



**CITY OF LARKSPUR
Staff Report**

September 19, 2018 City Council Meeting

DATE: September 10, 2018

TO: Honorable Mayor Hillmer and the Larkspur City Council

FROM: Julian Skinner, Director of Public Works

SUBJECT: RECEIVE PROJECT UPDATE AND ADOPT A RESOLUTION AMENDING THE PROJECT PLANS FOR THE BON AIR BRIDGE REPLACEMENT PROJECT (CIP 2004-011)

ACTION REQUESTED

That Council:

- (1) Receive an update on the project, and
- (2) Adopt a resolution approving a change to the adopted project Plans to revise the striping at the Bon Air Road/ Magnolia Avenue intersection to accommodate two northbound lanes on Magnolia Avenue, consistent with earlier Council direction.

SUMMARY AND BACKGROUND

On March 21, 2018, the City Council awarded a construction contract for the Bon Air Bridge Replacement Project to Golden State Bridge, Inc. (GSBI) of Benicia, California in the amount of \$26,730,037. The Bon Air Bridge is in need of replacement due to structural deficiencies in the current span. The City project to replace the bridge is included the Federal Highway Administration's (FHWA) Highway Bridge Program (HBP), making construction costs eligible for 88.53% federal funding.

The award to GSBI followed a November 2017 public bid advertisement to which the City received four bids, with GSBI being the lowest. GSBI commenced work on May 23, 2018 and have submitted a project schedule forecasting project progress through to completion after 1491 contract work days. The project is anticipated to take up to four years to complete to accommodate keeping the bridge open during construction and a variety of work window constraints stemming from environmental regulations.

Prior to the bid advertisement, City Council formally adopted project plans, as is required by the California Public Contract Code for a project of this size. A Council-approved change to an adjacent

AGENDA ITEM 8.1

project (Magnolia Stormwater Improvements) requires a corresponding change to this project to ensure that the Bon Air Road/Magnolia Avenue intersection functions efficiently.

DISCUSSION

General Schedule

The Contract includes 1491 calendar days (4 years and 1 month) to complete the work. Construction work is planned around work windows dictated by resource agency permits and the need to keep the bridge open to traffic. The two most significant permit windows are to protect migrating steelhead trout, which restricts in-water work to July 1 – November 30, and to avoid disrupting any Ridgway Rail nests, which restricts pile driving and all work on the north side of the bridge to September 1 – December 31. The Ridgway Rail window may open sooner than September 1 if bird surveys produce negative results and both State and Federal agencies concur that there are no nesting birds.

The Contractor's schedule is built around the dictated permit windows and will be adjusted accordingly if the Ridgway window opens early based on surveys. Allowing for the possibility of such changes, the simplified work timeline is as below:

- Project start spring 2018
- Demolish north bridge/ construct north trestle – summer/fall 2018
- Construct north side bridge foundation – fall 2018/ summer 2019
- Construct north side bridge deck – summer/ fall 2019
- Construct south side trestle – fall 2019
- Shift traffic to south side of bridge – winter/ spring 2020
- Demolish south side bridge – summer 2020
- Construct south side bridge foundation – fall 2020 – summer 2021
- Construct south side bridge deck – summer/ fall 2021
- Closure Pour and finish work fall/ winter 2021
- Project completion spring 2022

Work to Date:

On May 23, GSBI started work on Bon Air Road, west of the bridge, first paving the median to accommodate shifting traffic to the south to allow work on the north side of the road and bridge. The first stage of work also included removal of the islands at the Bon Air Road/ Magnolia Avenue intersection and reconstruction of the southbound bus stop on Magnolia, just north of Bon Air Road.

The bridge is being demolished and rebuilt in halves, starting on the north side. Work is currently underway on both demolition of the north 10' of the bridge and construction of a north trestle (temporary bridge for construction equipment.)

The Ridgway Rail surveys were completed in winter/ spring of this year with negative results, and as such, the September 1 work window opened early, on July 20, after approval of the survey results by state and federal resource agencies. Work on the temporary north side trestle started on August 29, following approval of the trestle plan by the resource agencies.

AGENDA ITEM 8.1

Upcoming and Future Work:

Within a month, the trestle should be complete and work will start on preparation for the new north bridge foundations in the creek. Temporary cofferdams will be constructed in the creek to isolate the foundation work from the creek, which will allow this work to occur outside the in-water window. The bridge foundation consists of 2 sets of 96" diameter cast-in-drilled-hole (CIDH) piles, four each for the north and south sides of the bridge. The piles will support 6' diameter columns that will hold up concrete bents that will in turn support pre-cast concrete girders upon which the bridge slab (surface) will be placed. The north side of the bridge will be completely built to the top of the slab before work starts on the south side of the bridge.

