

SECTION 03 30 00 CAST-IN-PLACE CONCRETE

done by placing alternate units in a manner such that each unit placed shall have cured at least 7 days for hydraulic structures and 3 days for all other structures before the contiguous unit or units are placed, except that the corner sections of vertical walls shall not be placed until the two adjacent wall panels have cured at least 14 days for hydraulic structures and 7 days for all other structures.

- B. The surface of the concrete shall be level whenever a run of concrete is stopped. To ensure a level, straight joint on the exposed surface of walls, a wood strip at least 3/4-inch-thick shall be tacked to the forms on these surfaces. The concrete shall be carried about 1/2 inch above the underside of the strip. About one hour after the concrete is placed, the strip shall be removed and any irregularities in the edge formed by the strip shall be leveled with a trowel and all laitance shall be removed.

3.7 TAMPING AND VIBRATING

- A. As concrete is placed in the forms or in excavations, it shall be thoroughly settled and compacted, throughout the entire depth of the layer, which is being consolidated, into a dense, homogeneous mass, filling all corners and angles, thoroughly embedding the reinforcement, eliminating rock pockets, and bringing only a slight excess of water to the exposed surface of concrete during placement. Vibrators shall be Group 3 (per ACI 309) high speed power vibrators (8,000 to 12,000 rpm) of an immersion type in sufficient number and with (at least one) standby units as required. Group 2 vibrators may be used only at specific locations when accepted by the RESIDENT ENGINEER.
- B. Care shall be used in placing concrete around waterstops. The concrete shall be carefully worked by rodding and vibrating to make sure that all air and rock pockets have been eliminated. Where flat-strip type waterstops are placed horizontally, the concrete shall be worked under the waterstops by hand, making sure that all air and rock pockets have been eliminated. Concrete surrounding the waterstops shall be given additional vibration, over and above that used for adjacent concrete placement to assure complete embedment of the waterstops in the concrete.
- C. Concrete in walls shall be internally vibrated and at the same time rammed, stirred, or worked with suitable appliances, tamping bars, shovels, or forked tools until it completely fills the forms or excavations and closes snugly against all surfaces. Subsequent layers of concrete shall not be placed until the layers previously placed have been worked thoroughly as specified. Vibrators shall be provided in sufficient numbers, with standby units as required, to accomplish the results herein specified within 15 minutes after concrete of the prescribed consistency is placed in the forms. The vibrating head shall be kept from contact with the surfaces of the forms. Care shall be taken not to vibrate concrete excessively or to work it in any manner that causes segregation of its constituents.

3.8 FINISHING CONCRETE SURFACES

- A. General: Surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, or roughness of any kind, and shall present a finished, smooth, continuous hard surface.

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Allowable deviations from plumb or level and from the alignment, profiles, and dimensions shown are defined as tolerances and are specified In Part 1, herein. These tolerances are to be distinguished from irregularities in finish as described herein. Aluminum finishing tools shall not be used.

- B. Formed Surfaces: No treatment is required after form removal except for curing, repair of defective concrete, and treatment of surface defects. Where architectural finish is required, it shall be as specified or as shown.
- C. Surface holes larger than 1/2 inch in diameter or deeper than 1/4- inch are defined as surface defects in basins and exposed walls.
- D. Unformed Surfaces: After proper and adequate vibration and tamping, all unformed top surfaces of slabs, floors, walls, and curbs shall be brought to a uniform surface with suitable tools. Immediately after the concrete has been screeded, it shall be treated with a liquid evaporation retardant. The retardant shall be used again after each Work operation as necessary to prevent drying shrinkage cracks. The classes of finish specified for unformed concrete surfaces are designated and defined as follows:
 - 1. Finish U1 - Sufficient leveling and screeding to produce an even, uniform surface with surface irregularities not to exceed 3/8 inch. No further special finish is required.
 - 2. Finish U2 - After sufficient stiffening of the screeded concrete, surfaces shall be float finished with wood or metal floats or with a finishing machine using float blades. Excessive floating of surfaces while the concrete is plastic and dusting of dry cement and sand on the concrete surface to absorb excess moisture will not be permitted. Floating shall be the minimum necessary to produce a surface that is free from screed marks and is uniform in texture. Surface irregularities shall not exceed 1/4-inch. Joints and edges shall be tooled where shown or as determined by the RESIDENT ENGINEER.
 - 3. Finish U3 - After the floated surface (as specified for Finish U2) has hardened sufficiently to prevent excess of fine material from being drawn to the surface, steel troweling shall be performed with firm pressure such as will flatten the sandy texture of the floated surface and produce a dense, uniform surface free from blemishes, ripples, and trowel marks. The finish shall be smooth and free of all irregularities.
 - 4. Finish U4 - Steel trowel finish (as specified for Finish U3) without local depressions or high points, in addition, the surface shall be given a light hairbroom finish with brooming perpendicular to drainage unless otherwise shown. The resulting surface shall be rough enough to provide a non-skid finish.

