

**CITY OF BOULDER, COLORADO
BOARDS AND COMMISSIONS MEETING MINUTES**

Name of Board / Commission: Water Resources Advisory Board	
Date of Meeting: 20 May 2013	
Contact Information of Person Preparing Minutes: Kaaren Davis; 303-441-3233	
Board Members Present: Chuck Howe, Dan Johnson, Vicki Scharnhorst (Arrives 7:12 p.m.), Mark Squillace	
Board Members Absent: Ed Clancy,	
Staff Present: Jeff Arthur, Director of Public Works for Utilities Bob Harberg, Engineering Project Management Coordinator Bret Linenfelser, Water Quality and Environmental Services Coordinator Russ Sands, Water Conservation Manager Kurt Bauer, Engineering Project Manager Ken Baird, Financial Manager Leslie Ellis, Comprehensive Planning Manager Sam Assefa, Senior Urban Designer Annie Noble, Greenways Program Coordinator Kaaren Davis, Board Secretary	
Attending Consultant: Craig Jacobson, P.E. with Icon Engineering	
Meeting Type: Regular	
Agenda Item 1 – Call to Order	[7:07 p.m.]
This meeting was called to order at 7:05 p.m.	
Agenda Item 2 – Approval of the 15 April 2013 Meeting Minutes:	[7:09 p.m.]
Motion to approve the 18 March minutes with requested corrections by: Squillace; Seconded by: Johnson	
Motion Passes; 3:0	
Agenda Item 3 – Public Participation and Comment (General)	[7:10 p.m.]
Public Comment: None	
Agenda Item 4 – Information Item – Update on Civic Area:	[7:10 p.m.]
Leslie Ellis and Sam Assefa presented the item to the Board.	
(Scharnhorst arrives 7:12 pm)	
Summary of Staff Presentation:	
Purpose: Provide the WRAB with an update on the Boulder Civic Area project since the boards/commissions and City Council project check-ins held in February and March, including the NAIOP Challenge, the Public Realm Plan, and the May 6 public open house.	
Next Steps: Based on feedback from the public, boards/commissions and council in May and June, staff will continue more in-depth evaluation of all key choices and considerations for the Civic Area, including site capacity, traffic impact and access, facility need/demand, adjacent use synergy, social impacts, preliminary analysis of financial feasibility, and more. The results of the evaluation will inform completion of the draft Civic Area conceptual plan. City Council will discuss and provide direction on the draft plan at a July 30 study session and consider approval of the final plan in August or September.	
WRAB Discussion Included:	
<ul style="list-style-type: none"> • How many strictures might be removed (Two for a total of about 50,000 square feet, both City facilities) • What cost/benefit analysis has and will be done. Especially with regards to parking changes (Surface-vs-Structured) • Schedule for demolition and new construction where needed. Exact schedule has not been determined as yet. • Concerns that affected businesses are given ample warning and consideration regarding the removal of buildings in the affected area. 	

This item was an information item only. No board action requested at this time.

Agenda Item 5 – Public Hearing and Consideration of a Motion regarding the Two Mile Canyon Creek and Upper Goose Creek Flood Mapping Study
[7:22p.m.]

Jeff Arthur, Kurt Bauer and Annie Noble presented the item.

Executive Summary from Packet Materials:

The city has a comprehensive floodplain management program designed to identify flood risks, mitigate the risks of flooding, minimize loss of life and property damage and support recovery following a major flood event. Floodplain mapping provides the basis for the city's floodplain management program by identifying the areas subject to flooding. Changes in land use, updated topographic mapping and upgrades to hydrologic and hydraulic models warrant periodic mapping updates. In addition, the city's Comprehensive Flood and Stormwater Master Plan and the Multi-Hazard Mitigation Plan state the city should work to update floodplain mapping on a ten-year cycle. This memorandum presents a proposed mapping update to the Upper Goose Creek and Twomile Canyon Creek west of Folsom Street. This memorandum also provides a brief summary of the other important components of the city's comprehensive floodplain management program including mitigation master planning and property acquisition, flood insurance, protection land use regulations and flood preparedness.

The existing Upper Goose Creek and Twomile Canyon Creek floodplain maps date back to 1991 and shows one main flow path for the 100-year flood event along each creek. The limited size of the creek system and documentation of past flood events, indicate that Twomile Canyon Creek did, and would again, overtop during even a minor storm event and spill downstream along several flow paths. The updated mapping study used a combination of modeling techniques to identify and define these overflow paths along Twomile Canyon Creek. The resulting proposed updated floodplain mapping therefore differs significantly from the 1991 mapping for Twomile Canyon Creek but remains relatively similar for Upper Goose Creek.

