

FLOOD CONTROL BOARD  
APRIL 8, 2019  
CORTE MADERA TOWN HALL COUNCIL CHAMBERS  
FINAL MINUTES

Boardmembers Present: Robert Bundy, Chair  
David Bell  
Keith Forsman  
Ramon Garcia

Boardmembers Absent: Stephanie Bennett  
Nathan Blomgren

Staff Present: Public Works Director Peter Brown  
Senior Engineer R.J. Suokko

1. Call to Order

Chair Bundy opened the meeting at 6:30 p.m.

2. Open Forum for Non-Agenda Items

Mr. Roy Wolford, Sea Wolf Passage, distributed some handouts to the Board. He stated ten years ago the Town held a meeting for residents who were drawn into the FEMA Flood Zone. The USGS made it clear that the reason these properties were being included into the flood zone was settlement. Mariner Cove is built on bay mud. He referred to the Town's Flood Prevention and Protection document, page 1, and asked that settlement be added to the list of Sources of Flooding. He referred to page 3, Insurance Coverage, and asked that Cal Flood be added to the list. He referred to #2 under Documentation and asked staff to add earthquake damage to the list. He stated there is another cause of flooding- water main breakages.

Public Works Director Brown stated he spoke with Chair Bundy about updating the Annual Flood Board mailer that helps with the Community Rating System (CRS). Staff will put this item on an upcoming agenda.

3. Approval of Meeting Minutes (December 10, 2018)

M/s, Forsman/Bell, and carried unanimously (Bennett, Blomgren absent, Garcia abstained) to approve the minutes of December 10, 2018 as submitted.

4. Discussion Items

A. Capital Improvement Program (2-Year CIP, 2019/20 & 2020/21)

Senior Engineer Suokko presented the staff report and a PowerPoint presentation. He stated the CIP has been a one-year program in the past. He discussed the items under the Climate Adaptation Plan (CAP) and stated the Board has asked that these be a priority. He introduced Mr. Andre Jankowski, representing Nichols Consulting Engineers, who was added to the assessment group. They focused on the six flood control pump stations- Shorebird Marsh, High Canal, Lagoon One, Marquart Lagoon, Marina Village, and San Clemente.

Mr. Jankowski stated he was asked to assist in developing a scope of work for the six pump stations. He, along with staff, conducted a site visit on April 1<sup>st</sup> and visited each one. He referred to the Shorebird Marsh Pump Station and stated there is a deteriorated roof enclosure that needs to be replaced. They will look at a structural evaluation and a structural design. The condition of the concrete head walls and wing walls should be evaluated more closely for deficiencies. The Public Works maintenance staff noted there were existing gates on the bay side and the marsh side that need to be replaced. Staff is discussing automating these gates with electric actuators tied to a control panel. Chair Bundy asked if the tide gates had to be manually activated. Mr. Jankowski stated "yes".

Senior Engineer Suokko referred to the High Canal Pump Station and stated the top of the discharge structure is degrading (concrete and grate). Mr. Jadcowski noted the top was at -4 and could be seen only at a very low tide. This is a discharge structure for the pump station on the High Canal side. It is relatively large (8'X 8' inside). All the pumps discharge into this box and "bubbles out" through the grate. If it is submerged by the tide it will not be seen. It is there to dissipate the energy from the pump. These pump stations have a shelf life.

