unit owners who will see the maximum monthly assessment increases to service their debt, the analysis indicates that all are still in the affordable range, with one more additional condition moving to the “yellow” area – now four conditions instead of the minimum assessment increases’ condition three.

While the additional outlays will not always be easy for these property owners, it is do-able. More to the point, it is part of the responsibility of home ownership. It will entail sacrifice and the use of appreciation and homeowner equity – but that is what non-deed-restricted home owners face all the time.

**Recommendations**

Great care should be taken with the approach the city (and the county) determines to the request of the Centennial homeowners. The response will be precedent-setting and will convey messages to all other HOAs in the deed-restricted system of owned housing. What is done for Centennial owners will be seen as “available” to other owners – and they will likely demand equal treatment.

**The first recommendation is to continue the elected officials’ directive to let the homeowners fund their own capital repairs.**

They should be able to afford a special assessment of some \$2.1 million to take care of immediate needs that is met by either: (1) cash contributions through a refinancing of their units to take advantage of their appreciation equity, or (2) for those who lack the appreciation equity the HOA

can enter into a loan package with a local lender and those units can pay back their share over a 15-year time period.

As indicated earlier, a \$2.1 million immediate package should be able to be committed to by the owners. Fifty-six of the 92 owners have appreciation in excess of \$25K in their units (and should have much more in equity, as their loans should have been paid down substantially in the time it takes to earn that much appreciation). An analysis of individual owners and their appreciation situation vs. the amount of assessment they would be responsible for indicates that there are 33 owners in need of some kind of loan financing – from much of their share to very little of it.

### **Alternative Recommendation Should City/County Elect to Provide a Loan**

#### **(1) Limited common responsibilities – and extension to common elements at the time of sale:**

Under the existing guidelines, a unit owner must produce a unit for sale that meets certain minimum standards, and if those standards are not met, APCHA may retain sufficient funds from the sale proceeds to ensure that the unit meets those standards.

In applying this policy to condominium sales, this policy ensures that those limited common elements of the condominium being sold by a unit owner meet certain guideline standards or APCHA will see to it that those standards are met and the seller will pay for meeting those standards.

This guideline policy should be amended to include common elements as well. Under this kind of policy, an HOA must conduct a capital reserve study and unit assigned shares of any reserve deficit would become the responsibility of the seller in any sales transaction. For example, if an HOA's capital reserve study indicates that a shortfall of \$9,000 per unit exists in order to fully fund a complex's capital reserves; and the APCHA Guideline policy says that "full funding" shall be considered to require 70% cash funding of a capital reserve study shortfall, then the unit in question must be prepared to contribute \$6300 in order to have fully funded its obligation to the HOA's capital reserves. By applying the same kind of principle to common elements that today's existing policy applies to limited common elements, APCHA would retain \$6300 from the seller's proceeds and contribute that to the HOA's Capital Reserve Fund.

This kind of policy would ensure that an HOA fully funds its capital reserves and is able to maintain the unit's common elements. An owner would presumably put pressure on the HOA Board to either have a plan to fund the reserves (and "live" the benefit from ongoing maintenance of the complex) or fund their obligation at the time of sale – in either case the incentive to try and "push off the responsibilities of ownership onto the next generation of owners" would cease. This should become a part of all new deed restrictions that APCHA imposes as part of new/sold units in the system inventory.

#### **Current guideline policy:**

A ***Seller's Property Disclosure Form*** will be completed by the Seller at the time of listing. This will be reviewed with the Sales Manager. Each seller will be provided a copy of the Minimum Standards

required in order for the Seller to receive maximum value. It is required that the Seller shall provide the Buyer with a clean, working unit upon delivery of deed. Holes in the walls will be filled, carpets steam cleaned, damaged windows will be repaired, appliances will be in working order, and the plumbing shall be in working order. A final inspection of the unit shall be conducted by the Buyer on the day of closing. If the unit is not left in satisfactory condition, at the sole discretion of the APCHA, monetary compensation shall be held in escrow at closing from the Seller's proceeds until the repairs and/or cleaning are completed. The repairs and/or cleaning shall be paid from this fund. Any monies left over shall then be distributed to the Seller. The escrow amount shall be determined by the APCHA.

## SECTION 10

### **CAPITAL IMPROVEMENT POLICY AND MINIMUM STANDARDS TO RECEIVE FULL VALUE AT TIME AT RESALE**

Capital improvements and upkeep on deed-restricted units are necessary to enhance the longevity of the affordable housing unit. A maximum sales price will be affected, either higher or lower, relating to the condition of the unit and if the unit meets the minimum standard criteria. Any owner wishing to utilize the new capital improvement policy will be required to enter into the deed restriction that is currently being used at the time of the request.

Units Built After January 1, 2004 and Re-Sale Units: An owner will be required to maintain a minimum standard for the unit purchased. See Table I, *Minimum Standards for Seller to Receive Full Value*. Prior to any sale of a unit, the APCHA Staff will determine a maximum sales price. The Sales Manager shall conduct an inspection and a list provided to the Seller as to the items that will need to be done PRIOR to closing to get full value. The Buyer also has the right to pay for a formal inspection of the unit during the inspection period stated in the Sales Contract. If said inspection reflects items not met on the *Minimum Standards for Seller to Receive Full Value* table, the Seller shall be required to remedy those items. If the unit meets the standard criteria, the Property or Unit shall be sold for an amount ("Maximum Resale Price") in excess of the lesser of the purchase price:

- Plus an increase of three percent (3%) of such price per year from the date of purchase to the date of Owner's notice of intent to sell (prorated at the rate of .25 percent for each whole month for any part of a year); **OR**
- An amount based upon the Consumer Price Index (All Items, U.S. City Average, Urban Wage Earners and Clerical Workers (Revised), published by the U.S. Department of Labor, Bureau of Labor Statistics) calculated as follows: the Owner's purchase price divided by the Consumer Price Index published at the time of Owner's purchase stated on the Settlement Statement, multiplied by the Consumer Price Index current at the date of intent to sell;
- Plus any approved capital improvements.

#### **RECOMMENDATION:**

**Prior to any unit at Centennial becoming eligible for a loan from city/county sources, ALL units would have to amend their Deed Restrictions to accept this new guideline feature. This would ensure that the current Centennial problem does not develop again.**

**(2) Shared Appreciation (as the City’s employee housing deed restrictions establish) for anyone seeking a loan from city/county funds:**

When an employee of the city purchases a unit from the city’s housing stock (NOT part of the APCA system), their deed restriction “splits” any appreciation between the city and the owner according to the formula: 1.33% of any appreciation to the city, and the remainder (1.67% on a 3% appreciation for example) is allocated to the owner/seller. This policy ensures that capital improvements are funded through the appreciation on a unit and is recoverable at the time of sale.

**RECOMMENDATION:**

**For any unit owner that elects to not fund their Centennial responsibility themselves and instead chooses to seek a loan from city/county funds, they must accept a deed restriction that imposes this kind of shared appreciation feature into their unit’s subsequent sale. This would apply to all appreciation on their unit from the time of their purchase.**

**This loan would be with the HOA. This deed restriction would remain in force until the HOA in question has repaid its entire loan obligation (with an annual interest rate equal to the city/county’s investment pool earnings).**

**This serves as an incentive to any HOA /owner contemplating a loan from the city/county to try and deal with their responsibility themselves, without any perceived low cost help from the governments.**

**This deed restriction would continue with each subsequent sale of all units participating in the loan program until the entire HOA loan amount is fully repaid with interest.**

**If a “program” of government loan assistance were to be created, it would require of homeowners:**

- (1) That ALL OWNERS agree to the mandatory common element/capital reserve funding deed restriction that would also become part of all new APCA deed restrictions, and**
- (2) That any owner needing loan assistance from the government enters into a shared appreciation agreement via a new deed restriction that will only be removed when the entire loan amount from the HOA has been repaid.**

This would be a precedent setting effort and this same set of conditions would apply to any condominium complex and their HOA that decides to apply for similar assistance in the future. Such a policy change will require further investigation and many details would need to be worked out before approval and implementation.

### **Where Should Funding for a Loan Program Come From?**

Centennial was a Pitkin County project – it was approved by the BOCC, permits were issued by Pitkin County, and inspections were performed by county inspectors. The project was later annexed into the Aspen city limits. Both the city of Aspen and Pitkin County are in the business of developing or causing to be developed affordable housing units for the workforce – neither entity is in the business of maintaining private property.

Both entities have funding streams for creating new affordable housing and it is debatable whether or not those funding streams would be eligible for use in rehabbing privately owned deed-restricted units. What is not debatable is that both entities could use General Fund monies if they so choose to do so.

If a loan program is established, the program should be run through APCA. The source of such funding then would be: (1) residual APCA fund balances and (2) contributions from Pitkin County and the City of Aspen according to the IGA that establishes the Housing Authority (i.e. 50/50 contributions from each local government).

An alternative that must be considered is the use of the statutory taxing authority available to the Housing Authority. If the elected bodies so determine, they could – acting through the APCA Board of Directors – go to the electorate and seek the authority to levy either a property tax or a sales tax in order to create a funding stream to operate a loan program. This would keep both governments from having to tap existing funding streams and jeopardizing already planned for programs and seek specific voter authorization for a loan program for current deed-restricted housing owners.

### **Recommendation / Direction Sought:**

1. Affirm previous direction that the problems at Centennial are the HOA's to solve.

### **Alternative**

1. Direct staff to create a loan program along the lines of the alternative recommendation.

### **Attachments**

- Affordability of recommended funding program
- Background Information from Housing Summit Documents
- Athen Builders Report
- Sam Brown Editorial – Aspen *Daily News*, August 15, 2013
- Historical Memos on Centennial

# **Attachment 1**

## **Affordability Calculations for recommended funding program**

## Recommendation for funding of rehabilitation

In preparing for the 2012 Housing Summit, we performed some work on affordability – looking at the cost of home ownership (including mortgage, HOA dues, utilities and insurance) as a percentage of income across the various categories/dependent numbers/unit sizes.

Using the information available for Centennial, the results yields the following table for the **CURRENT CONDITIONS (CURRENT ASSESSMENTS)**:

% of monthly income	Cat4	
	Min	Max
Dependents / Unit		
0 / Studio	22.0%	13.5%
0 / 1BR	24.7%	15.2%
0 / 2BR	28.8%	17.7%
0 / 3BR	34.4%	21.2%
1 / Studio	20.2%	12.8%
1 / 1BR	22.6%	14.4%
1 / 2BR	26.4%	16.8%
1 / 3BR	31.6%	20.0%
2 / Studio	18.6%	12.2%
2 / 1BR	20.9%	13.6%
2 / 2BR	24.4%	16.0%
2 / 3BR	29.1%	19.0%
3 / Studio	17.3%	11.6%
3 / 1BR	19.4%	13.0%
3 / 2BR	22.7%	15.2%
3 / 3BR	27.1%	18.1%

All of the results indicate an ability to afford the current conditions, albeit with two conditions being in our “yellow” area.

