

ADDITIONAL INFORMATION

11-14-2007 REGULAR SESSION

ITEM # 8

TOWN OF CAMP VERDE
Council Agenda Action Form

Meeting Type: Regular

Meeting Date: 11/14/2007

Consent: **Executive Session/Confidential:** Type(s) of Presentation: Verbal Only

AGENDA TITLE: (Be Exact): Possible selection of a site for the new library building .

PURPOSE AND BACKGROUND INFORMATION:

STAFF RECOMMENDATION(S): Approve Based on site preparation research, and information presented at the August 8th 2007 council work session, the "Downtown site

Proposed Motion: _____

LIST ALL ATTACHMENTS:

Type of Document Needing Approval (Check all that apply):

- | | | |
|---|---|--|
| <input type="checkbox"/> Acceptance/Approval | <input type="checkbox"/> Agreement/Contract | <input type="checkbox"/> Emergency Clause |
| <input type="checkbox"/> Final Plat | <input type="checkbox"/> Grant Submission | <input type="checkbox"/> Intergovernmental Agreement |
| <input type="checkbox"/> Liquor/Bingo Application | <input type="checkbox"/> Ordinance | <input type="checkbox"/> Preliminary Plat |
| <input type="checkbox"/> Public Hearing | <input type="checkbox"/> Resolution | <input type="checkbox"/> Special Consideration |
| <input type="checkbox"/> Special/Temp Use Permit | <input type="checkbox"/> Other: | <input type="checkbox"/> Presentation/Report Only |

Finance Director Review

Budgeted/Amount N/A \$NA

Comments: N/A

Fund:

Line Item/:

Submitting Department: Library

Contact Person: Gerard Laurito

Town Manager/Designee: _____

Please Note: You are responsible for checking out, setting up, and returning all special equipment to the Clerk's Office.



Yavapai County Development Services Department

500 S. Marina Street; Prescott, AZ. 86303
Phone: (928) 771-3214 Fax: (928) 771-3432

10 S. 6th Street; Cottonwood, AZ. 86326
Phone: (928) 639-8151 Fax: (928) 639-8153

Addressing – Building Safety – Customer Service & Permitting – Environmental – Flood Control – Land Use – Planning & Design Review

MEMORANDUM

April 13, 2007

**Yavapai County Flood Control District
Summary of Requirements for Development of APN 404-19-018B
(Parcel is within the Floodway of the Verde River)**

- Per the attached Elevation of Floodplain Property completed by Dugan McDonald, RLS and stamped on 2/28/07; the depth of flow across the parcel was determined to be 2.2 feet; therefore the proposed building would need to be elevated 3.2 feet or more above grade.
- An Arizona Registered Civil Engineer would need to complete a drainage report, site plan and foundation design for the proposed structure in accordance with the Yavapai County Drainage Criteria Manual (Section 4.5). The report need to include the following:
 - No-Rise floodway analysis to demonstrate no changes to the 100-year floodplain water surface elevation or loss of conveyance due to the development. At a minimum, this includes obtaining topographic cross sections and performing hydraulic floodplain modeling. The proposed structure would most likely have to be constructed on piers (open foundation) and be open to flow.
 - Lateral Loading Analysis
 - Impact Loading Analysis
 - Erosion/Scour Hazard Analysis
 - Structural Foundation Design
 - As-Built Survey
- Flood Insurance would most likely be required and would be recommended for the proposed building.



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COMMERCIAL BUILDING PERMIT REQUIREMENT CHECKLIST FLOOD CONTROL DISTRICT

All submittals must be completed by an Arizona Registered Civil Engineer, unless these details are not required due to site conditions as determined by the Flood Control District. Submittals must meet the requirements outlined in the County's Drainage Criteria Manual.

___ 1. **Off-Site Hydrology.** Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site. Historical drainage patterns should be maintained at the property boundaries without adversely impacting neighboring properties.

___ 2. **On-Site Hydrology.** Need to show how drainage is routed away from proposed structures and into proposed drainage facilities. For most commercial developments retention/detention facilities will be required to detail pre minus post development conditions will not increase drainage from the site.

___ 3. **On-Site Hydraulics.** Provide hydraulic calculations for any channels, culverts, storm drains, or street drainage. Floodplain delineations are required for sites with washes with drainage areas greater than 40 acres.

