

1 **3.14 NOISE**

2 **3.14.1 Introduction**

3 This section focuses on noise impacts on human noise-sensitive receptors from construction, operations,
 4 and maintenance. Noise impacts on wildlife are addressed in Section 3.4, Biological Resources. The study
 5 area includes the alternative site locations and immediate surrounding areas, as well as the areas
 6 surrounding the access roads that would be used by equipment, personal vehicles, and heavy trucks,
 7 including State Routes (SR) 78, 86, and 111.

8 Table 3.14-1 summarizes the impacts of the six Species Conservation Habitat (SCH) Project alternatives
 9 on noise, compared to both the existing conditions and the No Action Alternative.

Table 3.14-1 Summary of Noise Impacts								
Impact	Basis of Comparison	Project Alternative						Mitigation Measures
		1	2	3	4	5	6	
Impact NOI-1: Daytime construction and maintenance activities would cause a temporary increase in noise levels near the Project sites.	Existing Condition	L	L	L	L	L	L	None required
	No Action	L	L	L	L	L	L	None required
Impact NOI-2: Dredging could extend beyond the hours typically allowed by Imperial County.	Existing Condition	L	L	L	S	S	S	MM NOI-1: Avoid nighttime construction near Red Hill Park.
	No Action	L	L	L	S	S	S	Same as Existing Condition
Impact NOI-3: Construction truck traffic at some locations on local roads would cause a temporary increase in noise near residents.	Existing Condition	L	L	L	L	L	L	None required
	No Action	L	L	L	L	L	L	None required
Impact NOI-4: Noise from installation of the seawater pipeline and associated pump could exceed Imperial County's construction thresholds.	Existing Condition	O	O	O	S	S	O	MM NOI-2. Control noise from installation of the seawater pump and pipeline.
	No Action	O	O	O	S	S	O	Same as Existing Condition
Impact NOI-5: Noise from operation of the seawater pump could exceed Imperial County's thresholds at Red Hill Park.	Existing Condition	O	O	O	S	O	O	MM NOI-3: Control operational noise from the seawater pump.
	No Action	O	O	O	S	O	O	Same as Existing Condition
Note: O = No Impact L = Less-than-Significant Impact S = Significant Impact, but Mitigable to Less than Significant U = Significant Unavoidable Impact B = Beneficial Impact								

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1 The following background information on noise is taken from the *Salton Sea Ecosystem Restoration*
 2 *Program Final Programmatic Environmental Impact Report* (California Department of Water Resources
 3 [DWR] and California Department of Fish and Game [DFG] 2007).

4 Noise is defined as unwanted sound. Noise usually is objectionable because it is disturbing or annoying
 5 due to its pitch or loudness. Pitch is frequency of a tone or sound. The human ear does not hear all
 6 frequencies equally. In particular, the ear deemphasizes low and very high frequencies. Loudness is
 7 intensity of sound waves combined with the ear’s reception characteristics.

8 A decibel (dB) is a unit of measurement that is used to indicate the relative amplitude of a sound. Sound
 9 levels in dB are calculated on a logarithmic scale. Subjectively, each 10-dB increase in sound level is
 10 generally perceived as a doubling of loudness. Human ears do not respond consistently across a frequency
 11 range that can be heard. To more accurately represent the response of a human ear, sound meters include
 12 filters. Most sound measurements are conducted using a sound filter referred to as the “A scale.”
 13 Therefore, the measurements are reported as “dBA.”

14 Because sound levels can vary over a short period of time, a method for describing either the average
 15 character of the sound or the statistical behavior of the variations must be utilized. Most commonly,
 16 environmental sounds are described in terms of an average level that has the same acoustical energy as
 17 the summation of all the time varying events. This energy equivalent sound/noise descriptor is called
 18 equivalent noise level (Leq). The most common averaging period is hourly, but Leq can describe any
 19 series of noise events of arbitrary duration. Table 3.14-2 shows typical A-weighted noise levels measured
 20 in the environment.

Table 3.14-2 Typical Sound Levels Measured in the Environment and Industry	
Sound Level (dBA)	Potential Source or Human Perception of Sound
130 - 140	Pain threshold
120	Jet takeoff (200 feet)
110	Chainsaw (2 feet) or amplified music concert
100	Pile driver (50 feet)
90	Power mower or heavy truck (50 feet)
60	Hearing damage can occur at exposures of 8 hours
50	Air conditioner unit
40	Requires loud speech at 3 feet
0	Light auto traffic (100 feet) or quiet office
Source: County of Imperial 1997	

21
 22 Because sensitivity to noise increases during the evening and at night when excessive noise interferes
 23 with the ability to sleep, 24-hour descriptors have been developed that incorporate artificial noise
 24 penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure
 25 of the cumulative noise exposure in a community with an about 5-dBA penalty added to evening (7:00
 26 pm to 10:00 pm) and a 10-dBA addition to nocturnal (10:00 pm to 7:00 am) noise levels. The day/night

1 average sound level (L_{dn}) is essentially the same as CNEL, without applying any penalty to noise events
2 occurring in the evening time period.

