



# County of Monterey

**Item No.**

## Board Report

Board of Supervisors  
Chambers  
168 W. Alisal St., 1st Floor  
Salinas, CA 93901

**Legistar File Number: 26-274**

**March 24, 2026**

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**Matter Type:** General Agenda Item

- a. Receive a presentation and accept the Santa Rita Creek drainage study through Bolsa Knolls; and
- b. Provide direction to staff on potential next steps.

### RECOMMENDATION:

It is recommended that the Board of Supervisors:

- a. Receive a presentation and accept the Santa Rita Creek drainage study through Bolsa Knolls; and
- b. Provide direction to staff on potential next steps.

### SUMMARY

Bolsa Knolls is a community in the unincorporated area generally on both sides of San Juan Grade Road and north of Russell Road (Community). Although unincorporated, the Community is in the City of Salinas's Sphere of Influence, and may be annexed into Salinas at some point in the future. The Community is made up of a number of subdivisions approved over the years (the first development apparently was constructed in the 1940s, but more intense development has occurred since around the mid-1960s). A natural watercourse, Santa Rita Creek (also known as Little Bear Creek) runs generally south through the area. The creek is fed from an upstream watershed consisting primarily of irrigated agricultural fields, and drains downstream of Bolsa Knolls into the incorporated area of the City of Salinas. The Community has had an extensive history of chronic flooding from the creek, in addition to sediment loads from the upstream private properties. Public Works, Facilities and Parks (PWFP) department staff maintain the roads (which are County-maintained roads), and the local County Service Area No. 9 (CSA No. 9) funds the street storm drain culverts.

As a result of the Board Referral 2024.04 and subsequent Board direction, staff engaged the consultant (Denise Duffy & Associates, with Balance Hydrologics) to prepare a Drainage Study (also known as Flood Study or Study), with recommendations for Board consideration. Staff recommends that the Board receive a presentation and accept the Study and provide direction to staff on potential next steps. Staff will undertake the necessary environmental review and other federal and/or state permitting, as detailed below, if the Board of Supervisors gives direction to move forward with a potential project.

### DISCUSSION:

#### ***Background***

On March 12, 2024, the Board added Supervisor Church's Referral No. 2024.04 (Referral) to the County Board of Supervisors' referral matrix. The Referral sought to 1) analyze and address floodplain issues in the Little Bear Creek area; and 2) address expedited permit processes for cleaning and long-term maintenance of Little Bear Creek. Please refer to Attachment A.

Bolsa Knolls is located in the North County, immediately north of the City of Salinas. The Community has grown along Little Bear Creek (also known as Santa Rita Creek, herein Creek), which runs a length of approximately 12 miles. The Creek runs across multiple properties and is managed by various entities, including private residents and agricultural landowners. Referral requested research and analysis of the cause of floodplain issues in the Creek drainage, including a drainage study, analysis of the impact of upstream area agricultural practices, creek maintenance, potential funding mechanisms to conduct maintenance and a process to expedite permitting for Creek maintenance. Please refer to Attachment B for a map of parcel ownership.

The Monterey County Floodplain Management Plan (FMP) identifies the Bolsa Knolls community as a Repetitive Loss Area (RLA), containing 66 properties which are subject to flooding. The map in Attachment C identifies the RLA. A Repetitive Loss Property is defined as a property for which two or more claims of at least \$1,000 have been paid by the National Flood Insurance Program (NFIP) within any 10-year period since 1978. There are two Repetitive Loss Properties within this area, both are pre-FIRM structures located within the FEMA designated 100-year floodplain of Santa Rita Creek. The single-family dwellings within this community are also pre-FIRM structures, meaning they were built before the County joined the National Flood Insurance Program. Specifically, the lowest floor elevations of these homes were not required to be elevated above the base flood elevation (BFE). Currently, County Code requires the lowest finished floor to be elevated a minimum of 1 foot about the BFE. From the FMP the primary solution for the Bolsa Knolls Repetitive Loss Properties is to properly elevate these structures. The County sends two flood hazard notification mailers to the Bolsa Knolls area: One is for the Repetitive Loss Area (RLA) of Santa Rita Creek, which covers a majority of Bolsa Knolls, and the other for properties that are not part of the RLA, but in or near the 100 year-floodplain, the Salinas River Watershed Special Flood Hazard Area mailer. Both mailers provide information on flood risk, flood insurance, flood warning, development in the floodplain, and how to obtain more information regarding floodplain mitigation and financial assistance to residents to elevate their structures to be in compliance with current floodplain regulations.