When you factor in the increases contemplated under the funding approach outlined above, the **MINIMUM INCREASES** associated with the 33 units that will need to pay additional monthly assessments produces the following results:

% of monthly income	Cat4	
	Min	Max
Dependents / Unit		
0 / Studio	22.4%	13.8%
0 / 1BR	24.7%	15.2%
0 / 2BR	29.2%	18.0%
0 / 3BR	35.7%	22.0%
1 / Studio	20.5%	13.0%



1 / 1BR	22.7%	14.4%
1 / 2BR	26.8%	17.0%
1 / 3BR	32.8%	20.8%
2 / Studio	19.0%	12.4%
2 / 1BR	21.0%	13.7%
2 / 2BR	24.7%	16.2%
2 / 3BR	30.3%	19.8%
3 / Studio	17.6%	11.8%
3 / 1BR	19.5%	13.0%
3 / 2BR	23.0%	15.4%
3 / 3BR	28.1%	18.8%

For those unit owners who will see the minimum monthly assessment increases to service their debt, the analysis indicates that all are still in the affordable range, with one additional condition moving to the “yellow” area – now three conditions instead of the current assessment rate’s conditions two.

When you factor in the increases contemplated under the funding approach outlined above, the **MAXIMUM INCREASES** associated with the 33 units that will need to pay additional monthly assessments produces the following results:

% of monthly income	Cat4	
	Min	Max
Dependents / Unit		
0 / Studio	23.4%	14.4%
0 / 1BR	26.9%	16.5%
0 / 2BR	31.0%	19.1%
0 / 3BR	37.7%	23.2%
1 / Studio	21.4%	13.6%
1 / 1BR	24.7%	15.7%
1 / 2BR	28.4%	18.0%
1 / 3BR	34.6%	21.9%
2 / Studio	19.8%	12.9%
2 / 1BR	22.8%	14.9%
2 / 2BR	26.2%	17.1%
2 / 3BR	31.9%	20.9%
3 / Studio	18.4%	12.3%
3 / 1BR	21.2%	14.2%
3 / 2BR	24.4%	16.3%
3 / 3BR	29.6%	19.9%

For those unit owners who will see the maximum monthly assessment increases to service their debt, the analysis indicates that all are still in the affordable range, with one more additional

condition moving to the “yellow” area – now four conditions instead of the minimum assessment increases’ condition three.

While the additional outlays will not always be easy for these property owners, it is do-able. More to the point, it is part of the responsibility of home ownership. It will entail sacrifice and the use of appreciation and homeowner equity – but that is what non-deed-restricted home owners face daily.

# **Attachment 2**

## **Background Information** **from** **Housing Summit Documents**

## CAPITAL RESERVES

The purpose of a capital reserve fund for a condo or homeowners association is to fund and plan for the inevitable repair and replacements costs in the common areas of a community. From roofs to sidewalks, from shutters to gardens, repair and replacement is part of any property owner's task list. When done properly, an audit or capital reserve study will collect information on property condition, and project a useful life and repair and replacement costs. When projected out over a 15 or 30 year period (allowing for inflation), a study can provide a board with a roadmap to follow for the funding, replacement, and repair of the association's common areas.

According to the Community Associations Institute (CAI), at the end of 2009 the total amount of money held in reserves (accumulated reserves) by all HOAs and condominiums in the U.S. is approximately \$35 billion dollars. When divided by the total number of homes within these HOAs (24 million) we can see that the average accumulated reserves per household are a paltry \$1,458!

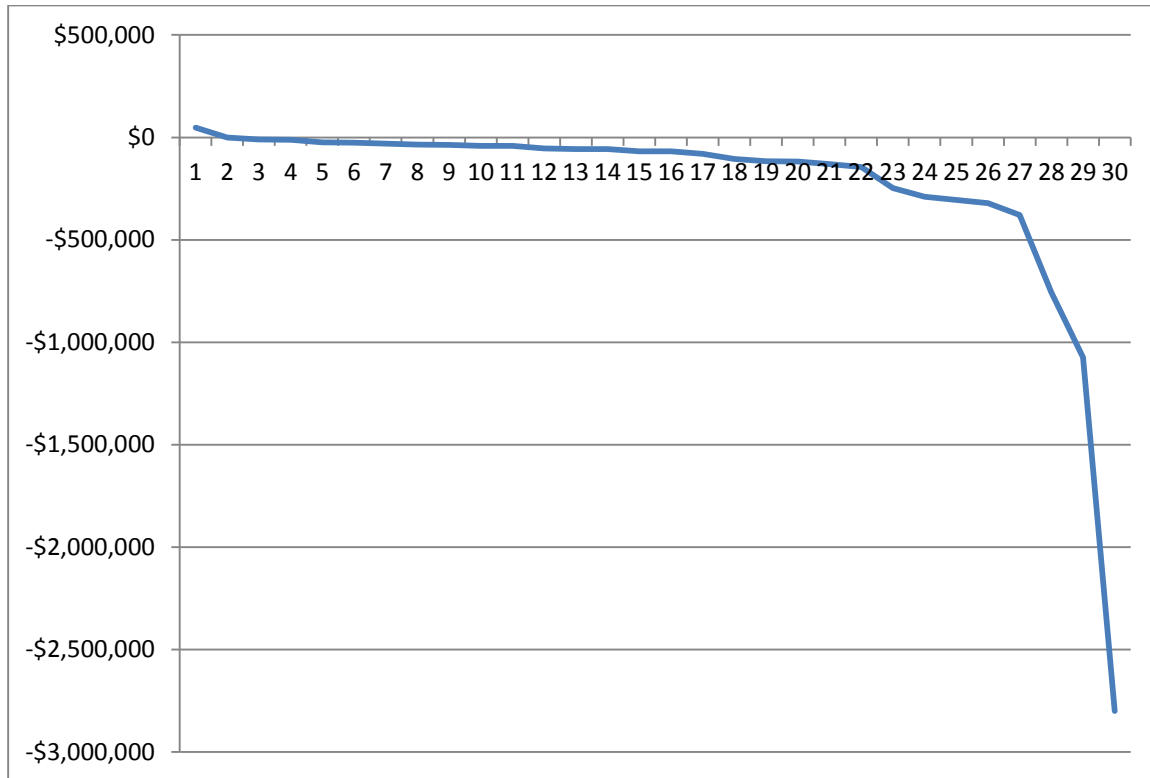
Under a cost sharing agreement with APCA, Capital Reserve studies for maintaining existing housing stock are in various states of progress – some associations have rough estimates of need; others are still compiling assessments of various capital items and continue to develop their financial situation. However, from what data currently available, an underlying truth exists – that being there is a shortfall in capital reserves for the affordable housing developments in Aspen and Pitkin County, as there is for almost every HOA in the free market world.

The following table notes that of the associations already reviewed, aggregate funded status for capital reserves stands at roughly 22%, or the equivalent shortfall of around \$7.4 million. If the additional associations and total of ~1500 units were extrapolated from those which were the subject of the studies – and had a similar average shortfall per unit – the potential shortfall for the entire affordable housing environment could be as large as roughly \$14.2 million.

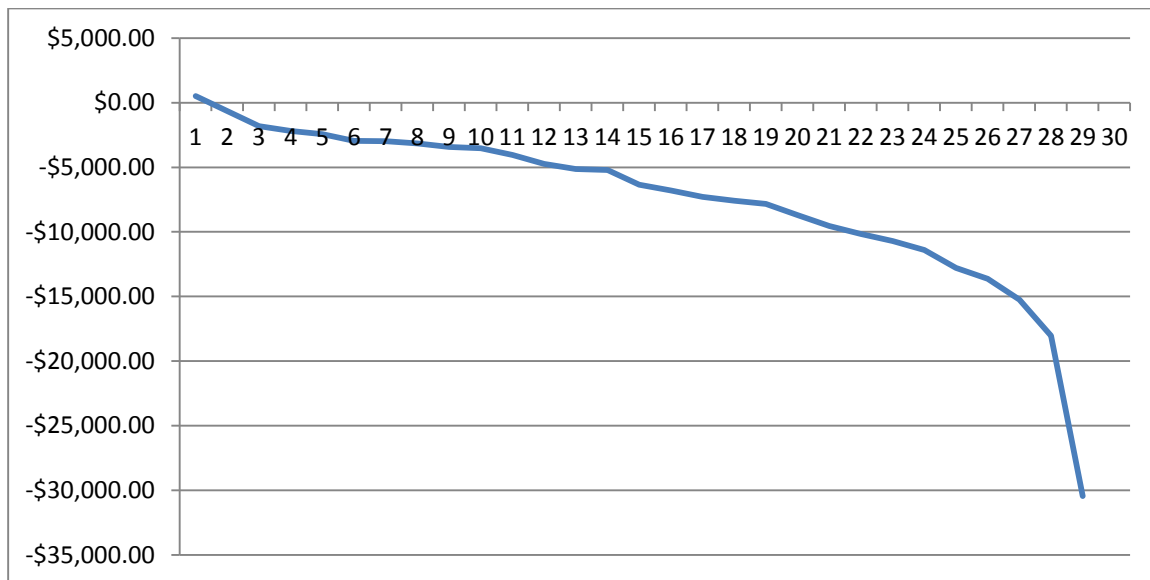
	# of Units	Starting Capital Reserve	Targeted Reserve	Funded Percent	Shortfall per Unit	Aggregate Capital Shortfall
<b>Associations Reviewed</b>	<b>778</b>	<b>\$2,050,018</b>	<b>\$9,428,246</b>	<b>21.7%</b>	<b>(\$9,484)</b>	<b>(\$7,378,228)</b>
Minimum	91	\$130,000	\$82,481	158%	\$522	\$47,519
Maximum	92	\$500,455	\$3,301,170	15%	(\$30,443)	(\$2,800,715)

*Source: Aggregated data from Housing Frontier's as of July 2012*

Looking at the across the distribution of associations who have participated in the study effort, first from the perspective of the total reserves needed and the gap between current reserve amounts and the recommendations:



You can see that the vast majority of the gaps are less than \$500,000 per association. When looking at the gap on a per unit basis the majority is less than \$10,000 per unit.



What is clear is that there are a few associations who have significant (> \$1 million per association, >\$20,000 per unit) funding problems to address. Of course, the shortfall above

assumes reaching full funding for replacement of all capital items – a benchmark not typically achieved by homeowner associations whether deed restricted or free market, especially following recent economic conditions. In fact, most homeowner associations never target a full funding scenario but instead opt for other common threshold levels as described below:

- **Baseline funding:** Simply maintaining a positive balance in the reserve account – any amount is sufficient, so long as the balance does not fall below zero.
- **Threshold funding:** Similar to Baseline funding, this method targets a specific dollar amount to maintain in reserves (other than zero).
- **Statutory funding:** Uniquely defined by individual localities through statute, if such law exists in the location of your property, defining a minimum necessary reserve percent.