3 Noise changes both in level and frequency spectrums as it travels from the source to the receiver. The
4 most obvious is the decrease in noise as the distance from the source increases. The manner in which
5 noise is reduced depends on a variety of factors, including the noise source type as well as the region over
6 which the noise source propagates. Noise generated by a point source, such as equipment at a construction
7 site, drops off at a rate of 6 dBA per doubling of distance. Traffic noise attenuates, or is reduced, at a
8 different rate. The movement of vehicles makes the noise source appear to emanate from a line as
9 opposed to a single point when viewed over a period of time. Noise levels drop off at a rate of about 3
10 dBA per doubling of distance for this type of source near hard surfaces, such as paved areas or bodies of
11 water. However, ground type also plays into how much of a drop off over distance will occur. Surfaces,
12 such as plowed fields, crops, or grass, absorb some of the sound energy as the sound passes over;
13 therefore, noise is reduced by 4.5 dBA for every doubling of the distance in such areas.

14 **3.14.2 Regulatory Requirements**

15 Noise is typically regulated at the local level, and no Federal or state noise regulations are applicable to
16 the SCH Project. The Noise Element of the Imperial County General Plan (County of Imperial 1997) is
17 intended to ensure that land uses are compatible with the ambient noise levels, and outlines acceptable
18 noise levels for various land uses during construction and operations. The Imperial County Noise
19 Abatement and Control Ordinance also establishes 1-hour average sound level limits at residential,
20 commercial, manufacturing and agricultural, and general industrial areas. Relevant standards from both
21 documents are discussed below by type of standard (e.g., for construction noise or operation noise) (DWR
22 and DFG 2007).

23 ***Construction Noise***

24 The Noise Element limits sound levels from construction activities during specific hours of the day and
25 night through a set of construction noise standards, presented in Table 3.14-3 (County of Imperial 1997).
26 The standards apply to the noise measured at the nearest sensitive receptor. The Noise Element defines
27 sensitive receptors as areas of habitation where the intrusion of noise has the potential to adversely affect
28 the occupancy, use, or enjoyment of the environment. Sensitive receptors include, but are not limited to,
29 residences, schools, hospitals, parks, and office buildings. Imperial County does not have construction
30 standards for vibration (DWR and DFG 2007).

31

Table 3.14-3 County of Imperial Construction Noise Standards				
Duration of Construction	Noise Source	Sound Level (dBA L_{eq})^a	Period of Averaging (hours)	Restricted Hours of Operation
Short term (days or weeks)	Single piece of construction equipment	75	8	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.
Short term (days or weeks)	Combination of pieces of construction equipment	75	8	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.

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Table 3.14-3 County of Imperial Construction Noise Standards

Duration of Construction	Noise Source	Sound Level (dBA L _{eq}) ^a	Period of Averaging (hours)	Restricted Hours of Operation
Extended term ^b	Single piece of construction equipment	75	1	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.
Extended term ^b	Combination of pieces of construction equipment	75	1	7 am to 7 pm Monday-Friday 9 am to 5 pm Saturday No commercial construction operation is permitted on Sundays and holidays.

Source: County of Imperial 1997

^a As measured at the nearest sensitive receptor.

^b The standards assume a construction period, relative to an individual sensitive receptor, of days or weeks. The standard can be made more restrictive in cases of extended-length construction times.

1

2 ***Operation Noise***

3 Imperial County’s noise and land use compatibility guidelines identified in the Noise Element (County of
 4 Imperial 1997) that are applicable to the study area are shown in Table 3.14-4. The Noise Element also
 5 includes Property Line Noise Limits that apply to noise generation from one property to an adjacent
 6 property; those applicable to the study area are listed in Table 3.14-5. The standards imply the existence
 7 of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an
 8 exception or variance to the standards may be appropriate. The Imperial County Noise Abatement and
 9 Control Ordinance also includes property line noise limits that are consistent with those listed below.

10 The Noise Element also defines a Noise Impact Zone as an area that is likely to be exposed to significant
 11 noise. Imperial County defines a Noise Impact Zone as an area that may be exposed to noise greater than
 12 60 dBA CNEL or 75 dBA Leq (averaged over 1 hour). Any property within ¼ mile (1,320 feet) of
 13 existing farmland that is in an agricultural zone is within a Noise Impact Zone (DWR and DFG 2007).

