

Section P
Project Alternatives

PROJECT ALTERNATIVES

This section analyzes alternative land uses for the project site including the No-Project Alternative, a higher housing density alternative, a mitigated project alternative, and a partial annexation alternative. The analysis of each alternative includes a brief qualitative discussion of the following topics: land use, geology and soils, hydrology and water quality, vegetation, wildlife and aquatic resources, public services, fiscal impacts, population, housing and employment, and aesthetics. Transportation, air quality, and noise impacts are treated quantitatively. A discussion of alternative locations for the project is also presented.

Alternatives to the Proposed Project

No-Project Alternative

Under the No-Project Alternative, the project would not be developed and existing agricultural land uses would continue onsite.

Highest Housing Density Alternative

Under this alternative, all acreage designated for single-family (R-1), residential development would be built out at the maximum allowable density, 8.7 dwelling units per acre. This would result in a projected total of 6,341 dwelling units, 79 percent more than the number proposed. All other proposed land uses would remain the same.

Mitigated Project Alternative

Under this alternative, acreage designated for parks and open space would be increased in accordance with recommended mitigation measures. The site plan would be revised to provide additional public recreation facilities in the southeastern portion of the site and a 40-acre area for the preservation of the natural environment. These changes would be offset by reducing the gross area designated for conventional single-family residential development (R-1) to 556.7 acres (5 acres of the total 50 acres is associated with a reduction in lake acreage). This would result in an estimated total of 2,112 R-1 units, or 7 percent less than proposed. In addition, a bicycle path would be constructed on the Calaveras River levee along the southern boundary of the site. All other proposed land uses would remain the same.

Partial Annexation Alternative

Under this alternative, acreage south of the proposed March Lane extension would be left in agricultural production. The portion of the site north of March Lane would be developed as shown on the new site map. This would include 1,462 single-family dwelling units on 339.7 acres, 35.7 acres of multifamily dwelling units (1,035 dus), 11.9 acres of PURD (71 dus), a 41.1 acre high school, an 11.3-acre school, a 15.2-acre park, a 3.8-acre recreation center, 39.8 acres of office/commercial uses and a 47.6-acre lake. Total developed acreage would be 546.1 acres with a total of 2,568 dwelling units. March Lane would be developed with a bike trail and Brookside Lane would be extended as shown on the site plan. Brookside Farm would also remain. Developed acreage would be reduced by approximately 55 percent.

Impacts of the Alternatives

No-Project Alternative

Land Use. Under this alternative, the 1204.2 acres would not be developed and would result in the preservation of agricultural land and the avoidance of area land use conflicts. This alternative could indirectly generate a number of both positive and adverse offsite effects by inducing or accelerating growth in other areas.

Agricultural Resources. Under this alternative, existing agricultural uses would not be converted to urban uses. This alternative would, in effect, result in the preservation of prime agricultural land.

Geology and Soils. Earthquake risk would be limited to the structures and facilities currently on the Brookside site. These include homes, public works facilities, and levees. Far fewer levees and structures would be at risk than under proposed project buildout conditions. The agricultural potential of the site would be unaffected by earthquake unless levees were damaged and deemed uneconomical to repair. Lack of levees could render drainage infeasible and could make access and equipment storage on the site unsafe.

The No-Project Alternative would eliminate the impact of building on difficult soils and would change the impact on agricultural soils from significant to less than significant. Because the Brookside site is effectively buffered from surrounding land uses, agriculture could continue on the site for the foreseeable future.

Hydrology and Water Quality. The No-Project Alternative would eliminate the demand for City of Stockton domestic water and thereby would avoid the use of regional groundwater and surface water sources. However, the use of riparian river water for irrigation would remain at current levels. The net impact would be to shift demand from City of Stockton supplies for urban uses to riparian water for irrigation. Internal drainage would focus upon maintaining agricultural production. Infiltration rates would remain

high and pumping would be conducted to maintain groundwater at levels that permit plant growth during the cropping season.