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3.9 CURING AND DAMPPROOFING

A. General: All concrete shall be cured for not less than 14 days after placing, in accordance with the methods specified herein for the different parts of the Work, and described in detail in the following paragraphs:

Surface to be Cured or Dampproofed	Method
Unstripped forms	1
Wall sections with forms removed	6
Construction joints between footings and walls, and between floor slab and columns	2
Encasement concrete and thrust blocks	3
All concrete surfaces not specifically provided for elsewhere in this Paragraph	4
Floor slabs on grade	5
Slabs not on grade	6

- B. Method 1: Wooden forms shall be wetted immediately after concrete has been placed and shall be kept wet with water until removed. If steel forms are used the exposed concrete surfaces shall be kept continuously wet until the forms are removed. If forms are removed within 14 days of placing the concrete, curing shall be continued in accordance with Method 6, herein.
- C. Method 2: The surface shall be covered with burlap mats which shall be kept wet with water for the duration of the curing period, until the concrete in the walls has been placed. No curing compound shall be applied to surfaces cured under Method 2.
- D. Method 3: The surface shall be covered with moist earth not less than 4 hours, nor more than 24 hours, after the concrete is placed. Earthwork operations that may damage the concrete shall not begin until at least 7 days after placement of concrete.
- E. Method 4: The surface shall be sprayed with a liquid curing compound.
 - 1. Curing compound shall be applied in accordance with the manufacturer's printed instructions at a maximum coverage rate of 200 square feet per gallon and in such a manner as to cover the surface with a uniform film which will seal thoroughly.
 - 2. Where the curing compound method is used, care shall be exercised to avoid damage to the seal during the curing period. Should the seal be damaged or broken

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before the expiration of the curing period, the break shall be repaired Immediately by the application of additional curing compound over the damaged portion.

3. Wherever curing compound may have been applied by mistake to surfaces against which concrete subsequently Is to be placed and to which It is to adhere, said compound shall be entirely removed by wet. sandblasting just before the placing of new concrete.
 4. Where curing compound is specified, it shall be applied as soon as the concrete has hardened enough to prevent marring on unformed surfaces, and within 2 hours after removal of forms from contact with formed surfaces. Repairs required to be made to formed surfaces shall be made within the said 2-hour period; provided, however, that any such repairs which cannot be made within the said 2-hour period shall be delayed until after the curing compound has been applied. When repairs are to be made to an area on which curing compound has been applied, the area Involved shall first be wet-sandblasted to remove the curing compound, following which repairs shall be made as specified herein.
 5. At all locations where concrete is placed adjacent to a panel which has been coated with curing compound, the previously coated panel shall have curing compound reapplied to an area within 6 feet of the joint and to any other location where the curing membrane has been disturbed.
 6. Before final acceptance of the Work, all visible traces of curing compound shall be removed from all surfaces in such a manner that does not damage surface finish.
- F. Method 5: Until the concrete surface is covered with curing compound, the entire surface shall be kept damp by applying water using nozzles that atomize the flow so that the surface is not marred or washed. The concrete shall be given a coat of curing compound in accordance with Method 4, herein. Not less than 1 hour nor more than 4 hours after the coat of curing compound has been applied, the surface shall be wetted with water delivered through a fog nozzle, and concrete-curing blankets shall be placed on the slabs. The curing blankets shall be polyethylene sheet, polyethylene-coated waterproof paper sheeting or polyethylene-coated burlap. The blankets shall be laid with the edges butted together and with the joints between strips sealed with 2-inch wide strips of sealing tape or with edges lapped not less than 3 inches and fastened together with a waterproof cement to form a continuous watertight joint.
1. The curing blankets shall be left in place during the 14-day curing period and shall not be removed until after concrete for adjacent Work has been placed. Should the curing blankets become torn or otherwise ineffective, replace damaged sections. During the first 3 days of the curing period, no traffic of any nature and no depositing, temporary or otherwise, of any materials shall be permitted on the curing blankets. During the remainder of the curing period, foot traffic and temporary depositing of materials that impose light pressure will be permitted only on top of plywood sheets 5/8-inch minimum thickness, laid over the curing