14

Table 3.14-4 Imperial County Noise/Land Use Compatibility Guidelines				
Land Use Category	Compatible Sound Levels with Land Use Categories			
	55 dBA	60 dBA	70 dBA	80 dBA
Residential	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Unacceptable		Clearly Unacceptable
Industrial, Manufacturing Utilities, Agriculture	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable

Source: County of Imperial 1997
 Normally Acceptable: Specified land use is satisfactory without any special noise insulation requirements.
 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements.
 Normally Unacceptable: New construction or development should be discouraged.
 Clearly Unacceptable: New construction or development clearly should not be undertaken.

1

Table 3.14-5 County of Imperial Operation Noise Standards		
Land Use Zone	Time	Applicable Limit 1-hour Average Sound Level (dBA)
Residential Zones	7 am to 10 pm	50
	10 pm to 7 am	45
General Industrial Zones (including agricultural operations)	Anytime	75

Source: County of Imperial 1997
 Note: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dBA Leq.

2

3 **3.14.3 Affected Environment**

4 Noise within the study area is generated by a variety of sources, including vehicular traffic, aircraft, and
 5 agricultural activities; wind also is a noise source. Noise from vehicular traffic is concentrated near the
 6 major roadways. Aircraft noise is intermittent and includes occasional military overflights and crop
 7 dusters. Agricultural operations generate noise through field machinery, especially when it is diesel
 8 driven, and through the use of trucks to transport supplies and crops. Noise in rural areas can be quiet
 9 (around 40 to 45 dBA), although as noted above, agricultural operations can generate considerable noise.

10 The noise-sensitive receptors closest to the construction sites are the long-term residents and campers at
 11 Red Hill Park, near the Alamo River sites, and those using the Sonny Bono Salton Sea National Wildlife
 12 Refuge (Sonny Bono NWR) for activities where relative quiet is a part of the experience, such as wildlife
 13 observation and photography and use of nature trails. The closest areas of the refuge where such activities
 14 occur are an observation platform, photography blind, and the associated Hardenberger Trail at the end of
 15 Vendel Road, over ½ mile south of the proposed West New site near the New River.

1 3.14.4 Impacts and Mitigation Measures

2 3.14.4.1 Impact Analysis Methodology

3 Noise generated during construction was based on United States (U.S.) Environmental Protection Agency
4 (1971) calculations for public works projects by reviewing the number of truck trips that would be
5 generated in relationship to existing traffic levels. Noise levels to the nearest sensitive receptors were
6 calculated using standard factors. The significance of construction and maintenance activities was
7 considered in relation to Imperial County’s standards for construction noise, while the potential for long-
8 term impacts was based on normally acceptable levels identified in the Noise Element of the General Plan
9 (County of Imperial 1997) and the following guidance from the Noise Element:

- 10 • If the future noise levels from the action are within the normally acceptable noise level guidelines, but
11 result in an increase of 5 dBA CNEL or greater, the action would have a potentially significant noise
12 impact, and mitigation measures must be considered.
- 13 • If the future noise level after the action is completed is greater than the normally acceptable noise
14 level, a noise increase of 3 dBA CNEL or greater should be considered a potentially significant noise
15 impact and mitigation measures must be considered.

16 The Noise Element does not specifically identify noise compatibility guidelines for campgrounds and
17 recreational vehicle parks; therefore, guidelines for residential uses are considered applicable at Red Hill
18 Park.

19 3.14.4.2 Thresholds of Significance

20 *Significance Criteria*

21 Impacts on noise would be significant if the SCH Project would:

- 22 • Expose people to or generate noise levels in excess of standards established in the local General Plan
23 or Noise Ordinance, or applicable standards of other agencies; or temporary or periodic increase in
24 ambient noise levels in the vicinity above existing levels;
- 25 • Expose people to or generate excessive ground-borne vibration or noise levels;
- 26 • Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels
27 existing without the project;
- 28 • For a project located within an airport land use plan or, where such a plan has not been adopted,
29 within 2 miles of a public airport or public use airport, expose people residing or working in the
30 project area to excessive noise levels; or
- 31 • For a project within the vicinity of a private airstrip, expose people residing or working in the project
32 areas to excessive noise levels.

33 *Application of Significance Criteria*

- 34 • **Expose people to or generate noise levels in excess of established standards or temporary or**
35 **periodic increase in ambient noise levels** – The potential for Project construction, operations, and
36 maintenance activities to exceed Imperial County’s noise standards is considered.
- 37 • **Expose people to or generate excessive ground-borne vibration or noise levels** –Trucks and other
38 types of construction equipment would generate some vibration, but vibration attenuates rapidly
39 (approximately 50 percent for each doubling of distance from the source) and perceptible vibration

1 could be experienced only within 50 feet of trucks traveling over uneven surfaces or other ground
2 disturbance. Construction and maintenance activities would occur in a remote, rural area and would
3 not expose people to excessive ground-borne vibration or noise. This criterion is not discussed
4 further.

