

**APPENDIX 3.14-B, ATTACHMENT 3:  
Natural Resources Conservation Service Land Evaluation Explanations and  
Calculations for Merced County**



## APPENDIX 3.14-B, ATTACHMENT 3: NATURAL RESOURCES CONSERVATION SERVICE LAND EVALUATION EXPLANATIONS AND CALCULATIONS—MERCED COUNTY

### INTRODUCTION

This attachment provides an explanation for corridor assessment points assigned to the proposed San Jose to Central Valley Wye Project Extent (project) in part VI of the NRCS-CPA-106 form prepared for Merced County. All four alternative alignments are the same within Merced County. The scores indicated in the questions pertain to the portion of each project alternative that falls within Merced County.

### Explanations

#### Alternative 1

- A. **Total acres to be converted directly?** The regional consultant overlaid the alternative on a map of the Farmland Mapping and Monitoring Program (FMMP) categories to determine how many acres of Important Farmland would be permanently converted by Alternative 1. The results indicate that a total of 616 acres would be permanently converted, of which 79 acres are remnant parcels.
  - B. **Total acres to be converted indirectly or to receive services?** To determine the acreage of indirect impact, particularly the acreage of remnant and severed parcels created by the alternative, the regional consultant identified remnant parcels of Important Farmland that would be less than 20 acres. The regional consultant then reviewed each remnant to determine whether it would be viable or nonviable for continued agriculture (i.e., identified those remnants with shape, size, location, or hardship that would make them nonviable for continued agricultural use) (ARWS 2018a, 2018b, 2018c, 2018d). The results indicate that a total of 80 acres would be permanently indirectly converted as remnant or severed parcels.
  - C. **Total acres in corridor?** The regional consultant added the total acreage to be directly converted with the total acreage to be indirectly converted. The results indicate that a total of 696 acres would be directly and indirectly permanently converted.
1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant generated a buffer of 1 mile around Alternative 1 in Merced County, including the temporary construction easement, to determine the total acreage of land within a 1-mile radius of the alternative in Merced County. The buffer was overlaid on a map of the FMMP categories, which include Urban and Built-Up Land. For this analysis, Urban and Built-Up Land is considered urban use (DOC 2014a). Then, the acreage within the buffer that is classified as Urban and Built-Up Land was calculated using a geographic information system (GIS), and the remaining acreage was considered nonurban use. The results indicated that over 97 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
  2. **How much of the perimeter of the site borders on land in nonurban use?** The length of the perimeter of Alternative 1 in Merced County, including the temporary construction easement, was measured by the regional consultant to determine the total length of the perimeter in Merced County. The regional consultant then calculated the proportion of the alternative perimeter that borders on land classified as Urban and Built-Up Land, and the remaining proportion of the perimeter was considered to border nonurban use. The results indicated that 97 percent of the alternative perimeter borders on land in nonurban use. This criterion received a score of 10.
  3. **How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the area around Alternative 1 in Merced County for the years between 2005 and 2015, as well as information from the Merced County Agricultural Commissioner (Robinson pers. comm.), in general, some properties in the vicinity of this

alternative have been consistently farmed for 10 or more years. This criterion received a score of 11.

4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The area for Alternative 1 in Merced County, including remnant parcels that would likely not be suitable for farming after the project is completed, was overlaid on a map of Protected Farmland (DOC 2014b), defined as lands enrolled in Williamson Act or Farmland Security Zone contracts by the regional consultant. There are 670 acres of farmlands protected by private programs such as the Williamson Act). The results indicated that 3 percent of the land within the project footprint in Merced County is Protected Farmland. This criterion received a score of 20.
5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The average size farm in Merced County was 394 acres in 2012 (USDA 2012), the most recent year for which average farm size data are available. Alternative 1 traverses farm units that are an average of 142 acres, or approximately 36 percent of the size of the average farm unit in the county. This criterion received a score of 0.
6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** In some areas, the alignment of Alternative 1 deviates from transportation corridors and bisects or otherwise severs agricultural parcels. Some of the remnant parcels resulting from this severance may not be viable for continued agricultural use. The regional consultant team used GIS software to identify parcels of Important Farmland that would be 20 acres or less following severance due to construction of the project. It was assumed that parcels greater than 20 acres would be viable for continued agricultural use. Analysts then evaluated the characteristics of each of the remnant parcels of 20 acres or less using criteria described in Appendix C, Remnant Parcel Analysis, to determine which parcels would be viable for continued agricultural use and which parcels would likely result in conversion to nonagricultural use. The acreage of the remnant parcels determined not viable for continued agricultural use was compared to the acreage of the original parcels (ARWS 2018a, 2018b, 2018c, 2018d). The results indicated that the acreage of nonviable remnant parcels on farmable land would total less than 1 percent of the acreage of the original parcels within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** According to the Merced County Agricultural Commissioner (Robinson pers. comm.), the area in the vicinity of Alternative 1 has been farmed for 50 to 100 years and it has mostly adequate support services and markets. For example, there are some specialty crops in Merced County where farmers may feel the farm service supply within the county is inadequate. Conversely farmers of more common crops such as almonds would likely have more than adequate farm service supplies within the county. This alternative would have a limited effect on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well-maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** According to satellite imagery analysis of the area around Alternative 1 performed by the regional consultant, the overall amount of on-farm investment is high. Ancillary agricultural structures, barns, irrigation lines, waterways, and drainage ditches were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.
9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant overlaid the alternative on a map of the FMMP categories to determine how many acres of Important Farmland would be permanently converted by Alternative 1, plus acreage of nonviable remnant parcels less than 20 acres (i.e., those that have shape, size, location, or hardship that would make them nonviable for continued agricultural use) (ARWS 2018a, 2018b, 2018c, 2018d). Considering there are approximately 1,157,906 acres of Important Farmland and Grazing Land in Merced County (DOC 2016), the permanent conversion of 696 acres of Important Farmland and