Without urban development, levee upgrading would be unnecessary. Risk of damage from flooding would be limited to the few structures and facilities present on the Brookside site. The agricultural potential of the site might be jeopardized for one season if the flooding occurred during cropping, but soil fertility could even benefit from temporary inundation and sediment deposition. The water quality of surface water and groundwater under the No-Project Alternative would remain at current levels. The potential for pollution of groundwater and surface waters by fertilizers and biocides from domestic and golf course use would be avoided. However, agricultural chemicals would still be used, and probably would enter surrounding water through drainage and groundwater through percolation.

Vegetation, Wildlife, and Aquatic Resources. Under the No-Project Alternative, impacts to vegetation, wildlife, and aquatic resources would be avoided on the project site since no changes in land use would occur. Many of the impacts of the proposed project would be directed toward other areas of the City.

Transportation. Under the No-Project Alternative, no additional vehicle trips would be generated at the project site, but the impacts that are similar to those of the proposed project could be redirected to other areas of the City.

Air Quality. Under the No-Project Alternative, no additional on-road mobile emissions would be predicted for the project site. Refer to Table G-5 for more information.

Noise. Under the No-Project Alternative, traffic conditions and, therefore, traffic-related noise levels, would be the same as under existing conditions. Existing noise problems along I-5 would remain. Agricultural use of the project site would be compatible with current and future traffic noise conditions.

Public Services and Utilities/Fiscal Impacts. Under the No-Project Alternative, the demand for public services in the project site would be avoided. This alternative could result in directing demand for public services to other areas of the City. Fiscal effects would not change for the project with capital and operating costs and revenues generated remaining at current levels.

Population, Housing, and Employment. Under this alternative, there would be no additional population- or employment-generating land uses that would affect existing housing, population, or employment. The No-Project Alternative could indirectly generate a number of beneficial and adverse offsite effects by inducing or accelerating growth in other areas.

Aesthetics. No impacts would occur in the project site under this alternative, but aesthetic impacts could be diverted to other areas of the City.

Highest Housing Density Alternative

Land Use. This alternative would be more consistent with residential land use policies that favor housing diversity and affordability. Higher density development could indirectly promote conservation of prime soils and agricultural uses by moderating the rate and extent of future urbanization. Internal land use conflicts would be more detrimental due to the intensified nature of the development.

Agricultural Resources. This alternative would result in the conversion of 1,149.4 acres of prime agricultural land. However, this alternative could indirectly promote conservation of prime soils and agricultural uses by moderating the rate and extent of future urbanization.

Geology and Soils. Increasing the number of residents on the Brookside site would proportionally increase the risk to persons and property from earthquake. Evacuation would be slower. Building homes on the sites of the lake and golf course would reduce the drainage efficiency for the entire project site, so that soil saturation and resulting instability under seismic acceleration would affect larger areas. Such building could be especially risky on the peaty soils of the southeastern and north central portions of the site.

Increasing the density on the property would not affect the severity of the loss of prime agricultural soils; they would be alienated from production at any urban or suburban density. The impact of the loss would remain significant. However, increasing the number of housing units supplied at the Brookside site could reduce the demand for housing elsewhere in Stockton and limit the pressure to develop other prime agricultural areas.

Increasing the density of development also would increase the number of homes built on soils with thick deposits of organic material. These organic soils are thickest in the southeastern portion of the site and in the north-central area. Much of the peaty soil area was to have been used for the golf course. More extensive design and construction mitigation would be required to build safely on these soils. However, the greater density of development could justify the increased expense of the foundations.

Hydrology and Water Quality. The demand for domestic water would increase with population. The severity of the significant impact of the development on regional surface and groundwater supplies would increase under the high density alternative.

Surface runoff probably would increase because of the greater density of development. Without the lake and golf course, this runoff would be pumped directly into surrounding water bodies having no retention capability, thereby increasing flood peaks. Some increase in runoff coefficients can be expected with increasing density, the scale of the increase depending upon the size of the impervious surface. The impact of the highest density alternative on drainage is not considered significant.

