



Town of Moraga	Agenda Item
Ordinances, Resolutions, Requests for Action	11. A.

Meeting Date: April 24, 2019

TOWN OF MORAGA

STAFF REPORT

To: Honorable Mayor and Councilmembers

**From: Shawn Knapp, Senior Civil Engineer
Edric Kwan, Public Works Director / Town Engineer**

Subject: Receive an Update on the Canyon Road Bridge Replacement Project (Project) (CIP 14-101) and Consider Resolution ____ - 2019 Authorizing the Town Manager to Amend the Design Professional Services Agreement for Civil Engineering Services for the Project with Nolte Vertical 5, Inc. (NV5) (Walnut Creek) in an Amount of \$378,000 for a Total Amount Not to Exceed \$1,508,004

Request

On March 7, 2019, Caltrans Highway Bridge Program (HBP) reviewed and approved the revised Canyon Road Bridge Replacement project's scope and cost changes including additional bridge engineering. The Town has spent all of Nolte Vertical 5's (NV5) bridge engineering design contract. To continue providing bridge design services, especially for a project that is preparing to go for bid, NV5's contract will need to be amended. These expenses are reimbursed from Federal HBP grant and the Town's 11.47% matching contribution.

Background

Original Canyon Road Bridge Replacement Project

The Canyon Road Bridge (Bridge No. 28C0137) over the West Branch of San Leandro Creek (Moraga Creek) along Canyon Road is just south of Constance Place. The original bridge, built in 1936, was rated structurally deficient by Caltrans in 2013 and met the grant funding guidelines for replacement under the Federal HBP. The Moraga Creek passing under the Canyon Road Bridge is located in the lower portion of the San Leandro Creek Watershed and delivers runoff to the Upper San Leandro Reservoir. The Town owns a narrow corridor of Right-of-Way area where Canyon Road Bridge crosses the Moraga creek.

Exploration of design alternatives were considered early in the process which included evaluation of a culvert bridge. Per the Federal Highway Administration (FHWA) Hydraulic Design of Highway Culverts manual, culverts are used: 1) where bridges are

1 not hydraulically required; and 2) where more economical than a bridge (including
2 guardrail and safety concerns).

3
4 The HBP bridge design requirements for flood protection specify accommodating a 100-
5 year flood event (3,900 cubic feet per second) plus an additional 80 million gallons per
6 day pumped into the creek by East Bay Municipal Utility District (EBMUD) to fill their
7 reservoir. Hydraulically a free-spanning bridge over a culvert is preferred, as culverts
8 are more restrictive to free flow. A preliminary cost analysis was conducted for both a
9 bridge and culvert. The construction costs were nearly the same so additional factors
10 were considered.

11
12 Specifically, the culvert design required the purchase of additional Right-of-Way and
13 easements (to construct cutoff, head, and retaining walls) and required the armoring of
14 the creek banks to protect them from erosion and scouring. As some the creek banks
15 are at the base of active landslides, if purchased, it would expose the Town to potential
16 liability for landslide repairs. Additionally, the armoring of the creek banks eliminates
17 the existing creek habitat which is home to endangered species. While there was the
18 possibility of embedding the substrate in the culvert to resemble a natural streambed,
19 the costs for environmental mitigation were substantial and it was determined to be
20 highly unlikely that environmental approvals would be granted given that there was a
21 reasonable alternative that would mitigate this impact.

22
23 Regardless of the selected bridge design alternative, the bridge replacement triggered
24 requirements to bring the bridge to current standards and address traffic, pedestrian
25 and bicycle safety. These required enhancements included the need for a 12-foot
26 minimum vehicular lane in each direction, an 8-foot shoulder on each side (that also
27 serves as a bike lane) and a 5-foot sidewalk. These features increased the bridge width
28 by approximately 20-feet which added significantly to the construction cost. Lighting
29 was also added as a safety measure based on public feedback. The Town completed a
30 lighting assessment which confirmed the need for lighting for vehicular, pedestrian and
31 bicycle traffic.

32
33 In late 2013, the Federal HBP approved funding for the Canyon Road Bridge
34 Replacement project (Federal Project BRLS 5415(011)) with an initial project budget of
35 \$3,185,000. At that time, HBP allocated \$467,500 for Preliminary Engineering (PE) and
36 Environmental Clearances (ENV); \$100,000 for Right-of-Way (ROW); and forecasted
37 \$2,618,000 for Construction (CON). The replacement bridge was on schedule to be
38 built during the 2018 and 2019 construction season.