County Service Area, CSA No. 9, encompasses most of Bolsa Knolls. The CSA was formed in 1961 to provide for street lighting and storm drain maintenance to the Community, but is underfunded. The five-year average for CSA No. 9 property tax revenue from 2019 through 2023 is approximately \$57,531. Any increased funding to the CSA, expansion of the CSA's purpose, and/or expansion of the CSA boundaries would require a majority vote of property owners under Proposition 218.

At the April 16, 2024 Board Meeting, staff presented the Preliminary Analysis Report for the Board Referral, outlining next steps for the process. The proposed drainage study was the next step. Staff acquired a proposal from one of the PWF on-call environmental consultants, Denise Duffy & Associates (DD&A). Since this study was not budgeted in any department budget, and the costs were still in development at the time, staff sought funding for the drainage study.

At the September 17, 2024 Board Meeting, the Board approved the funding for the drainage study. Staff then commissioned DD&A, with their subconsultant Balance Hydrologics, to prepare the study. The Study was completed in July 2025, included as Attachment D to this report. A subsequent addendum was produced in February 2026 to cover further analysis and recommendations; this is included as Attachment E to this report.

### ***Flood Study***

The Flood Study was undertaken to identify the underlying causes of frequent flooding in Bolsa Knolls and to develop a range of mitigation strategies to reduce future flood risk. Key findings and recommendations from the Study are summarized as:

- **Flooding History:** Flooding along Santa Rita Creek has been a persistent issue for nearly a century, with documented impacts dating back to the 1930s and more recent events occurring in 2014, 2017, 2021, 2022, 2023, and 2025.
- **Hydrologic Analysis:** Watershed-scale hydrologic modeling was conducted to generate runoff hydrographs for recent storm events (February 13, 2025; December 27, 2022; and February 20, 2017) as well as for 10- and 100-year design storms.
- **Hydraulic Analysis:** Hydraulic modeling representing existing conditions indicates that Santa Rita Creek begins to overtop its banks at flow rates as low as approximately 80 cfs through the low-density developed area at the upstream end of Bolsa Knolls and closer to 100 cfs through the medium-density residential area further downstream. Contributing factors to this limited conveyance capacity include a relatively small channel cross-section, pockets of dense channel vegetation, minimal adjacent undeveloped floodplain, and constrictions at the Paul Avenue and Rogge Road crossings where sediment accumulation further reduces capacity. As the Creek channel capacity is exceeded, flow is routed through the streets and residential properties of Bolsa Knolls, with the hydraulic model predicting that inundation extents would impact approximately 60 and 80 residential structures in the 10- and 100-year flood events respectively.
- **Recommended Improvements:** The Study identifies several targeted improvements to reduce flood risk in Bolsa Knolls:
  1. Enlargement of the culverts at Paul Avenue and Rogge Road.
  2. Sediment removal at culvert crossings.
  3. Selective vegetation management within key channel segments (reliant on the acquisition of permits).
  4. Construction of upstream sediment retention and flow detention basins.

With these project proposals, the consultant created Project Alternatives 1-4, consisting of the following:

- Alternative 1** includes several focused conveyance project elements (i.e. culvert replacement at Rogge Rd and Paul Ave, targeted vegetation removal, and sediment removal at Cornwall St) paired with a single sediment retention basin project.
- Alternative 2** includes culvert replacement at Rogge Rd and Paul Ave and targeted vegetation removal.
- Alternative 3** includes several focused conveyance project elements (i.e. culvert replacement at Rogge Rd and Paul Ave, targeted vegetation removal, and sediment removal at Cornwall St) paired with a 35-acre-foot sediment retention and stormwater detention basin.
- Alternative 4** includes several focused conveyance project elements (i.e. culvert replacement at Rogge Rd and Paul Ave, targeted vegetation removal, and sediment removal at Cornwall St) paired with a 90-acre-foot sediment retention and stormwater detention basin.

\*For Alternatives 1, 3, and 4, the basin(s) does not have a determined location. Conceptually, a basin or basins of stated capacity is to be located somewhere upstream from Bolsa Knolls and along the Creek.

Subsequently a study addendum was created to address additional alternatives and recommendations. In the Study Addendum (Attachment E), the Alternative 5 grading concept would extend along Santa Rita Creek from Russell Road, to upstream of the Bolsa Knolls subdivision. Alternative 5 would restore the study reach of Santa Rita Creek to conditions consistent with those depicted in the FEMA Flood Insurance Study prepared in the 1970s (the last study of record). The study determined that channel elevations in the 1970s were generally higher than conditions in 2017 (latest available elevation data), and vegetative cover along the study reach increased since the 1970s. Given the conclusion that channel conditions in the 1970s would not have provided a substantial improvement in conveyance capacity through the study reach, Alternative 5 was instead defined as an enhanced version of the 1970s channel configuration. This approach allows for evaluation of the maximum potential flood control benefit achievable through channel grading and vegetation removal confined largely to the existing channel footprint.