Note that while some states prescribe specific funding requirements for HOAs in rule or law, Colorado is not one of these – Colorado’s only requirement is to have a replacement plan established, funding is not mandated and the reserve study may even be performed internally and not by an independent, third party.

With multiple perspectives held by vastly different individual governing groups and the unique circumstances and regulations surrounding each development being managed, it is ineffective to relate the status of capital reserve funding shortfalls for Pitkin County affordable housing developments to other groupings. Rather, given the diversity that exists, instead of focusing on the state of the universe for current reserves, it is better to look at the implications of low reserves and how that affects the development. It is more beneficial to focus on individual unit sales and ability to secure lending as the basis for determining appropriate reserve levels, and given today’s economic environment, reserve levels in the 70%-80% range appear favorable when considering lending options and real estate transactions.

While there is a sizable gap between the desired 70%-80% benchmark and the current 22% reserve funding percentage in affordable housing units in the Valley with governing associations, given the number of units involved and potential to spread the shortfall over multiple years, the problem does appear to be more manageable.

Many experts have recommended a 5-10 year plan to bring reserve levels up to the study-recommended amounts. **Using the average shortfall per unit of \$9484, and assuming a 70% target and a ten-year amortization period for all 684 units, the average temporary monthly increase would be less than \$53/month per unit (assuming a 1% interest earned).**

Our HOA communities – and especially their board members – have to recognize the need to be responsible owners and create a plan to properly fund their reserve amounts at a higher level than is the current norm. If we look at a hypothetical Category 3 buyer of a 2-bedroom unit in 2000 who paid around \$130,000 for the unit, and who, under the guidelines, could sell that unit today for \$187,000, they would have \$57,000 of appreciation. How much of an investment would be appropriate to secure that gain? It appears to be a reasonable expectation to invest \$10,000 (the

average capital reserve shortfall per unit) over those 10 years (\$1000 per year) to realize their gain of \$57,000, certainly the counterpart in the free market would see that as a very reasonable cost of home ownership.

When faced with the need to make a repair and actually spend money, the following are ways that an HOA can budget those expenditures:

1. Reserves: If you've set aside reserves for the type of project you're facing, dipping into the reserves is an obvious option. "Unfortunately, associations aren't reserving anywhere where they should be," says Lisa A. Magill, a shareholder and association attorney at Becker & Poliakoff PA in Fort Lauderdale, Fla. "In Florida, owners can vote down the association's funding of any reserves. Continually, you'll have owners who aren't in a position to pay any assessments. So if an association is collecting reserves, it's usually only about 10 percent of what it should be collecting. When projects come up, they're either paid for by a special assessment or some other means, usually a loan."
2. A special assessment: A special assessment is a common fallback option for HOAs that need money immediately and have no other or better way to raise it.
3. A loan: "An institutional loan usually entails pledging as collateral the HOA's lien rights in terms of collecting assessments," says Andrew Lewis of Eisinger, Brown, Lewis, Frankel & Chaiet PA in Hollywood, Fla., who specializes in representing community associations. "Lenders look at all kinds of factors when considering HOA loans," explains Magill. "Are you capitalized? Do you have reserves? What's your percentage of delinquencies? What other maintenance items have to be performed? For example, with the loan, are you funding only one of 10 projects that need to be done? They also look to make sure you have all the appropriate insurance, which associations should have, anyway, but sometimes don't. But really, the delinquency rate is the most important thing. Some lenders won't approve a loan if your HOA has 7-8 percent delinquencies, but the benchmark is 15 percent." In our conversations with local lenders, they indicate they are making these loans and are willing to make these loans to deed restricted HOAs.

Obviously, a combination of these three options is the most likely way that our deed restricted communities will fund major maintenance/repair work, given the general condition of their capital reserves.

## **HOMEOWNER AFFORDABILITY**

One generally accepted debt-to-income ratio threshold (including principal, interest, insurance and taxes) for conventional home loans has been 28% of gross monthly income; FHA loans allow for a slightly higher ratio at 29%. While recent history has demonstrated that such thresholds have not been adhered to in a strict sense; it has also reinforced that the principle behind the establishment of these thresholds had merit.

Looking at the averages below, one can see that generally speaking, home ownership for Category 4 and below households requires a greater percentage of gross income relative to Category 5 and above households. Additionally, in some cases, home ownership is significant relative to income minimums in Category 1 and 2 (and one instance in Category 3), and is above established FHA debt-to-income ratio thresholds for some income maximums (see highlighted cells).

% of monthly income	Cat1		Cat2		Cat3		Cat4		Cat5		Cat6		Cat7	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
0 / Studio	20%	9%	17%	11%	18%	11%	18%	11%	15%	14%	16%	14%	16%	15%
0 / 1BR	26%	12%	21%	14%	20%	12%	19%	12%	16%	15%	17%	16%	17%	16%
0 / 2BR	33%	15%	27%	18%	24%	15%	22%	13%	18%	17%	18%	17%	19%	17%
0 / 3BR	39%	18%	33%	21%	29%	18%	24%	15%	20%	18%	20%	18%	20%	18%
0 / SF	45%	21%	38%	25%	33%	20%	27%	16%	21%	20%	22%	20%	22%	20%
1 / Studio	13%	7%	14%	10%	15%	10%	16%	10%	14%	13%	15%	14%	15%	14%
1 / 1BR	17%	10%	17%	12%	17%	11%	18%	11%	16%	15%	16%	15%	17%	15%
1 / 2BR	22%	12%	22%	15%	21%	14%	20%	13%	17%	16%	18%	16%	18%	16%
1 / 3BR	26%	14%	27%	18%	25%	16%	22%	14%	19%	17%	19%	17%	19%	17%
1 / SF	30%	17%	31%	22%	28%	18%	25%	16%	20%	19%	21%	19%	21%	19%
2 / Studio	10%	6%	12%	9%	14%	9%	15%	10%	13%	13%	14%	13%	15%	13%
2 / 1BR	13%	8%	15%	11%	15%	10%	16%	11%	15%	14%	15%	14%	16%	14%
2 / 2BR	17%	10%	19%	14%	19%	13%	19%	12%	16%	15%	17%	15%	17%	16%
2 / 3BR	19%	12%	22%	16%	22%	15%	21%	14%	18%	17%	18%	17%	18%	17%
2 / SF	23%	14%	26%	19%	25%	17%	23%	15%	19%	18%	20%	18%	20%	18%
3 / Studio	8%	5%	10%	8%	12%	9%	14%	9%	13%	12%	13%	13%	14%	13%
3 / 1BR	10%	7%	13%	10%	14%	10%	15%	10%	14%	13%	15%	14%	15%	14%
3 / 2BR	13%	9%	16%	12%	17%	12%	17%	12%	15%	15%	16%	15%	16%	15%
3 / 3BR	15%	10%	19%	15%	20%	14%	19%	13%	17%	16%	17%	16%	18%	16%
3 / SF	18%	12%	23%	17%	23%	16%	21%	14%	18%	17%	19%	17%	19%	17%
Average	21%	11%	21%	15%	21%	13%	20%	13%	17%	16%	17%	16%	18%	16%

\* Taxes are calculated with a mill levy of 31.653. Principal and interest are based on a 30-year fixed, 4.00% rate with 10% down. Insurance is assumed at \$1.50 per \$2,000 covered.



If additional home ownership costs such as HOA dues and utilities are included into the debt-to-income ratio calculation, percentages increase dramatically. Though not a complete apples-to-apples comparison, shading has again been included for percentages exceeding the FHA debt-to-income thresholds even though FHA calculations would not include these other costs.

Table 14 – Including HOA Dues and Utilities to Table 13 Figures														
% of monthly income	Cat1		Cat2		Cat3		Cat4		Cat5		Cat6		Cat7	
Dependents / Unit	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
0 / Studio	37%	17%	25%	16%	24%	15%	22%	13%	18%	17%	18%	17%	19%	17%
0 / 1BR	52%	24%	33%	22%	29%	18%	25%	15%	20%	19%	21%	19%	21%	19%
0 / 2BR	71%	32%	44%	29%	37%	23%	29%	18%	23%	22%	23%	21%	23%	21%
0 / 3BR	83%	38%	53%	34%	44%	27%	34%	21%	26%	24%	26%	24%	26%	23%
0 / SF	94%	43%	60%	39%	51%	31%	38%	23%	30%	28%	29%	27%	30%	27%
1 / Studio	25%	14%	20%	14%	21%	14%	20%	13%	17%	16%	17%	16%	18%	16%
1 / 1BR	35%	19%	27%	19%	25%	16%	23%	14%	19%	18%	20%	18%	20%	18%
1 / 2BR	47%	26%	36%	25%	32%	21%	27%	17%	22%	20%	22%	20%	22%	20%
1 / 3BR	55%	31%	43%	30%	39%	25%	31%	20%	25%	23%	25%	23%	25%	22%
1 / SF	63%	35%	49%	34%	44%	29%	35%	22%	28%	27%	28%	26%	28%	26%
2 / Studio	19%	12%	17%	13%	19%	13%	18%	12%	16%	15%	17%	15%	17%	16%
2 / 1BR	26%	16%	23%	17%	22%	15%	21%	14%	18%	17%	19%	17%	19%	18%
2 / 2BR	35%	22%	30%	22%	28%	19%	25%	16%	21%	19%	21%	19%	21%	19%
2 / 3BR	41%	26%	36%	26%	34%	23%	29%	19%	23%	22%	23%	22%	24%	22%
2 / SF	47%	29%	42%	30%	39%	26%	32%	21%	27%	25%	27%	25%	27%	25%
3 / Studio	15%	10%	15%	11%	17%	12%	17%	11%	15%	15%	16%	15%	17%	15%
3 / 1BR	21%	14%	20%	15%	20%	14%	20%	13%	17%	17%	18%	17%	19%	17%
3 / 2BR	28%	19%	26%	20%	25%	18%	23%	16%	20%	19%	20%	18%	20%	19%
3 / 3BR	33%	22%	31%	24%	31%	21%	27%	18%	22%	21%	22%	21%	23%	21%
3 / SF	38%	25%	36%	27%	35%	25%	30%	20%	26%	24%	25%	24%	26%	24%
Average	43%	24%	33%	23%	31%	20%	26%	17%	22%	20%	22%	20%	22%	20%

\* HOA dues are estimated at \$0.40 per square foot per month. Utilities are estimated at \$0.08 per square foot per month.