39 40 ***Temporary Canyon Road Bridge Project***

41 In April 2017, a landslide on EBMUD property damaged the original bridge, effectively
42 halting the replacement bridge design key tasks for PE, ENV, and ROW respectively at
43 35%, 75%, and 85% levels of completion. At that point, engineering staff refocused
44 their attention on removing the damaged bridge starting with a geotechnical analysis.
45 Several exploratory borings were completed to locate the new bridge abutments in
46 geologically stable areas. Inclinometers were also installed to monitor any new land
47 movement from the adjacent landslide and to confirm the new abutment, roadway, and
48 retaining wall areas were isolated from the landslide areas.

1 On June 14, 2017, the Town Council approved an emergency plan to reopen the bridge
2 by installing a temporary one-lane steel truss bridge. The temporary bridge was
3 installed and opened to traffic on November 22, 2017.
4

5 The temporary bridge is not a cost effective long-term solution and limits emergency
6 response and evacuation. The Town's contribution to the permanent bridge
7 replacement project is estimated at \$727,000 (\$11.47% Federal match less the
8 \$393,000 from CCTA grant). If the Town did not proceed with the bridge replacement
9 project, the Town would no longer qualify for reimbursement of the \$965,000 spent to
10 date on the permanent bridge design, would need to return the \$393,000 grant from
11 CCTA, would not qualify for reimbursement of the significant staff time spent on this
12 project since 2014, and would be required to spend \$141,600 annually to lease the
13 temporary bridge. Additionally, abandoning this project would likely place the Town
14 under scrutiny by granting agencies for future funding opportunities.
15

16 ***Revised Canyon Road Bridge Replacement Project***

17 By September 2017, additional geological and landslide data was gathered to enable
18 work on a revised scope for the permanent bridge replacement project to continue in
19 parallel with the temporary bridge project. The PE and ROW phases of work had to be
20 restarted from the beginning and the ENV scope had to be increased to analyze new
21 areas of potential project impacts as the design location of the new bridge was shifted
22 east due to the landslide.
23

24 The Canyon Road/Camino Pablo Intersection Improvement project design, which was
25 underway in 2018, created an opportunity for the Town to evaluate how these two
26 projects would interconnect. Feedback from public outreach meetings included
27 demands for separated bicycle lanes. It also became apparent that this was a unique
28 opportunity to close the gap and connect to the East Bay Regional Park District trail with
29 a multi-use path. The sidewalk was widened to become a multi-use path separated
30 from vehicle traffic for pedestrian and bicycle safety. This enhancement meets the
31 Complete Streets guidelines that the Town has adopted to receive Federal funds.
32

33 In February 2018, bridge funding reimbursements were halted when Caltrans District 4
34 notified Town staff that the project's PE and ROW funding were placed on HOLD
35 because of the Bay Area's HBP funding shortfalls. Additionally, the bridge construction
36 funds programmed for Federal Fiscal Year (FFY) 2018/19 (started October 2018) were
37 de-programmed to FFY 2022/23 or beyond. In March 2018, staff was successfully able
38 to petition Caltrans to release the HOLD on PW and ROW funding to resume
39 reimbursements based on the original budget.
40

41 In May 2018, Caltrans approved minor increases to PE and ROW budgets only to
42 continue work on the post landslide bridge design. At the same time, Town staff began
43 unsuccessful efforts in requesting Caltrans District 4 HBP to approve full revisions to
44 bridge design changes that accommodate impacts from the adjacent landslide and
45 associated construction cost increases. Caltrans District 4 HBP staff continued denying
46 the Town's requests citing funding shortfalls, but finally approved the project scope and
47 construction budget change requests in January 2019.
48

1 The Canyon Road Bridge Replacement project had its construction funding de-
2 programmed in 2018 because of associated regional program funding shortfalls. The
3 Metropolitan Transportation Commission (MTC) bi-annually updates the regional
4 Transportation Improvement Program (TIP). The TIP lists the near-term transportation
5 projects, programs, and investment priorities of the region's surface transportation
6 system that have federal funding. In order to potentially program construction funding
7 for these projects they must be added to the 2019 TIP. This would require that the
8 project complete all of its PE, ENV, and ROW approvals and submit biddable Plans,
9 Specifications and Engineer's Estimate (PS&E) packages to Caltrans and FHWA for
10 review and approval by November 1, 2018. The Town submitted a complete PS&E
11 package by the November 1, 2018 deadline, but was not successful in adding the
12 bridge project to 2019 TIP. HBP funding shortfalls in the Bay Area were cited again for
13 not programing bridge construction funds.