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blanket. Add water under the curing blanket as often as necessary to maintain damp concrete surfaces.

G. Method 6: This method applies to both walls and slabs.

1. The concrete shall be kept continuously wet by the application of water for a minimum period of at least 14 consecutive days beginning immediately after the concrete has reached final set or forms have been removed.
2. Until the concrete surface is covered with the curing medium, the entire surface shall be kept damp by applying water using nozzles that atomize the flow so that the surface is not marred or washed.
3. Heavy curing mats shall be used as a curing medium to retain the moisture during the curing period. The curing medium shall be weighted or otherwise held in place to prevent being dislodged by wind or any other causes and to be substantially in contact with the concrete surface. All edges shall be continuously held in place.
4. The curing blankets and concrete shall be kept continuously wet using sprinklers or other means both during and after normal working hours.
5. Immediately after the application of water has terminated at the end of the curing period, the curing medium shall be removed, any dry spots shall be rewetted and curing compound shall be immediately applied in accordance with Method 4, herein.
6. Dispose of excess water from the curing operation to avoid damage to the Work.

H. Damp proofing: The exterior surface of all buried roof slabs shall be dam-proofed as follows:

1. Immediately after completion of curing the surface shall be sprayed with a dam-proofing agent consisting of an asphalt emulsion. Application shall be in two coats. The first coat shall be diluted to 1/2 strength by the addition of water and shall be sprayed on to provide a maximum coverage rate of 100 square feet per gallon of dilute solution. The second coat shall consist of an application of the specified material, undiluted, and shall be sprayed on to provide a maximum coverage rate of 100 square feet per gallon. Dam-proofing material shall be as specified herein.
2. As soon as the asphalt emulsion, applied as specified herein, has taken an initial set, the entire area thus coated shall be coated with whitewash. Any formula for mixing the whitewash may be used which produces a uniformly coated white surface and which so remains until placing of the backfill. Should the whitewash fail to remain on the surface until the backfill is placed, apply additional whitewash.

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3.10 PROTECTION

- A. Protect all concrete against injury until final acceptance by the RESIDENT ENGINEER.
- B. Fresh concrete shall be protected from damage due to rain, hail, sleet, or snow. Provide such protection while the concrete is still plastic and whenever such precipitation is imminent or occurring.

3.11 TREATMENT OF SURFACE DEFECTS

- A. As soon as forms are removed, all exposed surfaces shall be carefully examined, and any irregularities shall be immediately rubbed or ground in a satisfactory manner to secure a smooth, uniform, and continuous surface. Plastering or coating of surfaces to be smoothed will not be permitted. No repairs shall be made until after inspection by the RESIDENT ENGINEER. In no case will extensive patching of honeycombed concrete be permitted. Concrete containing minor voids, holes, honeycombing, or similar depression defects shall have them repaired as specified herein. Concrete containing extensive voids, holes, honeycombing, or similar depression defects, shall be completely removed and replaced. All repairs and replacements herein specified shall be promptly executed by the CONTRACTOR at its own expense.
- B. Defective surfaces to be repaired shall be cut back from true line a minimum depth of 2 inch over the entire area. Feathered edges will not be permitted. Where chipping or cutting tools are not required to deepen the area properly, the surface shall be prepared for bonding by the removal of all laitance or soft material, and not less than 1/32-inch depth of the surface film from all hard portions, by means of an efficient sandblast. After cutting and sandblasting, the surface shall be wetted sufficiently in advance of shooting with shotcrete or with cement mortar so that while the repair material is being applied, the surfaces under repair will remain moist, but not so wet as to overcome the suction upon which a good bond depends. The material used for repair proposed shall consist of a mixture of one sack of cement to 3 cubic feet of sand. For exposed walls, the cement shall contain such a proportion of Atlas white Portland cement as is required to make the color of the patch match the color of the surrounding concrete.
- C. Holes left by tie-rod cones shall be reamed with suitable toothed reamers to leave the surfaces of the holes clean and rough. These holes then shall be repaired in an approved manner with dry-packed cement grout. Holes left by form-tying devices having a rectangular cross-section, and other imperfections having a depth greater than their least surface dimension, shall not be reamed but shall be repaired in an approved manner with dry-packed cement grout.
- D. All repairs shall be built up and shaped in such a manner that the completed Work will conform to the requirements of this Section, as applicable, using approved methods which will not disturb the bond, cause sagging, or cause horizontal fractures. Surfaces of said repairs shall receive the same kind and amount of curing treatment as required for the concrete in the repaired section.

