RESOURCE PLANNING ADVISORY COMMITTEE

June 12, 2008

MEETING MINUTES

Thursday, June 12, 2008, 8:00 AM at the City of Tucson Community Services Center, 310 N. Commerce Park Loop, Tucson, Arizona.

RPAC Members in Attendance

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- Karolyn Kendrick, Arizona Native Plant Society representative
- Diana Hadley, Santa Cruz River Alliance
- Tim Johnson, At-Large representative, The Planning Center
- Joy Lyndes, At-Large representative, SAGE
- John Hale, Tucson Association of Realtors
- Greg Shinn, Southern Arizona Homebuilders Association
- Chad Kolodisner, Diamond Ventures, Inc.

Proposed Ex officio Member in Attendance

- Orlanthia Henderson, Ex-Officio member, Town of Sahuarita
- Joan Scott, Arizona Game and Fish Department
- David Jacobs, Ex-Officio member, AZ Attorney General's Office, State Land Dept.
- Jennifer Christelman, Town of Marana

Staff in Attendance

- Ann Audrey, OCSD
- Frank Sousa, OCSD
- Jamie Brown, OCSD
- Adam Smith, Urban Planning and Design
- Glenn Hicks, Parks and Recreation
- Tamara Prime, Ward 3

Public in Attendance

- Kathleen Kennedy, Coalition for Sonoran Desert Protection

AGENDA ITEMS

1. Call to Order / Roll Call

A quorum was established and meeting commenced at 8:08 a.m.

2. Approval of Minutes for May 8, 2008

Joy Lyndes moved to approve the May 8, 2008 minutes. Motion was seconded by Karolyn Kendrick. Ann Audrey had the following correction: in the attendance list, add a heading for the ex-officio members saying they are "proposed." No other revisions were put forth. Members voted unanimously in favor of the minutes with the correction above.

3. Update on Ordinance change from Vice-Chair to Co-chairs and adding Town of Oro Valley

Staff provided an update to RPAC members regarding the adoption by Mayor and Council on June 10, 2008, of the revised RPAC Ordinance changing RPAC to a Co-Chair organizational structure and adding the Town of Oro Valley as an ex officio member. This action was requested in a motion passed by RPAC members at the previous meeting. Staff listed the proposed Town of Oro Valley ex officio appointee along with the list of other proposed ex officio appointees, and updated RPAC members on changes in the roster requested by the jurisdictions involved. Staff informed members that with the Town of Oro Valley officially adopted as an RPAC ex officio member, the request to adopt the names of proposed ex officio appointees could be submitted to the City Manager who would send it to Mayor and Council.

Karolyn Kendrick moved that staff submit a request for approval of ex officio appointees to the City Manager to send to Mayor and Council. Motion was seconded by John Hale and passed unanimously.

4. Presentation and discussion of riparian habitat characteristics and functions

Ann Audrey and Frank Sousa presented information on City watercourse characteristics and issues surrounding watercourses located inside City limits and those areas likely to be annexed.

Washes in the City are ephemeral (flowing only in response to rainfall events) except for the effluent-dominated reach of the Santa Cruz River downstream of the treatment plants. Washes with engineered banks range from concrete-lined channels to dirt-banked trapezoidal channels. Engineered channels are generally designed to contain the 100-year flood event within the channel profile. Remaining non-engineered channels have more natural water flow patterns and riparian vegetation growth then engineered channels. Natural flows include broad sheet flow areas. The majority of watercourses in town were once sheet flow areas. Now the flow typically goes down channelized washes and, in some cases, down City streets that act as drainages. Smaller washes in the Tucson area were not particularly sinuous historically. While regional watercourses used to have a lot of sinuosity (the Santa Cruz River for example), they have been straightened as part of bank stabilization efforts.

Typically, engineered channels in the urban parts of Tucson are heavily trimmed to maintain conveyance capacity. Maintenance is geared toward removing low hanging branches and understory plants to meet the flood control priority of moving the water through the system without obstructions. Maintaining conveyance capacity and other public safety issues are the highest priority for determining how washes are managed. Fire potential is another public safety issue for washes. These priorities can result in heavy trimming or complete removal of vegetation. The public often supports this heavy trimming. Johnson grass and buffelgrass have infested some washes. These invasive nonnative species come back easily from fire and are prone to burning when dry—especially the buffelgrass. Buffelgrass tends to replace native tobosa grass in some riparian areas.