# **Attachment 3**

## **Athen Builder** **Summary Report**



# ATHEN BUILDERS INC.

P.O. BOX 4404 ASPEN, CO 81612 970-618-8003



## Report Summary

The City of Aspen, with the consent of the Centennial HOA, commissioned Athen Builders to review and examine the condition of Centennial Townhomes and prepare this estimate and report.

We have assembled a budgetary analysis based on the finding of the report and our historical data in cost of repairs completed on other Centennial rental buildings.

Our budgetary analysis is based on the immediate needs of the buildings as outlined in the BSC analysis.

The southern facing elevations of the buildings require immediate attention as well as the return elevations east and west of each building. The siding, trim, flashing conditions, and decks need replacing before moisture issues develop within the building assembly – in some cases, this may have already occurred.

Per the BSC analysis, the following categories of work need to be addressed:

1. Attic/Roof
2. Exterior Walls
3. Windows and Patio Doors
4. Crawlspace
5. Cantilevered Decks

The project can be phased. The phases can be performed over a number of years. We have projected a 6 year/phase schedule of building rehabilitation. This schedule is possible on a construction side, however does not factor in the HOA's budget.

The work in years 1-2 is the most pressing and directly addresses the roof and wall assemblies on the southern facing walls and needs to be performed ASAP. The work in year 3 addresses the areas in most need on the northern side of the building.

Year/Phase	LOCATION AND SCOPE OF WORK	ANNUAL BUDGET
1.	Repair the items on the southern elevations including return elevations east and west. Primary mitigation of water entering the building - roof repair and new flashing details. Walls, windows, and decks to be addressed	\$795,301.58
2.	Continue work on southern elevations	\$795,301.58
3.	Repair the remaining items on the north elevation including entryways, waterproofing details, entry ramps, handrails, siding, and crawl spaces and other urgent building maintenance.	\$413,302.46



# ATHEN BUILDERS INC.

P.O. BOX 4404 ASPEN, CO 81612 970-618-8003

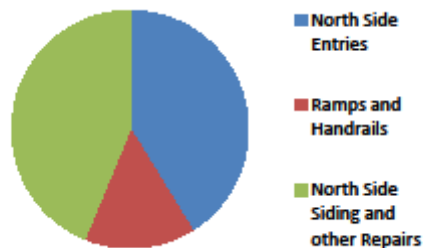


The remaining work can be performed in years 4-6 or at a time in the future that works with the HOA's budget. The need for the remaining work is not as critical as the first three phases and work could be performed at an indefinite time in the future. This work can be considered normal building maintenance.

### Year/Phase

4.	Repair the remaining items on the north elevation including entryways, waterproofing details, entry ramps, handrails, siding, and crawl spaces continue work on remaining items	\$413,302.46
5.	continue work on remaining items	\$413,302.46
6.	continue work on remaining items	\$413,302.46
	<b>BUDGET TOTAL</b>	<b>\$3,243,812.99</b>

The remaining north side, attic, crawl and miscellaneous repairs would be broken down into the following categories:



- Some of the items have been identified by Athen Builders as being in need of repair. The BSG report may not reference these other building rehabilitation needs.
- The cantilevered deck portions can either be repaired or removed and be replaced with a shed roof detail. The pricing difference is negligible.



# ATHEN BUILDERS INC.

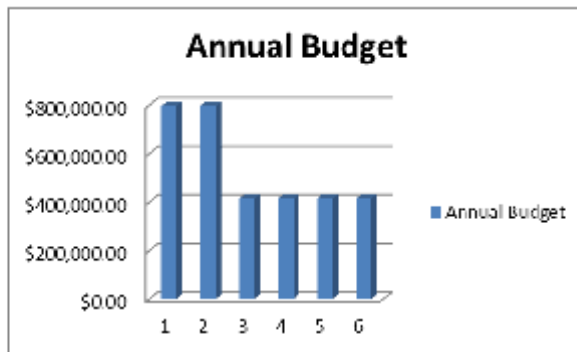
P.O. BOX 4404 ASPEN, CO 81612 970-618-8003



In summary, Athen Builders will address the water mitigation issues first, and identify locations that need immediate attention. We would like to address entire areas (elevations) at one time. This will mitigate the costs in mobilization and scaffolding and will help with the overall budget.

If the budget requires a building by building approach, phasing can be performed, but in our experience, the southern aspects require immediate attention.

A potential budget based on years/phases depending on the client's budget.



**Attachment 4**

**Sam Brown**

**Centennial Editorial**

***Aspen Daily News***

**August 15, 2013**

**Published on Aspen Daily News Online (<http://www.aspendailynews.com>)**

## **Centennial article misrepresents design, engineering issues**

Guest - Non ADN Writer:

**Sam Brown**

**Byline:**

### **Special to the Aspen Daily News**

Once again it is important to correct misrepresentations made about the Centennial housing complex. First, it is important to note there are two different properties. One is a rental complex of 148 units. The other a condominium of 92 units. The article in Monday's Aspen Daily News ("Report details \$2M in needed repairs at Centennial complex," Aug. 12) repeats a number of wellworn misrepresentations about the problems faced by the homeowners. I am not unsympathetic with them, but blame needs to be placed correctly. So let me deal with the well-worn assertions about design, engineering and construction problems.

First is the allegation that "design problems" led to the situation now faced by the homeowners. I would note that the architect for the project Moshe Safdie was, at the time, the director of the graduate school of design at Harvard. He was well-known in Aspen from his time as chair of the Design Conference at the Aspen Institute. He was well-known in the housing community as the designer of the athlete housing for the Montreal Winter Olympics. And he is now world-renowned as a designer of museums and public buildings ([msafdie.com](http://msafdie.com)). He was not a beginner as an architect or as a designer for cold weather. It is because of his design that each unit has an outside entrance rather than the more common central hall in apartments. It is because of his design that you can't see any cars or parking as you drive by the complex or see it from Aspen Mountain and that each apartment has south-facing views of Aspen Mountain. Those design elements are expensive, not "value engineered."

Second is the allegation that the engineering for the project was somehow deficient. The project engineers were Anderson/Hastings. Again, they are a well-known firm with, today, over 10,000 projects in their portfolio including extensive housing experience. They were not the cheapest we could find, but the best.

Third is the allegation that shoddy construction and cheap materials contributed to the problems. The siding they will be removing — and which we have already replaced over the last five years on the rental property — is clear vertical grain redwood. Siding of this quality was the most expensive and finest available wood. So good that it is no longer even available. The windows were tripleglazed and the insulation substantially above code because of an early concern about energy conservation. The roofs are standing-seam metal which is among the most expensive roofing materials but has a very long life.

So let's lay those old canards to rest.

*Centennial article misrepresents design, engineering issues Page 1 of 2*



I do want to acknowledge that there was a problem, not with the flashing, but with run-off from the roofs which ran directly down the side of the buildings. The fix, adding a lip to direct water 4 inches away from the building, was simple and done by the rental management more than 20 years ago. I do not know whether the homeowners have done this.

As I understand the problems faced by the homeowners, the most severe are around the porches built, not by the developer and not in the original design, but added by individuals at a later date. I don't know what design, engineering or construction work went into these additions. I do know that we do not have similar problems with the rental units and we have treated siding replacement as maintenance work done when needed and now largely completed. The budget, \$21,739 per unit, is intimidating for an individual when faced all at once. But I would point out that, over the 30-year history of the project, this is less than \$20 per unit per month. If that money had been collected and kept in a maintenance reserve, as a prudent HOA would do, and if the exterior maintenance had been done on a regular basis, the HOA would not be in the situation where they now find themselves. The problem was, of course, compounded when, many years ago, the HOA decided that the capital reserves were too high and distributed the bulk of their funds to the then-current homeowners.

I have two other observations. First, it seems wrong to me that capital improvements made within a unit can be recovered at time of sale but capital improvements (if that is what this is) made to the exterior are not added to the basis at time of resale. Second, a \$90,000 a year fund, if that is their current capital reserve contribution, goes a long ways toward amortizing a loan of \$2,000,000, with or without public financing assistance.

Finally, I would point out that most of the allegations about construction, engineering, and materials come from the same source as the now totally-discredited \$10 million repair estimate. It would be helpful if the Daily News would not repeat unsubstantiated and ill-informed allegations as if they had some basis in fact.

*(Editor's note: Sam Brown represents Centennial Community Management, Inc., which manages the rental units. He was the original developer on the housing project.)*



# **Attachment 5**

## **Historical Memos** **in re: Centennial**

## ***MEMORANDUM***

TO: Mayor and City Council  
Board of County Commissioners

FROM: R. Barry Crook, Assistant City Manager  
Scott Miller, Director, Capital Asset Department  
Steve Bossart, Capital Asset Project Manager

DATE: March 31, 2011

MEETING DATE: April 5, 2011

RE: Centennial HOA – Assessment and Recommendations

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### **EXECUTIVE SUMMARY**

Beginning in 1987, the Centennial HOA board meeting minutes began to mention issues related to broken window seals, window issues and possible liability issues with the developer. This was the beginning of a long-standing understanding around water intrusion issues associated with their building. In 1991 a consultant was hired to study water damage and water intrusion to the building. Their report identifies “potentially serious problem” of moisture infiltration behind siding, “causing deterioration,” possible mold, decay, and “extensive moisture damage”. Possible causes include: lack of roof overhangs, lack of exterior caulking, poor ventilation of baths and appliances, sprinklers directed at siding, lack of crawl-space and attic ventilation. Possible remedies were predicted to be “costly and complicated.” It recommended increasing fees by 15% for 1992 in anticipation of capital repairs.

Over the ensuing years the HOA Board meetings reveal:

- They discussed installing dryer vents, repairing water damage, installing prototype roof drip edges.
- Mentioned that roof overhangs were installed on south side of all buildings for \$47,595.50
- Had another Replacement Cost Study done by Wilson Building Consultants, Inc.— it recommended total funding for repair and replacement of \$892,279
- First Choice (property manager) revises total replacement costs from Wilson report down to \$264,834.
- Meeting minutes note “now that replacement study has been completed, the surplus will be passed on to the owners as a credit” to reduce 1995 assessments.
- Three and one-half years later Board meeting minutes note “not enough money in the reserve fund”. Reserve assessments will be increased “twofold”, getting assessments back to same level of “five years ago”.
- In 1999, Wilson Replacement Cost Study recommends Replacement cost funding of \$804,700 for next 5 years.

- In 2009, REG, Inc. prepared study recommending removal of all building exteriors to repair/replace any and all moisture damaged building components.

It is clear that moisture intrusion issues have long been known to the Centennial HOA Board and that studies have been repeatedly done over the past 20 years. Some work has been done, but much of the recommended repairs have been continuously deferred. Capital reserve recommendations have been ignored – indeed a rebate was provided to owners in one year, even though the need to save for repairs was well understood.