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- E. Before filling any structure with water, all cracks that may have developed shall be "vee'd" and filled with construction joint sealant for water-bearing structures conforming to the materials and methods specified in Section 03 29 00 - Joints in Concrete Structures. This repair method shall be done on the water bearing face of members. Before backfilling, faces of members in contact with fill, which are not covered with a waterproofing membrane, shall also have cracks repaired as specified.

3.12 PATCHING HOLES IN CONCRETE

A. Patching Small Holes:

1. Holes which are less than 12 inches in their least dimension and extend completely through concrete members, shall be filled as specified herein.
1. Small holes in members which are water-bearing or in contact with soil or another fill material, shall be filled with non-shrink grout. Where a face of the member is exposed to view, the non-shrink grout shall be held back 2 Inches from the finished surface. The remaining 2 inches shall then be patched according to the paragraph in Part 3 entitled "Treatment of Surface Defects."
2. Small holes through all other concrete members shall be filled with non-shrink grout, with exposed faces treated as above.

B. Patching Large Holes:

1. Holes which are larger than 12 inches in their least dimension, shall have a keyway chipped into the edge of the opening all around, unless a formed keyway exists. The holes shall then be filled with concrete as specified herein.
2. Holes which are larger than 24 inches in their least dimension and which do not have reinforcing steel extending from the existing concrete, shall have reinforcing steel set in grout in drilled holes. The reinforcing added shall match the reinforcing in the existing wall unless shown.
3. Large holes in members which are water bearing or in contact with soil or other fill, shall have a bentonite type waterstop material placed around the perimeter of the hole as specified in the Section 03 29 00 - Joints in Concrete Structures, unless there is an existing waterstop in place.

3.13 CARE AND REPAIR OF CONCRETE

- A. The CONTRACTOR shall protect all concrete against injury or damage from excessive heat, lack of moisture, overstress, or any other cause until final acceptance by the RESIDENT ENGINEER. Care shall be taken to prevent the drying of concrete and to avoid roughening or otherwise damaging the surface. Any concrete found to be damaged, or which may have been originally defective, or which becomes defective at any time before the final acceptance of the completed Work, or which departs from the established line or grade, or which, for any other reason, does not conform to the

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requirements of the CONTRACT DOCUMENTS, shall be satisfactorily repaired or removed and replaced with acceptable concrete at the CONTRACTOR's expense.

PART 4 - MEASUREMENT AND PAYMENT

4.1 CAST-IN-PLACE CONCRETE

- A. All costs for equipment and labor associated with Cast-In-Place Concrete for this project shall be included in the various Bid items for "Hawthorne Basin Spillway, Outlet Structure, and Skimmer" (Bid Item No. 11), "Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters" (Bid Item No. 12), "West Basin Outlet Structure" (Bid Item No. 13), "East Basin Outlet Structure and Skimmer" (Bid Item No. 17). No separate payment for this item shall be made.

END OF SECTION

SECTION 05 01 00 METAL CATWALKS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The CONTRACTOR shall provide finished Metal Catwalks, complete, in accordance with the CONTRACT DOCUMENTS.

