

1 shallow wells located near the CM1 construction sites. Mitigation Measure GW-1 identifies a
2 monitoring procedure and options for maintaining an adequate water supply for landowners that
3 experience a reduction in groundwater production from wells within 2,600 feet of construction-
4 related dewatering activities. It should be noted that the forecasted impacts described above reflect
5 a worst-case scenario as the option of installing seepage cutoff walls during dewatering was not
6 considered in the analysis. Implementing Mitigation Measure GW-1 would help address these
7 effects; however, the impact may remain significant because replacement water supplies may not
8 meet the preexisting demands or planned land use demands of the affected party. In some cases this
9 impact might temporarily be significant and unavoidable until groundwater elevations recover to
10 preconstruction conditions, which could require several months after dewatering operations cease.

11 **Mitigation Measure GW-1: Maintain Water Supplies in Areas Affected by Construction** 12 **Dewatering**

13 Prior to construction, project proponents will determine the location of wells within the
14 anticipated area of influence of construction sites at which dewatering would occur. Based on
15 available information, thorough site investigations, and desk studies; the location of wells,
16 depths of the wells and the depth to groundwater within these wells will be determined. During
17 construction dewatering, monitoring wells should be installed sufficiently close to the
18 groundwater dewatering sites, or if possible, water levels in existing wells will be monitored, in
19 order to be able to detect changes in water levels attributable to dewatering activities. If
20 monitoring data or other substantial evidence indicates that groundwater levels have declined
21 in a manner that could adversely affect adjacent wells, temporarily rendering the wells unable to
22 provide adequate supply to meet preexisting demands or planned land use demands, the project
23 proponents will implement one or more of the following measures.

- 24 • Offset domestic water supply losses attributable to construction dewatering activities. The
25 project proponents will ensure domestic water supplies provided by wells are maintained
26 during construction. Potential actions to offset these losses include installing cutoff walls in
27 the form of sheet piles or slurry walls to depths below groundwater elevations, deepening
28 or modifying wells used for domestic purposes to maintain water supplies at
29 preconstruction levels, or securing potable water supplies from offsite sources. Offsite
30 sources could include potable water transported from a permitted source or providing a
31 temporary connection to nearby wells not adversely affected by dewatering.
- 32 • Offset agricultural water supply losses attributable to construction dewatering activities.
33 The project proponents will ensure agricultural water supplies are maintained during
34 construction or provide compensation to offset for crop production losses. If feasible, the
35 project proponents will install sheet piles to depths below groundwater elevations, or
36 deepen or modify the wells to ensure agricultural production supported by water supplied
37 by these wells is maintained. If deepening or modifying existing wells is not feasible, the
38 project proponents will secure a temporary alternative water supply or compensate farmers
39 for production losses attributable to a reduction in available groundwater supplies.

40 Implementation of Mitigation Measure GW-1 will follow the steps below.

- 41 • Project proponents will be responsible for determining the area of influence of dewatering
42 operations and the location of potentially affected existing wells, in addition to the
43 installation of potential new monitoring wells and the monitoring of existing wells.

- 1 • Prior to commencement of construction activities the project proponents will determine the
2 locations of existing wells which will require monitoring. In addition, shallow monitoring
3 wells may be installed prior to construction dewatering operations. Monitoring of water
4 levels in these wells will occur during construction. Implementation of measures necessary
5 to offset domestic and agricultural water supply losses will occur during construction as
6 necessary.
- 7 • Monitoring wells will be installed; or, if feasible, water levels in existing wells will be
8 monitored, in order to detect changes in water levels attributable to dewatering activities.
9 Water levels in the installed monitoring wells and existing wells will be measured by the
10 project proponents and/or construction contractors prior to construction dewatering and
11 on a weekly or daily basis, as needed, during the entire construction dewatering period.
12 Upon completion of construction, the water levels in the monitoring wells will be measured
13 and monitoring will continue for up to 6 months following termination of construction
14 dewatering activities or less if groundwater levels reach preconstruction levels.
- 15 • All monitoring data will be reported on a monthly basis, and in an annual summary report
16 prepared by the project proponents that will evaluate the impacts of the construction
17 dewatering for that year. The monthly reports will contain tabular water level data as well
18 as changes in water levels from the previous months. The annual report will summarize
19 monthly data and show the most recent water level contour map as well as the
20 preconstruction contour map. The final report will include water level contour maps for the
21 area of the groundwater aquifer that is affected by dewatering showing initial,
22 preconstruction water levels and final, postconstruction water levels.
- 23 • If water level data indicate that dewatering operations are responsible for reductions in well
24 productivity such that water supplies are inadequate to meet existing or planned land use
25 demands, mitigation will be required and implemented.
- 26 • If monitoring data or other substantial evidence indicates that groundwater levels have
27 declined in a manner that could adversely affect adjacent wells, temporarily rendering the
28 wells unable to provide adequate supply to meet preexisting demands or planned land use
29 demands, the project proponents will contact the affected landowners in a timely manner
30 and implement one or more of the measures described above.

31 **Impact GW-2: During Operations, Deplete Groundwater Supplies or Interfere with**
32 **Groundwater Recharge, Alter Local Groundwater Levels, or Reduce the Production Capacity**
33 **of Preexisting Nearby Wells**

34 ***NEPA Effects:*** The operation of Alternative 1A conveyance features is anticipated to affect
35 groundwater levels in the vicinity of the two new forebays: the Intermediate Forebay and the Byron
36 Tract Forebay adjacent to the east side of Clifton Court. In the absence of design features intended to
37 minimize seepage, groundwater levels are projected to rise by up to 10 feet in the vicinity of the
38 Intermediate and Byron Tract Forebays due to groundwater recharge from these surface water
39 impoundments (Figure 7-8). Were they to occur, these groundwater-level increases could
40 potentially result in groundwater levels encroaching on the ground surface in the vicinity of the new
41 forebays, and potentially result in effects on agricultural operations in the vicinity. Effects, design
42 measures, and mitigation measures related to seepage are addressed in the discussions of Impacts
43 GW-4 and GW-5 and related mitigation measures.