- 5 • **Result in a substantial permanent increase in ambient noise levels in the project vicinity above**
6 **levels existing without the project** – Noise impacts from pumps are discussed below.
- 7 • **For a project located within an airport land use plan or, where such a plan has not been**
8 **adopted, within 2 miles of a public airport or public use airport, expose people residing or**
9 **working in the project area to excessive noise levels** – The Project sites are not located in such an
10 area, and people working on the Project would not be exposed to excessive noise levels. This criterion
11 is not discussed further.
- 12 • **For a project within the vicinity of a private airstrip, expose people residing or working in the**
13 **project areas to excessive noise levels**– The Project sites are not located in such an area, and people
14 working on the Project would not be exposed to excessive noise levels. This criterion is not discussed
15 further.

16 3.14.4.3 No Action Alternative

17 The description of the impacts of the No Action Alternative that is included in the Programmatic
18 Environmental Impact Report (DWR and DFG 2007) is applicable to the SCH Project and summarized
19 below. The No Action Alternative would involve construction and operations and maintenance activities
20 associated with pupfish channels and relocating recreational facilities as the Salton Sea recedes. The
21 ambient noise levels in the future would be dependent upon factors such as population growth, land use
22 changes, and changes to the amount of vehicular, air, and rail traffic. In general, noise is expected to
23 increase as the population and traffic increases. Full buildout of communities under the current general
24 and area plans would result in some residential development that would be exposed to increasing noise.
25 Construction activities could adversely affect noise receptors at nearby communities, but impacts would
26 be temporary and likely to be brief.

27 3.14.4.4 Alternative 1 – New River, Gravity Diversion + Cascading Ponds

28 Noise would be generated by trucks and equipment used during construction and maintenance activities.
29 The level of noise from construction and maintenance activities would depend on several factors,
30 including the following:

- 31 • The phase of construction;
- 32 • The type of equipment used and its location on the construction site;
- 33 • The amount of time that a given piece of equipment would operate at its loudest mode; and
- 34 • The proximity of noise-sensitive receptors to construction activities.

35 Not all equipment would be used for all phases of construction and maintenance, and not all would
36 operate at peak capacity concurrently. Table 3.14-6 shows the types of trucks and equipment that would
37 be used during construction and maintenance, along with the estimated quantity, days of use, and hours of
38 use. The U.S. Environmental Protection Agency (1971) estimated that construction of public works
39 projects, which include features similar to those of the SCH Project, typically generates an average of
40 between 78 and 88 dBA depending on the construction phase and the amount of equipment being used.
41 Assuming construction noise of 78 to 88 dBA, noise attenuation from construction activities is anticipated
42 to occur as shown in Table 3.14-7.

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1 It is assumed that commuters, haul trucks, and tractor trailers would likely approach the Project site by
 2 traveling along SR-86 or SR-111, both of which run primarily in a north-south direction and connect
 3 Imperial County’s primary population centers. Tractor trailers hauling riprap material to the Project site
 4 likely would originate on the Salton Sea’s northwestern side. They would travel south on SR-86, exiting
 5 at West Bannister Road where they would travel east for approximately 2 miles before heading north on
 6 Bruchard Road for about 4 miles.

Table 3.14-6 Alternative 1 – Estimated Equipment Use During Construction and Maintenance						
Equipment Type	Habitat Construction			Annual Maintenance		
	Quantity	Hours/Day	Total Days*	Quantity	Hours/Day	Days/Year
On-Highway Tractor Trailer	50	8	2,495	1	8	37
Tractor Scraper	3	8	974	1	8	28
Dump Truck	12	8	261	1	8	18
Excavator	3	8	1,126	1	8	35
Bulldozer	2	8	466	1	8	5
Grader	1	8	25	1	8	25
Clamshell Derrick Rig	3	20	796	—	—	—
Hydraulic Dredge	1	8	91	—	—	—
Crane Rig	1	8	20	—	—	—
Backhoe	1	8	200	1	8	24
Tractor	—	—	—	1	8	3

* Total Days is the product of the quantity of equipment multiplied by the days each piece of equipment would be operating during construction.

7

Table 3.14-7 Attenuation of a Noise Source of 78 to 88 dBA	
Distance (feet)	Noise Level (dBA)
50	78 - 88
100	72 - 82
200	66 - 76
400	60 - 70
800	54 - 64
1,600	48 - 58
3,200	42 - 52
6,400	36 - 46
12,800	30 - 40

Note: this attenuation is applicable to point sources, such as construction equipment, not mobile sources, such as truck traffic.

1 Workers would also likely approach the Project site near the New River by SR-86. Project vehicles
2 coming from the north and traveling southbound along SR-86 would follow the same route as tractor
3 trailers, exiting at West Bannister Road, traveling east, and then turning north on Bruchard Road.
4 Vehicles traveling northbound on SR-86 would likely exit the highway at Lack Road, traveling north,
5 turning west on West Bannister Road, and then turning north on Bruchard Road until reaching the Project
6 site.