14
15 On October 4, 2018, the Town Council authorized the acquisition of permanent ROW
16 and temporary construction easements adjacent to Canyon Road to certify ROW
17 clearances for the project. The original 2013 bridge design required ROW acquisition of
18 portions of two East Bay Municipal Utility District (EBMUD) properties west of the bridge
19 - 1,420 square feet (APN No. 257-180-064) and 1,025 square feet (APN No. 257-180-
20 064). The post landslide bridge alignment required acquisition of 7,400 square feet of
21 ROW and 6,500 square feet of temporary construction easement from one EBMUD
22 property east of the bridge (APN No. 257-210-010). This tripled the cost of ROW
23 acquisition.

24
25 On October 10, 2018, staff presented a project update to the Town Council. The
26 presentation covered a brief history of the project and focused primarily on the changes
27 to the bridge design. The estimated HBP project budget since the 2017 landslide has
28 increased to \$9,703,750, composed of \$1,590,000 for PE (includes environmental and
29 the Town's administration costs), \$175,000 for ROW, and a forecasted \$7,938,750 for
30 CON (includes contingency and construction management services). There was a
31 significant typographic error shown on the slide titled "2018 – Redesign & Funding
32 Freeze". At the time, the Town's total budget request to Caltrans was \$9.2 million
33 dollars, not the \$7.2 million dollars included on the slide. The funding shortfall,
34 however, was correctly listed as \$0.7 million.

35
36 As funding was not reprogrammed to the FFY 2018/19 and the bridge project was on
37 schedule to be constructed in spring 2019, in December 2018, the Caltrans District 4
38 HBP Coordinator proposed that the Town request Advance Construction (AC) funding
39 to construct the project. AC allows agencies to proceed without the Federal HBP
40 funding allocation using solely local funds initially. When HBP funds become available,
41 the AC projects have highest priority for converting AC local funds to actual Federal
42 allocations so that local agencies can begin reimbursement requests for project costs.
43 While this is beneficial to some agencies with significant reserves to enable earlier
44 construction starts, they must front all project costs for an unknown period of time.
45 Moraga at that time did not have sufficient reserves since they were depleted by the
46 Town's emergency Temporary Canyon Road Bridge and Rheem Boulevard Sinkhole
47 projects.

48

1 In January 2019, Town staff contacted the Caltrans Headquarters (HQ) HBP managers
2 directly and requested their consideration to approve the revised Canyon Road Bridge
3 Replacement project's scope and budget. On March 7, 2019, Caltrans HQ HBP
4 approved the revised project scope and \$9.7 million budget.

5
6 Annually, the Caltrans HQ HBP program managers review the status of all bridge
7 projects in order to reallocate any unused construction funds from projects that are
8 behind schedule to the highest priority, ready-to-bid bridge projects in the State. Every
9 April, HQ HBP managers accept applications for Accelerated Bridge Construction
10 funding from the 12 Caltrans Districts. The Town resubmitted an Accelerated Bridge
11 Construction request to Caltrans HQ HBP to reprogram funds to the current FFY
12 2018/19. The request was based on the following compelling reasons:

- 13
- 14 • The original bridge was damaged by the 2017 landslide and was completely
15 removed under the FHWA Emergency Relief (ER) program;
- 16 • The Town is currently paying \$11,800 per month for leasing a temporary bridge.
17 The ER program partially (88.53%) funds the bridge lease, but the Town's ER
18 funding will expire in September 2019. Delaying construction of the replacement
19 bridge extends the bridge lease period, increasing costs for both the ER program
20 and the Town;
- 21 • Canyon Road Bridge construction costs are expected to increase 5% annually,
22 due to inflation and rising construction costs in the Bay Area; and
- 23 • The HBP program can also provide funding for temporary bridges for up to three
24 years which can replace ER funding for bridge lease.

25
26 On April 5, 2019, Caltrans HQ HBP approved the Town's request to reprogram the
27 project's construction funding to FFY 2018/19. Staff is working with Caltrans to issue
28 the E-76 Authorization to Proceed with Construction which officially obligates the
29 Federal funds to the project. This E-76 is expected to be issued by the end of April
30 2019.

31 32 ***Risk Management***

33 Caltrans is required to meet project risk management mandates built into two major
34 Transportation Asset Management initiatives for aging transportation systems: 1)
35 California Department of Transportation: Goals and Performance Measures - Senate
36 Bill No. 486; and 2) Federal Moving Ahead for Progress for the 21st Century Act (MAP
37 21).

