



Draft Meeting Summary
Skagit FCZD Dike and Drainage Technical Committee
Tuesday, October 14, 2008; 4:30 p.m. – 6:30 p.m.

Location: Burlington City Council Chambers

Meeting Purpose: To continue discussion on Measure Criteria per September 15th Advisory Committee request to Technical Committees

Attendees: Chuck Bennett, Dike, Drainage and Irrigation District 12; Daryl Hamburg, Dike District 17; Dave Olson, Dike District 3; Gary Jones, DD # 22; Don Moe, DD # 1; Dave Towne, Britt Slough SFCZ District; and Lorna Ellestad, County staff. Jason Vanderkooy, Dike District 1; Stan Nelson, Dike District 22; Leonard Eliason, DD # 17 and Tom Slocum, Skagit Conservation District were excused.

Absent: Dean Flaig, Drainage District 21; David Hedlin, Dike District 9; Ronald Knutzen, Dike, Drainage and Irrigation District 5; Linda Smith, USACE; Robert Swanson, Dike, Drainage and Irrigation District 20; Brian Olson, Drainage and Irrigation District 17; Mike Shelby, Western Washington Agricultural Association.

Action Items

- Next Meeting – December 2, 2008 from 4:30 – 6:30 pm Burlington City Council Chambers.
- Issue with meeting quorum: Deferred.
- Dave Olson requested that Daryl Hamburg replace him as one of the Dike and Drainage Technical Committee representatives on the Advisory Committee.
- Agenda for next meeting includes:
 - Continuation of criteria discussion

Committee Meeting Notes:

- Meeting notes from September 23rd meeting were distributed and reviewed. Chuck Bennett made the motion that they be accepted; Dave Olson seconded and the motion was passed.
- The sign-in sheet was passed around and roll call was taken.
- Discussion ensued on Dave Olson's request to have Daryl Hamburg replace him on the Advisory Committee.
- Daryl Hamburg gave a brief history of Dike District #17. Key points of the discussion was the inclusion and eventual exclusion of some properties and the addition of others once the actual elevation they could protect property to became an issue. The district's current protection elevation is 34.5', or the "low spot" of their levee system as measured near Blade Chevrolet.
- Discussion on Measures continued focused on the overland flow issue. This importance of this issue can not be over emphasized. The additions to the discussion will be added to the original draft criteria outline and will be distributed, along with the meeting notes for review by those that were present. (Criteria outline attached). Tom Slocum's suggestions included.
- The Committee requested that Daryl Hamburg present the DD technical committee's draft criteria at the October 20th AC meeting.

Overland Flow Conveyance and relief structures:

Overland flow conveyance pathways and outlet structure locations need to be identified and evaluated. This is a critical analysis and important for existing conditions and levee failures as well as for many of the proposed measures.

New section from October 14th meeting:

Sterling /LaFayette road area : Existing Conditions – Overland flow pathways

Analysis should include how much flow and where the flow will go once the river discharge exceeds the levee capacity and flow starts to leave (end run) the levee system.

Flow pathways should be identified and relief structures located and designed with adequate capacity to convey outflow to bay

Areas like Gages slough, Joe Leary slough, the historic North fork of the Samish River and other existing “low swale” areas should all be evaluated for flow capacity and potential “outfall” structures to reduce overland flow Water Surface Elevation (WSE) which will reduce damage in the floodplain. The 2001 Evaluation Areas report could be expanded to include this analysis.

Early warning systems should established and evacuation routes identified for high risk areas

Roadways and other structures perpendicular or that impede overland flow in anyway should be identified and modified so as not to impede overland flow conveyance and increase flow depth

I-5 and other major roads may need causeways or underpasses constructed to convey flow to west side of existing roadways.

Structures within flow pathways should be evaluated for impact and measures taken to reduce damage to property and overland flow restrictions

Options could include:

Elevating structures

Relocating structures

Property buyout

Comprehensive Land Use Plan should be reviewed and additional overland flow pathways identified and included as special flood hazard areas etc.

Levee failure points:

Similar overland flow pathways and special flood hazard areas should be evaluated similar to Sterling area

Measure evaluations:

Independent evaluations of measures is not an effective way to analyze the effectiveness when it is clear that there just aren't any “single” measure flood control projects waiting to be identified.