The latest proposal to deconstruct the entire outer shell of every building (replace all wall framing, sheet rock and exterior cladding, replacement of all roofs) goes way beyond what is necessary to reasonably deal with the structural issues and stop water intrusion – which stops mold growth and any deterioration to support structures. The HOA’s proposal of a “\$10 million fix that must be accompanied by the lifting of deed restrictions” is unnecessary to the problems that exist with the buildings – that is the inevitable conclusion one would draw by a review of the experts hired by the City and whose findings have been agreed to by the HOA’s consultants.

As far as the building issues are concerned, in order to deal with moisture and mold the HOA should:

**Moisture and Mold Mitigation** (all consultants are in agreement)

- Step 1 - stop the water infiltration
- Step 2 - assess and repair damage at exterior and behind the exterior sheathing
- Steps 3 - (simultaneous with Step 2) conduct tests for mold and mitigate to standards (such as the New York City protocols).

**Mold Assessment**

- Mold exists everywhere in the environment
- Mold tests reflect a “moment in time” and can vary from day to day
- Centennial 2009 tests (DS Consulting, September 29, 2009) were “10.8 times greater than the outdoor sample” in two tested units and 23.7 times greater and 17.7 greater than the outdoor sample in the two other tested units.
- The unit tests genus was of the *smuts*, *Periconia*, *Myxomycetes* group, a type that “generally pose no health concerns to humans or animals” and is found in soil, and living and decaying plants (DS Consulting, Appendix A, Description of Common Mold Types)
- Attic tests (Unit 321 Free Silver) identified *smuts*, *Periconia*, *Myxomycetes*, *Penicillium/Aspergillus* (*Aspergillus* colonizes on continuously damp materials and *Penicillium* is common bread mold in one species – both are allergenic to some individuals), and *Basidiospores* (commonly found in gardens, forests, woodlands, and outdoor air samples. Can be allergenic but not potentially toxigenic.) NOTE: Attics were not originally accessible. In some units access stairs were installed by owners. Recommendations are offered to address these situations and attics in general.)
- None of the tests showed evidence of *Stachybotrys* (often referred to as “Toxic Black Mold” which is potentially toxigenic)

- No visible molds in some areas with elevated levels, visible mold in some areas but no elevated levels
- DS Consulting suggested using a recognized method like the “NYC Protocols” – there is no national standard
- There is no state or federal established level of “normal”, “safe”, or “unsafe” mold counts
- Both DS Consulting and National Jewish Health advised distribution of informational materials on methods to avoid mold growth, and that individual complaints of health or comfort are addressed through further testing, and/or individual mitigation.

**Construction Repairs/Recommendations/Alternatives**

- Building Science Corporation (City of Aspen consultant), and Resource Engineering Group (Centennial consultant) have collaborated and agreed on a general repair strategy. Note that this revised strategy is more extensive and than that initially recommended by BSC. It goes beyond normal standards for building repair and allows for the building owner to install a new and complete building wrap over 100% of the exterior wall assemblies,
- detail a moisture drainage plane, and new cladding.
- BSC has noted that if this repair approach is taken, the owner may wish to also replace windows and doors with more modern and thermally efficient units (an additional cost).
- Both the original and the expanded repair strategies will allow moisture damaged areas to be uncovered and examined for deeper damage and mold. Once uncovered, and only when uncovered, can any accurate estimate of mold remediation be determined, and those repairs should be undertaken in that process.

The “sister buildings” at the Centennial rental property were constructed at the same time, using the same designs and the same contractors. They have been dutifully dealing with the same problems over the years with a relentless capital improvement program and do not face the same issues as a result of their diligence at repairing and fixing their water intrusion problems.

It is the staff conclusion that the building’s repairs have been well understood for 20 years and that fixing the moisture intrusion problems can be undertaken at a cost well within the means of the property owners at Centennial.

**REQUEST OF COUNCIL/BOCC:**

Accept the consultants’ reports and staff recommendations to let the HOA deal with their ownership issues without further public assistance, or modification of the affordable housing program’s deed restrictions.

Staff must recommend a careful approach, similar to what any prudent home or building owner would do with such an asset. That is implement strategies immediately, consistent with the BSC recommendations, to stop and mitigate the moisture issues in every building. Failure to do so or continuing the debate merely increases the damage and financial problem. Then begin work on a strategic approach to each building to uncover and repair the damage. This could be done on a schedule that allows moderate assessments to the owners over time. If additional improvements such as new windows were desired those could be handled unit by unit or through an HOA arrange finance mechanism.

## **PREVIOUS COUNCIL/BOCC ACTION:**

On August 3, 2010 City of Aspen Capital Asset Department staff presented a report to a joint meeting of the City of Aspen City Council and the Pitkin County Commissioners. The report was prepared by Building Science Corporation (BSC), <http://www.buildingscience.com/>, a building science and consulting firm, with a focus on preventing and resolving problems related to building design, construction and operation. BSC is internationally recognized for its expertise in moisture dynamics, indoor air quality, and building failure forensic investigations.

Also presented at that meeting was a three page report from Michael V. Van Dyke, PhD, from National Jewish Health (NJH) in Denver (engaged at the recommendation of the City Environmental Health Department). He had provided visual inspection of mold presence and extent, and had reviewed one document from DS Consulting (the Centennial HOA retained mold assessment firm). The City Asset staff had provided Dr. Van Dyke with the information it had thus received from the Centennial HOA and management.

The staff presentation was cut short by Ed Cross, HOA president, who highlighted another report from DS which contained sample evidence of elevated mold levels within living spaces at Centennial. City Council and The Board of County Commissioners requested staff to resolve the “dueling experts” reports and return at a later date to complete the report.

We have resolved the questions of differing opinions by obtaining joint letters of agreement from the building experts and from the mold experts.

## **DISCUSSION:**

Staff has since worked extensively with the combined resources of BSC and Resource Engineering Group (REG), and with NJH and DS to present joint reports of the conditions and recommendations. These are referenced in this memo and attached to this report.

### **Centennial**

The Centennial ownership complex consists of 92 category-four, deed restricted ownership units. They were constructed in 1985 and are located at the base of Smuggler Mountain. There is also a Centennial rental complex at the same location consisting of 148 category three restricted rental units. Both complexes are frame construction with sloped standing seam metal roofing, and painted ship-lap rabbit redwood siding. Roofing ends nearly flush to building gable ends and at eaves.

Early moisture damage was noted at one window on the southeast several years after construction. There are examples of retrofit sheet metal overhang assemblies and kick-out metal flashings at lower eaves. In August of 2009 a wastepipe break in a party wall required repairs and other infiltration moisture damage was discovered. Investigation uncovered other areas of concern and further investigations were commissioned by the HOA.

On August 8<sup>th</sup>, 2009 selected city staff members and then Centennial HOA president, Ed Cross and HOA attorney Fred Pierce sat down to go over what was then known about the scope of the problems at Centennial. Recent water and mold problems at units #314 and #316 increased the HOA urgency. For its part the HOA had hired an engineering firm, Resource Engineering Group (REG), to examine the problem and issue a report and recommendations - REG recommended extensive demolition and reconstruction.

The HOA hired DS Consulting to conduct an inspection of mold as well as sampling reports of interior air quality.

It was clear that more information and evaluation was needed to fully understand the scope of the problems and the approach to a solution.

### **Approach and Preliminary Findings**

In early 2010 the City agreed to provide interim project management services to assist the HOA/APCHA/City of Aspen/Pitkin County team in expanding the overall evaluation. The City requested, received, and executed a proposal from Building Science Corporation (BSC), a Boston based engineering and architecture firm with extensive experience in building mechanics, systems, and water management. BSC has conducted numerous forensic examinations and prepared evaluations and solutions for moisture damaged buildings. The City has worked with BSC as the liaison for the US Department of Energy Building America program.

BSC visited the site on June 30<sup>th</sup> 2010. For the investigations the City engaged Rudd Construction (Rudd) to provide manpower, equipment, tools and materials to assist in uncovering areas for inspection, and for replacement and waterproofing repair. Also present on the day of these inspections, at the request of Lee Cassin (City Environmental Health Director) was industrial hygienist and mold expert, Michael V. Van Dyke, PhD, from National Jewish Health in Denver. He provided visual inspection of mold presence and extent.

Attached is the final BSC report which was reviewed extensively with, and modified by recommendations of, REG. The primary cause of damage is reported to be inadequate flashing, particularly at roof- to-wall details, at some windows, and at eave overhangs. In addition there are issues with attic air leakage and ventilation. The June 2010 BSC inspections removed large expanses of siding where the earlier investigation relied on localized core samples. This more extensive removal showed the water leakage and resultant water caused deterioration occurring at specific flashing intersections while adjacent areas were in good condition.

The windows do not have any head flashings installed nor is there a membrane flashing seal between the flange and the wall. In addition, the flanges are installed in front of the gypsum. Building Science has recommended a dual benefit by replacing the windows with contemporary units. If the HOA wished to retain existing windows, flashing recommendations have been provided.

A further complication top the structural and water intrusion issues at the Centennial ownership buildings have been owner installed balconies and other additions. It appeared that in many cases



appropriate detailing and flashing wasn't implemented resulting in additional water access to building structural elements.

After last June's BSC investigation staff asked Rudd for their assessment of the work required to effect repairs and corrections to the building enclosure. Rudd indicated they observed areas where wall studs and plates would require replacement, while other areas needed siding removal, flashing enhancement, and re-siding. The redwood siding is apparently of high quality and is generally in very good shape – it may be considered for reuse if it can be safely removed without excess marring.

Dr. Van Dyke issued a three page report dated July 19, 2010 (attached with a cover memo from Lee Cassin) addressing his observations of conditions on the same day of inspection. He included five recommendations for repairing the water intrusion issues, cleaning mold where identified, educating residents, and further inspections. Lee Cassin noted that not having ductwork or forced air furnace systems is a fortunate situation in that mold spores have not been circulated. Dr Van Dyke and Steve Shurtliff (DS) have met via telephone conference and have released a joint letter statement of agreement regarding the observations and tests occurring at Centennial. The City of Aspen Environmental Health Department has provided staff with information from the Colorado Environmental Health Association ("The Top 10 Mold Myths, Replacing Hysteria with Science"), the Colorado Department of Public Health ("Mold Information Sheet" August 2002), and the U.S. Environmental Protection Agency ("Mold Remediation – Key Steps").

It should be noted and emphasized that according to building science experts, moisture damage remediation is generally accomplished carefully and deliberately. BSC initially recommended a range of options with respect to the attic issues and exterior walls. This approach was based on their years of experience in the field over decades and is consistent with generally accepted asset management practices for repair and preservation. It is generally accepted that elimination and control of moisture is first necessary and successful step in retarding further mold growth. It is also generally accepted that mold exists everywhere in the environment, and that testing procedures can quantify and identify those genus that can be health concerns, after moisture control is established.