38
39 The Caltrans Division of Project Management (DPM) is responsible for the management
40 and delivery of Caltrans managed transportation improvement projects. Risk
41 management is an important element of successful project delivery. DPM has produced
42 several risk management handbooks including the Caltrans Project Risk Management
43 Handbook, dated May 2, 2007 and Scalable Project Risk Management, dated June
44 2012. These guidelines help Caltrans managers understand and implement risk
45 management within their projects. The Project Risk Management Handbook defines
46 Risk Management as "*Risk Management is the systematic process of planning for,
47 identifying, analyzing, responding to, and monitoring project risks.*"

1 The Caltrans Local Assistance Division was set up for the same project delivery goal,
2 but for a more diverse group of project managers in the 600 California cities, counties,
3 and regional agencies who receive \$1 billion dollars annually of State and Federal
4 funding. Their Local Assistance Program (LAP) authorizes over 700 construction
5 projects annually. The overhead associated with providing this support is \$27 million, or
6 2% of the capital funds that flow through to local agencies. The LAP administers the
7 Federal HBP for local agencies. There are approximately 12,500 California local
8 agency bridges with \$1 billion dollars of needs annually for rehabilitation, repair, and
9 replacement. However, only \$300 million of Federal funds are programmed per year.

10
11 The Local Assistance Division with very limited staff and budget determined that to be
12 successful, they would need a systematic process for managing project risk for the
13 projects managed by local agencies that are not under their direct control. Based on
14 the Project Risk Management Handbook, they developed a 598-page Local Assistance
15 Procedures Manual (LAPM) for local agencies to follow.

16
17 An arduous application process is in place for the competitive bridge replacement grant
18 funding due to the very limited HBP funding available annually. Once an agency is
19 awarded grant funding, they must then follow the comprehensive and prescriptive step-
20 by-step project procedures of the LAPM. Additionally, all engineering design elements
21 must adhere to Caltrans applicable standards included in manuals such as the Caltrans
22 Highway Design Manual, Bridge Design Manual, and California Manual on Uniform
23 Traffic Control Devices. Use of alternative engineering standards requires special
24 evaluations by Caltrans.

25
26 The LAPM project procedures have designated milestones or stop points where the
27 Caltrans Local Assistance reviews project submittals prior to the project moving on to
28 the next steps. These milestones verify that project risks are being avoided or
29 eliminated, transferred, mitigated, or accepted. Major milestone reviews include: Field
30 Review (FR); Preliminary Environmental Studies (PES); Bridge Type Selection Report;
31 ROW and Utility Clearances; Environmental Clearances; and Final Plans, Specification
32 and Engineer's Estimate Submittal Package.

33
34 As mentioned before, the LAPM process is a prescriptive process meant to successfully
35 deliver State and Federal funded projects by evaluating, eliminating, or migrating risks.
36 A review of the first Canyon Road Bridge Replacement project milestone provides an
37 example of this process. The first approval included the FR and PES forms which
38 required answers to multiple risk questions, such as "*Is the project site located within*
39 *the 100-year flood plain?*" As the Canyon Road Bridge is located in the flood plain, the
40 Town retained the expertise of NV5, who have hydrologists on staff, to conduct a
41 detailed hydraulic analysis of the water flow. The analysis determined that the bridge
42 height needed to be increased by 6.5 feet to accommodate an additional 80 million
43 gallons of water per day discharged by EBMUD coinciding with a 100-year storm. This
44 requirement mandated design modifications that increased the estimated cost of the
45 bridge.

46
47 The PES form also included the question "*Is there a potential for threatened or*
48 *endangered species...in the construction area?*" As the Alameda whipsnake, California

1 red-legged frog, and dusky footed woodrat are all present near the Canyon Road Bridge
2 site, the Town was required to retain the services of LSA (NV5's sub-consultant), to
3 complete an environmental study and propose mitigations. The Town was required to
4 pay \$70,000 to California Fish and Wildlife as a mitigation measure and redesign the
5 bridge to eliminate structures within the creek channel and banks. The bridge therefore
6 became a free-span design, which further increased the cost of the bridge. There are
7 numerous other examples of how this process has played out during the past five years.

8
9 Caltrans PES document, issued in February 2014, identified 17 environmental studies
10 required to be completed during the PE phase for evaluating, eliminating, or migrating
11 identified potential risks. On March 24, 2014, Caltrans issued an approved FR. Then
12 on May 5, 2014, Caltrans issued the E-76 authorization which enabled the Town to
13 begin Preliminary Engineering. By the end of this lengthy process, the Town had clear
14 direction on the potential risks and how to assess them during the PE phase and adjust
15 the design accordingly.

