



**Albuquerque Metropolitan
Arroyo Flood Control Authority
Work Study Session Minutes
April 12, 2007**

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1. Call to Order and Roll Call

Chairman Hernandez called the Work Study Session to order at 9:31 a.m. Thursday, April 12, 2007. Roll was noted as follows:

Directors present: Chairman Danny Hernandez
Director Janet Saiers (arrived late)
Director Tim Eichenberg
Director Ronald D. Brown
Director Daniel Lyon

Others present: Jerry Lovato, Drainage Engineer
Jackie Bregman, Attorney
Staff
Other attendees on file at AMAFCA

A quorum was present.

2. Approval of Agenda

There were no changes to the agenda. Director Brown made a motion to approve the agenda. Director Lyon seconded the motion. The motion passed (4-0).

3. Meetings Scheduled

- a. **May 3, 2007, 10:00 a.m. – Regular Meeting**
- b. **May 10, 2007, 9:30 a.m. – Work Study on Project Schedule**
- c. **May 31, 2007, 10:00 a.m. – Regular Meeting**

There were no changes to the meeting schedule. Director Saiers arrived at 9:32 a.m.

4. Drainage Facility Planning Review – Review of Projects on East Side of Rio Grande

Mr. Lovato stated that AMAFCA had begun the second major update of the Drainage Facility Planning Review, which is an assessment of all major master planned drainage projects within AMAFCA's jurisdiction. A Technical Advisory Committee, consisting of Roger Paul, Bernalillo County Public Works Department; Brad Bingham, City of Albuquerque City Hydrologist; Kathy Verhage and John Curtin, City of Albuquerque Storm Drainage; and AMAFCA staff, met to discuss and prioritize projects for the Board's review.



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Mr. Lovato noted that Mr. Paul was in attendance at the work study session.

Mr. Lovato stated that the Board will review the district-wide projects in a series of three work study sessions. He stated the Board would review projects in the east mesa area, upstream of the North and South Diversion Channels, in the first work study session.

Using a large map of the area, Mr. Lovato presented each proposed project. The Board commented on the proposed projects, classification, and priorities. The projects presented, by watershed, were:

North Camino Watershed

- North Camino Inlet – upgrade – a current problem in 100 year and flow regimes, not funded/low priority. Drainage in this area will become more of an issue as development grows to the east or on the north end of the Balloon Fiesta Park.
- North Camino Channel Box Culvert, at the North Diversion Channel inlet to San Mateo – a development driven proposed project – low priority, funded by others, City of Albuquerque lead. This project would put a portion of the arroyo into a box culvert at the Balloon Fiesta Park, in the gravel pit/parking area.
- Coronado Airport Channel – I-25 to North Camino Tributary, and North Camino Tributary – development driven proposed project – low priority, Sandia Pueblo lead. When this is built, the training dike to direct water to the channel will be Bernalillo County lead.
- Elena Training Dike (Avulsion 8) – West of Wyoming – a development driven proposed project – low priority, Sandia Pueblo lead.
- North Camino Tributary – inlet to North Camino Arroyo at Coronado Airport – development driven proposed project – low priority, Sandia Pueblo lead.
- North Camino Arroyo Training Dike (Avulsion 1) – north of Tramway – current problem, high priority. Negotiations with Sandia Pueblo are ongoing.

La Cueva Watershed

- La Cueva Arroyo Water Quality Facility – underground water quality feature – this is a funded high priority project currently in design.
- Wildflower / I-25 crossing – crossing underneath I-25 – upgrade to increase capacity, development driven, low priority, New Mexico Department of Transportation (NMDOT) lead.
- Wildflower Storm Drain – I-25 to San Pedro on Eagle Rock – development driven proposed project – low priority, City of Albuquerque lead. This project will collect the water that will be discharged through the above project.



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- San Pedro Storm Drain – upgrade of existing storm drain – development driven proposed project – low priority, City of Albuquerque lead. This storm drain accepts water from Alameda and the side streets, and moves it to the La Cueva Arroyo. The upgraded storm drain will reduce City maintenance costs.
- Wyoming and Eagle Rock crossing – Concrete Box Culvert crossings – current City of Albuquerque project, funded, in design.
- La Cueva Arroyo at Barstow Crossing – transportation issue (no road) – City of Albuquerque lead. The City plans to put a bridge with road across the La Cueva Arroyo at Barstow.
- La Cueva Channel – development driven improvements of natural arroyo. Developer Bob Keeran is in the process of assembling land in this area for future development.