Upon completion of the new north side of the bridge, traffic will be shifted from the south side of the old bridge to the new north side bridge. The south side will then be demolished, followed by new south side foundation and bridge deck construction from a south side trestle, similar to the north side activities. The two halves of the bridge will then be joined with a closure pour.

Contract Summary (as of September 10, 2018)

Item:	to date	total project	percentage
Working days	110	1491	7.4%
Change orders	\$95,585	\$2,673,004	3.6%
Construction Costs	\$2,047,623	\$26,730,037	7.7%

The change orders to date are for unforeseen conditions for utilities (which will be reimbursed by utility company) and mandatory partnering.

The contractor has proposed one value engineering change for replacing the pre-cast concrete box girders with wide flange pre-cast concrete girders. Staff has received resource agency approval for the change, which will alter only the underside of the bridge structure but keep the same bridge profile. The cost savings of this change is not known until further engineering is performed, but it is anticipated to be in the \$250,000 to \$500,000 range.

Proposed Plan Change from Adopted Plans

Council formally adopted the Bon Air Bridge Replace Project plans at the October 19, 2016 City Council meeting, prior to the first public bid. A change to the adopted plans is proposed to modify the striping at the Bon Air Road/ Magnolia Avenue intersection consistent with previous City Council direction (January 18, 2017 City Council meeting) to maintain two through lanes on Magnolia Avenue for the adjacent Magnolia Stormwater Treatment project. The change converts the northbound dedicated right-turn lane to a combined right-turn/ through lane, which allows two through lanes to the segment of Magnolia north of Bon Air Road, which is restriped to two through lanes. An attachment shows the pre-project intersection layout, the approved plan layout and the proposed change.

As part of the January 2017 discussion regarding the number of lanes on Magnolia, the issue of the proposed elimination of the Magnolia/ Bon Air slip lanes was discussed. The slip lanes and associated pork chop islands are proposed to be eliminated, as they do not meet ADA standards, do not conform to current traffic engineering design principals and standards, and their elimination allows for pedestrian and bicycle intersection improvements.

Staff commented that with direction to restore the through lanes on Magnolia, the impacts on the intersection redesign (removal of slip lanes) would have to be evaluated. Staff subsequently determined

AGENDA ITEM 8.1

that the slip lane elimination was still viable and desirable with the restoration of the Magnolia through lanes. The 'Proposed Revised Plan' sheet in the attachment shows the proposed intersection with the northbound through lanes restored and the slip lanes eliminated.

The original slip lanes could be retained, though staff does not recommend retaining them. As designed, these slip lanes increase the potential for conflict between vehicles, bicycles, and pedestrians. In addition, these slip lanes were not designed to allow the free flow of traffic, as vehicles using these slip lanes must slow or stop while in the slip lane to determine if it is safe to merge into the adjacent through lane. Current traffic engineering practice suggests slip lanes are only appropriate when they flow directly into a through lane.

The main points for and against retaining the slip lanes are summarized below:

Pro:

- The slip lanes provide improved vehicle intersection performance (*this improvement is marginal as the slip lanes are not true 'free right turns' as both the northbound Magnolia to Bon Air and eastbound Bon Air to Magnolia slip lanes lead to trap lanes – lanes that require a driver to merge into an adjacent lane to proceed. As evidenced by field observations, most drivers using the slip lanes stop or yield due to this condition thus eliminating the advantage of the slip lane.*)

Con:

- The slip lane introduces an uncontrolled vehicle vs pedestrian conflict zone that is not present in the non-slip lane configuration. Some speakers at the January 2017 meeting discussed their experience of drivers not observing the pedestrian right-of-way across the slip lanes. This configuration results in drivers looking in opposing directions for oncoming vehicles versus pedestrians. In addition, vehicle speeds through the slip lanes are higher than those for a right turn resulting in increased injury potential from any collisions. Institute of Traffic Engineers (2006) – slip lanes should be avoided where there are moderate to high pedestrian volumes across uncontrolled crossings.

As noted, the previous slip lane design was not compliant with current ADA regulations. This project necessitates ADA compliance. If the Council is inclined to retain a slip lane design, staff will need to commission an analysis of how to make the design ADA-compliant. Staff will also need to conduct a dangerous conditions assessment and determine what, if any, signalization might be necessary to reduce conflict between vehicles, pedestrians, and bicycles.