Senior Engineer Suokko referred to the Lagoon One Pump Station and noted it is less automated. A power drill is used to turn the gates. Mr. Jadcowski stated these are the original pumps and are quite old. Maintenance is being done but there is a life cycle for the motors. They might want to consider replacing the pumps after performing a hydrology study to see if they should be upsized. The structural condition of the gates should also be evaluated. Boardmember Garcia asked if staff has noticed any drop in efficiency by checking the flow meters, pressure gauges, etc. Senior Engineer Suokko stated they have not tested for that recently. Staff does keep a log of the age and efficiencies of the motors. Boardmember Forsman stated the scope of work should include an efficiency analysis of the system. Multiple motors working in a staged fashion might need variable speed drives. Mr. Jadcowski stated this would need to be evaluated by an electrical consultant. Chair Bundy stated this was a relatively small water shed draining into this lagoon and he asked how often these pumps were used. They were installed before the High Canal Pumps. Mr. Jadcowski stated he did not know how often they were used. In 2000 a lagoon study was done to evaluate whether the water levels could be set a bit higher. The current policy is to evacuate water to a certain level in anticipation of a storm. Chair Bundy asked if they really need all these pumps for a small watershed. Mr. Jadcowski stated they do need a lot of capacity because they are not going to utilize the gravity outfalls (no head differential). During a severe storm they need those pumps. Public Works Director Brown stated the current practice is for both lagoons to gravity feed into the High Canal and use the High Canal Pump Station to pump it out. They keep both the canals and lagoons at low levels- this practice has worked well. It might be better to put the funds into capacity and some level of automation rather than an efficiency study. Senior Engineer Suokko stated doing the analysis now would provide some very good information for future decision-making. Mr. Jadcowski stated the Board could think about the idea of dredging those lagoons to provide more capacity. Public Director Brown asked for Board input on doing a dredging analysis. Chair Bundy stated Marquart Lagoon was dredged about 30 years ago as a part of an assessment district. The Town could not get enough votes to form an assessment district to dredge Lagoon One. Senior Engineer Suokko displayed a slide of grates and asked for the Board's input on replacing them. Chair Bundy stated the gates need to be replaced. He asked if the Town would seek community input on dredging or if the Town would pay for it entirely. Public Director Brown stated the dredging would probably be a cost sharing program. It makes sense to increase capacity if they want to improve the flood control system through long-term improvements.

Mr. Jadcowski referred to the Marquart Lagoon Pump Station and noted it was small- it has a 2.6 CFS capacity whereas the Lagoon One station has a 45 CFS capacity. They are able to "evacuate out by gravity" but once the water equalizes they are at the mercy of a small 2.6 CFS pump. Chair Bundy stated he thought this pump had very few hours on it. Mr. Jadcowski reiterated that these pumps and motors have life cycles. A bigger pump would probably require a bigger wet well. The one on the Marquart Lagoon side had some serious structural problems to the head wall, the support, and the gate itself. It should be replaced.

Mr. Jadcowski referred to the Marina Village Pump Station and stated it has cracked concrete wing walls and the soil behind the walls has eroded away. Chair Bundy stated the manifold had to be replaced and there was a lot of erosion that accompanied that work. Mr. Jadcowski stated there is a plan to replace the deteriorated trash rack. He did not hear about any issues with the pumps themselves. If they wanted to replace the pumps they would want to think about a hydrology/hydraulics study in combination with dredging the lagoon itself. The capacity of the pump stations work hand-in-hand with the capacity of the lagoon. Chair Bundy asked for an explanation of how this pump station works. Mr. Jadcowski stated this facility has not been studied before. Chair Bundy stated it might have been used as a detention pond for the water coming from the west side of Highway 101. Mr. Jadcowski stated all of the flow from Marina Village ends up in this pond. The Public Works Maintenance crew reported serious problems with a gate located east of the pump station. Chair Bundy stated that gate was supposed to allow water to come in to create wetlands but they had trouble figuring out a way to manage it. Senior Engineer Suokko stated it was cracked. Mr. Jadcowski stated it will "freeze up" with inaction.

Senior Engineer Suokko referred to the San Clemente Pump Station and stated overall it was functioning well. They did notice some structural cracking that they need to look into. Mr. Jadcowski stated it looks like the manifold has settled over the years. There is some exterior cracking that they might be able to patch. Senior Engineer Suokko displayed a slide showing settlement on the right side and rotation of a large pipe. Chair Bundy stated that manifold was replaced about eight years ago. Mr. Jadcowski stated that had to do with cathodic protection. A structural review should be made of this facility with corrective action taken. Chair Bundy asked if they looked at the outfall for this station. Mr. Jadcowski stated “no”

Senior Engineer Suokko asked for comments from the Board on whether or not they were in favor of further analysis and assessment of the pump stations.

Boardmember Garcia had questions about the financial spreadsheet, specifically the \$14 million figure. Public Works Director Brown stated it was the sum of all the capital improvements for the given periods. He noted the Board is being asked to review just the Flood Control and Storm Drainage Projects (and not those that have to do with transportation, Town owned facilities, etc.).