16
17 In 2017, due to the landslide, the PE and ROW phases of work had to be restarted from
18 the beginning and the ENV scope had to be increased to analyze new areas of potential
19 project impacts and risks as the design location of the new bridge was shifted east. The
20 process outlined above began again and resulted in additional costs associated with the
21 revised bridge design that:

- 22
23 • Increased the length from 110.5' to 165' and width from 48.5' to 50.2'
 - 24 ○ Increasing the bridge volume and material (concrete, steel, pilings) by 56%
- 25 • Increased the length of the retaining walls from 240' to 318'
 - 26 ○ Increased number of piles from 40 to 71
 - 27 ○ Increased total sum of pile depth and length from 1,200' to 2,000'

28 29 ***Project Cost Estimates***

30 The Caltrans and FHWA process works on a premise that project costs will evolve over
31 time as site specific information is gathered during the course of design. When a
32 project is approved, grant recipients and Caltrans understand and accept that cost
33 increases due to project constraints are anticipated as part of the process. The Canyon
34 Road Bridge Replacement project was somewhat of an anomaly as it incurred
35 significant design and cost increases due to initial site and environmental constraints
36 and then the needed redesign due to the landslide.

37
38 The Caltrans and FHWA approved total project cost estimate and budgets over the
39 years which are detailed in Table A: FHWA and Caltrans Approved Construction and
40 Project Budget Comparison (Attachment C) and summarized below.

41
42 The 2014 project budget of \$3,185,500 was the initial scoping budget approved by
43 Caltrans to begin the project. This estimate was based on other comparable small
44 bridge projects. As engineering and environmental work had not yet been completed,
45 the preliminary budget did not account for unique project constraints.

1 The 2015 project budget of \$4,791,775 had incorporated feedback from several
2 community meetings, and preliminary engineering, environmental, and ROW clearance
3 work.

4
5 There was time significant gap between 2015 and 2019 in response to the landside that
6 damaged the original bridge. Caltrans placed a hold on PE and ROW phases and
7 completely de-obligated construction funds because of Caltrans District 4 HBP
8 shortfalls. The approved post landslide 2019 project budget of \$9,703,750 is an
9 increase of \$6,518,250 or three times the original project budget.

10
11 ***Nolte Vertical 5 Contract History***

12 On October 23, 2013, the Town Council awarded a contract for civil and bridge design
13 services to NV5 in an amount to not exceed \$567,016 for the original Canyon Road
14 Bridge Replacement Project. NV5 was tasked to develop technical plans and
15 specifications to replace the existing 104-foot long multi-span bridge with a new free-
16 span bridge.

17
18 On June 14, 2017, under the Town's Emergency Declaration, based on NV5's
19 knowledge of the bridge site, the Town Manager authorized NV5 to provide temporary
20 bridge design support through two amendments to their contract in the amounts of
21 \$130,000 and \$34,987 respectively, for Amendments No. 1 and No. 2.

22
23 On June 27, 2018, the Town Council approved Amendment No. 3 to NV5's contract in
24 an amount of \$398,000 to complete the bridge project's Plans, Specifications and
25 Engineer's Estimate package by the November 1, 2018 deadline in order to be
26 considered for funding in FFY 2018/19.

27
28 NV5's net total contact work for the Canyon Road Bridge Replacement Project,
29 including the \$378,000 proposed in Amendment No. 4, is \$1,343,017, or approximately
30 21% of the construction estimate. This is well below the Caltrans 25% bridge
31 engineering cost threshold where additional approvals are required. The below table
32 lists NV5 previous and proposed contract amendments.

33

NV5 Contract Authorizations	Amounts
Original Contract	\$567,017
Amendment No. 1 (Reimbursed through the Temporary Bridge project)	\$130,000
Amendment No. 2 (Reimbursed through the Temporary Bridge project)	\$34,987
Amendment No. 3	\$398,000
Amendment No. 4	\$378,000
Total	\$1,508,004

34
35 **Discussion**

36
37 Staff is working with Caltrans to issue the E-76 Authorization to Proceed with
38 Construction which officially obligates the Federal funds to the project given the recent
39 approval of the Town's request to reprogram the project's construction funding to FFY
40 2018/19. This E-76 is expected to be issued by the end of April 2019. After the E-76 is
41 issued, the approximate project schedule consists of:

1	Oct – Nov 2019	Final ROW clearing prior to migratory bird nesting
2		season
3	Dec 2019 – Jan 2020	Bid advertisement
4	Feb 2020	Town Council consideration of construction award
5	March – October 2020	Phase 1 construction
6	March – October 2021	Phase 2 construction

7
8 As previously mentioned, on March 7, 2019, Caltrans HBP reviewed and approved the
9 revised project’s scope and cost changes including additional bridge engineering
10 covered under the proposed Amendment No. 4 to NV5’s contract. A detailed
11 breakdown of Amendment No. 4 is shown in Attachment B. This work is necessary to
12 complete the bid documents so that construction can start in spring 2020.