There is a patchwork of ownership of washes, varying between the City, County and private owners. This makes determining maintenance responsibilities complicated. The City's Watercourse Maintenance Guidelines are being revised now by the staff. These will be useful for all those who have maintenance responsibilities including City crews and private owners.

Tobosa grass swales are found in sheet flow areas. Water slows down and its flow path widens as it flows over this riparian grass species. Watercourses may be 200 to 300 feet wide but only 2 feet

deep in tobosa grass drainages. There is low sediment transport in these systems. Fine sandy loam and sandy loam are the soil types typically present here. Tobosa grass is very velocity sensitive, and survives best in very low velocity locations.

While the flow path is wide for water flowing over tobosa grass, the floodplains don't get that much wider with increases in the discharge rate. The width of a 500-yr floodplain is not that much different from the 300-year floodplain. In response to questions, staff said they did not know what effect buffelgrass has on the speed of water flow in areas where its invading tobosa grass areas, nor the burn potential of tobosa grass. Just the compacted path created by cattle walking through tobosa grass can depress and compact soil, remove grass, and start an erosional process that can cause major impacts.

Water flowing through urban washes picks up sediment and carries it downstream. In the past, this sediment was replaced by water-borne sediment picked up from higher in the watershed and deposited in urban washes. As large areas of land have been paved over, urban washes have been largely cut off from sediment sources, resulting in the sediment balance being disrupted. The water that flows into urban wash network is "cleaner" (more sediment free) then it used to be. The phenomenon of washes continuously losing sediment through this process is called "clear water scour." When a wash erodes, the flow line meanders, drops, then meanders again. Some washes have dropped six feet. This has resulted in expensive repairs being needed.

One strategy to address this is to reduce discharge by having bigger detention/retention structures that moderate outflow into washes over time. These structures also intercept any pollutants that may be carried by stormwater. Rather then grade control structures located periodically in the bottom of washes, a re-created "riffle and pool" regime might work to reduce degradation. However, it would require disturbance of 25% of the length of the watercourse and would be expensive.

Erosion of washes is also caused by the long process of tributary washes slowly equilibrating with the incisement of the Santa Cruz River that occurred in the late 1800s. Since then the bed of the Santa Cruz River has dropped precipitously, and the beds of the tributary washes are dropping as well.

The Lee Moore Wash Basinwide Study is adding a clear-water scour component to their study. They are focusing on the sheet flows areas southeast of the City (consider requesting a report on the Lee Moore Wash Basinwide study of clear water scour issues at a future RPAC meeting).

Wash road crossings that have culverts instead of bridges often result in constricted, fast-moving water flowing under the roads. This can impact the washes downstream of the crossing due to erosion from the fast moving water and lower residency time of water at these locations. There is also potential for scour holes to form downstream of the culvert outfalls. An energy dissipater placed downstream can reduce the impact of a single culvert that focuses all water flow in one location. Boulders are sometimes used for this purpose. Increasing the size and number of culverts can broaden the flow path of water, but could also impact more habitat since the road would need to be higher and the crossing longer. They also cost more, so there are tradeoffs between cost and habitat. Culverts and roadbeds often result in upstream flows pooling slightly, increasing the density of riparian habitat in this upstream location.

The City must comply with National Pollution Discharge Elimination System (NPDES) requirements by monitoring the water quality of stormwater. EPA sees the presence of vegetation in washes as a benefit in terms of NPDES compliance since vegetation can assist in removing pollutants from water flowing through the wash.

Native riparian species are decreasing in washes, especially the mesoriparian and hydroriparian species. As development creates more runoff, this could be an opportunity to use some of that development water to support the planting of the increasingly rare riparian species such as velvet ash.

Nonnative invasive plants and pest plants are becoming more common in washes. These species include Mexican palo verde, tamarisk, buffelgrass, Johnson grass and others. Even though Mexican palo verdes are not native, they were listed in a guidance memo from the Stormwater Technical Advisory Committee as needing to be inventoried for watercourse protection, so this requirement was incorporated into Development Standard 9-06 when it was developed in fall 2006. These species provide habitat for wildlife, but also choke out washes. This issue should be addressed as the riparian ordinance is developed.

Restoration of degraded washes is very difficult. Incisement and erosion in tobosa swales in particularly is hard to reverse in the broad landscape. This speaks to the importance of maintaining intact habitat when possible. Mitigation plantings that are supported by irrigation water and on-going stewardship have a better chance for success then nonirrigated restoration efforts.