Without the lake and golf course to retain runoff, the opportunity for percolation and groundwater recharge would decline, and there would be less opportunity for sediments to settle before discharge to adjacent rivers.

Without the lake, excess fertilizers used by residents would enter the rivers without being partially or wholly processed by lake organisms. This impact would be offset by eliminating the use of fertilizers and biocides on the golf course, which would not be built.

Increasing the density of development would increase the numbers of structures and persons at risk from the flood hazard. A much larger population would require evacuation in case of flooding. Eliminating the lake also would remove that source of material for levee upgrading. The flooding impact would remain significant.

Increased levels of groundwater pumping would be required to satisfy domestic demand under the increased density alternative. This would exacerbate saline intrusion and declining groundwater quality in the region. There would be less opportunity for groundwater recharge because a greater proportion of the ground surface would be covered by structures and pavement. The impact of this alternative on groundwater would be significant.

Vegetation, Wildlife and Aquatic Resources. Impacts to vegetation under this alternative would be identical to those identified for the proposed alternative. Impacts to wildlife would be about the same as under the proposed project, because both project configurations, would eliminate most wildlife habitat existing onsite. The highest Density Alternative, however, would probably have more offsite impacts to wildlife of the San Joaquin and Calaveras Rivers than the proposed project. Higher numbers of people would cause greater disturbance to wildlife and aquatic resources, and there would be a higher potential for discharge of oils, solvents, and other toxins into nearby wetlands.

Transportation. The Highest Housing Density Alternative would result in nearly 80 percent more trips than the preferred alternative (Table P-1). The most significant traffic problems that would occur under this alternative would be along March Lane and Pershing Avenue, and at the I-5/Benjamin Holt Drive and I-5/March Lane interchanges. These facilities are already at or near capacity. A much larger expenditure on improvements would be required to mitigate the additional significant adverse impacts throughout the study area.

Air Quality. This alternative would result in ROG and NO_x emissions of 938.7 and 1,441.2 pounds per day, respectively, in 1990, or 987.7 and 1,128.4 pounds per day, respectively, in 2010 (Table G-5). These emissions are greater than those expected for the proposed project and thus would create significant adverse impacts on local and regional air quality.

Noise. Under this alternative, vehicle trips generated by the project would increase by about 80 percent, thus incrementally increasing vehicle noise within the project site and on offsite roadways including I-5. Since I-5 is the dominant noise generator in the project vicinity, and noise levels along this route are already substantial, the change in noise levels due to implementation of the Highest Density Alternative are expected to be less than significant.

Table P-1. Highest Housing Density Alternative Trip Generation

Land Use	Quantity	Daily Trips	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Single family	6,341 du	57,703	1,268	3,361	4,629	3,995	2,346	6,341
PURD	209 du	1,630	25	121	146	105	62	167
Multifamily	1,035 du	6,210	104	414	518	487	238	725
Office/professional	52.5 ac	11,820	1,426	252	1,678	260	1,623	1,883
Commercial	4.1 ac	3,000	49	44	93	91	103	194
Parks	15.2 ac	71	1	2	3	3	3	6
Lakes	47.6 ac	--	--	--	--	--	--	--
Recreation center	3.8 ac	125	2	3	5	5	5	10
Schools	65.5 ac	2,342	342	106	448	41	83	124
Brookside Farm	54.8 ac	--	--	--	--	--	--	--
Golf course	247.8 ac	1,191	38	9	47	10	80	90
Totals		84,092	3,255	4,312	7,567	4,997	4,543	9,540

Notes: PURD = Planned Unit Residential Development
 du = dwelling units
 ac = acres

Public Services and Utilities/Fiscal Impacts. Under this alternative, demand for public services would be substantially greater than for the proposed project. Water consumption and wastewater generation for the low-density residential land use would increase by 79 percent due to the demand from 2,800 additional dwelling units. The need for solid waste disposal services, police and fire protection, school and park facilities, and energy demand would also increase substantially, although some economies of scale could partially reduce impacts. A large net fiscal surplus could be expected due to a substantial increase in revenue and relatively smaller increases in capital and operating costs.