Boardmember Garcia asked about projects that simply have construction costs indicated (and not environmental, planning, etc.) - does that mean the planning, engineering, and environmental work has already occurred? Senior Engineer Suokko stated “yes”. Public Works Director Brown stated it could also mean that the other components were beyond the five year scope.

Boardmember Forsman asked why some of the work being discussed tonight was not included in the worksheet. Senior Engineer Suokko stated it was discovered after preparation of the worksheet.

Boardmember Garcia had questions about prioritization of projects. Senior Engineer Suokko stated staff is taking a closer look at items they want to deliver in the next several years. Items with dollar amounts indicate they are thinking about staffing and deliverability. The projects that are further out are there for a reason. Public Works Director Brown stated staff has a pretty good handle on what should be delivered the quickest. Staff is asking the Board to add projects that do not exist. Senior Engineer Suokko stated it also makes sense from a permitting standpoint to take care of everything at once and not miss an opportunity.

Boardmember Forsman stated he likes the idea of thinking ahead and doing things in a comprehensive fashion. He supported project #3. He was curious to hear about the cathodic protection problem and stated there should be some maintenance around that. He supported item #8.

Boardmember Garcia had a question about the worksheet- he asked if projects #1 through #12 were currently part of the CIP. Senior Engineer Suokko stated “yes”. Planning Director Brown noted this was a planning document and not a financially constricted document. The department does not have a problem with “fiscal capacity” but instead a problem with “staffing and engineering capacity”. He asked the Board to consider adding the suggestions about the two lagoons, the Marina Village headwall, the wing walls, and replacing grates to the CIP. Boardmember Garcia stated he saw those as R&R rather than CIP projects but he would recommend including preventative maintenance in these expenses. Public Works Director Brown stated staff could add a new item that speaks to basic maintenance and upkeep. The CIP means a lot of things in a small Town such as Corte Madera.

Senior Engineer Suokko stated staff would update this document incorporating the Board’s comments and present it to the Board at its next meeting.

Boardmember Bell asked about the temporary generator at the Marina Village Pump Station and asked if it could be made permanent. He stated he does not see anything on the spreadsheet about flooding on Highway 101. Senior Engineer Suokko stated there were different requirements for a permanent vs. a temporary generator. Staff could look for a location.

Chair Bundy stated he did not have a good feel for what is needed at Lagoon One and Marquart Lagoon in terms of the pumping capacity. He likes the idea of dredging and seeing if there would be interest in homeowners contributing to this endeavor. He would like Mr. Jadcowski to take a fresh look at these two lagoons- looking at the watershed, the use of the pumps, concerns about water levels getting too high in a storm situation, etc. These pumps are old and worn out. The spoils from dredging could be used on the levees to build them up. He has never seen Marina Village Pump Station pond very full. They probably need to look at what is needed for that inflow channel from the creek that winds its way to the detention

pond. Boardmember Bell stated there was no pump there- the water just comes and goes with the tide through a gate. Chair Bundy stated that detention pond is more than adequate to take care of the water that comes in and the pumps are adequate to take the water to the Shorebird Marsh channel. The Climate Adaptation Plan will help address the tidal barrier levee upgrades but they need to work with the County and the City of Larkspur. Senior Engineer Suokko stated the Climate Adaptation Plan should contain enough scientific analysis to allow them to apply for grants. They are hoping to finish the plan by the end of 2020.

#### B. Possible Action to Reduce Flood Board from 7 to 5 Members

Chair Bundy stated there is one vacancy on the flood board- there are currently six members. Senior Engineer Suokko stated staff was recommending that the reduction, if that is the consensus of the Board, occur through attrition. Obtaining a quorum with seven members can be problematic.

Boardmember Garcia stated having six members might not be allowed since it is an even number. He asked if reducing the number would be up to staff or the Board- the number might be mandated by resolution. Senior Engineer Suokko stated staff would check into that. Chair Bundy stated this is an advisory board and they could go with six for a while.

It was the consensus of the Board to reduce the number of Boardmembers to five through attrition. Boardmember Forsman suggested they hold off on a decision until the incumbents are interviewed and reappointed.