The proposed mapping for both creeks would result in a net increase of 19 structures in the 100-year floodplain, but a net reduction of 43 structures in the conveyance zone and net reduction 35 structures in the high hazard zone. Following input from WRAB, the mapping study will be presented to Planning Board in mid-summer 2013 and City Council in the fall of 2013. WRAB acceptance of the study does not require board members to verify the analysis and calculations, but indicates the overall study process and results are reasonable and acceptable.

Public Comment:

- **Anne Tolbert:** Lived in the area for 55 years. With certainty not one drop of outside water has entered her house. Yet she is now in the high hazard zone. Perhaps there is something wrong with the new flood plan. It is very very different. City has an obligation to those who were given building permits prior to this study. The city has an obligation to mitigate the impact. Wonder how FEMA will react. There is a flood wall that has protected the area that is not FEMA certified and cannot be used in the plan, except that the City could choose to take it on as a project.
- **Tom Daly:** Owns four properties in Boulder. Is a civil engineer and took a hard look at the properties affected. New flood path based on two things, structures which are under Spring Valley Road and Wonderland are both inadequate and poorly maintained. Consultant assumes those structures will be completely blocked in creating this new flood path. Not sure that is a valid assumption to base the study on. Asks that the board delay any recommendation until after residents retain counsel and engineering expertise to evaluate the study.
- **Cheri Belz:** Lived in the affected area for 20 plus years and has a house that is currently in the high hazard zone. Questions the logic of the mapping. How does the split occur? Half of her house is in the zone and half is not. It should be one way or the other. Want an explanation of how the flood paths were determined.
- **James B. MacKenzie:** Economic impact studied for the lots now included? Multi million dollars of loss in taxes to the City. In the conveyance zone, what will the City use in their determination of building permits in the high hazard zone?

- **Judah Levine:** Have lived on Juniper for 35 years. Have been in and out of the floodplain about four times. It is difficult to evaluate the changes from one floodplain plan to another because there are many assumptions built into the plan which he does not understand well. What are the differences in the assumptions between this plan and the last? Difference of the maps is a measure of the uncertainty in all of them. Concerned that the maps don't reflect this uncertainty. The boundaries are very sharp. Concerned that the accuracy of the maps is less than staff thinks it is.
- **Fred Clare:** In 1999 went to the city and asked about flood danger when thinking of building a house. He was told all was well, not to worry about flood. Now he is in the high hazard zone. What happened here? Looks like the only thing that changed is the computer model. Does not trust the results of computer models. Each property is different and should be individually examined. Has a map from the city showing his property is well outside the 1906 flood. There is hard data that his property and house has not been subjected to a flood in the last hundred years. Urges the board to hold off on the study. More collaboration would be appreciated.
- **Mary Cowen Beitner:** Thanks to city staff for efforts and education. Still quite unclear about all of the assumptions that go into this particular mapping. It would behoove the city to further educate us with some additional community education forums at a higher level of detail. Has concerns about the process and the timing of moving forward a plan like this. More than two weeks in advance, and return receipt letters to affected properties would be valuable. This has huge effects on property values, tax base, and city revenue. Urges board not to move forward until more education has been given.
- **Tommy Lorden:** Invested a great deal in a new home which was not in the flood zone when permits were obtained. This is a huge change in status. Appealing to the board to slow things down to give the residents a chance to organize and to consult with legal council. Recent construction on Broadway has probably affected the flows and this should be examined prior to re-mapping. Water does not move in the ways the maps indicate.
- **Jane Monson (Pooled time from Joan Nagel):** Has lived in the area for many years. Were in the house during the 1991 event presented and had no water on the property. House was on the market until recently. Would have lost buyers had the notification come while under contract. Got notification 11 days ago. Should have received a registered letter. Husband is a scientist (bio-geo chemistry) and understands peer review and computer models. He has reviewed the study and has concerns. New splits appear to be forced into the model. The flow paths were not discovered by the models and models are not capable of discovering flow paths. The City told Icon where to put the split and then icon modeled the flow paths. Peer review was inadequate and pointed out the difference between the method used and traditional methods. Not all needed information (such as culverts less than two feet wide) are included. Model results skewed by several property owners claiming reduced flows on their properties form other mitigations may have been forced into the flood path models. Urge board not to move forward until questions or concerns are addressed.
- **Bill Nagel:** Not an expert but encourages staff to be the experts for those affected. Impacts are huge. Safety is huge either way. Must know what accurate facts are. Has concerns about how the changes have come to be. This study is so different from those before. What are the assumptions behind it? Why is the split where it is? Concerned about the peer review and what they were asked to do. Need an objective view on how accurate the engineering is. How proven is the 2 dimensional model? Is one peer review adequate? Would like to see a thorough copy of the peer review.
- **Jim Johnson;** One of the 43 being taken out of the floodplain. For 35 years has been paying flood insurance on his house. \$1000-2000 a year for flood insurance. Feels sympathy for newly affected. When the city moves through, please urge FEMA to move it through quickly.
- **Alice Levine:** Has lived in the affected area since 1978. Urging the board not to move forward tonight. Too many questions need to be answered.
- **Bob Woodruff:** Lives in the 100 year flood plain. Has not reviewed the report. Since the study has been done, what are the statistics on individual properties and can owners get specific information about risks to their properties?
- **Spice Jones:** Has been moved into the affected area and her house is one of the only ones in her immediate vicinity affected. Has questions about the validity of the 2 dimensional model. Is there a way to find an individual assessment of her property if seeking a building permit? Would like to know more. Needs more time to understand the study.