7 The primary source of noise during operations would be the pump required to deliver water from the
8 Salton Sea to the ponds and the tailwater return pump. The pumps would be electric and would generate
9 between 30 and 60 dBA. No noise-sensitive receptors are within hearing distance of the pump sites,
10 which would be located in the Sea under Alternative 1. The tailwater pump would be located
11 approximately 1 mile from the nearest agricultural fields, and noise from the pump would not be
12 perceptible at this location; thus, no impacts would occur.

13 **Impact NOI-1: Daytime construction and maintenance activities would cause a temporary increase**
14 **in noise levels near the Project sites (less-than-significant impact).** The types of equipment that would
15 be used and duration of use are shown in Table 3.14-6. The SCH pond sites and the area where the
16 diversion facility, brackish water pipeline, and sedimentation basin would be located is bordered by
17 agricultural land and mudflats, and no noise-sensitive receptors are present in the vicinity. The nearest
18 sensitive receptors would be visitors to the Sonny Bono NWR. The closest part of the refuge that is
19 accessible to the public is the observation platform, photography blind, and the associated Hardenberger
20 Trail at the end of Vendel Road. This area is over ½ mile south of the West New pond unit. At this
21 distance, noise from the nearest construction locations may be perceptible on days with little wind, but
22 would be perceived as background noise and would be well under the 75-dBA construction threshold
23 established by Imperial County (noise levels would be reduced to approximately 44 to 55 dBA at a
24 distance of ½ mile). Annual maintenance would require less equipment and for fewer days than
25 construction and, therefore, would generate less noise. Noise impacts from construction and operations
26 would be less than significant when compared to both the existing environmental setting and the No
27 Action Alternative.

28 **Impact NOI-2: Dredging could extend beyond the hours typically allowed by Imperial County (less-**
29 **than-significant impact).** A diesel-powered clamshell dredge typically generates 85 dBA at 50 feet from
30 the source (U.S. Army Corps of Engineers 2000, as cited in U.S. Army Corps of Engineers and Los
31 Angeles Harbor Department 2008). Comparable noise levels are expected from the hydraulic dredge.
32 Imperial County typically limits construction to 7 am to 7 pm on Monday-Friday and 9 am to 5 pm on
33 Saturday, but a variance would be requested from Imperial County if the construction contractor
34 determined that dredging would best be accomplished by dredging 24 hours a day in order to complete
35 the work in a timelier manner. Given the lack of noise-sensitive receptors that are present near the New
36 River during the night, the increased hours of equipment use would not result in an additional
37 environmental impact, and any impacts would be less than significant when compared to both the existing
38 environmental setting and the No Action Alternative.

39 **Impact NOI-3: Construction truck traffic at some locations on local roads would cause a temporary**
40 **increase in noise near residents (less-than-significant impact).** Noise from trucks and tractor trailers is
41 typically between 82 and 75 dBA at 50 feet from the roadway, depending on what types of noise controls
42 are used. This level would diminish to approximately 78 to 71 dBA. Average noise levels would be less,
43 however, because trucks and tractor trailers would not pass constantly. Most tractor trailer trips would be
44 associated with hauling riprap. It is assumed that delivery of rock and gravel would produce a maximum
45 of 150 tractor trailer round-trips per day (300 trips) for an approximately 2- to 3-month period. Delivery
46 of equipment and materials like pipe to the Project site from more distant locations would require a
47 maximum of 187 round-trips (374 trips) total over the 2-year construction period. As discussed in Section

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1 3.20, Transportation and Traffic, the average daily traffic in the peak direction along the portion of SR-86
 2 that would be most affected by truck traffic ranges from 10,800 to 13,800 trips. It takes a doubling of
 3 vehicular traffic to increase noise levels by 3 dBA; therefore, the addition of truck trips from the SCH
 4 Project would not cause a perceptible increase in noise along this portion of the route.

5 The only noise-sensitive receptors along the remainder of the route are residences at West Bannister
 6 Avenue and Vendel Road, and West Bannister Road and Pellet Road. Truck trips would take place within
 7 the hours allowed by Imperial County, and impacts from truck traffic would not exceed 75 dBA Leq and,
 8 thus, would not conflict with Imperial County’s construction noise standards. Moreover, to the extent
 9 practicable, truck traffic would follow routes that would avoid residences. This impact would be less than
 10 significant when compared to both the existing environmental setting and the No Action Alternative.
 11 Only minor amounts of traffic would be generated by maintenance activities, and any impacts would be
 12 less than significant.