### 5. Engineering Staff Update

#### A. January King Tide Observations at Mariners Cove

Senior Engineer Suokko presented a staff report and made a PowerPoint presentation. Staff wanted to look at the function of the check valves and try to understand the magnitude of the situation at Ebb Tide and Golden Hind. They took measurements and were able to come up with some results. The King Tide was 6.8 at 12:20 p.m. The manhole to the right of the pump station started leaking at a 6.1 tide. As the tides grew it was apparent that the water was trying to work its way along the sides of the properties adjacent to the pump station. At 6.8 it eventually crested and worked its way over the property to the north (#287). The difference between the catch basin side, which should be lower, and tide side is relatively low- this indicates that the check valve is operating. It is unrealistic to expect a check valve to seal things out 100% in a brackish, silty environment. Staff also concluded that if water is observed in the roadway when the tide is less than 6.8 then it is likely due to rainfall unable to drain to the bay and not a malfunction of the check valve.

Chair Bundy asked about the elevation of the catch basin at the roadway. Senior Engineer Suokko stated he did not know the elevation. They were measuring components relative to each other. Chair Bundy stated the catch basin has settled a lot. Senior Engineer Suokko stated this was not an extensive storm drain system- it crosses the road and goes a couple hundred feet one way or the other. It does not have a lot of capacity to take on additional rain water- it will fill up quickly.

Senior Engineer Suokko reported the pump station plan is at 100% design and staff is waiting on information from the Climate Adaptation Plan. Chair Bundy asked staff to look into continuing the slot drains at the Cove School/Cay Passage Pump Station so they link into that pump station. This might help carry off a lot of accumulated rainwater.

Chair Bundy asked if the Town wants to encourage residents to create berms on their property. Senior Engineer Suokko stated staff would leave that up to the property owner at this time. Once the Town has the results of a larger plan then perhaps they can get behind it. Chair Bundy stated it would help in the short term. He asked if the Town could add some type of barrier (concrete blocks, sandbags) to the back wall of the pump station. Senior Engineer Suokko stated "possibly".

#### B. Highway 101 Off-Ramp- Ponding Repairs

Senior Engineer Suokko presented a staff report and gave a PowerPoint presentation. He stated ponding occurs at the off-ramp of Highway 101 on Tamalpais Drive (heading northbound). Staff recently measured

it at 3 ½” deep. There is a small opening near the concrete barrier that is supposed to be handling the water. Staff also noticed that the low point in that area is 10’ or 15’ down from that opening. The goal was to: 1) Improve the ponding and safety; 2) Create a simple design that could be implemented without lengthy delays; 3) Obtain CalTrans approval; 4) Minimize impacts to vehicular traffic and minimize costs. The concept was to shave down the existing curb as opposed to removing or replacing it. They took the slope of the gutter pan, removed the curb to provide a 5% slope back, and then cleared some of the dirt behind the curb so water could flow off the new gutter. There is now a 15’ long opening as compared to the 6” to 12” opening that formerly existed. CalTrans provided traffic control on this relatively simple fix. The ponding depth has been reduced to about ½”. There was no demolition, striping, or repaving required. The work took about 6 hours to accomplish with a total cost of about \$4,000. The Board thanked staff for the great work!

Chair Bundy asked staff if they had any ideas about the Highway 101 entrance from Tamalpais/Redwood Highway heading north. Senior Engineer Suokko stated staff has not had a chance to take a detailed look at this but it will probably not be a simple fix. Boardmember Garcia suggested that staff ask CalTrans to take ownership of this project. Senior Engineer Suokko stated staff is establishing some goodwill with CalTrans and they would look into this. Chair Bundy noted the slot drain installed by CalTrans south of this fix (50 yards) were clogged. Senior Engineer Suokko stated CalTrans was understaffed in this maintenance area.

#### 6. Future Agenda Items

Chair Bundy stated the following items would be on a future agenda: 1) Review Mission Statement for the Board; 2) Review of Sea Level Rise Projects and coordination with the County; 3) How to provide information for homeowners on flood protection methods; 4) Review of CalTrans projects that impact the Town; 5) Discussion about Climate Adaptation Plan; 6) Presentation on how the Town’s drainage system works (gravity vs. pumping) and location of major assets.

#### 7. Adjournment- The meeting was adjourned at 8:10 p.m.