Grazing in Merced County under Alternative 1, or less than 0.1 percent of the total Important Farmland in the County, is unlikely to result in reduction in demand for farm support services in the area. This criterion received a score of 0.

10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The project would include construction of the San Jose Diridon Station and a second station in either downtown Gilroy or east Gilroy, depending on the alternative selected. Stations have the potential to induce population growth and farmland conversion. However, neither station would be located in Merced County.

There are two locations under consideration for a maintenance of way facility (MOWF) but both are in Gilroy, in Santa Clara County, not in Merced County. In addition, one maintenance of infrastructure siding facility (MOIS) is proposed in Merced County west of Turner Island Road. The MOIS facility would be a small facility, would be compatible with adjacent agricultural uses, and would not induce urban development.

Alternative 1 would involve the construction of new track, traction power substations (TPSS), and automated train control (ATC) sites. In contrast to stations, which could induce population growth and farmland conversion, guideway use and power or electrical facilities are largely compatible with adjacent agriculture and would not induce urban development. Therefore, it is unlikely that guideway use would contribute to eventual conversion of surrounding farmland to nonagricultural use. This criterion received a score of 2.

### **Additional Notes**

Alternative 1 is tied with Alternatives 2 and 4 for the longest length at approximately 89 miles, with 32 miles in Merced County.

### **Alternative 2**

- A. **Total acres to be converted directly?** The regional consultant used the same methodology described in Question A for Alternative 1. The results indicate that a total of 616 acres would be directly permanently converted.
- B. **Total acres to be converted indirectly or to receive services?** The regional consultant used the same methodology described in Question B for Alternative 1. The results indicate that a total of 80 acres would be indirectly converted.
- C. **Total acres in corridor?** The regional consultant used the same methodology described in Question C for Alternative 1. The results indicate that a total of 696 acres would be directly and indirectly permanently converted.
1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant used the same methodology described in Criterion 1 for Alternative 1. The results indicated that 97 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
2. **How much of the perimeter of the site borders on land in nonurban use?** The regional consultant used same methodology described in Criterion 2 for Alternative 1. The results indicated that 97 percent of the perimeter of the alternative borders on land in nonurban use. This criterion received a score of 10.
3. **How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the project footprint for the years between 2005 and 2015 as well as information from the Merced County Agricultural Commissioner (Robinson pers. comm.), in general, some properties in the vicinity of this alternative have been consistently farmed for 10 or more years. This criterion received a score of 11.
4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The regional consultant used the same methodology described in Criterion 4 for Alternative 1. There are 670 acres of

farmlands protected by private programs such as the Williamson Act. The results indicated that 3 percent of the land within the project footprint in Merced County is Protected Farmland. This criterion received a score of 20.

5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The regional consultant used the same methodology described in Criterion 5 for Alternative 1. Alternative 2 traverses farm units that are an average of 142 acres, or approximately 36 percent of the size of the average farm unit. This criterion received a score of 0.
6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** The regional consultant used the same methodology described in Criterion 6 for Alternative 1 (ARWS 2018a, 2018b, 2018c, 2018d). The results indicated that the acreage of nonviable remnant parcels on farmable land would total less than 1 percent of the acreage of the original parcels within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** The regional consultant used the same methodology described in Criterion 7 for Alternative 1. This alternative would have a limited effect on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well-maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** The regional consultant used the same methods described in Criterion 8 for Alternative 1. The overall amount of on-farm investment is high. Ancillary agricultural structures, barns, irrigation lines, waterways, and drainage ditches were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.
9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant used the same methodology described in Criterion 9 for Alternative 1 (ARWS 2018a, 2018b, 2018c, 2018d). Considering there are approximately 1,157,906 acres of Important Farmland and Grazing Land in Merced County (DOC 2016), the permanent conversion of 696 acres of Important Farmland and Grazing Land in Merced County under Alternative 2, or less than 0.1 percent of the total Important Farmland in the County, is unlikely to result in reduction in demand for farm support services in the area. This criterion received a score of 0.
10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The project would include construction of the San Jose Diridon Station and a second station in either downtown Gilroy or east Gilroy, depending on the alternative selected. Stations have the potential to induce population growth and farmland conversion. However, neither station would be located in Merced County.