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Currently the City has inadequate funds to maintain washes. There is no Intergovernmental Agreement between the City and County that would allocate a portion of the Pima County Regional Flood Control Districts funds to address city watercourse maintenance and management needs. This is an important resource in being able to proactively conduct watercourse management and maintenance. In new developments, Homeowners Associations sometimes have the responsibility to maintain washes, though in some cases they pass the responsibility on to the City by giving the land itself or an easement to the land to the City. As a result, the City's responsibility for watercourse maintenance continues to grow. The City's Transportation Department is in charge of watercourse maintenance, except watercourses located in parks, which are maintained by the Parks and Recreation Department.

5. Presentation and discussion of site case studies and flow chart of watercourse regulations

Ann Audrey passed out a flow chart of watercourse regulatory requirements in the City and discussed how this affected different developments with watercourses. The times needed for City staff to do their work are shown on the flowchart in brackets. The time needed for the applicant to complete their steps depends on the applicant and is not tallied on the flowchart.

The right side of the flowchart applies to sites where WASH or ERZ requirements apply. The left side of the flowchart applies to sites that are only subject to the Floodplain Ordinance. Yellow boxes on the left and right sides of the flowchart are those City requirements that apply in all cases of watercourse regulation. It takes about 5 weeks for the City to receive and review plans, as shown in these yellow boxes. Blue boxes on the flowchart are those requirements that apply to WASH and ERZ because these are zoning overlay requirements. These steps take approximately three months including requirements for public noticing and meetings and review by the Stormwater Advisory Committee. Because these steps arise from WASH and ERZ being zoning overlays, they are based on the state's zoning code requirements and cannot be waived by staff. The purple box shows requirements for those sites that plan to impact Protected Riparian Area vegetation and therefore need to submit a Development Standard Modification Request (DSMR). The DSMR process takes approximately 3 weeks to complete but can be conducted concurrently with other steps of the process, so does not necessarily add to the overall time needed. In cases

where the applicant needs to get mailing labels from the City for neighborhood notification, this could add some time as well.

For both sides of the flowchart, the total time needed to get plans approved depends on how much time the applicant spends preparing, submitting and revising and plans and other submittals; and how many times the plans go through the 30-day review cycle with the City.

Case studies of specific sites going through this regulatory process were then used to illustrate various site-specific conditions and how regulatory requirements applied to them.

Case Study 1, West Branch of the Santa Cruz River: (Ann Audrey)
The site is at the southeast corner of Mission and Silverlake in the 100-year floodplain of the West Branch of the Santa Cruz River. The site is subject to both WASH and ERZ requirements because the West Branch is designated under both of these zoning overlays. The site is degraded and there is buffelgrass present. The applicant proposed to impact 0.11 acres of the 0.16 acres of Protected Riparian Area (PRA) and do on-site mitigation on the banks of a detention basin to be located on the corner of the site closest to the West Branch. This proposal was recommended for approval by staff because it was seen as an opportunity to improve conditions for plants and provide native seed sources for the West Branch area into the future. This improvement was based on the fact that the site habitat was degraded and getting worse due to buffelgrass infestation, the floodplain flows rarely reach this area any more, and the proposed mitigation included enhancement of native plant diversity and perpetual maintenance of plants.

In response to a question about how PRA is determined, staff noted that Development Standard (DS) 9-06 specifies what constitutes the vegetative resources at the site, which is based on size, species, proximity of plants to one another, and other factors. This information is contained in DS 9-06.

Case Study 2, Rose Hill Wash (Ann Audrey)
This site is north of Speedway and east of Wilmot along the Rose Hill Wash. It is subject to the WASH Ordinance. The 100-year floodplain at the site is not contained within the top-of-bank. Residents living just east of the wash experience flooding. The applicant proposed nearly 100% impact to the wash to remove most existing vegetation, much of which is nonnative Mexican palo verde trees. They proposed to stabilize banks using rock gabions and to terrace the west bank to increase channel capacity and create platforms for mitigation planting in addition to replanting in the channel. They would use an enhanced native plant pallet and maintain plantings over time. Staff supported the approach because it would improve habitat and provide stewardship for the wash. The applicant did not want to progress too far without first getting input from the Stormwater Advisory Committee (SAC) so an informal review by SAC was arranged, and SAC members supported the proposal.