Mr. Paul added that Bernalillo County will be doing some improvements to the La Cueva Channel in the County portion of the channel, in conjunction with improvements to Alameda. He stated that Mr. Keeran is working with the City of Albuquerque to improve the portion of the channel within the City limits.

- Hamilton Dam – 104 acre-feet detention dam – will be required if the North Camino Arroyo Training Dike (Avulsion 1) cannot be built. AMAFCA has acquired the land for this facility. Unfunded, committed project, intermediate priority.

Mr. Lovato stated that, currently, AMAFCA requires those building downstream of Avulsion 1 to build to the "worst case" scenario as the current FEMA floodplain maps assume the avulsion occurs and a large amount of water flows down the El Camino Arroyo. Thus, individual lots are "overbuilt." However, downstream structures have been designed for the developed flows, non-avulsion scenario.

Responding to a question from Director Lyon, Mr. Lovato stated that it would cost approximately \$400,000 to \$500,000 to build the North Camino Arroyo Training Dike, versus \$2.5 to \$2.8 Million to build Hamilton Dam. Chairman Hernandez pointed out that development downstream of Avulsion 1 would no longer need to be overbuilt, if the avulsion were contained. This would save residents money.

- Glendale Training Dike (Avulsion 5) – west of Holbrook, north of Glendale – development driven project, being done by Bernalillo County.
- Browning Street Training Dike (Avulsion 4) – dike will tie to crossing structure – intermediate, long-term project. Currently set as Bernalillo County lead,



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transportation driven, but may become an AMAFCA project to ensure it is built, if the rest of the work on the La Cueva has been completed.

Responding to a question from Director Saiers, Mr. Lovato confirmed that the backbone of the work along the La Cueva has already been built, leaving mostly just a water quality facility (AMAFCA lead), and the development driven/transportation driven projects.

Mr. Paul stated that the North Albuquerque Acres Homeowners Association has been very vocal in discussions with their legislative delegation, and has succeeded in getting appropriations from the legislature to get their roads paved. They also want drainage improvements in the NAA area. He stated that the County expects more money to be allocated by the legislature in coming years to address NAA drainage issues.

Domingo Baca Watershed

- Domingo Baca Water Quality Facility – project on hold until NMDOT completes its plans for the Paseo del Norte/I-25 interchange and Paseo del Norte corridor. It may be built as a part of the NMDOT project instead of being a separate AMAFCA project. The Board requested that this project be marked "funded, but deferred pending NMDOT project."
- South Domingo Baca Channel – freeboard/superelevation study at several locations where there are curves in the channel, City of Albuquerque lead. Superelevation flooding is currently contained within the right of way, but causes erosion. Walls might be added at several locations to reduce this erosion if the study suggests this is warranted.
- Holbrook Storm Drain – north of Carmel – current problem, Bernalillo County lead. This water will go to the Kinney Dam via the North Domingo Baca Arroyo.
- North Domingo Baca Dam – add approximately 40 acre-feet of storage – upgrade, long-term project, low priority. The dam was modified after original construction, so needs to be re-evaluated. This work can probably be done in conjunction with the dam emergency action plan. Mr. Lovato opined there is sufficient storage in the dam, but it needs to be quantified.

Replying to a question from Director Lyon, Mr. Lovato stated that AMAFCA needs to prepare Emergency Action Plans for each of AMAFCA's 34 dams, to fulfill a regulation from the Office of the State Engineer. AMAFCA has until 2015 to finish EAPs for all dams. AMAFCA is currently preparing three of the EAPs.

In response to a comment from Chairman Hernandez, Mr. Lovato stated that the plans cost approximately \$30,000 to \$50,000 each. He stated that Ms. Elaine Pacheco, Chief of the Dam



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Safety Bureau of the Office of the State Engineer, will attend the May 3, 2007 Board meeting to brief the Board on New Mexico Rules and Regulations for Dam Design, Operations, and Dam Safety.

- North Domingo Baca Arroyo – stabilization of arroyo, Lowell to Tennyson – upgrade, long-term project, low priority, AMAFCA lead. This project will alleviate erosion problems that have occurred in the past. The project would consist of intermediate grade control structures between the existing soil cement bank protection along the arroyo. AMAFCA has had to perform significant maintenance on this arroyo.
- South Domingo Baca Dam Outlet/South Domingo Baca Outfall Study and Eubank Roadway Improvements – proposed upgrade, long-term. Re-study needed, low priority for the outlet upgrade to Wyoming. Probably Bernalillo County lead.