The Study examined the series of challenges associated with this approach. The channel corridor within the study reach traverses residential properties with private property improvements such as: structures, fencing, and landscaping frequently extending immediately to the existing channel. This would require the graded channel configuration to be relatively narrow bottom widths and steep side slopes, which combined with the extensive removal of existing vegetation, would increase the risk of bank erosion and sedimentation.

Constructability also presents an important consideration for Alternative 5. Given the narrow channel geometry (influenced by the private property improvements), specialized equipment and construction methods would be required to excavate and haul material within the channel corridor, increasing overall construction complexity and cost. Furthermore, these private improvements create access issues (e.g., for equipment to enter, worker mobility, etc.) that would need to be addressed, including discussion with the property owners. Along the creek alignment, there are multiple property owners ranging from the County (with 3 parcels), Monterey County Water Resources Agency (MCWRA, with 1 parcel), and various private property owners. Please refer to Attachment B for a map of parcel ownership.

Permitting and environmental review presents another significant challenge for Alternative 5. Please refer to Appendix D of Attachment E for additional details, which includes a summary of required permits and authorizations. One of the more costly in terms of time and expense is the California Department of Fish and Wildlife (CDFW) Incidental Take Permit (ITP). The study concluded the permitting process would take up to two (2) years or potentially longer, with a cost of approximately \$2 Million. In addition to the permitting costs, the construction cost for Alternative 5 ranges from \$1 Million - \$4 Million. Thus, this Alternative 5 total project cost could potentially be approximately \$6 Million.

The Study Addendum further determined that the flood control benefits associated with Alternative 5 are most pronounced for smaller, more frequent storm events, with diminishing effectiveness for larger events. For comparison, the Table in Attachment F provides the number of residential structures

impacted for each project alternative in four different storm events. The Table also includes preliminary planning level cost estimates for the alternatives.

In summary, the Study Addendum concluded that Alternative 5 does not offer clear advantages over the other evaluated alternatives when considering effectiveness, constructability, and long-term performance. In addition, unless sediment delivery from upstream portions of the watershed is addressed, sediment deposition within the study reach would be expected to continue following construction, and periodic sediment removal would be required to maintain the long-term flood control benefits associated with this alternative.

#### ***Other Considerations with the Alternatives***

Each alternative requires varying levels of environmental review and permitting. The environmental review for each alternative ranges from the State level through the California Environmental Quality Act (CEQA), and at the federal level for the National Environmental Policy Act (NEPA). Each alternative then requires its own set of permits from the permitting authorities; the requirements and mitigations of each permit will depend on the level of activity proposed in the creek or near habitat. The Appendix E of Attachment D, and the Appendix D of Attachment E, further detail the permits, their requirements, and approximate costs. The following regulatory agencies regulate impacts to aquatic resources: the California Department of Fish and Wildlife (CDFW), Central Coast Regional Water Quality Control Board (RWQCB), and the US Army Corps of Engineers (USACE). Additionally, three known California tiger salamander (*Ambystoma californiense*, CTS) breeding locations are located within 2.2km of the project site. CTS are listed as federal and state threatened under the Endangered Species Act and California Endangered Species Act, respectively.

In order for PWFPP to enlarge the culverts at Paul Avenue and Rogge Road, funding would be needed for the work. This could be obtained through capital improvement funding from the County, or through expanding the scope of CSA No. 9 and collecting increased funds from property owners. As stated above, in order to expand the scope of CSA No. 9 and/or collect addition funds an engineer's report analyzing the special benefits to properties and successful Proposition 218 election would be legally required. Enlarging the culverts also may require regulatory permitting requirements (e.g., Clean Water Act Section 404 permit, U.S./California Endangered Species Act consultation).

PWFPP has historically cleaned the culvert crossings that run under County roads and will continue to do so. CSA No. 9 funds are used for this purpose; however, additional funding would allow the County to perform additional work. As stated above, in order to collect additional funds for CSA No. 9, a Proposition 218 election would be required. There are several culverts along private access roads with partial sediment infill. These crossings are assumed to be the maintenance responsibility of the respective property owners.