In response to a question, staff noted the two cases discussed took longer then most projects because of their complexity and the need to refine mitigation approaches with staff in multiple meetings. Conflicting comments from city reviewers, if these are received, also take time to be resolved for projects. An RPAC member felt restoration of washes should have an expedited review process. Staff commented that for WASH and ERZ, the full review process must occur. Restoration is not considered an encroachment per Development Standard 9-06, but is considered an encroachment under WASH and ERZ. Encouraging restoration could be addressed in a proposed new riparian ordinance.

Case Study 3: Este Wash (Ann Audrey)

This project is located on the southeast corner of Houghton and 22nd Street. The Este Wash is located along the southern area of the site and is an ERZ wash. The wash has high quality habitat including very large desert hackberries. Houghton Road to the west is a Scenic Corridor and has a large buffer area as a result. The applicant proposed to encroach into the PRA in the northern part of the 100-year floodplain, which balloons out from the rest of the floodplain. It was difficult to find sufficient mitigation area at this site. One suggestion was to put in 2 story buildings in the proposed business complex, but neighbors objected to this. Staff compromised by allowing some encroachment into PRA with higher density mitigation plantings to be located along the northern portion of the PRA. Impact was 24% of the PRA. The project is subject to SAC review.

In response to questions, staff noted they do not attend neighborhood meetings but do see the comments that are received. Others commented that sometimes neighbors use these meetings to express their feelings about the whole development, not just about riparian issues.

Case Study 4: Alamo Wash (Greg Shinn)

The old Buena Vista Theater site is located on Wilmot, south of Broadway. The applicant proposed a hotel at this location. Alamo Wash is a WASH watercourse whose 50-foot regulatory area on the north side extends into the site. Within this study area, the applicant proposed to remove old paving, and bring the line of paving further away from wash and add landscaping. In addition they proposed to add two discharge pipes to the wall of the wash, which is considered an encroachment. It took 6 months to get approval for this proposal. The applicant had to spend funds mapping habitat outside the site boundary to characterize riparian habitat. Greg felt the wash would have been better served had the applicant used these funds to clean up the wash, improve it, and remove non-native rhus lancea. The City Parks and Recreation Department has a trail easement along the wash. Whether trail construction will involve removal of wash habitat is not known.

Case Study 5: Old Rodeo Wash

This site is located west of Wilmot and south of Interstate 10. Upstream of the site, the wash is in a concrete sided channel. Discharges from this concrete channel shoot onto the applicant's property. To the west is Los Reales landfill, and a blockage of the wash created by the City. Habitat quality in the intervening reach of the wash is good. Consultant met with staff multiple times to develop a strategy for preserving PRA, but this would have required changes from normal subdivision design in terms of removing the sidewalk from one side of the road and some inundation of sidewalks during major flood events. The Development Services Department engineering reviewer did not support making changes from normal subdivision design. The project is currently on hold because of the economy, but these issues will come up again.

Case Study 6. Unnamed wash

The site is located north of Broadway and east of Harrison Road and has an unnamed wash running through it subject to the Floodplain Ordinance. The wash was rerouted to its present location from its natural location some years ago. The applicant proposed to armor a curve in the wash that was near their proposed construction. This created impact to a small area of PRA. The applicant could have done restoration in the wash, but spent money instead going through the regulatory process. In the end, the design impacted 7 plants and cost $10,000 - $15,000 of the applicant's money. This is a case where if there is a way to propose an alternative (such as restoration) to the normal process it would be beneficial for the wash. This was the first site to go through the watercourse DSMR process, so there was some confusion about what was required in terms of noticing neighbors and posting the site.

General comments from RPAC members were that there is a need to distinguish what is valuable and what is not valuable when determining PRA. The flowchart provided help in understanding

the process applicants go through. It appears applicants are being penalized for trying to do the right thing (restoration). The fact that WASH and ERZ fall within the zoning code is problematic.

6. Future Agenda Items

Suggestions included the following:

- Information on the implications to watercourses of the US Army Corps of Engineers' recent designation of portions of the Santa Cruz River as navigable
- General idea of how development of the ordinance will proceed over the coming months
- Updated name roster for RPAC members and ex officio members
- Updates on the City's Habitat Conservation Plan and the Regional Transportation Authority wildlife linkages committee work

7. Call to the Audience

No comments made.

8. Adjournment

Meeting was adjourned at 10:05am.