Mr. Paul stated that Bernalillo County is accelerating their projects for Eubank, and could include some drainage elements as a part of their improvements to Eubank. Bernalillo County will need to capture the water approaching Eubank, and could coordinate their project with the dam outlet project, as the outlet will run through the County's roadway project.

- South Domingo Baca Diversion Channel Extension – Tramway to Tramway Lane – development driven proposed project, low priority. Further development in the area will lead to increased flow. The Mhoon property is in early discussions with AMAFCA and Bernalillo County for development.

Bear Canyon Arroyo Watershed

- Bear Canyon Mid-Channel Baffle Chute Bypass Water Quality facility – bypass sump, ported wall floatable collection and floating boom – current need, proposed project, intermediate priority, AMAFCA lead. This is a good location for this facility due to the elevation change. Debris that has bypassed the upstream debris removal facility (due to full containers) would be captured at this facility.

Grantline Watershed

- Grantline Water Quality Facility at North Diversion Channel Inlet – Current need, high priority. Limited space for the facility, which will pose challenges. AMAFCA lead.

Mr. Lovato stated that if the Board agreed this area (or any area where there is a current need) needed to be addressed, a reasonable first step would be to fund a feasibility study, prior to a



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project being funded for design and construction. The work study sessions on the needs in various areas of AMAFCA's jurisdiction are to inform the Board of the needs, and confirm the priority of each need.

Hahn Arroyo Watershed

- Hahn Arroyo Inlet Water Quality Facility at NDC Inlet – current need, intermediate priority, AMAFCA lead. There is more land available in this area, so design of this facility will not be as great a challenge as the Grantline facility.
- Hahn Arroyo Channel – channel replacement, City portion of the Hahn Arroyo – upgrade, current need, high priority.

Mr. Lovato stated that some sections of the walls and floor of the Hahn Arroyo experienced failure or partial failure during the 2006 storm season, leading to the need for emergency repairs. The channel was built with 4" concrete on wire mesh, rather than the current standard of 7-8" concrete on rebar. The City of Albuquerque has transferred funding from this project to other projects in the City. There is a high risk of damage to bridges and AMAFCA facilities when panels break loose and are carried downstream by stormwater.

He added that, as the channel is "perched" downstream, if water escapes the Hahn Arroyo, the only way to get it into the North Diversion Channel is to pump it into the channel.

Mr. Lovato asked if the Board would be comfortable with AMAFCA being the lead on this project, even though the City owns this channel. In response to a question from Chairman Hernandez, Mr. Lovato stated he has seen cost estimates of \$3 million to \$10 million, depending on the scope of work. Responding to a question from Director Eichenberg, he stated it would probably be a phased project, with 1/4 to 1/2 mile of channel being replaced each year.

After discussion, the Board determined the channel was built in the late 60's/early 70's. Director Brown stated there is evidence of the need for replacement all along the channel. Mr. Lovato confirmed this statement. Chairman Hernandez agreed that the channel needs to be replaced, and stated he would like to see the City increase the money they spend on channel maintenance.

Director Brown pointed out that it is likely that up to 20 miles of City channel, built at roughly the same time, was probably built to similar standards, and probably will need repair or replacement in the future. He added that current residential driveways are built to equal or higher standards than these channels were built to, some 40 years ago.



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Consensus of the Board was that there needed to be further discussions with the City regarding funding and accomplishing the necessary repairs to the Hahn Arroyo Channel. The Board requested a list of, and the overall length of, similarly-constructed channels in the Northeast Heights, many of which may need to be replaced in the next 10-20 years.

- San Mateo Storm Drain – south of Hahn Arroyo – upgrade, current high priority need, City of Albuquerque lead, project has been funded. This will remove a large amount of floodplain in the area.
- Carolina Storm Drain – south of Hahn Arroyo – City of Albuquerque project, currently in design. This project will also remove floodplain.

Embudo Watershed

- I-40 Channel – replacement (entire length) – high priority, long-term upgrade project, NMDOT lead. NMDOT would like AMAFCA to assist in accomplishing these repairs, in a manner that would be compatible with NMDOT plans to add traffic lanes at a future date.
- Moon Storm Drain – Central to I-40 – current need, high priority, City of Albuquerque lead. Construction has not been funded but the City has begun design of this project.
- Racetrack Pond Water Quality – State Fairgrounds – current need, low priority, City of Albuquerque lead. About 3 or 4 years ago, additional water was taken into the Racetrack Pond, reducing the number of nearby homes in floodplain.