- **Peter Mayer (Pooled time from Bert Tolbert):** Professional engineer and practicing water resources consultant (not a flood plain expert). Has spent his whole life along Twomile Canyon Creek. Has been in the high hazard zone before and has been removed from it before. Half of the house is now in the high hazard zone. This speaks of uncertainty. There are serious flaws in the study. Study ignores historical behaviors of floods in this area as well as the topography. Urges board not to move forward until study is better examined. (Presented several specific critiques of the report presented. Begin 1:24:25 in the recording for this item). Not saying there is no flood danger but this analysis is inadequate.
- **John Skok:** Have lived on Iris for the last 27 years and a couple of floods. Creation of a flood plain map has little to do with topography or flood levels demonstrated by historical information. This should reflect a refinement of a map rather than a totally new incarnation of a map. Why was this flood plain map initiated at this time? Are there reasons beyond the periodic update? Did certain citizens initiate it and if so, have they been removed from the high hazard zone? More time is needed to evaluate this mapping due to the very large impact on those now showing in the high hazard zone.
- **Kelly DiNatale (Pooled time from Joyce Pollich and Margaret Fitzgibbons):** Former WRAB member and professional water resources engineer. None of his properties are in the floodplain. Spring Valley/Wonderland Hill split does not take culverts adequately into account. Culverts are too small to effectively channel any significant flow. Modeling of recommended debris blockage assumes complete blockage at the split which may affect how the flow is calculated. Twomile Canyon Creek is a hazard, but more care needs to be taken in the analysis that affects them. Not saying the modeling is wrong, but consideration of the study should be tabled as pre-mature and re-run the model with different blockage assumptions. Should look at some mitigation to reduce affect of blockage. Are there channel improvements required and what are they? Recommend that the culverts be replaced and make some minor channel improvements (or just go in and clean the channel) and if this is done, it becomes part of the historical condition prior to mapping. Much leveraging of City funds can be used as well as some CIP funds. Mitigate true risks.

WRAB Discussion on Regulations and Policies Included:

- How the City monitors the effects of climate change on the flood risks within the flood zones. Staff: Based on historical information not speculation
- The basis for the precipitation numbers and whether there was a site specific precipitation evaluation?
- Capacity in the system for storing flood waters as a mitigation option. Staff: Regional capture detention storage south of Hwy 36 is currently being considered as part of South Boulder Creek mitigation plan. Peak flood season tends to coincide with times when our storage reservoirs are full, so there is minimal opportunity for retention/storage of flood waters in these facilities.

WRAB Discussion on Twomile and Goose Creek Included:

- Influence of storm drain systems within the study area.
- Overall reduction of structures within the high hazard zone. Net gain or loss moving from earlier studies to the current study.
- A flood mitigation study to be performed subsequent to the floodplain mapping process and how it would affect the mapping.
- Effects of a significant burn in the watershed. Rather than change the mapping, the City responds by aggressively rehabilitating the burn where able. Evacuation thresholds are modified to account for the burn, but mapping changes would take too long.

WRAB Discussion on Public Comment Included:

- Concerns about some management judgments being made in the study that affect who is in and who is out of the zone and concerns about the quality of the data and the uncertainty it creates.
- Education sessions with consultant present as well as a second peer review would be beneficial.
- It would be appropriate to wait until the board can hear the responses to the public comments with regards to the study.
- Clarifications from staff on the role of estimated debris blockages in the study and how these

blockages are evaluated.