There are two locations under consideration for a MOWF but both are in Gilroy, not in Merced County. In addition, one MOIS facility is proposed in Merced County west of Turner Island Road. The MOIS facility would be a small facility, would be compatible with adjacent agricultural uses, and would not induce urban development.

Alternative 2 would involve the construction of new track, TPSSs, and ATC sites. In contrast to stations, which could induce population growth and farmland conversion, guideway use and power or electrical facilities are largely compatible with adjacent agriculture and would not induce urban development. Therefore, it is unlikely that guideway use would contribute to eventual conversion of surrounding farmland to nonagricultural use. This criterion received a score of 2.

### **Additional Notes**

Alternative 2 is tied with Alternatives 1 and 4 for the longest length at approximately 89 miles, with 32 miles in Merced County.

### **Alternative 3**

- A. **Total acres to be converted directly?** The regional consultant used the same methodology described in Question A for Alternative 1. The results indicate that a total of 616 acres would be directly permanently converted.
  - B. **Total acres to be converted indirectly or to receive services?** The regional consultant used the same methodology described in Question B for Alternative 1. The results indicate that a total of 80 acres would be indirectly converted.
  - C. **Total acres in corridor?** The regional consultant used the same methodology described in Question C for Alternative 1. The results indicate that a total of 696 acres would be directly and indirectly permanently converted.
1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant used the same methodology described in Criterion 1 for Alternative 1. The results indicated that 97 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
  2. **How much of the perimeter of the site borders on land in nonurban use?** The regional consultant used same methodology described in Criterion 2 for Alternative 1. The results indicated that 97 percent of the perimeter of the alternative borders on land in nonurban use. This criterion received a score of 10.
  3. **How much of the site has been farmed more than 5 of the last 10 years** According to satellite imagery analysis of the project footprint for the years between 2005 and 2015 as well as information from the Merced County Agricultural Commissioner (Robinson pers. comm.), in general, some properties in the vicinity of this alternative have been consistently farmed for 10 or more years. This criterion received a score of 11.
  4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The regional consultant used the same methodology described in Criterion 4 for Alternative 1. There are 670 acres of farmlands protected by private programs such as the Williamson Act. The results indicated that 3 percent of the land within the project footprint in Merced County is Protected Farmland. This criterion received a score of 20.
  5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The regional consultant used the same methodology described in Criterion 5 for Alternative 1. Alternative 3 traverses farm units that are an average of 142 acres, or approximately 36 percent of the size of the average farm unit in the county. This criterion received a score of 0.
  6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** The regional consultant used the same methodology described in Criterion 6 for Alternative 1 (ARWS 2018a, 2018b, 2018c, 2018d). The results indicated that the acreage of nonviable remnant parcels on farmable land would total less than 1 percent of the acreage of the original parcels within the project footprint of this alternative. This criterion received a score of 0.
  7. **Does the site have available adequate supply of farm support services and markets?** The regional consultant used the same methodology described in Criterion 7 for Alternative 1. This alternative would have a limited effect on farm services. This criterion received a score of 5.
  8. **Does this site have substantial and well maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other**

**soil and water conservation measures?** The regional consultant used the same methods described in Criterion 8 for Alternative 1. The overall amount of on-farm investment is high. Ancillary agricultural structures, barns, irrigation lines, waterways, and drainage ditches were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.

9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant used the same methodology described in Criterion 9 for Alternative 1 (ARWS 2018a, 2018b, 2018c, 2018d). Considering there are approximately 1,157,906 acres of Important Farmland and Grazing Land in Merced County (DOC 2016), the permanent conversion of 696 acres of Important Farmland and Grazing Land in Merced County under Alternative 3, or less than 0.1 percent of the total Important Farmland in the County, is unlikely to result in reduction in demand for farm support services in the area. This criterion received a score of 0.
10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The project would include construction of the San Jose Diridon Station and a second station in either downtown Gilroy or east Gilroy, depending on the alternative selected. Stations have the potential to induce population growth and farmland conversion. However, neither station would be located in Merced County.

There are two locations under consideration for a MOWF but both are in Gilroy, not Merced County. In addition, one MOIS facility is proposed in Merced County west of Turner Island Road. The MOIS facility would be a small facility, would be compatible with adjacent agricultural uses, and would not induce urban development.