___ 4. **Topography.** Must provide existing and proposed elevation contours for the property. Typical contours intervals are at 1-foot unless otherwise approved by the Flood Control District.

___ 5. **Cross Sections.** Need to show perpendicular cross sections through the site indicating property lines, swales, detention/retention areas, floodplain elevations, finished floor elevations and street details.

___ 6. **Dry Wells.** Provide detail drawings of the dry well and a copy of the well registration with the Arizona Department of Environmental Quality.

___ 7. **Erosion Setback and Scour Depth Analysis.** Provide an analysis per Arizona State Standard 5-96 detailing all proposed developments are outside of any erosion hazard area.

___ 8. **Finished Floor Elevation.** Need to show the finished floor elevations and provide a certification statement, "All finished floor elevations detailed on these plans are free from inundation during the 100-year peak runoff event."

___ 9. **Storm Water Pollution Prevention Plan.** Provide a copy of the Storm water Pollution Prevention Plan for our review. A copy of the Arizona Department of Environmental Quality's Notice of Intent submittal should be provided for our files.

Any questions should be directed to the Flood Control District at (928) 771-3197.

Standards for Critical Facilities/Critical Services

These standards shall be considered the minimum to which "Critical Facilities" and/or "Critical Services" (as defined below) shall conform.

"Critical Facilities" and "Critical Services" are defined to include:

- **Structures or facilities that produce, use or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials.**
- **Hospitals, emergency medical facilities, nursing homes and housing facilities likely to have occupants who may not be sufficiently mobile to avoid injury or death during a flood.**
- **Police stations, fire stations, vehicle and equipment storage facilities, emergency shelters, and emergency operation centers that are needed for flood response activities before, during and after a flood.**
- **Public and private utility facilities, such as power, water (including water provided by an irrigation organization or facility), sewer, wastewater treatment, and communications that are vital to maintaining or restoring normal services to flooded areas before, during and after a flood.**

Critical Facilities and Services are strictly prohibited from being constructed, or for existing facilities improved or repaired by an amount equal or greater than 50% of the pre-improvement/repair market value, within the regulatory floodway, as defined by the Santa Cruz County Floodplain and Erosion Hazard Management Ordinance, No. 2001-03, of any stream, river, wash, arroyo, or waterway. All such uses are strictly prohibited by Section 5.8 of the Ordinance, as the floodway is an extremely hazardous area.

Critical Facilities and Services should not be located in regulatory floodplain. If a Critical Facility/Service must be located in a floodplain, it must be demonstrated that there is either a critical need to locate the Critical Facility/Service within the floodplain, or that there is no suitable alternative site, as determined by a rigorous alternative site evaluation report, performed by an Arizona Registered Professional Civil Engineer. Any such facility or service located within a regulatory floodplain must be protected from the 500-year event flood. Such protection is to include, but not limited to, a finished floor elevation a minimum of one foot above the 500-year water surface elevation, elevated access ramps, utilities and mechanical services, and adequately protected from both lateral and vertical erosion associated with the 500-year flood event.

Improvements and/or repairs to exiting Critical Facilities and Services, by an amount equal or greater than 50% of the pre-improvement/repair market value, must be protected from the 500-year event. Such protection is to include, but not limited to, a finished floor elevation a minimum of one foot above the 500-year water surface elevation, elevated access ramps, utilities and mechanical services, and adequately protected from both lateral and vertical erosion associated with the 500-year flood event.

This Standard conforms with Executive Order No. 11988 of May 24, 1977, appearing at 42 FR 26971, 3 CFR, 1977 Comp., p. 117.



SOUTHWESTERN
ENVIRONMENTAL
CONSULTANTS, INC.

SINCE 1974

E-mail: info@sec-landmgt.com
www.sec-landmgt.com

September 27, 2007

Camp Verde Community Library
Attn: Gerard Laurito, Director
130 Black Bridge Loop Road
Camp Verde, AZ 86322

Re: Floodway Engineering Cost for New Library

Dear Mr. Laurito:

It was a pleasure to meet you and please know that I am willing to answer any questions you or the Town may have. Following is my assessment of the above referenced project.

The re-construction of the Library at its current location will be very challenging. Since the building plans and the floodway engineering are dependant upon each other and must be completed concurrently, costs will be impacted by the particulars of this process. The inherent difficulties of dealing with floodway issues preclude any guarantee of final approval of this project by the County or FEMA.