Population, Housing and Employment. This alternative would increase the amount of housing units in the project by 79 percent and would equate to about 9 percent of the total number of housing units in the City of Stockton. This would have a substantial impact on the provision of public services and facilities, as discussed above. Project employment would not be affected.

Aesthetics. The visual impacts under this alternative would be similar to those of the proposed project, although the greater density of residential development would substantially increase the intensity of the newly built environment.

Mitigated Project Alternative

Land Use. This alternative would reduce or avoid onsite land use conflicts due to the less intensified nature of the development, and would be more consistent with policies relating to parks, open space, public access, and schools. Although offsite land use conflicts would remain the same, overall impacts would be reduced or eliminated under this alternative.

Agricultural Resources. The Mitigated Project alternative would not change proposed agricultural impacts. The implementation of this alternative would result in the conversion of 1,149.4 acres of prime agricultural soils to urban uses.

Geology and Soils. This alternative would result in a slight (7 percent) reduction in the population residing on the Brookside property. Some of the more seismically sensitive soils could be exempted from urbanization. Overall, no significant reduction in risk would occur, compared to the proposed project.

The mitigated alternative would avoid construction in some of the most problematic areas of the site. The public recreation facilities in the southeastern portion of the site could be located in areas of thick peat deposits. The 40-acre natural environment preserve could preclude development on the peaty soils in the project area. Care would still be required in foundation design and construction in other areas of the Brookside property.

Hydrology and Water Quality. Implementation of the mitigated alternative would generate a small reduction in demand for domestic water. Landscape watering uses would likely be unaffected by the reduction in population. The impact of this alternative on potable water supplies would

remain significant. This alternative could improve the internal drainage characteristics of the development. Such improvement would result from longer retention of runoff onsite before pumping it to adjacent rivers. The quality of runoff could be improved by this longer retention in the lake, permitting more complete settlement of sediments and heavy chemicals. Adding 50 acres of undeveloped area to the total Brookside development would increase the area available for percolation and groundwater recharge, and reduce the amount of impervious surface, with resulting declines in overall runoff coefficients.

The mitigated alternative would not alter the flood hazard that affects the site, or the mitigation measures needed to manage the flood hazard.

The 7 percent reduction in population compared with the proposed project would generate an equivalent reduction in groundwater demand. The larger areas of open space would permit somewhat greater groundwater recharge. However, the impact of the project on groundwater would remain significant.

Vegetation, Wildlife, and Aquatic Resources. This alternative would substantially increase the project acreage that would be set aside as open space. Substantial amounts of upland habitat would be preserved as open space and play areas, some of which could provide wildlife habitat value. Some narrow, linear, and open water-aquatic habitat would still be eliminated along the drainage and irrigation canals. Thus, the mitigated project alternative would still have significant adverse impacts on wildlife and aquatic resources, but there would be fewer than under the proposed project.

Transportation. Under the Mitigated Project Alternative, trip generation to the project site would be about 3 percent lower than that expected for the proposed project (Table P-2). This slight reduction in trips generated would result in slightly lower volumes of traffic along the critical roadway segments and at critical intersections, such as Pershing Avenue/March Lane and Pacific Avenue/March Lane, where traffic congestion is already at a significant level. Significant traffic impacts would occur even with implementation of this alternative.

Air Quality. This alternative would result in ROG and NOx emissions of 520.3 and 813.9 pounds per day, respectively, in 1990 or 270.8 and 637.3 pounds per day, respectively, in 2010 (Table G-5). These emissions are lower than those projected for the proposed project, but this impact is still considered to be significant.

Noise. Under the Mitigated Project Alternative, the change in noise levels relative to the proposed project would be undiscernible by the human ear (less than 1 dB).