13 **3.14.4.5 Alternative 2 – New River, Pumped Diversion**

14 **Impact NOI-1: Daytime construction and maintenance activities would cause a temporary increase**
 15 **in noise levels near the Project sites (less-than-significant impact).** Table 3.14-8 shows the types of
 16 trucks and equipment that would be used during construction and maintenance. Alternative 2 would
 17 require the use of a pump instead of a water pipeline to provide brackish water to the ponds, but it would
 18 not be located in proximity to noise-sensitive receptors, and resulting noise would be well under the
 19 thresholds for agricultural areas. The discussion under Alternative 1 is applicable to this alternative.

Table 3.14-8 Alternative 2 – Estimated Equipment Use During Construction and Maintenance						
Equipment Type	Habitat Construction			Annual Maintenance		
	Quantity	Hours/Day	Total Days*	Quantity	Hours/Day	Days/Year
On-Highway Tractor Trailer	40	8	2,057	1	8	34
Tractor Scraper	3	8	792	1	8	27
Dump Truck	10	8	2,645	1	8	19
Excavator	3	8	874	1	8	38
Bulldozer	2	8	325	1	8	6
Grader	1	8	28	1	8	25
Clamshell Derrick Rig	2	20	537	—	—	—
Hydraulic Dredge	1	8	91	—	—	—
Crane Rig	1	8	21	—	—	—
Backhoe	1	8	200	1	8	11
Tractor	—	—	—	1	8	3

* Total Days is the product of the quantity of equipment multiplied by the days each piece of equipment would be operating during construction.

1 **Impact NOI-2: Dredging could extend beyond the hours typically allowed by Imperial County (less-**
 2 **than-significant impact).** The discussion under Alternative 1 is applicable to this alternative.

3 **Impact NOI-3: Construction truck traffic at some locations on local roads would cause a temporary**
 4 **increase in noise near residents (less-than-significant impact).** The discussion under Alternative 1 is
 5 applicable to this alternative.

6 **3.14.4.6 Alternative 3 – New River, Pumped Diversion + Cascading Ponds**

7 **Impact NOI-1: Construction and maintenance activities would cause a temporary increase in noise**
 8 **levels near the Project sites (less-than-significant impact).** Table 3.14-9 shows the types of trucks and
 9 equipment that would be used during construction and maintenance. The discussion under Alternative 2 is
 10 applicable to this alternative.

Table 3.14-9 Alternative 3 – Estimated Equipment Use During Construction and Maintenance						
Equipment Type	Habitat Construction			Annual Maintenance		
	Quantity	Hours/Day	Total Days*	Quantity	Hours/Day	Days/Year
On-Highway Tractor Trailer	60	8	2,937	1	8	45
Tractor Scraper	4	8	1,060	1	8	28
Dump Truck	14	8	3,733	1	8	19
Excavator	4	8	1,163	1	8	44
Bulldozer	3	8	438	1	8	6
Grader	1	8	34	1	8	25
Clamshell Derrick Rig	4	20	1,056	—	—	—
Hydraulic Dredge	1	8	91	—	—	—
Crane Rig	1	8	21	—	—	—
Backhoe	1	8	200	1	8	28
Tractor	—	—	—	1	8	3

* Total Days is the product of the quantity of equipment multiplied by the days each piece of equipment would be operating during construction.

11

12 **Impact NOI-2: Dredging could extend beyond the hours typically allowed by Imperial County (less-**
 13 **than-significant impact).** The discussion under Alternative 1 is applicable to this alternative.

14 **Impact NOI-3: Construction truck traffic at some locations on local roads would cause a temporary**
 15 **increase in noise near residents (less-than-significant impact).** The discussion under Alternative 1 is
 16 applicable to this alternative.

3.14.4.7 Alternative 4 – Alamo River, Gravity Diversion + Cascading Pond

Impact NOI-1: Daytime construction and maintenance activities would cause a temporary increase in noise levels near the Project sites (significant impact). Table 3.14-10 shows the types of trucks and equipment that would be used during construction and maintenance. The discussion under Alternative 1 regarding noise construction levels, construction of the diversion facility, brackish water pipeline, sedimentation basin, and tailwater return pump is applicable to Alternative 4. Noise-sensitive receptors in the vicinity of the Alamo River ponds include residents and campers at Red Hill Park. These receptors would be approximately 800 feet from the nearest pond site, and noise from construction in this area would be reduced to between approximately 54 to 64 dBA at the park, which is under the 75 dBA threshold specified by Imperial County for construction activities. Noise levels at the park would be reduced as construction equipment moved farther away. Therefore, impacts from daytime pond construction would be less than significant when compared to both the existing environmental setting and the No Action Alternative.