- Mitigation possibilities in the CIP. Ongoing but over time because of the number of drainage ways. The study helps prioritize mitigation strategies.
- Discussion regarding the motivation and methodology of the peer review.
- Extent and methodology of the field study. Especially with regards to the soundness of the topography and the data derived from it.
- Opportunities to garner additional data to assist residents in better understanding why they are in or not in the floodplain.
- How to address concerns regarding how different this study is from prior studies, especially where the split flows are concerned.
- The process is adaptive and designed to change the mapping based on individual site/property evaluation.
- FEMA allows only for what “is” and not for “what might be”.

Motion:

Motion by Squillace ; Seconded by Johnson : Move to table recommendation of adoption of Upper Goose Creek and Twomile Canyon Creek floodplain remapping study to Council, pending further information, evaluation of the study and additional public process with an emphasis on differences between current and prior studies. Item to come before the board again in July.

Vote: 4-0

Agenda Item 6 – Information item – 2014 Utilities Capital Improvement Program.

[9:52 p.m.]

Ken Baird presented the item.

Executive Summary from Packet Materials:

As part of the city’s annual budget process, Utilities develops a six-year planning budget, this year for the time period of 2014 through 2019. The Water Resources Advisory Board (WRAB) role in this process is defined in Boulder Revised Code: “. . . to review all environmental assessments and capital improvements conducted or proposed by the utilities division.” Utilities staff has formulated initial revenue and expenditure projections for each of the three utility funds through the year 2019. Within the budget process, City Council approves and appropriates funds only for the first year, 2014.

At the April 15, 2013 WRAB meeting, staff presented the preliminary 2014 Utilities budget including the six-year capital improvement program. Since that time, the revenue forecasts have been updated and incorporated into the fund financials. The operating budget (i.e. personnel costs, chemicals, energy, etc.), transfers and budget supplementals have been updated and incorporated into the fund financials. Updates to the Capital Improvement Program (CIP) have also been made and are described below.

This packet contains information concerning the Preliminary 2014 Utilities Budget and the draft 2014-2019 Utilities CIP. The fund financials (**Attachment A**) have been updated to reflect actual revenues and expenditures for 2012, and the recommended budget for 2014.

Staff will return to WRAB on June 17, 2013 for a final recommendation on the CIP. The Planning Board hearing on the CIP will be on August 1, 2013. City Council study sessions are scheduled for August 13, 2013 concerning the proposed city-wide 2014-2019 CIP and on September 10, 2013 on the 2014 city-wide budget.

WRAB Discussion Included:

- Clarifying questions regarding projects listed in the CIP.

This agenda item was an informational item only. No board action requested at this time.

Agenda Item 7 – Matters

[10:34 p.m.]

From the Board: (10:34 p.m.)

- **Information Item – 2014 Greenways Capital Improvement Program:** Staff gave a briefing on the Greenways CIP.
- Howe raised the following matters:
 - Great water fair at East Boulder Rec Center.
 - Recommend taking the County up on their water tour. Governor just signed off on a grey water bill.
 - Governor also signed an executive order to the Water Board to come up with a Colorado Water Plan.

From Staff:

[10:45 p.m.]

- **Barker** should spill later this week.
- **Council's Fracking Moratorium** will cover use of city water for fracking.

Agenda Item 8 – Discussion on Future Schedule

[10:48 p.m.]

- June- Action item on the 2014 CIP
- Water Conservation future study
- E.Coli TMDL on Boulder Creek
- July- No South Boulder Creek mitigation study
- Twomile flood mapping

Agenda Item 9 – Adjournment

[10:50 p.m.]

There being no further business to come before the Board at this time, by motion regularly adopted, the meeting was adjourned at 10:50 p.m.

Motion to adjourn by: Squillace ; Seconded by: Johnson

Motion Passes 4:0

Date, Time, and Location of Next Meeting:

The next WRAB meeting will be June 17, 2013 at 7:00 p.m., in the 1777 West Conference Room of the city Municipal Building located at 1777 Broadway, unless otherwise decided by staff and the Board.

APPROVED BY:

Shawn Hall
Board Chair

7/15/2013
Date

ATTESTED BY:

Kaaron Davis
Board Secretary

7/15/2013
Date

An audio recording of the full meeting for which these minutes are a summary, is available on the Water Resources Advisory Board web page.