The Skagit GI screening process should include combinations / alternatives and the economic benefits at this initial stage before meaningful evaluations can be completed.

Land Use Planning:

Existing 1974 document, provided by Gary Jones, should be reviewed and criteria and proposed measures evaluated as part the current CFHMP planning effort.

From Tom Slocum:

> Looks good. I suggest the committee consider some additional criteria,
> below. I won't be able to attend the meeting next Tuesday - I have a
> prior commitment in Olympia. If the committee decides to take a vote
> on the proposed bylaw change to redact voting rights from members who
> miss
> 3 consecutive meetings, I'd like to vote in favor of this change.
>
> Additional criteria to consider:
>
> Let's keep in mind that the criteria should address managing flood
> hazards to people and property in general, and not exclusively to
> construction and maintenance of dikes and drainage infrastructure. In
> this vein, I suggest the following additional criteria for evaluating
> CFHMP options:
>
> * Minimizing operating and energy costs. For example, this criterion
> would weigh against building new pumping stations that have high
> energy costs or new mechanical infrastructure that requires regular
> and costly maintenance.
>
> * Preference for non-structural measures over structural ones.
> Consistent with Corps guidance, preference would be given to such
> measures as buying flood easements on agricultural land, where
> flooding would have lower impact than in more densely populated areas,
> and paying for removing flood debris from fields before the next season's
planting.
>
> This criterion would also favor measures to identify areas where flood
> overflows would be allowed by lowering dike elevations and building
> structures (e.g. floodgates) to allow return flows back into the river
> when the flood stage drops.
>
> * Preference for multiple use measures: Structural and
> non-structural measures should allow for multiple land uses, such as
> recreation (ball fields, hunting), agriculture and wildlife / salmon
> habitat in dike setback areas and hiking trails on dikes.
>
> * Preference for measures that don't foreclose future land use
> options. This criterion would discourage very expensive new dikes or
> other infrastructure that lock in the existing land uses, so that it
> would be cost prohibitive to modify them in the future. This criterion
> would also favor locating new pipelines, transmission lines roads and
> other infrastructure outside of the floodplain.
>
> * Preference for measures that favor managing flood hazard
> throughout the entire river basin, rather than within a single
> diking or drainage district.
>

>

Original Draft

Dike District Technical Committee Measure Criteria Outline

Critical Infrastructure:

Critical infrastructure needs to be identified and located on map and prioritized for protection
Known problem areas need to be similarly identified.

Certified Levees:

100 year certified levee locations need to be identified and prioritized.

Rural Preservation:

Less than 100 year protection is desired for rural areas to retain rural designation and preserve farmland

Flood Protection First:

Design measures for effective flood protection first. Setback levees where possible to provide a riverward shelf along the toe.

Maximum Multi-bridge Corridor conveyance:

Need to establish maximum conveyance through Multi-bridge corridor reach before districts can commit to design of levee improvements in lower basin. Need to identify level of debris buildup on bridges when modeling maximum flow.

Existing levee alignment:

Improve levees along existing levee alignments and utilize County road right-of-way to widen base of existing levees for levee improvements where available.

Overland Flow Conveyance and relief structures:

Overland flow conveyance pathways and outlet structure locations need to be identified and evaluated. This is a critical analysis and important for existing conditions and levee failures as well as for many of the proposed measures.

Levee Failure Analysis:

Cathy Desjardin briefly described a levee failure analysis model that the Corps is planning to develop for levees in the Skagit River basin and requested that DD commissioners work with her to identify known problem areas within the districts. The purpose of the model is to provide a more detailed levee failure analysis than what has been available for the Skagit River basin in the past. The main improvement over the existing levee failure, non-failure analysis is the inclusion of more detailed geotechnical information. Cathy provide a copy of a Corps study completed for the Hamilton City in California as an example of a study that included more specific geotechnical work. Copies of this document will be made available for review upon request.

One of the benefits of the levee failure point analysis would be that the levee reaches where 100-year certification is desired could potentially receive more detailed geotechnical exploration and analysis. This detail analysis could then serve as Corp documentation for the FEMA levee certification process. The Corps has stated that the levee analysis study that Cathy is proposing will be their top priority for FY '09 funding and a more detailed scope of work and schedule will be provided at a later date.