The sequence of these work efforts is logical and straightforward. Moisture must be mitigated before repair and investigation of damaged materials can begin. Once the moisture is managed, mold growth ceases and sampling can be reliably completed, and an action plan can be designed and priced. The HOA and their consultant REG have understandably emphasized a comprehensive repair estimate including mold mitigation. At this time we can make broad educated judgments and attempt to bracket potential costs.

### Costs

The 2009 assessment resulted in estimates from the HOA of repair costs of \$100,000 per unit or \$10 million for the entire complex. This estimate was based on observed conditions at the time of repair of the unit which encountered the waste line break. Based on BSC's site investigation and similar restoration work, a local construction company took a very broad and very preliminary look at work scope, based on the first level of recommended repairs. The total using that example would be \$30,000 per building, or \$2,300 per unit, or \$212,336 to restore the complete project. It was recommended to address 1-2 buildings at a time. Residents would be able to stay in their home during the work, unless

individual conditions required removal and replacement of wall elements, or penetration to the unit interior.

Mold mediation techniques and recommendations are varied. It is generally accepted that mold is in the environment and creates health effects only when in excess amounts in living spaces. Existing mold spores, if encapsulated or isolated, do not pose a health hazard. Dr. Van Dyke recommends eliminating excess moisture is the first and most important step. He suggests following the New York City Department of Health's "Guidelines on Assessment and Remediation of Fungi in Indoor Environments" to clean the existing mold in crawlspaces and attics (see Attachment 12 – the recommendations are straightforward depending on the extent of observed damage)..

Cleanup costs haven't been estimated as of this date. We have spoken with the mold inspection consultant and the mold testing firm used in 2009. We were able to get a "very worst" case number of \$10,000 per building attic. For our present discussions we might extrapolate \$20,000 total per building or \$1,500 per unit.

The HOA and their consultant REG have emphasized a comprehensive repair approach calling for a complete de-clad and re-clad of the building exterior, with a complete building wrap and new drainage space with 1x4 wood furring. This is the way we would build in 2011 but it is not the way the exterior was assembled when new. Originally BSC presented options starting with a patch and repair strategy; an intermediate approach calling for de-clad and re-clad and repair of walls adjacent to deteriorated areas; followed by the de-clad and re-clad of all walls. Prudent facility preservation management attempts a reasonable balance of repair cost and life-cycle/operations analysis. The original BSC program addressed this in a way that provided the HOA several options. The revised BSC analysis begins with the complete de-clad and attempts to provide bracketed ranges of damage to be repaired.

The rental section of Centennial has pursued a mitigation and repair program similar to these recommendations for a number of years and it has reportedly been successful in stopping moisture intrusion and damage.

### **Process**

The decision team members must carefully review the report from BSC, and resolve any questions. The HOA must weigh project objectives against the BSC cost options. BSC has provided specific details for window flashing, roof to wall section flashing, and balcony railing intersections.

A general construction firm would provide estimates based on the believed scope of work, with general fee schedules, as well as specific fee schedules for predicted work components. Contracts would by necessity be on a time and materials basis (T&M). As work commences and actual conditions are fully understood the rates and scope would be correlated and confirmed against estimates, and the overall budget totals would be recalculated.

The HOA would be advised to obtain project management services with special attention to finance and contractual conditions. While recognizing the nature of unforeseen conditions in remodel and repair work, we believe the repairs can be completed within a reasonable time frame, together with a budget consistent with typical building maintenance and repair expectations. The HOA reports that the owner improvements made to balconies, deck, and other appurtenances are limited common

elements and thus the responsibility of the HOA in common. These repairs should be concurrent with the other design and construction activities.

### **History of moisture issues at Centennial – what did they know and when did they know it?**

In August of 2010, city staff requested that the Centennial HOA board provide copies of any and all available meeting minutes, financial reports, or anything else that would help staff understand the history of moisture intrusion issues, the HOA's finances, and what has been done to mitigate the moisture problems. The HOA's management company, First Choice Properties & Management, Inc., immediately provided electronic copies of meeting minutes, budgets, and financial statements from 2007 through 2010. However, staff was told that all other records were stored in an office in Glenwood Springs and would be difficult to produce. In December, 2010 some records dating back to 1986 were scanned and e-mailed to staff. While these records were by no means a complete record, many years' records are still missing; they provided a good snapshot of discovery of the moisture problems, HOA board discussion of those problems and attempts to remedy the problems.

The following bullet points document some of the more important events in a timeline from 1986 to the present. This is by no means a comprehensive study of all the facts:

- 11/24/86- Capital reserve study considered replacement of exterior stain, parking lot paving and roofs only. Beginning fund balance was \$12,000, out year contributions started at \$16,000, inflated each year by 3.5%, anticipated a capital reserve balance of \$409,010 by year 2010.
- 5/19/87- board meeting minutes mention broken window seals throughout complex..
- 6/17/87- board meeting minutes mention window problems and possible developer liability.
- 8/12/91- James J. Wilson Building Consultants, Inc. / Code Analysis and Design hired to study water damage.
- 10/17/91- Wilson hired to perform comprehensive study of moisture damage and recommend remedial measures.
- 11/20/91- Board letter to all homeowners identifies “potentially serious problem” of moisture infiltration behind siding, “causing deterioration”. Possible causes include; lack of roof overhangs, lack of exterior caulking, poor ventilation of baths and appliances, sprinklers directed at siding, lack of crawl-space and attic ventilation. Possible remedies predicted to be “costly and complicated”. Increases fees by 15% for 1992.
- 1/7/92- Wilson progress report discusses possible mold, decay, and “extensive moisture damage”.
- 3/9/92- Wilson progress report discusses latent defects and possibility of legal action.
- 11/23/92- Letter to all homeowners further discusses water infiltration, Wilson report, and 15% fees increase to study problem, install dryer vents, repair water damage, install prototype roof drip edges.
- 11/17/93- Minutes of annual meeting reports that roof overhangs were installed on south side of all buildings for \$47,595.50. No increase in fees for 1994.
- 11/30/94- Minutes of annual meeting anticipates a surplus at year end of \$40,000- \$45,000.
- 1/24/95- Replacement Cost Study by Wilson Building Consultants, Inc. recommends total funding for repair and replacement of \$892,279.
- 2/1/95- First Choice revises total replacement costs from Wilson report down to \$264,834.

- 2/8/95- Board meeting minutes note “now that replacement study has been completed, the surplus will be passed on to the owners as a credit” to reduce 1995 assessments.
- 12/9/98- Board meeting minutes note “not enough money in the reserve fund”. Reserve assessments will be increased “twofold”, getting assessments back to same level of “five years ago”.
- 4/19/99- Wilson Replacement Cost Study recommends Replacement cost funding of \$804,700 for next 5 years.
- 9/1/99- Board meeting minutes state that reserve account is not sufficient. Will likely need to increase both operating and replacement assessments for next year.
- 10/20/99- Board meeting minutes state that association finances are under budget.
- 12/1/99- Annual meeting minutes state assessments will increase no mention of amounts.
- 6/16/09- REG, Inc. prepared study recommending removal of all building exteriors to repair/replace any and all moisture damaged building components.

The capital reserve studies and expert reports as early as 1991 pointed to a large problem with moisture intrusion and potential damage to all buildings if a comprehensive program of repairs funded by a large increase in capital assessments was not undertaken immediately. While some repairs were done, and assessments were increased slightly, by and large the expert’s recommendations were not heeded. Wilson Building Consultants has published a study undertaken in 1991 and completed in 1992 that explains the scope and the urgency of the problem. This report was the basis of updated reports by Wilson in 1995 and 1999 which repeated the scope of the problem and recommended very large increases in the HOA’s capital reserves to pay for the needed repairs. These recommendations were not followed.

After a ten-year period of very little discussion or action on the problem, the HOA hired REG to perform another study of the moisture problems in 2009. In this report the study’s author August Hasz, recommends wholesale removal of all building cladding, roofing, windows and doors and removal of all damaged members. This report is the basis for the HOA’s seeking approximately \$10,000,000 for repairs to their buildings.

REG, Inc. prepared study recommending removal of all building exteriors to repair/replace any and all moisture damaged building components Staff’s conclusion is that if the HOA had acted sooner on the recommendations of several experts, it could have mitigated most of its problems rather painlessly. However, even today the problem is not a \$10,000,000 problem and if a sensible program of capital repairs is undertaken, the HOA can fund this program with an increase in capital assessments and doing repairs over a several year period, making the most serious repairs a high priority.

### **Conclusions**

The inspections reports all corroborate and identify the initial requirement to repair the construction issues that result in water intrusion. Once the excess moisture intrusion is mitigated mold will not grow.

The costs we can estimate from this investigation are well below the suggested outcomes from 2009. If the mold mitigation is added, and considering some contingency for unforeseen conditions the per-unit cost of repairs may be below \$7,000.

Buildings depreciate. Regularly scheduled repair and maintenance are necessary to avoid deterioration, correct deficiencies, and maintain function and value. Homeowners routinely incur periodic repair expenses with any structure. In the case of multifamily homeownership, those repair costs are shared, typically through reserves, special assessments, or other financing.

### **FINANCIAL/BUDGET IMPACTS:**

The 2009 extrapolation of costs based on what was experience and projected by the HOA was \$100,000 per unit but involved, as best we could discern, a comprehensive redesign and reconstruction of the buildings, inside and out.

This redesign and rebuilding approach is potentially attractive in some respects (essentially a “new building”) but it is well beyond what most building owners would prudently consider, unless there was expectation of an outside funding mechanism or other value windfall. The HOA has suggested equity increase and borrowing potential by removal of the affordable housing program deed restrictions. That discussion is beyond a Staff level purview. However, home ownership and building ownership requires owner responsibility for regular maintenance and preservation of the depreciable elements. It would be highly unusual for an original builder or a mortgagor to carry maintenance as an outside responsibility while granting fee ownership, and forced removal of agreed-upon terms and conditions is unknown.

The 2010 BSC investigation was accompanied by a local construction firm which provided manpower and equipment. They have performed similar work locally. Based on their observations and discussions with BSC they felt considerably less work would be required than was suggested in 2009. We spoke with DS about mold work and received “very worst” case numbers for attic mold clean-up. Together the total per unit cost was less than \$7,000. Again, the building science experts and mold experts have agreed that the prudent approach is to stop the moisture intrusion, and then identify and repair damaged areas. The record indicates the HOA had similar information and recommendations for as much as 20 years.

The revised scope proposed by the HOA may be attractive to the owners to use the provided opportunity to enhance improvements to a point. But it would have per unit financial implications.

### **ENVIRONMENTAL IMPACTS:**

Building reuse and preservation is one the most sustainable and environmentally effective method of resource management. For this reason reuse of existing materials and reduction of demolition is recommended. As the areas of de-cladding are expanded beyond those areas needing repair increase material, transportation, and landfill deposits are increased.