Campus Wash Watershed

- Campus Wash Box Upgrade – low priority, future long term City of Albuquerque project. AMAFCA staff would like to see this project as a higher priority. ASR is occurring in City portions of this box culvert.
- Highland Detention Basin – upgrade needed to increase volume, low priority, future City of Albuquerque project. AMAFCA staff would like to see this project as a slightly higher priority. Floodplain cannot be removed until there is capacity for the water in this detention basin or through an additional detention basin along Gibson (listed below). This has been a problem for 15 years.
- Kirtland Air Force Base South Detention Basin – added detention at Gibson & Pennsylvania – low priority, future City of Albuquerque project.



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Tijeras Arroyo Watershed

- Tijeras Arroyo Grade Control Structures – at Airport Tributary – development driven, low priority, Kirtland AFB lead. This is a low priority for the federal government, but would help cut down on erosion along the Tijeras Arroyo.
- Tijeras Arroyo Bank Improvements – east of I-25, and between I-25 and Ira Sprecher Road – long term project, low priority.
- Tijeras Arroyo Bank Protection – downstream of Ira Sprecher Road – long term project, low priority.
- Airport Tributary Grade Control Structures, and KAFB Tributary Grade Control Structures – north of Tijeras Arroyo – current need, unfunded.

Director Saiers left the meeting at 10:43 a.m.

Mr. Lovato stated that all of these areas along the Tijeras Arroyo are of concern to AMAFCA, as serious erosion has occurred with recent storms. A section of Los Picaros Road was threatened last summer, due to extreme erosion that undermined a portion of the road.

- Tijeras Arroyo 500 year Erosion Protection – west of Hidden Valley – development driven, low priority but may move up in priority as development proceeds.

North Diversion Channel Watershed

- North Diversion Channel Outfall Water Quality – AMAFCA lead, with City of Albuquerque. Study needed – high priority. Further discussions are needed with Sandia Pueblo regarding the location of the facility. AMAFCA has a purchased easement from the Pueblo in this area, but the best location for a water quality facility that could handle 44,000 CFS is north of that easement. The best that could be built within the existing easement is a facility that could handle 2-3,000 CFS.
- El Pueblo Channel Phase 1/El Pueblo Drainage Phase 2, 3, & 4 – Phase 1, current need, high priority, AMAFCA lead, in design. Phase 1 will temporarily get the water directly into the North Diversion Channel. Phases 2, 3, and 4 are proposed future projects, lead agency unknown at this time. Phases 2, 3, and 4 will probably be done concurrently with the NMDOT Paseo del Norte/I-25 corridor project.
- Alameda Business Park Pond Water Quality Facility – current need, unfunded, future City of Albuquerque project. From here, water is pumped into the North Diversion Channel. This would be an inexpensive project.
- Osuna Storm Drain – North Diversion Channel to Jefferson – City of Albuquerque lead, AMAFCA has contributed to this project. Current need, high priority.



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- North Diversion Channel 500 year modifications (five locations). Upgrade freeboard capacity in areas where superelevation is a factor.
- Vineyard Water Quality Facility – at the North Diversion Channel inlet – funded, high priority, currently in design.
- Bryn Mawr/Aztec System – High priority, City of Albuquerque lead, currently in design.

South Diversion Channel Watershed

- Coal Storm Drain Extension – upgrade capacity between Harvard and Cornell, to Princeton – current need, high priority. This will remove floodplain.
- Carlisle Storm Drain – upgrade capacity, Coal to Garfield Avenue – current need, high priority, future City of Albuquerque project.
- South Diversion Channel Water Quality Facilities (multiple locations) – Proposed project, high priority, in design.

Mesa del Sol

- Various Drainage Facilities – development driven. Flow will need to be split so that some goes north to the Tijeras Arroyo, and some south, where it will run in a facility following the I-25 right-of-way to the Rio Grande.

The Board did not make any changes to the priority or classification of any of the proposed projects.

5. Unfinished Business

None.

6. New Business

None.

7. Items from the Floor/Public Comment

None.



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8. Adjourn

With no further business to discuss, Chairman Hernandez adjourned the meeting at 11:05 a.m.

Tim Eichenberg, Secretary-Treasurer 5/3/07

Recorded by Pam Woodruff, Secretary to the Executive Engineer