Public Services and Utilities/Fiscal Impacts. The Mitigated Project Alternative would create a demand for public services that would be lower than the proposed project due to the reduced housing development. Water consumption and wastewater generation would be about 7 percent lower than for the proposed project. The demand for solid waste disposal services, police and fire protection, schools, and energy demand would also be slightly lower than under the proposed project. However, the increased

Table P-2. Mitigated Project Alternative Trip Generation

Land Use	Quantity	Daily Trips	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Single family	2,112 du	19,219	422	1,119	1,541	1,331	781	2,112
PURD	209 du	1,630	25	121	146	105	62	167
Multifamily	1,035 du	6,210	104	414	518	487	238	725
Office/professional	52.5 ac	11,820	1,426	252	1,678	260	1,623	1,883
Commercial	4.1 ac	3,000	49	44	93	91	103	194
Parks	25.2 ac	118	2	3	5	5	5	10
Lakes	47.6 ac	--	--	--	--	--	--	--
Recreation center	3.8 ac	125	2	3	5	5	5	10
Schools	65.5 ac	2,342	342	106	448	41	83	124
Brookside Farm	54.8 ac	--	--	--	--	--	--	--
Golf course	247.8 ac	1,191	38	9	47	10	80	90
Totals		45,655	2,410	2,071	4,481	2,335	2,980	5,315

Notes: PURD = Planned Unit Residential Development
 du = dwelling units
 ac = acres

openspace and park areas would require that more resources be expended for maintenance of these areas. A smaller net fiscal surplus could be expected due to an overall reduction in revenue, generating uses, and increased costs of developing and maintaining parks, bikeways, and open spaces.

Population, Housing and Employment. This alternative would reduce by 7 percent the amount of single-family housing units and the estimated project population. In turn, the demand for public services and facilities would decrease, alleviating effects on infrastructure, circulation, air quality and noise levels. Project employment would remain the same.

Aesthetics. The additional park and open space acreage provided under this alternative could increase onsite amenities at the project site, but would not substantially change the suburban visual image in the area.

Partial Annexation Alternative

Land Use. This alternative would reduce the amount of agricultural acreage that would be lost to urban development and would be more consistent with planning policies that encourage agricultural land preservation. Although the project site would be reduced in size, most of the proposed land uses would remain, with the exception of the golf course. Internal land use conflicts would remain the same.

Agricultural Resources. This alternative would result in the conversion of 546.1 acres of prime agricultural land to urban uses, and leave 603.3 acres in agricultural production. Although this alternative would reduce the number of acres converted to urban uses, the impact on agricultural resources would remain significant and unavoidable.

Geology and Soils. Reducing the number of units developed on the project site would substantially lower the seismic risk. Fewer structures would be subject to damage; fewer residents would require evacuation, and most of the seismically sensitive soils would be avoided. Construction on the peaty soils in the north-central portion of the project site would remain. Despite reducing the earthquake hazard, the partial project alternative would not alter the seismic impacts of development. The partial project alternative would reduce by 55 percent the area of agricultural soils lost from production. Careful and rigorous buffering of the urban uses north of March Lane would be required to prevent conflicts between urban and agricultural land uses. The loss of 546 acres of prime agricultural soils from production would still be considered a significant impact.

By excluding development of the southern portion of the site, most of the thick peat deposits would be avoided. No mitigations would be required for the southern area, which would reduce the acreage subject to construction constraints from soils. However, buildings in the peat pocket in the northern portion of the site would require special foundation design and engineering. The difficult soils on the site indicate that the impact of the development would remain significant, even under the partial project alternative.

Hydrology and Water Quality. The beneficial effect of building on only the northern half of the project site would be proportional to the reduction in population and water-consuming activities. Reduced demand for SEWD water would reduce the amount of groundwater pumped from the Stockton aquifer. Groundwater recharge would be facilitated in the agricultural area south of March Lane and under the lake in the northern portion of the site. The need for conjunctive use groundwater to serve the 2,568 dwelling units in the partial project alternative would nonetheless generate a significant impact on groundwater in the region.