Depending on the Town of Camp Verde's concept, regulatory agency cooperation with floodway regulations and field conditions, there are different options available for building on the property. The involved agencies may (and have in the past) impose restrictions that may make it economically impractical to build within the floodway. However, even though building within the floodway is adverse to sound floodplain management, the agencies cannot stop anyone from doing so because this would be considered "taking of land". The following are some options for building on this site.

OPTION ONE: Revise the FIRM Map

To comply with regulatory requirements, re-modeling the river (higher definition topography, etc.) along with Black Bridge *may* result in the property being removed from the floodway. However, due to backwater from the river, I believe it will still remain in the floodplain. We could also add fill to the site and remove it completely from the floodplain, but the problem with this is that I can't guarantee where the new location of the floodplain will be until the re-modeling is complete. If we add fill, we must ensure that we do not impact any adjacent properties. Another challenge with this option is that the bridge is designed to only convey the 50-year event with the approaches designed to erode during larger events. We do not want to re-locate the library in this potentially eroded area. However, I believe that the erosion will more likely occur on the opposite side of the river.

Estimated cost of engineering: \$40,000 to \$50,000 +

Growth is inevitable...it's planning that makes the difference.



OPTION TWO: Obtain approval from Yavapai County only.

The following is a list of what is needed to complete this process in order for the County to consider approving the design:

- Site Plan showing the following:
 - Existing Topography
 - Elevations of Finish Floor
 - Electrical Note
 - Scour Layout
 - Foundation Sections
 - Foundation Connections
 - Flow Area Calculations
 - Flow Area Location
 - Base and Regulator Flood Elevations
 - Benchmark Base on YCFCD Benchmarks
 - Floodway Map
 - Manning Area Map
 - Cross-sections
- Floodway Report:
 - Conveyance Calculations
 - 5 Hydraulic Models
 - Project Conditions
 - Design Criteria and Guidelines
 - Scour Calculations
 - Recommended Scour Protection
 - Recommended Solution
 - Required County Statements
 - FEMA Floodway Map
 - HEC-RAS Model Outputs
 - Technical Guidelines
 - Stem Wall & Pier Foundation
 - Calculations to include:
 - ❖ Hydrodynamic Forces
 - ❖ Hydrostatic Forces
 - ❖ Impact Loading Analysis

Items that are not included are site plan, site construction plans, and structural calculation on the building.

Estimated cost of engineering: \$20,000 to \$30,000 +

OPTION THREE: Variation of Option Two but without hydraulic models

There is a very slim chance that a model would not be needed based on the fact that the base flood elevation is below the roadway grade and the bridge approach not eroding out. This would make the library property an ineffective flow area for the Verde River and in my opinion, the impact of the bridge and the building is already accounted for in the FEMA models.

Estimated cost of engineering: \$10,000 to \$20,000 +

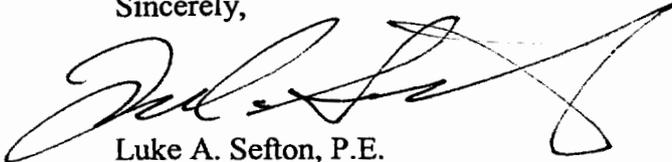
The cost of site improvement for all three options is estimated to be around \$75,000 to \$150,000 for fill and lateral river migration protection. The bridge is very likely controlling the lateral migration. If no fill is used then the cost for the additional stem wall could be around \$70,000 depending on final engineering and building design.

Please note: Another issue that needs to be addressed by the Town is "Critical Facilities". A "library" may or may not be classified as "Critical Facilities" but due to the library being constructed in the floodplain, the Town will need to consult with its attorney and ensure that the building is not designated "Critical Facilities". If it is designated as such, then the finished floor elevation needs to be 1 foot above the 500-year event.

A financial expenditure will need to be made on the floodway engineering and building design before we can even determine if the building can be built at this location. This site presents some difficult issues but there are some good possibilities. Should you choose to proceed with using this site, I highly recommend that your architect, site engineer and floodway engineer work closely together in the process.

Again, the above cost estimates are for pro forma cost only. If you have any questions or need any additional information, please call me at (928) 282-7787, ext. 2013. We look forward to working with you.

Sincerely,



Luke A. Sefton, P.E.
Vice President

Encl.

LAS:bhm