13
14 Staff recommends the Town Council approve Contract Amendment No. 4 to NV5’s
15 contract in an amount of \$378,000. HBP will reimburse the Town approximately
16 \$334,643 (88.53%). Staff recommends the local match of \$43,356.60 (11.47%) be
17 funded by Measure J (Fund 210) as outlined in the FY 2018/19 budget. In order to start
18 construction in spring 2020, additional design work is necessary to finalize the bid
19 documents, and to bid and award a bridge contract. A delay in the start of construction
20 exposes the Town to HBP reallocating the funding to another priority bridge project,
21 escalating construction costs and additional monthly bridge lease costs.

22
23 **Fiscal Impact**

24
25 The FY 2018/19 budget includes the Canyon Road Bridge Replacement Capital
26 Improvement Project (CIP) and includes funding for up to \$2.3 million in costs which
27 reflects design work and initial construction costs. The \$378,000 Amendment No. 4 to
28 NV5’s contract for design work will be paid from the Canyon Road Bridge Replacement
29 project budget.

30
31 **Alternatives**

- 32
33 1. Adopt Resolution ____ - 2019 authorizing the Town Manager to amend the
34 Consultant Services agreement with Nolte Vertical 5 (NV5) (Walnut Creek) for
35 civil engineering and bridge design services for the Canyon Road Bridge
36 Replacement project (CIP 14-101) in an amount of \$378,000 for a total amount
37 not to exceed \$1,508,004; or
38 2. Adopt attached Resolution ____ - 2019, with modifications; or
39 3. Not adopt attached Resolution ____ - 2019 and provide direction to staff.

40
41 **Recommendations**

42
43 Adopt Resolution ____ - 2019 authorizing the Town Manager to amend the Consultant
44 Services agreement with Nolte Vertical 5 (NV5) (Walnut Creek) for civil engineering and
45 bridge design services for the Canyon Road Bridge Replacement project (CIP 14-101)
46 in an amount of \$378,000 for a total amount not to exceed \$1,508,004.

47
48 **Report reviewed by:** Cynthia Battenberg, Town Manager

1 **Attachments:**

2

3 **A.** Resolution ____ - 2019 Authorizing the Town Manager to Amend the Consultant
4 Services Agreement with Nolte Vertical 5 (NV5) (Walnut Creek) for Civil
5 Engineering and Bridge Design Services for the Canyon Road Bridge
6 Replacement Project (CIP 14-101) in an Amount of \$378,000 for a Total Amount
7 Not to Exceed \$1,508,004.

8

9 **B.** Nolte Vertical 5 Inc. (NV5) Amendment No. 4 to Agreement For Consultant
10 Services

11

12 **C.** Table A: FHWA and Caltrans Approved Construction and Project Budget
13 Comparison

ATTACHMENT A

Resolution ____ - 2019 Authorizing the Town Manager to Amend the Consultant Services Agreement with Nolte Vertical 5 (NV5) (Walnut Creek) for Civil Engineering and Bridge Design Services for the Canyon Road Bridge Replacement Project (CIP 14-101) in an Amount of \$378,000 for a Total Amount Not to Exceed \$1,508,004

BEFORE THE TOWN COUNCIL OF THE TOWN OF MORAGA

In the Matter of:

Authorizing the Town Manager to Amend)
the Consultant Services Agreement with)
Nolte Vertical 5 (NV5) (Walnut Creek) for)
Civil Engineering and Bridge Design)
Services for the Canyon Road Bridge)
Replacement Project (CIP 14-101) in an)
Amount of \$378,000 for a Total Amount)
Not to Exceed \$1,508,004)

Resolution No. ____ - 2019

WHEREAS, on October 23, 2013, Town Council authorized the Town Manager to award a Consultant Services agreement to Nolte Vertical 5 (NV5) for civil and bridge design for the Canyon Road Bridge Replacement project; and