FISCAL IMPACT

Construction costs of the proposed change for the bridge project are negligible. The estimate costs of designing and administering the changes on the bridge project are estimated at \$5,000 to \$10,000. The costs of the change on the Magnolia project are yet to be determined.

ENVIRONMENTAL STATUS

The environmental review for this project was previously completed. The subject contract award does not require any amendments to the existing environmental documents.

STAFF RECOMMENDATIONS

Staff recommends that City Council adopt the plan change for the Bon Air Bridge Replacement Project (CIP 2004-011) to accommodate two northbound through lanes on Magnolia Avenue.

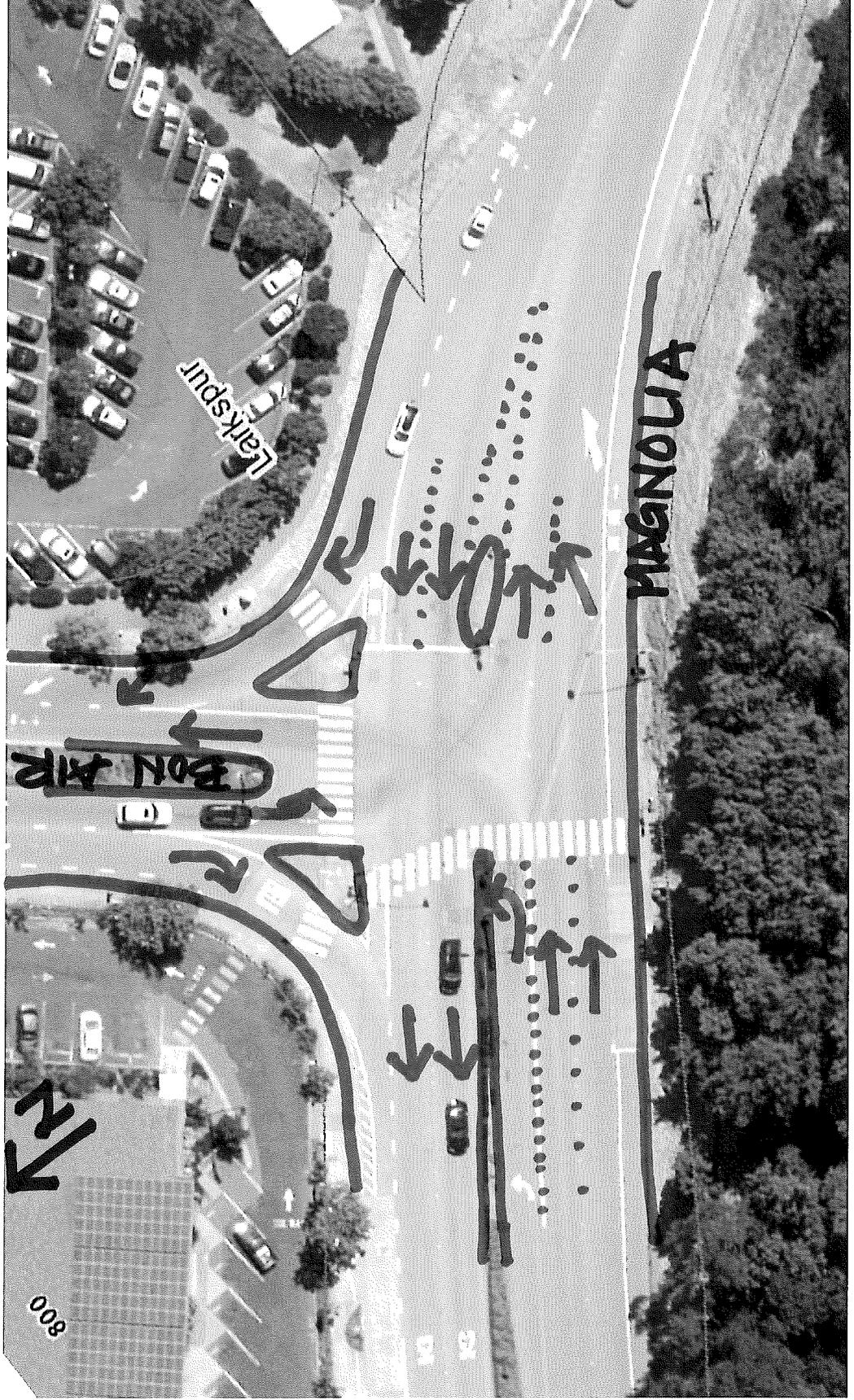
Respectfully submitted,

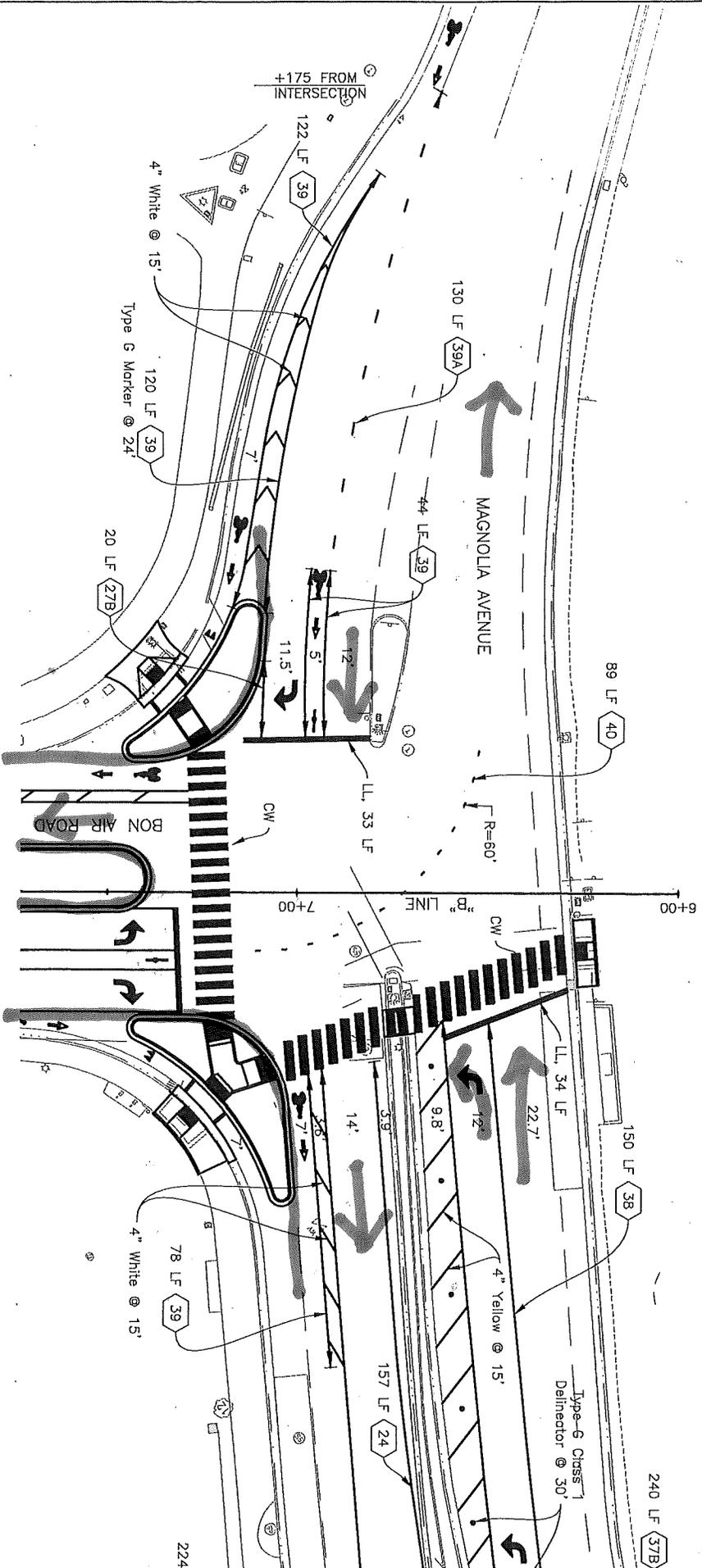
Julian Skinner, Director of Public Works/ City Engineer