On the other hand, a complete de-clad would allow for installation of a complete building wrap, and perhaps additional insulation and more efficient windows.

### **RECOMMENDED ACTION:**

Staff must recommend a careful approach, similar to what any prudent home or building owner would do with such an asset. That is, implement strategies immediately and incrementally,

consistent with the BSC recommendations, to stop and mitigate the moisture issues in every building. Failure to do so or continuing the debate merely prolongs and increases the damage and financial problem. The HOA should then begin work on a strategic approach to each building to uncover and repair the damage. This could be done on a schedule that allows moderate assessments to the owners over time. If additional improvements such as new windows were desired, those could be handled unit by unit or through an HOA arranged finance mechanism.

This same work program has been recommended in one form or another to the HOA for over 20 years. The rental portion of Centennial has been gradually dealing with the design/construction problems that bring on moisture/mold problems on an ongoing basis and claims not to have the same issues that the ownership group now faces. Had the HOA accepted the recommendations of their consultants and property managers over the years, they would not now be facing the work that is in front of them. The magnitude of the recommended work is within the capability of the HOA and homeowners.

In addition, the HOA must plan for approval and inspection of any owner initiated additions to the buildings to ensure they are correctly constructed and installed, to avoid a repetition of water intrusion due to inadequate flashing. Penetrations into attics must be monitored to maintain moisture barriers, if the HOA continues to allow attic access into Limited Common Elements (which should also be properly documented in the association documents).

### **ALTERNATIVES:**

The HOA has understandably been concerned about how to fund a project scope as was discussed in 2009. Removal of the affordable housing program deed restrictions was suggested as a possible funding mechanism/equity increase that might allow debt.

The BSC suggested strategies are significantly less expensive and are consistent with HOA and homeowner responsibilities, and environmentally sound policies.

If City Council authorized funding, capital asset staff could assist the HOA with project management tasks

### **PROPOSED MOTION:**

NA at this time

### **CITY MANAGER COMMENTS:**

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**ATTACHMENTS:**

- BSC/REG joint letter
- National Jewish Health/DS Consulting joint letter
- BSC Investigation and Recommendation report
- BSC Architectural Details
- DS Consulting Mold Inspection and Sampling Report
- Resource Engineering Group, 8.20.2009, **Centennial Site Report**  
Resource Engineering Group, 8.20.2009, **Centennial Housing Unit 314 & 316 Site Observations**
- Colorado Department of Public Health and Environment, “Mold Information Sheet”
- U.S. Environmental Protection Agency “Mold Remediation in Schools and Commercial Buildings”; also addressing residential.
- U.S. Environmental Protection Agency, “Mold Remediation - Key Steps”
- New York City Department of Health and Mental Hygiene; **Guidelines on Assessment and Remediation of Fungi in Indoor Environments, November 2008**
- Colorado Environmental Health Association, “The Top 10 Mold Myths – Replacing hysteria with science”
- DS Consulting/National Jewish Health – conference call minutes – August 2010
- August 16, 2010, Lee Cassin, City of Aspen Environmental Health Director – notes on the DS/National Jewish Health conference call

## ***COUNCIL WORKSESSION MEETING NOTES***

MEETING DATE: April 5, 2011  
AGENDA TOPIC: Centennial  
PRESENTED BY: R. Barry Crook, Assistant City Manager  
COUNCIL MEMBERS PRESENT: Torre, Johnson, Kruger, Skadron, Ireland

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### **Topic Summary:**

On August 3, 2010 City of Aspen Capital Asset Department staff presented a report to a joint meeting of the City of Aspen City Council and the Pitkin County Commissioners. The report was prepared by Building Science Corporation (BSC), <http://www.buildingscience.com/>, a building science and consulting firm, with a focus on preventing and resolving problems related to building design, construction and operation. BSC is internationally recognized for its expertise in moisture dynamics, indoor air quality, and building failure forensic investigations.

Also presented at that meeting was a three page report from Michael V. Van Dyke, PhD, from National Jewish Health (NJH) in Denver (engaged at the recommendation of the City Environmental Health Department). He had provided visual inspection of mold presence and extent, and had reviewed one document from DS Consulting (the Centennial HOA retained mold assessment firm). The City Asset staff had provided Dr. Van Dyke with the information it had thus received from the Centennial HOA and management.

The staff presentation was cut short by Ed Cross, HOA president, who highlighted another report from DS which contained sample evidence of elevated mold levels within living spaces at Centennial. City Council and The Board of County Commissioners requested staff to resolve the “dueling experts” reports and return at a later date to complete the report.

We have resolved the questions of differing opinions by obtaining joint letters of agreement from the building experts and from the mold experts. Council and the BOCC asked staff to try and have the “dueling consultants” of the City and the Centennial HOA agree to some background facts.

### **Discussion Summary:**

It is clear that moisture intrusion issues have long been known to the Centennial HOA Board and that studies have been repeatedly done over the past 20 years. Some work has been done, but much of the recommended repairs have been continuously deferred. Capital reserve recommendations have been ignored – indeed a rebate was provided to owners in one year, even though the need to save for repairs was well understood.



As far as the building issues are concerned, in order to deal with moisture and mold the HOA should:

Moisture and Mold Mitigation (all consultants are in agreement)

- Step 1 - stop the water infiltration
- Step 2 - assess and repair damage at exterior and behind the exterior sheathing
- Steps 3 - (simultaneous with Step 2) conduct tests for mold and mitigate to standards (such as the New York City protocols).

Mold Assessment

- Mold exists everywhere in the environment
- Mold tests reflect a “moment in time” and can vary from day to day
- Centennial 2009 tests (DS Consulting, September 29, 2009) were “10.8 times greater than the outdoor sample” in two tested units and 23.7 times greater and 17.7 greater than the outdoor sample in the two other tested units.
- The unit tests genus was of the smuts, Periconia, Myxomycetes group, a type that “generally pose no health concerns to humans or animals” and is found in soil, and living and decaying plants (DS Consulting, Appendix A, Description of Common Mold Types)
- Attic tests (Unit 321 Free Silver) identified smuts, Periconia, Myxomycetes, Penicillium/Aspergillus (Aspergillus colonizes on continuously damp materials and Penicillium is common bread mold in one species – both are allergenic to some individuals), and Basidiospores (commonly found in gardens, forests, woodlands, and outdoor air samples. Can be allergenic but not potentially toxigenic.) NOTE: Attics were not originally accessible. In some units access stairs were installed by owners. Recommendations are offered to address these situations and attics in general.)
- None of the tests showed evidence of Stachybotrys (often referred to as “Toxic Black Mold” which is potentially toxigenic)
- No visible molds in some areas with elevated levels, visible mold in some areas but no elevated levels
- DS Consulting suggested using a recognized method like the “NYC Protocols” – there is no national standard
- There is no state or federal established level of “normal”, “safe”, or “unsafe” mold counts
- Both DS Consulting and National Jewish Health advised distribution of informational materials on methods to avoid mold growth, and that individual complaints of health or comfort are addressed through further testing, and/or individual mitigation.

Construction Repairs/Recommendations/Alternatives

- Building Science Corporation (City of Aspen consultant), and Resource Engineering Group (Centennial consultant) have collaborated and agreed on a general repair strategy. Note that this revised strategy is more extensive and than that initially recommended by BSC. It goes beyond normal standards for building repair and allows for the building owner to install a new and complete building wrap over 100% of the exterior wall assemblies,
- detail a moisture drainage plane, and new cladding.
- BSC has noted that if this repair approach is taken, the owner may wish to also replace windows and doors with more modern and thermally efficient units (an additional cost).
- Both the original and the expanded repair strategies will allow moisture damaged areas to be uncovered and examined for deeper damage and mold. Once uncovered, and only when

uncovered, can any accurate estimate of mold remediation be determined, and those repairs should be undertaken in that process.

Board and Council Discussion:

- Role should be in assisting the HOA to deal with their problem
- Staff should meet with the HOA and fully brief them on the parts of the presentation they missed due to the meeting proceeding faster than anticipated
- Not sure about providing the HOA any funding – but rather emphasis should be on providing technical assistance
- Proceed with BSC recommendation to start with a few units, a few walls – to see what you are really dealing with and get a better handle on the projected cost of repairs

**Direction:**

Provide technical assistance and help them get started with the BSC recommendation to begin repairs with a few units or a few walls so you can really see what is going on behind the cladding and get a better estimate on projected costs. Do not continue with cost estimating efforts under RLB nor negotiate with the HOA over government assistance to pay for the repairs.



## ***MEMORANDUM***

TO: Mayor and City Council  
Board of County Commissioners  
FROM: R. Barry Crook, Assistant City Manager  
DATE: August 1, 2012  
MEETING DATE: August 7, 2012  
RE: Joint Worksession – Centennial

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### **SUMMARY:**

The work recommended by City staff is inappropriately characterized by the Centennial HOA as “a band aid.” It is in fact a comprehensive effort to fix the problems with their buildings in a responsible manner, consistent with any owner’s desire to balance fixing the problem for a long term solution with responsible use of an owner’s funds. It is consistent with the approach taken for years now by the Centennial Rental Project – constructed at the same time and with the same design features. Results to-date are encouraging and suggest a total project cost much more in keeping with our original estimates of less than \$10,000 per unit. This is an amount that is reasonably within the ability of the Centennial HOA to finance through assessments and loans from a bank (which loans banks are ready to make), and can be done over the course of several years.

A repair estimate from Summit Consulting (cost split between the HOA and the governments) will:

- review the Building Science Corporation (BSC) report dated 02.21.2012 and solicit feedback from Athens Builders (the HOA’s current Contractor); John Forster (HOA representative); and BSC.
- A narrative for the following estimate option will be prepared prior to commencing the estimate phase.
- Once approved, master bid forms will be assembled and quantity surveys will be performed. Select subcontractor feedback will be solicited to market validate the estimate. The estimate will be accompanied by a Basis of Budget attachment.

The approach/estimate option that will be the basis for the estimate will be similar to the approach taken by the Centennial rental project:

- An estimate to replace the exterior wall envelop of the south and west facing aspects based upon BSC feedback . The north and east facing aspects will be reviewed for water intrusion areas and particularly for repairs/replacement of flashing details at the roof/wall juncture.