WHEREAS, the replacement bridge was on schedule to be built during the 2018 construction season until the existing bridge was closed on April 18, 2017, after professional observations identified bridge damage caused by an adjacent landslide; and

WHEREAS, on April 27, 2017, Town Council declared a Local Emergency and directed staff to reopen passage across the creek as soon as possible while understanding that the prevailing conditions necessitated re-engineering of the permanent replacement bridge; and

WHEREAS, on June 14, 2017, Town Council approved an emergency bridge opening plan to install a temporary one-lane steel truss bridge; and

WHEREAS, under the Emergency Declaration, the Town Manager authorized NV5 to provide temporary bridge design support through two amendments to their contract in the amounts of \$130,000 and \$34,987, respectively for Amendments No. 1 and No. 2; and

WHEREAS, the temporary bridge was installed and opened to traffic on November 22, 2017; and

WHEREAS, on June 27, 2018, the Town Council approved Amendment No. 3 to NV5's contract in an amount of \$398,000 to complete the bridge project's Plans, Specifications and Engineer's Estimate package by the November 1, 2018 deadline in order to be considered for funding in Federal Fiscal Year 2018/19.

WHEREAS, the permanent replacement bridge needed to be redesigned with a longer and different alignment than its original design to accommodate the change in site conditions caused by the adjacent landslide that damaged the existing bridge which resulted in an increase in project costs from \$4,791,775 to \$9,703,750; and

WHEREAS, on March 5, 2019, the Town was approved additional Highway Bridge Program grant funding for the increased project costs which are proposed to be appropriated along with required Measure J local matching funds in the Fiscal Year 2019/20 Capital Improvement Program budget that Town Council is considering for adoption through a separate item on a future agenda; however, FY 2018/19 has sufficient budget to fund Amendment No. 4.

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Moraga hereby authorizes the Town Manager to amend the Consultant Services agreement with Nolte Vertical 5 (NV5) (Walnut Creek) for civil engineering and bridge design services for the Canyon Road Bridge Replacement project (CIP 14-101) in an amount of \$378,000 for a total amount not to exceed \$1,508,004; and

BE IT FURTHER RESOLVED, that the Town Manager is hereby authorized to execute the agreement, with minor revisions that may be approved by the Town Manager and the Town Attorney, and to execute any other necessary documents to effectuate the terms of the agreement.

PASSED AND ADOPTED by the Town Council of the Town of Moraga at a regular meeting held on April 24, 2019 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

Roger N. Wykle, Mayor

Attest:

Marty C. McInturf, Town Clerk

ATTACHMENT B

Nolte Vertical 5 Inc. (NV5) Amendment No. 4 to
Agreement for Consultant Services

March 20, 2019

Mr. Edric Kwan, PE
 Public Works Director/Town Engineer
 Town of Moraga
 329 Rheem Blvd
 Moraga, CA 94556

Subject: Canyon Road Bridge-Amendment 4 Request - Revision


Dear Mr. Kwan:

NV5 has prepared a revised fee request for the additional work required to complete the PS&E work for the Canyon Road Bridge project. This request also includes design and environmental support for the construction phase of this project. The additional work not included in the previous scope and fee requests are the following:

1. Responses for legal review of right of way contracts.
2. Town council meeting preparation.
3. Update roadway geometrics and plans to incorporate five foot shoulders and ten foot sidewalk.
4. Prepare design exception for five foot shoulders.
5. Sidewalk design and topo survey for area between Constance Place and Camino Pablo.
6. Additional design work for soldier pile retaining wall instead of a Type 1 standard wall.
7. Additional structure design detail work for Abutment 1 to incorporate requirements for landslide.
8. Additional structure design detail work for the overlook.
9. Additional design requirements to incorporate bioswales into roadway design.
10. Develop revegetation plan.
11. Develop boilerplate specifications.
12. Environmental preconstruction surveys and construction monitoring.

Because of the additional work listed was not included in our previous fee requests, we hereby request an additional \$378,000 be added to our budget for the completion of this work. Attached is a breakdown of this fee request into the specific tasks. If you have questions or need additional information about this proposal or any other items, please do not hesitate to contact me at 559-666-1904.

Sincerely,
 NV5, Inc.