1.2 RELATED SECTIONS

- A. Section 35 51 00 - Floating Construction - Pump Dock
- B. Section 05 52 00 – Metal Railings
- C. Section 05 53 00- Metal Gratings

1.3 CITED STANDARDS

- A. Metal catwalks shall conform to the following standards, or latest revisions of, as applicable:
 - 1. American Institute of Steel Construction (AISC).
 - a. AISC 207 - Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components
 - b. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges
 - c. AISC 325 - Steel Construction Manual
 - d. AISC 326 - Detailing for Steel Construction
 - 2. American Welding Society (AWS).
 - 3. American Iron and Steel Institute (AISI) Standards for light gauge steel building.
 - 4. American Society for Testing Materials (ASTM).
 - a. ASTM A36 - Carbon Structural Steel
 - b. ASTM A53 – Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - c. ASTM A325 – Structural Bolts, Steel, Heat Treated 120/105 ksi Minimum Tensile Strength.
 - d. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in rounds and Shapes.
 - e. ASTM A501 – Hot-rolled Welded and Seamless Carbon Steel Structural Tubing.
 - f. ASTM A572 – High-Strength Low-Allow Columbium-Vanadium Structural Steel.

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- g. ASTM A576-90b (2000) Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.
 - h. ASTM A992 – Steel for Structural Shapes
5. United States Military Standard
- a. MIL-M-17194C (Metals, Expanded, Steel)
 - b. MIL-G 18015 (Ships, Gratings, metals, other than Bar Type)

1.4 NOTED RESTRICTIONS -NONE

1.5 QUALITY CONTROL

- A. Material shall be provided by a qualified Contractor with experience in the design, manufacture and installation of catwalk systems.
- B. The grating shall conform to Military Specifications MIL-M-17194C (Metals, Expanded, Steel) and MIL-G 18015 (Ships, Gratings, metals, other than Bar Type) and the deflection requirements of Federal Specification RR-G-661-B.
- C. The concentrated load deflection for grating shall not exceed the 1/4" maximum deflection as stated by Federal Specification RR-G-661b and the generally accepted recommendation for normal pedestrian comfort.
- D. Contractor shall certify that grating has been tested, indicating maximum allowable uniform and concentrated loads, with a factor of safety of 2, per AISC, Section 6.
- E. Components shall be welded using filler metal in accordance with AWS A5.28 for the GMAW process. Welding and weld procedure qualifications tests shall conform to AWS D1.1.
- F. All welds shall be inspected by the fabricator to verify the reliability of production as follows:
 - 1. Visual inspection of all welds, proof testing of welds, and sufficient destructive testing of weld samples fabricated during the production welding.
 - 2. Poor welding workmanship noted by visual inspection will be sufficient cause for rejection.
- G. Definitions
 - 1. SWD or SWO: Short way of diamond, or short way of opening is the dimension measured across the sheet in a direction parallel to the smallest dimension of the diamond.
 - 2. LWD or LWO: Long way of diamond or long way of opening is the dimension measured across the sheet in a direction parallel to the largest dimension of the diamond.

1.6 SUBMITTAL

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- A. Contractor shall submit shop drawings showing grating layout, support structure and detailed sections depicting assembly including materials, strengths, finishes and sizes.
- B. Contractor shall submit a list of materials that all shall conform to appropriate specifications from ASTM, AISI, AISC, and / or AWS.
- C. Contractor shall submit certifications that products comply with specified requirements and are suitable for intended application.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The catwalk shall be manufactured by **Floating Docks Mfg. Co., Indianapolis, IN (800) 969-3625** or an approved equal.

2.2 MATERIALS

- A. Gratings shall have a concentrated load (lbs. per ft. of length of catwalk) of 3.14.
- B. Gratings shall have a clear span (distance between supports, measured from the inside edge of one support to the inside of the next support) of 30”.
- C. Gratings shall have the following parameters:
 - a. Standard sheet size: Width SWD of 4-4&6 and length LWD of 8&10.
 - b. Design size: SWD of 2” and LWD of 6”
 - c. Opening size: SWO of 1.625” and LWO of 4.88”
 - d. Strand Size: Width of 0.312” and thickness of 0.250”.
 - e. Overall thickness: 0.656”.
 - f. No. of designs per ft: SWD of 6 and LWD of 2.
 - g. Open area (%): 69.
- D. All cold-formed fittings shall be fabricated from steel conforming to one of the following ASTM specifications: A575, A576, A36, or A653. Minimum fitting thickness shall be ¼” with physical requirements per A1011.
- E. All standard frame-to-frame connections shall be bolted. All corner frame angles at each bolted connection shall be 3”x3”x ¼” angle iron. Bolts shall be a minimum of 5/8” diameter and secured with self-locking type nuts.
- F. All channel nuts shall be fabricated from steel conforming to ASTM specification A1011 SS GR 33.
- G. Bridge handrails shall be designed for a minimum of a 200-pound load in any direction at any point on the handrail.
- H. The top and bottom main rails shall be a minimum of 1-1/2” x 1-1/2” x 3/16” angle iron. Cross bracing and diagonal bracing shall be a minimum of 1-1/2” x 1-1/2” x 1/8” angle iron.