Equipment Type	Habitat Construction			Annual Maintenance		
	Quantity	Hours/Day	Total Days*	Quantity	Hours/Day	Days/Year
On-Highway Tractor Trailer	20	8	1,017	1	8	20
Tractor Scraper	2	8	615	1	8	26
Dump Truck	7	8	1,821	1	8	18
Excavator	2	8	618	1	8	26
Bulldozer	2	8	311	1	8	5
Grader	1	8	14	1	8	25
Clamshell Derrick Rig	1	20	296	—	—	—
Hydraulic Dredge	1	8	91	—	—	—
Crane Rig	1	8	21	—	—	—
Backhoe	1	8	200	1	8	6
Tractor	—	—	—	1	8	3

* Total Days is the product of the quantity of equipment multiplied by the days each piece of equipment would be operating during construction.

Impact NOI-2: Dredging could extend beyond the hours typically allowed by Imperial County (significant impact). As discussed under Alternative 1, a potential exists for dredging to occur outside the hours typically required by Imperial County (7 am to 7 pm on weekdays and 9 am to 5 pm on Saturday). A variance would be requested from Imperial County if the construction contractor determined that dredging would best be accomplished by dredging 24 hours a day in order to complete the work in a timelier manner. Should this occur, nighttime noise levels at the camping/recreational vehicle sites at Red Hill Park could be elevated, depending on the location of the dredge. Dredging would be required at the outer berms, the closest of which is approximately 800 feet from Red Hill Park. Noise from dredging at this location would generate approximately 61 dBA at the park. This is under the 75 dBA threshold

1 established for construction activities, but this threshold is applicable only to daytime construction. The
2 increased noise level would be substantially over the expected ambient level during the night and could
3 cause sleep disturbance (the Noise Element of the Imperial General Plan indicates that sleep disturbance
4 occurs at 50 dBA). The noise level also is well over the 45 dBA 1-hour Average Sound Level operational
5 standard considered acceptable for residential uses between 10 pm and 7 am (Table 3.14-5). This impact
6 would be significant when compared to both the existing environmental setting and No Action
7 Alternative. Noise would be reduced to 45 dBA at about 4,800 feet from the park, at which point the noise
8 would be reduced to a less-than-significant level.

9 *Mitigation Measures*

10 **MM NOI-1: Avoid nighttime construction within 4,800 feet of Red Hill Park.** Should construction
11 occur when the park is occupied, dredging would not occur within 4,800 feet of the park unless it is
12 within the hours specified by Imperial County.

13 *Residual Impact*

14 Implementation of MM NOI-1 would reduce this impact to less than significant because noise would be
15 reduced to approximately 45 dBA, which is under the threshold allowable for residential uses.

16 **Impact NOI-3: Construction truck traffic at some locations on local roads would cause a temporary**
17 **increase in noise near residents (less-than-significant impact).** The discussion under Alternative 1 is
18 applicable to Alternative 4. As discussed under Alternative 1, tractor trailers hauling riprap material to the
19 Project site likely would originate on the Salton Sea's northwestern side. They would approach the site
20 via SR-86/SR-78. They would exit the highway at Forrester Road (Highway 30), travel north, then
21 continue north on Gentry Road. At West Sinclair Road, construction vehicles would turn east until
22 reaching the Project area. Impacts along SR-86/SR-78 would be as described under Alternative 1; traffic
23 volumes on these roads are comparatively high, and Project truck traffic would not result in perceptible
24 difference. Truck traffic on the local roads is considerably less, as discussed in Section 3.20,
25 Transportation and Traffic. On weekdays, average daily traffic along Forrester Road near Westmorland is
26 about 440 vehicles, increasing to 875 vehicles near West Walker Road and Gentry Road. Noise-sensitive
27 receptors include residents in Westmorland and an isolated residence near West Walker Road and Gentry
28 Road. Particularly during the 2- to 3-month period when riprap would be hauled, average noise levels
29 would increase, but would be under the 75-dBA threshold established by Imperial County. Impacts would
30 be less than significant when compared to both the existing environmental setting and the No Action
31 Alternative.

32 **Impact NOI-4: Noise from installation of the seawater pipeline and associated pump could exceed**
33 **Imperial County's construction thresholds at Red Hill Park (significant impact).** The seawater
34 pipeline and pump station would be located approximately 200 feet from the camping/recreational vehicle
35 sites at Red Hill Park. Depending on the construction techniques used, a potential exists for noise from
36 installation to exceed Imperial County's construction noise thresholds at this location. Assuming
37 construction noise ranging from 78 to 88 dBA, the resulting noise at a distance of 200 feet would be 66 to
38 76 dBA. Thus, construction could slightly exceed Imperial County's 75 dBA construction threshold,
39 which would be a significant impact when compared to both the existing environmental setting and the
40 No Action Alternative.