Jack Walker, PE
 Project Manager

Attachments

SJB037800

AMENDMENT NO. 4 TO AGREEMENT FOR CONSULTANT SERVICES

PROJECT: CANYON ROAD BRIDGE REPLACEMENT –TOWN OF MORAGA
Federal Project No. BRLS – 5415 (011), Town Project No. CIP 14-101

CONSULTANT: NOLTE VERTICAL 5 INC. (NV5, INC.)
2025 Gateway Place, Suite 156
San Jose, CA 95110

Amend agreement for Consultant Services, dated October 23, 2013, as follows:

The existing Canyon Road Bridge was closed in April 2017 due to a landslide near the bridge. The landslide affected the stability of the existing bridge. This required the development of a new alignment and longer structure for the permanent structure. The following are the additional services required to be performed:

1. Task 1: Project Management	Additional Fee Estimate \$30,000
2. Task 6: Geotechnical Investigations	Additional Fee Estimate \$10,000
3. Task 8: Preliminary Engineering and Type Selection	Additional Fee Estimate \$40,000
4. Task 10.1.1: Bridge Design	Additional Fee Estimate \$40,000
5. Task 10.1.2: Roadway & Trail Design	Additional Fee Estimate \$20,000
6. Task 10.3: 90% PS&E	Additional Fee Estimate \$95,000
7. Task 10.4: Final PS&E	Additional Fee Estimate \$90,000
8. Task 11: Regulatory Agency Permitting	Additional Fee Estimate \$5,000
9. Task 13.2: Construction Support	Additional Fee Estimate \$10,000
10. Task 13.3: Env Pre Const Surveys/Const Monitoring	Additional Fee Estimate \$38,000

TOTAL REQUEST: \$378,000

ATTACHMENT C

Table A: FHWA and Caltrans Approved Construction
and Project Budget Comparison

Table A: FHWA and Caltrans Approved Construction and Project Budgets Comparison

	2014	2015	2019	Comparison Between 2015 and 2019	Reasons for Increase
Construction Bridge	\$1,200,000	\$1,400,000	\$2,987,000	\$1,587,000	<ul style="list-style-type: none"> • Longer Bridge (Original = 110', New = 165') • Thicker deck (Original = 5', New = 7.25') • Added reinforcement for possible landslide effects <ul style="list-style-type: none"> • Added CIDH piles • Larger abutments and footings • Addition costs to account for 80 million gallons per day EBMUD discharge into creek above standard 100-year flood
Bridge Removal	\$30,000	\$30,000	\$340,000	\$310,000	<ul style="list-style-type: none"> • \$300,000 to remove temporary bridge • \$40,000 to remove remnants from existing bridge
Slope Protection	\$40,000	\$40,000	\$104,000	\$64,000	<ul style="list-style-type: none"> • Added Rock Slope Protection (RSP) • Preliminary cost was too low
Channel Work	\$20,000	\$30,000	\$0	-\$30,000	<ul style="list-style-type: none"> • Preliminary cost eliminated during final design
Detour & Stage Construction	\$85,000	\$85,000	\$41,000	-\$44,000	<ul style="list-style-type: none"> • Preliminary cost reduced during final design
Approach Roadway	\$275,000	\$950,000	\$2,302,000	\$1,352,000	<ul style="list-style-type: none"> • New retaining wall length for revised alignment • Deeper piles to provide adequate strength for the lack of support from steep slopes at the creek banks • Longer approaches to accommodate the shifted realignment to span landslide <ul style="list-style-type: none"> • Added fill from the higher profiles • Added concrete to accommodate multi-use path • Bioswales and new drainage utilities • Facilities to be relocated by others
Utility Relocation	\$50,000	\$50,000	\$0	-\$50,000	
Mobilization	\$170,000	\$258,500	\$577,000	\$318,500	<ul style="list-style-type: none"> • Larger projects typically result in larger mobilization cost • Extended construction duration (2-year phase construction)
Subtotal Construction (CON) Costs	\$1,870,000	\$2,843,500	\$6,351,000	\$3,507,500	
Bridge Engineering (Max 25% CON)	\$467,500	\$710,875	\$1,590,000	\$879,125	<ul style="list-style-type: none"> • Post landslide bridge design required new location analysis and engineering design along with increases in ROW and Environmental clearance work.
Construction Engineering (15% CON)	\$280,500	\$426,525	\$952,650	\$526,125	<ul style="list-style-type: none"> • Construction Engineering estimate is set at the 15% of the Construction (CON) Cost
Construction Contingency (10% CON)	\$467,500	\$710,875	\$635,100	-\$75,775	<ul style="list-style-type: none"> • Reduced the Construction Contingency estimate 10% of the Construction (CON) Cost
Total Project Budget	\$3,185,500	\$4,791,775	\$9,703,750	\$4,911,975	Pre-landslide Versus Post Landslide Project Cost