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PART 3 - EXECUTION

3.1 PREPARATION

- A. Contractor shall examine building drawings and areas and conditions in which systems are to be installed. Notify the Engineer of areas or conditions not acceptable for support of system. Do not begin installation until unacceptable areas or conditions have been corrected.
- B. Contractor shall take precautions to avoid scarring or marring steel surfaces. Any such damage causing objectionable appearance or contributing to weakness of the structure will be cause for rejection.
- C. Contractor shall check all dimensions before installation.
- D. Tubing shall be seamless, clean, smooth and free from defects.

3.2 INSTALLATION

- A. Grating and hinges shall be installed as detailed on the approved shop drawings.
- B. Grating shall interlock, with male-female legs providing a lock prohibiting horizontal movement. The outside leg of all members shall be male.
- C. Connections of grating to support elements shall be by bolting, clamping, screwing, welding or use of a manufacturer-approved hold-down clip.
- D. Catwalks shall be hinged onto the flocking dock as detailed on the approved shop drawings.

3.3 TESTING - NONE

PART 4 - MEASUREMENT AND PAYMENT

4.1 METAL CATWALKS

- A. All costs for equipment and labor associated with Metal Catwalks for this project shall be included in the various Bid items for “West Basin Outlet Structure” (Bid Item No. 13). No separate payment for this item shall be made.

END OF SECTION

SECTION 05 52 00 METAL RAILINGS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. This section covers furnishing, installing, and testing, of railings.
- B. The Contractor shall provide metal railing as specified herein and as shown on the Drawings. The Contractor shall submit for approval by the Engineer a schedule of railing indicating the size, spacing, and connections.

1.2 RELATED SECTIONS

- A. Section 35 51 00 - Floating Construction - Pump Dock
- B. Section 05 01 00—Metal Catwalks

1.3 CITED STANDARDS

- A. Metal railings shall conform to the following standards, or latest revisions of, as applicable:
 - 1. American Institute of Steel Construction (AISC).
 - a. AISC 207 Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components
 - b. AISC 303 Code of Standard Practice for Steel Buildings and Bridges
 - c. AISC 325 Steel Construction Manual
 - d. AISC 326 Detailing for Steel Construction
 - 2. American Welding Society (AWS).
 - 3. American Iron and Steel Institute (AISI) Standards for light gauge steel building.
 - 4. American Society for Testing Materials (ASTM).
 - a. ASTM A36 - Carbon Structural Steel
 - b. ASTM A53 – Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - c. ASTM A325 – Structural Bolts, Steel, Heat Treated 120/105 ksi Minimum Tensile Strength.
 - d. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in rounds and Shapes.
 - e. ASTM A501 – Hot-rolled Welded and Seamless Carbon Steel Structural Tubing.

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- f. ASTM A572 – High-Strength Low-Allow Columbium-Vanadium Structural Steel.
- g. ASTM A576-90b (2000) Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.
- h. ASTM A992 – Steel for Structural Shapes