41 *Mitigation Measures*

42 **MM NOI-2: Control noise from installation of the seawater pump and pipeline.** The following
43 measures will be implemented:

- 44
- Install manufacturer's standard noise control devices, such as mufflers, on construction equipment;

SECTION 3.0
AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES

- 1 • Locate stationary equipment as far as possible from noise-sensitive receptors;
- 2 • Prior to construction, notify residents and post signs at the campground describing the types of
- 3 construction activities that would occur and the expected duration;
- 4 • Keep idling of construction equipment to a minimum when not in use; and
- 5 • Install temporary or portable acoustic barriers around stationary construction noise sources.

6 *Residual Impact*

7 Implementation of MM NOI-2 would reduce construction and operations impacts to less than significant
8 because noise levels would meet Imperial County's standards.

9 **Impact NOI-5: Noise from operation of the seawater pump could exceed Imperial County's**
10 **construction thresholds at Red Hill Park (significant impact).** Depending on the type of pump that is
11 selected, noise from its operation would range from 30 to 60 dBA. A pump that generated 30 dBA would
12 result in noise that was lower than ambient levels and would not be perceptible. The noise produced by a
13 pump that generated 60 dBA would be reduced by 48 dBA at Red Hill Park, which could result in an
14 increase that was greater than 5 dBA CNEL at the campground. This would be a significant impact when
15 compared to both the existing environmental setting and the No Action Alternative.

16 *Mitigation Measures*

17 **MM NOI-3: Control operational noise from the seawater pump.** A variety of methods could be used
18 to mitigate noise impacts from the seawater pump, including selecting a pump at the lower end of the
19 noise range. If not feasible, noise levels will be monitored when recreational vehicles are present to
20 establish the ambient conditions prior to construction. The pump will be located at a sufficient distance
21 from the camping/recreational vehicle area so that noise levels do not exceed 5 dB more than the ambient
22 levels. If not feasible, a noise barrier will be installed, and an acoustical engineer will verify the design to
23 ensure that appropriate noise levels will be obtained.

24 *Residual Impact*

25 Implementation of MM NOI-3 would reduce construction and operations impacts to less than significant
26 because noise levels would meet Imperial County's standards.

27 **3.14.4.8 Alternative 5 – Alamo River, Pumped Diversion**

28 Under Alternative 5, the seawater pump would be located in the seabed, well removed from noise-
29 sensitive receptors. No impacts on noise-sensitive receptors would result from its construction and
30 operation.

31 **Impact NOI-1: Daytime construction and maintenance activities would cause a temporary increase**
32 **in noise levels near the Project sites (less-than-significant impact).** Table 3.14-11 shows the types of
33 trucks and equipment that would be used during construction and maintenance. The discussion under
34 Alternative 4 is applicable to this alternative.

35

Table 3.14-11 Alternative 5 – Estimated Equipment Use During Construction and Maintenance						
	Habitat Construction			Annual Maintenance		
Equipment Type	Quantity	Hours/Day	Total Days*	Quantity	Hours/Day	Days/Year
On-Highway Tractor Trailer	18	8	886	1	8	20
Tractor Scraper	2	8	515	1	8	26
Dump Truck	7	8	1,752	1	8	18
Excavator	2	8	439	1	8	27
Bulldozer	2	8	203	1	8	5
Grader	1	8	19	1	8	25
Clamshell Derrick Rig	1	20	253	—	—	—
Hydraulic Dredge	1	8	91	—	—	—
Crane Rig	1	8	21	—	—	—
Backhoe	1	8	200	1	8	7
Tractor	—	—	—	1	8	3
* Total Days is the product of the quantity of equipment multiplied by the days each piece of equipment would be operating during construction.						

- 1
- 2 **Impact NOI-2: Dredging could extend beyond the hours typically allowed by Imperial County**
- 3 **(significant impact).** The discussion under Alternative 4 is applicable to this alternative.
- 4 **Impact NOI-3: Construction truck traffic at some locations on local roads would cause a temporary**
- 5 **increase in noise near residents (less-than-significant impact).** The discussion under Alternative 4 is
- 6 applicable to this alternative.
- 7 **Impact NOI-4: Noise from construction and operation of the seawater pipeline could exceed**
- 8 **Imperial County’s construction thresholds at Red Hill Park (significant impact).** The discussion
- 9 under Alternative 4 regarding the seawater pipeline is applicable to this alternative. MM NOI-2 is
- 10 applicable to this alternative as well, and would reduce this impact to less than significant.
- 11 **3.14.4.9 Alternative 6 – Alamo River, Pumped Diversion + Cascading Ponds**
- 12 Under this alternative, the seawater pump and associated pipeline would be well removed from any noise-
- 13 sensitive receptors, and no impacts would result from their construction and operation.
- 14 **Impact NOI-1: Construction and maintenance activities would cause a temporary increase in noise**
- 15 **levels near the Project sites (less-than-significant impact).** Table 3.14-12 shows the types of trucks and
- 16 equipment that would be used during construction and maintenance. The discussion under Alternative 4 is
- 17 applicable to this alternative.