Attachments

1. Plan Change Exhibit
2. Resolution

PRE-PROJECT CONDITION

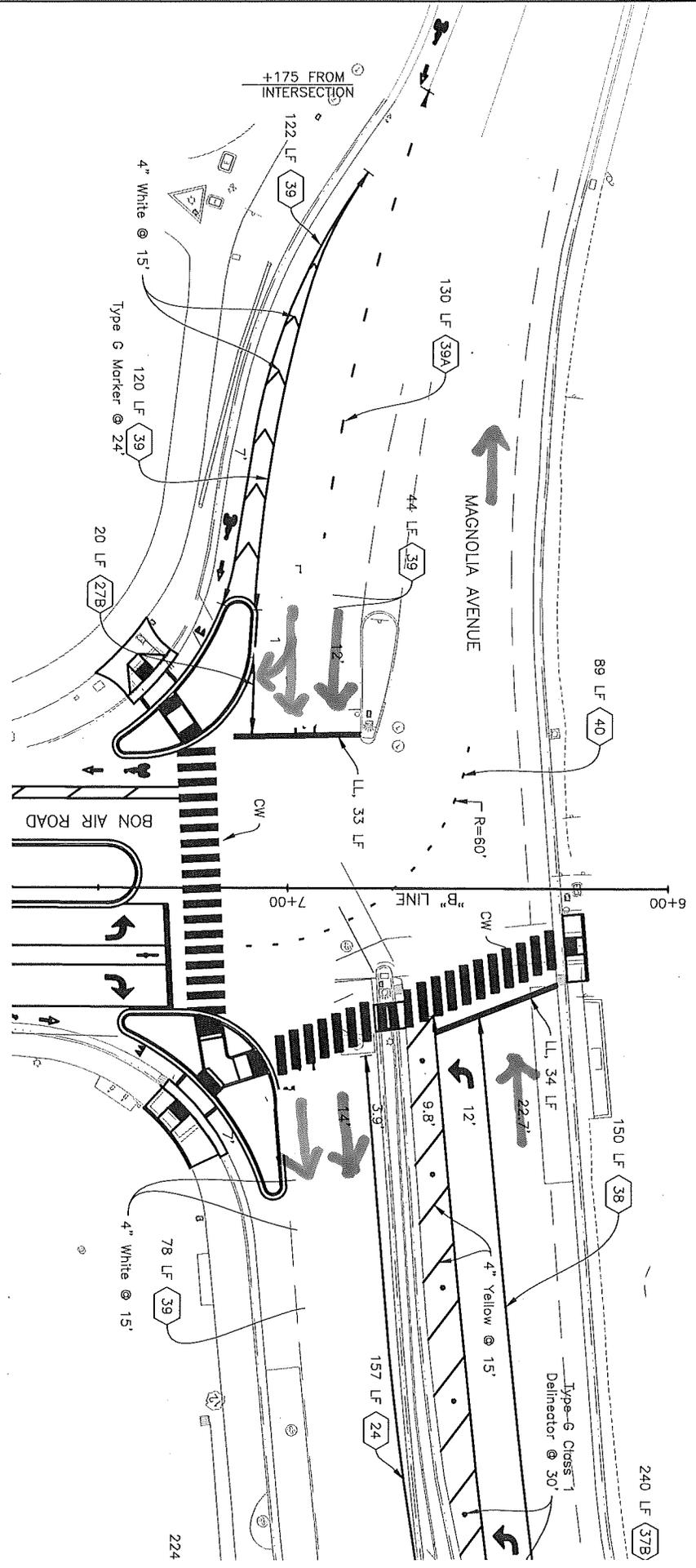




NOTES
 SEE DRAWING PD-1 FOR NOTES AND LEGEND.

ADOPTED PLAN

PROPOSED REVERSED PLAN



NOTES
SEE DRAWING PD-1 FOR NOTES AND LEGEND.

CITY OF LARKSPUR
RESOLUTION No. 73/18

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LARKSPUR
TO ADOPT A REVISION TO THE ADOPTED PLANS, SPECIFICATIONS AND
WORKING DETAILS OF THE BON AIR BRIDGE REPLACEMENT PROJECT
(CIP 04-011)**

WHEREAS, on October 19, 2016 the City Council adopted the Plans, Specifications and Working Details for the Bon Air Bridge Replacement Project;

WHEREAS, staff recommends a change to the adopted plans to add a through lane on northbound Magnolia Avenue at the Magnolia Avenue/ Bon Air Road intersection;

WHEREAS, Section 22039 of the California Public Contract Code requires that the governing body of the participating public agency or its designated representative adopt plans, specifications, and working details for all public projects exceeding the amount specified in subdivision (c) of Section 22032 of the Code; and,

WHEREAS, the City of Larkspur City Council is the governing body for the project.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Larkspur hereby resolve, declare, determine and order as follows:

The plans, specifications and working details for the Bon Air Bridge Project as adopted by the City Council of the City of Larkspur be revised to include an additional through lane on northbound Magnolia Avenue.

IT IS HEREBY CERTIFIED that the City Council of the City of Larkspur duly introduced and regularly adopted the foregoing resolution at a regular meeting held on September 19, 2018 by the following vote:

AYES: COUNCILMEMBER:

NOES: COUNCILMEMBER:

ABSENT: COUNCILMEMBER:

ABSTAIN: COUNCILMEMBER:

Dan Hillmer, Mayor

ATTEST:

Jamie Kuryllo, City Clerk