Vegetation, Wildlife and Aquatic Resources. This alternative would decrease by about half the acreage of agricultural land and freshwater marsh along irrigation canals eliminated by the project. The borrow pit pond would be eliminated under this alternative, resulting in a significant adverse impact to wildlife. Preservation of agricultural lands south of March Lane, as proposed under this alternative, would provide additional wildlife habitat. Impacts to aquatic resources would be slightly less than those of the proposed project because urban runoff to adjacent waterways would be reduced and dredging in Buckley Cove would be eliminated.

Transportation. The Partial Annexation Alternative would result in 31 percent fewer trips than the preferred alternative (Table P-3). The reduction in trips generated from the Partial Project Alternative would result in lower volumes of traffic along the critical roadway segments and at critical intersections and better traffic operating conditions. However, intersections such as Pershing Avenue/March Lane and Pacific Avenue/March Lane, where traffic congestion is already at a significant level, significant impacts would still occur.

Air Quality. This alternative would result in ROG and NOx emissions of 391.7 and 615.2 pounds per day, respectively, in 1990, or 203.8 and 481.5 pounds per day, respectively, in 2010 (Table G-5). These emissions would be lower than emissions predicted for the proposed project, but this impact is still considered to be a significant adverse and unavoidable impact.

Noise. Under the Partial Annexation Alternative, overall noise levels in the project vicinity would be similar to those created by the proposed project. A 31 percent decrease in vehicle trips from the project site would have only a minor effect on the noise levels already generated from the I-5 corridor.

Public Services and Utilities/Fiscal Impacts. Under this alternative, the demand for public services at the project site would be substantially reduced. Water consumption and wastewater generation would be reduced by approximately 30 percent, as would demand for solid waste disposal services, school, park and recreation facilities, police and fire protection and energy resources. A smaller net fiscal surplus would be expected due to reduced housing and commercial development.

Population, Housing, and Employment. This alternative would reduce the number of housing units and the project population by 38 percent. This would reduce the demand for public services and facilities, reducing slightly the effects on infrastructure, circulation, air quality and noise levels.

Table P-3. Partial Project Alternative Trip Generation

Land Use	Quantity	Daily Trips	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Single family	1,462 du	13,304	292	775	1,067	921	541	1,462
PURD	71 du	554	9	44	50	36	21	57
Multifamily	1,035 du	6,210	104	414	518	487	238	725
Office/professional	36.9 ac	8,274	998	176	1,174	182	1,136	1,318
Commercial	2.9 ac	2,100	34	31	65	64	72	136
Parks	15.2 ac	71	1	2	3	3	3	6
Lakes	47.6 ac	--	--	--	--	--	--	--
Recreation center	3.8 ac	125	2	3	5	5	5	10
Schools	52.4 ac	1,874	274	85	359	33	66	99
Brookside Farm	54.8 ac	--	--	--	--	--	--	--
Totals		32,512	1,714	1,527	3,241	1,731	2,082	3,813

Notes: PURD = Planned Unit Residential Development
 du = dwelling units
 ac = acres

Commercial acreage is reduced under this alternative, thus employment would also be reduced.

Aesthetics. The Partial Annexation Alternative would preserve a substantial portion of the site for agricultural use, thus retaining the rural character of the site south of March Lane. This alternative would be consistent with the City's policy to retain agricultural land as a buffer for urban land uses and would preserve the open space characteristics of a portion of the site.

Alternative Locations for the Project

It is conceivable that the proposed project land uses could occur at alternative locations on the urban fringe of the City of Stockton. The relatively large size of this proposed development (1,200 acres) would preclude any serious consideration of locating the project within the City limits since a contiguous parcel of land is not available in this area. Development at an alternative location on the urban fringe would create many of the same adverse impacts identified for the proposed project in this DEIR. Viable agricultural land would be converted to urban uses and public service, transportation, air quality, noise, vegetation and wildlife impacts would be similar to those of the proposed project wherever the project is located.

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