## **BACKGROUND AND PREVIOUS ACTION:**

### Approach and Preliminary Findings:

- In early 2010 the City agreed to provide interim project management services to assist the HOA/APCHA/City of Aspen/Pitkin County team in expanding the overall evaluation.
- The City requested, received, and executed a proposal from Building Science Corporation (BSC), a Boston based engineering and architecture firm with extensive experience in building mechanics, systems, and water management. BSC has conducted numerous forensic examinations and prepared evaluations and solutions for moisture damaged buildings. The City has worked with BSC as the liaison for the US Department of Energy Building America program.
- BSC visited the site on June 30th, 2010. For the investigations the City engaged Rudd Construction (Rudd) to provide manpower, equipment, tools and materials to assist in uncovering areas for inspection, and for replacement and waterproofing repair. Also present on the day of these inspections, at the request of Lee Cassin (City Environmental Health Director) was industrial hygienist and mold expert, Michael V. Van Dyke, PhD, from National Jewish Health in Denver. He provided visual inspection of mold presence and extent.
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- It should be noted and emphasized that according to building science experts, moisture damage remediation is generally accomplished carefully and deliberately.
- BSC initially recommended a range of options with respect to the attic issues and exterior walls. This approach was based on their years of experience in the field over decades and is consistent with generally accepted asset management practices for repair and preservation.
- It is generally accepted that elimination and control of moisture is first necessary and successful step in retarding further mold growth. It is also generally accepted that mold exists

everywhere in the environment, and that testing procedures can quantify and identify those genus that can be health concerns, after moisture control is established.

- The sequence of these work efforts is logical and straightforward. Moisture must be mitigated before repair and investigation of damaged materials can begin.

### Costs

- The 2009 assessment resulted in estimates from the HOA of repair costs of \$100,000 per unit or \$10 million for the entire complex. This estimate was based on observed conditions at the time of repair of the unit which encountered the waste line break, and a complete destruction/reconstruction of the outer shell of the buildings – walls and roof.
- Based on BSC’s site investigation and similar restoration work, a local construction company took a very broad and very preliminary look at work scope, based on the first level of recommended repairs.
- The total using that example was estimated at \$30,000 per building, or \$2,300 per unit, or \$212,336 to restore the complete project. It was recommended to address 1-2 buildings at a time. Residents would be able to stay in their home during the work, unless individual conditions required removal and replacement of wall elements, or penetration to the unit interior.

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We resolved the questions of differing opinions by obtaining joint letters of agreement from the building experts and from the mold experts. Council and the BOCC asked staff to try and have the “dueling consultants” of the City and the Centennial HOA agree to some background facts.

At a joint worksession on April 5, 2011 the following discussion/direction was provided:

It is clear that moisture intrusion issues have long been known to the Centennial HOA Board and that studies have been repeatedly done over the past 20 years. Some work has been done, but much of the recommended repairs have been continuously deferred. Capital reserve recommendations have been ignored – indeed a rebate was provided to owners in one year, even though the need to save for repairs was well understood.

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- There is no state or federal established level of “normal”, “safe”, or “unsafe” mold counts
- Both DS Consulting and National Jewish Health advised distribution of informational materials on methods to avoid mold growth, and that individual complaints of health or comfort are addressed through further testing, and/or individual mitigation.

Construction Repairs/Recommendations/Alternatives

- Building Science Corporation (City of Aspen consultant), and Resource Engineering Group (Centennial consultant) have collaborated and agreed on a general repair strategy. Note that this revised strategy is more extensive and than that initially recommended by BSC. It goes beyond normal standards for building repair and allows for the building owner to install a new and complete building wrap over 100% of the exterior wall assemblies (NOTE: this option is not being pursued, rather the repairs will concentrate on the south and west facing aspects of the buildings, as the Centennial rental property has done),
- Detail a moisture drainage plane, and new cladding.
- BSC has noted that if this repair approach is taken, the owner may wish to also replace windows and doors with more modern and thermally efficient units (an additional cost).
- Both the original and the expanded repair strategies will allow moisture damaged areas to be uncovered and examined for deeper damage and mold. Once uncovered, and only when uncovered, can any accurate estimate of mold remediation be determined, and those repairs should be undertaken in that process.

- The HOA elected to follow the example of the rental section and re-cladded the south and west aspects (3 units), while refining the flashing and moisture intrusion areas of the roofs.

Board and Council Discussion:

- Role should be in assisting the HOA to deal with their problem
- Staff should meet with the HOA and fully brief them on the parts of the presentation they missed due to the meeting proceeding faster than anticipated
- Not sure about providing the HOA any funding – but rather emphasis should be on providing technical assistance
- Proceed with BSC recommendation to start with a few units, a few walls – to see what you are really dealing with and get a better handle on the projected cost of repairs

Direction:

- Provide technical assistance and help them get started with the BSC recommendation to begin repairs with a few units or a few walls so you can really see what is going on behind the cladding and get a better estimate on projected costs.
- Do not continue with cost estimating efforts under RLB nor negotiate with the HOA over government assistance to pay for the repairs.

**TODAY’S DISCUSSION:**

Over the course of the past year:

- Athen Builders, the same contractor who has been working on the Centennial rental buildings, was selected by the HOA to conduct repairs on three units, on their worst south and west exposures.
- The HOA and contractor determined it was not possible to remove and restore the existing siding. Instead new siding was used on those south and west exposures (this is how the Centennial rental project has proceeded). This had a cost impact.
- The selected sample appears to be costing \$7-10,000 per unit, based on the small quantity. Athen believes a larger selection of units will increase efficiency and allow for quantity materials costs.
- A review of deteriorated decks indicates costs for those could be \$2,500 to \$3,000 per deck.

Conclusions

The inspections reports all corroborate and identify the initial requirement to repair the construction issues that result in water intrusion. Once the excess moisture intrusion is mitigated mold will not grow.

The costs we can estimate from this investigation are well below the suggested outcomes from the HOA’s 2009 scenario and our original estimates. If the mold mitigation is added, and considering some contingency for unforeseen conditions the per-unit cost of repairs may be below \$7,000.

## **RECOMMENDATIONS:**

- Continue with the effort already underway to do a side or two at a time (the south and west facing aspects) on selected buildings. Let the HOA continue to assess the efficacy of replacing windows and help them secure outside funds where possible for that effort. Let the HOA assess their desire to deal with decks and how to deal with the individual deck's owner's responsibility.
- Engage a local consulting firm to evaluate and extrapolate on the work scope undertaken by the rental property and the HOA in 2012. Get a professional estimate for the entire project using an approach that emphasizes the effort on the south and west facing aspects of the building (taking off the siding and reviewing what needs to be done) and a review of the north and east facing aspects for flashing detail repairs, particularly at the juncture of the roof and wall.
- We do not believe it is wise, nor necessary, for government funds to pay for the responsibilities of home ownership. The repair costs that are underway at Centennial are a necessary part of being a home owner – and in fact have been somewhat neglected for a long time (as evidenced in the meeting minutes of the Centennial HOA since the early '90's). There are opportunities for energy-related grants to be made available to Centennial owners to defray a portion of their repairs/maintenance costs. Policy discussions have been underway about some ways of helping an HOA raise capital reserve funds (e.g. a payment to be assessed and collected at each sale – something already in place for Burlingame transactions). It is anticipated that this will be a topic for consideration at the upcoming Housing Summit in September.

## **FINANCIAL/ BUDGET IMPACTS:**

City staff estimates they will spend slightly less than the \$75,000 originally authorized for our participation on this project (consultants, staff time and shared costs with the HOA). This amount is to be split evenly between city and county.

## **ATTACHMENTS:**

Exhibit A: Memo from April 5, 2011 Joint meeting





## ***COUNCIL/BOCC JOINT WORKSESSION MEETING NOTES***

MEETING DATE: August 7, 2012  
AGENDA TOPIC: Centennial  
PRESENTED BY: R. Barry Crook, Assistant City Manager  
COUNCIL MEMBERS PRESENT:

- Mick Ireland
- Torre
- Derek Johnson
- Steve Skadron

BOCC MEMBERS PRESENT:

- Michael Owsley
- George Newman
- Rachel Richards
- Jack Hatfield
- Rob Ittner

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### **Topic Summary:**

Results to-date are encouraging and suggest a total project cost much more in keeping with our original estimates of less than \$10,000 per unit. This is an amount that is reasonably within the ability of the Centennial HOA to finance through assessments and loans from a bank (which loans banks are ready to make), and can be done over the course of several years.

A repair estimate from Summit Consulting (cost split between the HOA and the governments) will:

- review the Building Science Corporation (BSC) report dated 02.21.2012 and solicit feedback from Athens Builders (the HOA's current Contractor); John Forster (HOA representative); and BSC.
- A narrative for the following estimate option will be prepared prior to commencing the estimate phase.
- Once approved, master bid forms will be assembled and quantity surveys will be performed. Select subcontractor feedback will be solicited to market validate the estimate. The estimate will be accompanied by a Basis of Budget attachment.

The approach/estimate option that will be the basis for the estimate will be similar to the approach taken by the Centennial rental project:

- An estimate to replace the exterior wall envelop of the south and west facing aspects based upon BSC feedback . The north and east facing aspects will be reviewed for water intrusion areas and particularly for repairs/replacement of flashing details at the roof/wall juncture.

Over the course of the past year:

- Athen Builders, the same contractor who has been working on the Centennial rental buildings, was selected by the HOA to conduct repairs on three units, on their worst south and west exposures.
- The HOA and contractor determined it was not possible to remove and restore the existing siding. Instead new siding was used on those south and west exposures (this is how the Centennial rental project has proceeded). This had a cost impact.
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- A review of deteriorated decks indicates costs for those could be \$2,500 to \$3,000 per deck.

### Conclusions

The inspections reports all corroborate and identify the initial requirement to repair the construction issues that result in water intrusion. Once the excess moisture intrusion is mitigated mold will not grow.

The costs we can estimate from this investigation are well below the suggested outcomes from the HOA's 2009 scenario and our original estimates. If the mold mitigation is added, and considering some contingency for unforeseen conditions the per-unit cost of repairs may be below \$7,000.

### Recommendations:

- Continue with the effort already underway to do a side or two at a time (the south and west facing aspects) on selected buildings. Let the HOA continue to assess the efficacy of replacing windows and help them secure outside funds where possible for that effort. Let the HOA assess their desire to deal with decks and how to deal with the individual deck's owner's responsibility.
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Financial/ Budget Impacts:

City staff estimates they will spend slightly less than the \$75,000 originally authorized for our participation on this project (consultants, staff time and shared costs with the HOA). This amount is to be split evenly between city and county.

**Discussion Summary:**

MI: Has the HOA been in on the Summit recommendation? “Yes”

MO: The issue is who will pay for the repairs

JH: How to fund the money required? . . . it is not a government responsibility

RR: County funds have to be used for new construction and mitigation . . . lots of HOAs find themselves facing similar issues . . . record does seem to indicate some knowledge of the problem from the early 90’s . . . there may be some role for government in repairs for older projects – maybe low cost loans? . . . the city should do it, given the restrictions on County dedicated funds

T: summit is coming up . . . what is the state of need? . . . let’s get the information at the summit and determine the role for government funding

JH: Let’s talk about this on a policy level at the summit – but not focus solely on Centennial.

**Direction:**

1. Continue with the effort outlined.
2. Get the estimate and report back on the results.
3. Take up on a policy level the issue at the Housing Summit