Alternative 3 would involve the construction of new track, TPSSs, and ATC sites. In contrast to stations, which could induce population growth and farmland conversion, guideway use and power or electrical facilities are largely compatible with adjacent agriculture and would not induce urban development. Therefore, it is unlikely that guideway use would contribute to eventual conversion of surrounding farmland to nonagricultural use. This criterion received a score of 2.

### ***Additional Notes***

Alternative 3 is the shortest alternative at 87 miles long, with 32 miles in Merced County.

### **Alternative 4**

- A. **Total acres to be converted directly?** The regional consultant used the same methodology described in Question A for Alternative 1. The results indicate that a total of 616 acres would be directly permanently converted.
- B. **Total acres to be converted indirectly or to receive services?** The regional consultant used the same methodology described in Question B for Alternative 1. The results indicate that a total of 80 acres would be indirectly converted.
- C. **Total acres in corridor?** The regional consultant used the same methodology described in Question C for Alternative 1. The results indicate that a total of 696 acres would be directly and indirectly permanently converted.
1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant used the same methodology described in Criterion 1 for Alternative 1. The results indicated that 97 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
2. **How much of the perimeter of the site borders on land in nonurban use?** The regional consultant used the same methodology described in Criterion 2 for Alternative 1. The results indicated that 97 percent of the perimeter of the alternative borders on land in nonurban use. This criterion received a score of 10.

3. **How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the project footprint for the years between 2005 and 2015 as well as information from the Merced County Agricultural Commissioner (Robinson pers.comm.), in general, some properties in the vicinity of this alternative have been consistently farmed for 10 or more years. This criterion received a score of 11.
4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The regional consultant used the same methodology described in Criterion 4 for Alternative 1. There are 670 acres of farmlands protected by private programs such as the Williamson Act. The results indicated that 3 percent of the land within the project footprint in Merced County is Protected Farmland. This criterion received a score of 20.
5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The regional consultant used the same methodology described in Criterion 5 for Alternative 1. Alternative 4 traverses farm units that are an average of 142 acres, or approximately 36 percent of the size of the average farm unit. This criterion received a score of 0.
6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** The regional consultant used the same methodology described in Criterion 6 for Alternative 1 (ARWS 2018a, 2018b, 2018c, 2018d). The results indicated that the acreage of nonviable remnant parcels on farmable land would total less than 1 percent of the acreage of the original parcels within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** The regional consultant used the same methodology described in Criterion 7 for Alternative 1. This alternative would have a limited effect on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well-maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** The regional consultant used the same methods described in Criterion 8 for Alternative 1. The overall amount of on-farm investment is high. Ancillary agricultural structures, barns, irrigation lines, waterways, and drainage ditches were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.
9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant used the same methodology described in Criterion 9 for Alternative 1 (ARWS 2018a, 2018b, 2018c, 2018d). Considering there are approximately 1,157,906 acres of Important Farmland and Grazing Land in Merced County (DOC 2016), the permanent conversion of 696 acres of Important Farmland and Grazing Land in Merced County under Alternative 4, or less than 0.1 percent of the total Important Farmland in the County, is unlikely to result in reduction in demand for farm support services in the area. This criterion received a score of 0.
10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The project would include construction of the San Jose Diridon Station and a second station in either downtown Gilroy or east Gilroy, depending on the alternative selected. Stations have the potential to induce population growth and farmland conversion. However, neither station would be located in Merced County.  
  
There are two locations under consideration for MOWF but both are in Gilroy, not in Merced County. In addition, one MOIS facility is proposed in Merced County west of Turner Island Road. The MOIS facility would be a small facility, would be compatible with adjacent agricultural uses, and would not induce urban development.

Alternative 4 would involve the construction of new track, TPSSs, and ATC sites. In contrast to stations, which could induce population growth and farmland conversion, guideway use and power or electrical facilities are largely compatible with adjacent agriculture and would not induce urban development. Therefore, it is unlikely that guideway use would contribute to eventual conversion of surrounding farmland to nonagricultural use. This criterion received a score of 2.

### **Additional Notes**

Alternative 4 is tied with Alternatives 1 and 2 for the longest length at approximately 89 miles, with 32 miles in Merced County.

### **References**

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- Robinson, David. 2017. Agricultural Commissioner/Sealer of Weights & Measures, Merced County Merced, CA. August 9, 2017—Personal communication with Kristin Salamack, ICF International, regarding information for LESA.
- U.S. Department of Agriculture (USDA). 2012. 2012 Census Volume 1, Chapter 2, County Level Data. [www.agcensus.usda.gov/Publications/2012/Full\\_Report/Volume\\_1,\\_Chapter\\_2\\_County\\_Level/California/cav1.pdf](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/California/cav1.pdf) (accessed August 7, 2017).