Selective vegetation management within key channel segments could be difficult to achieve for the following reasons. First, there is the issue of paying for Creek maintenance, and the issue of obtaining necessary federal and state permits to engage in the work. The following regulatory agencies regulate impacts to aquatic resources: the California Department of Fish and Wildlife, Central Coast Regional Water Quality Control Board, and U.S. Army Corps of Engineers. Additionally, three known California tiger salamander ("CTS") breeding locations are located within 2.2km of the project site.

CTS are listed as federal and state threatened under the Endangered Species Act and California Endangered Species Act, respectively. The timelines for acquiring approvals from the following regulatory agencies vary, but typically take up to a year and require multiple rounds of comments and information requests from the regulatory agencies. Each permit would require an application fee, which ranges from hundreds to thousands of dollars per permit. The cost and timeline of acquiring regulatory permit approvals may be limiting to the project scope and budget. Second, the Creek runs through and abuts private property. As such, the County would have to obtain easements or some sort of permission from private property owners to enter upon their property to perform the work.

As shown in the Study, construction of upstream sediment retention and flow detention basins would be the most cost-effective strategy for providing broader flood protection benefits and protection from large storm events. However, sediment retention and flow detention basins would require coordination with private property owners and other public agencies, and would be costly. Specifically, the capital cost for detention facilities will vary significantly based on site location, land acquisition costs, project scale, whether storage can be achieved primarily through berm construction versus excavation, and the overall environmental mitigation requirements. That being said, preliminary capital costs are generally expected to range from several million to tens of millions of dollars. Additionally, long-term operation and maintenance costs would have to be incorporated into overall project planning and operations budgeting.

As another potential course of action, the County could consider Code Enforcement actions against upstream property owners who are not properly controlling erosion under Monterey County Code Chapter 16.12. It should be noted that the Agricultural Commissioner has conducted outreach on this subject with growers, and has sent correspondence to the public on appropriate steps to protect neighboring properties from erosion and stormwater runoff. Please see Attachment G.

### ***Special Districts***

Another option is to consider the creation of a special district or joint powers authority for the maintenance service of the Creek. Similar to the Monterey County Water Resources Agency (MCWRA) and the Salinas River, special districts could be formed to address the Bolsa Knolls issues. MCWRA had a memorandum prepared by Somach, Simmons & Dunn for the Salinas River maintenance program; but many of the issues are similar and potentially translatable. The memorandum is included as Attachment H. The memorandum presented a range of potential agency structures, from reclamation districts to agencies created by special legislation.

Formation of these requires different processes, and the formation process with Monterey County Local Agency Formation Commission (LAFCo). Another option is a joint powers authority (JPA). As an example, if the Community were to form a special district, it could then join a JPA with the County, MCWRA, and City of Salinas to address the non-privately owned lands.

As the County is not the flood control entity, creating an entity for flood control and creek maintenance would allow for a dedicated service to the constituents in Bolsa Knolls for clearing sediment from the Santa Rita Creek, and could strive for the long term project alternatives.

OTHER AGENCY INVOLVEMENT:

County staff presented a summary of this study to lead representatives from the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) and the Resource Conservation District of Monterey County (RCDMC). Members of both groups were overall supportive of the project alternatives that included retention/stormwater basins while noting further details regarding the potential for groundwater recharge would be required. They also provided insights into challenges with the alternatives.

FINANCING:

The General Fund funding source allocated for the completion of the Study has been expended. Receiving the report will have no affect on the County General Fund. A funding source will need to be identified to allocate funding to perform the alternative or direction provided.

CEQA:

The CEQA, and NEPA, level of documentation is dependent on the project that is selected. After the project is selected, staff would need to prepare the appropriate documentation for CEQA and NEPA compliance for that project.

BOARD OF SUPERVISORS STRATEGIC PLAN GOALS:

The recommended action supports the Board of Supervisors' Strategic Plan Goals for Well-Being and Quality of Life, and Safe and Resilient Communities.

- Well-Being and Quality of Life
- Sustainable Infrastructure for the Present and Future
- Safe and Resilient Communities
- Diverse and Thriving Economy
- Administrative

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Attachments:

- Attachment A - Board Referral 2024.04
- Attachment B - Parcel Ownership Map
- Attachment C - Repetitive Loss Area Map for Bolsa Knolls
- Attachment D - Santa Rita Creek Drainage Study dated July 18, 2025
- Attachment E - Santa Rita Creek Drainage Study Addendum, dated February 26, 2026
- Attachment F - Summary Table of Alternatives with Preliminary Planning Level Cost Estimates
- Attachment G - Monterey County Agricultural Commissioner's Rainy Season Message, September 2025
- Attachment H - Salinas River Stream Maintenance Program Alternative Governance Structure Options, prepared by Somach, Simmons & Dunn, dated January 9, 2025