1.4 NOTED RESTRICTIONS- NONE

1.5 QUALITY CONTROL

- A. Material shall be provided by a qualified Contractor with experience in the design, manufacture and installation of railing systems.
- B. Railing shall be assembled by: **Floating Docks Mfg. Co., Indianapolis, IN (800) 969-3625** or an approved equal.
- C. All welds shall be inspected by the fabricator to verify the reliability of production as follows:
 - a. Visual inspection of all welds, proof testing of welds, and sufficient destructive testing of weld samples fabricated during the production welding.
 - b. Poor welding workmanship noted by visual inspection will be sufficient cause for rejection.
- D. All welding shall conform to the requirements of the American Welding Society. Welds are a solid homogeneous part of the metals joined and are free from pits and scale. Welds are also of lengths and areas necessary for proper structural strength. Welding on galvanized steel frame shall be avoided whenever possible. However, if necessary, all welding on galvanized metal shall be thoroughly cleaned and coated with two coats of cold galvanizing compound. All finished structural members will be free from twists, bends, distortions, and open joints. The steel shall also be from sharp edges and burrs.
- E. The railings shall be fabricated in accordance with the Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All structural steel is ASTM A36 material. The top and bottom main rails shall be a minimum of 1-1/2" x 1-1/2" x 3/16" angle iron. Cross bracing and diagonal bracing shall be a minimum of 1-1/2" x 1-1/2" x 1/8" angle iron.
- B. Bridge handrails shall be designed for a minimum of a 200-pound load in any direction at any point on the handrail.
- C. All standard frame-to-frame connections shall be bolted. All corner frame angles at each bolted connection shall be 3"x3"x 1/4" angle iron. Bolts shall be a minimum of 5/8" diameter and secured with self-locking type nuts.

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- D. Dock and catwalk barrier upright railings shall be 42” tall with a spacing of 43”.
- E. Dock railings shall have two transverse main handrail tubes.
- F. The hinge tube shall be P1-48.25 in a 1-3/8” diameter hole. The distance from the center of the hole to the top edge of the main rail or center rail shall be 1-1/2”.

PART 3 - EXECUTION-NONE

PART 4 - MEASUREMENT AND PAYMENT

4.1 METAL RAILINGS

- A. All costs for equipment and labor associated with Metal Railings for this project shall be included in the various Bid items for “West Basin Outlet Structure” (Bid Item No. 13). No separate payment for this item shall be made.

END OF SECTION

SECTION 05 53 00 METAL GRATINGS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The CONTRACTOR shall provide finished metal grating, complete, in accordance with the CONTRACT DOCUMENTS.

1.2 RELATED SECTIONS

- A. Section 35 51 00 - Floating Construction - Pump Dock
- B. Section 05 01 00—Metal Catwalks

1.3 CITED STANDARDS

- A. Metal gratings shall conform to the following standards, or latest revisions of, as applicable:
 - 1. American Institute of Steel Construction (AISC).
 - a. AISC 207 - Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components
 - b. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges
 - c. AISC 325 - Steel Construction Manual
 - d. AISC 326 - Detailing for Steel Construction
 - 2. American Welding Society (AWS).
 - 3. American Iron and Steel Institute (AISI) Standards for light gauge steel building.
 - 4. American Society for Testing Materials (ASTM).
 - a. ASTM A36 - Carbon Structural Steel
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 - c. ASTM A325 – Structural Bolts, Steel, Heat Treated 120/105 ksi Minimum Tensile Strength.
 - d. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in rounds and Shapes.
 - e. ASTM A501 – Hot-rolled Welded and Seamless Carbon Steel Structural Tubing.
 - f. ASTM A572 – High-Strength Low-Allow Columbium-Vanadium Structural Steel.
 - g. ASTM A576-90b (2000) Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.

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h. ASTM A992 – Steel for Structural Shapes

1.4 NOTED RESTRICTIONS-NONE

1.5 QUALITY CONTROL

- A. Material shall be provided by a qualified Contractor with experience in the design, manufacture and installation of catwalk systems.
- B. The grating shall conform to Military Specifications MIL-M-17194C (Metals, Expanded, Steel) and Mil-G 18015 (Ships, Gratings, metals, other than Bar Type) and the deflection requirements of Federal Specification RR-G-661-B.
- C. The concentrated load deflection for grating shall not exceed the ¼” maximum deflection as stated by Federal Specification RR-G-661b and the generally accepted recommendation for normal pedestrian comfort.
- D. Contractor shall certify that grating has been tested, indicating maximum allowable uniform and concentrated loads, with a factor of safety of 2, per AISC, Section 6.
- E. Components shall be welded using filler metal in accordance with AWS A5.28 for the GMAW process. Welding and weld procedure qualifications tests shall conform to AWS D1.1.
- F. All welds shall be inspected by the fabricator to verify the reliability of production as follows:
 - 1. Visual inspection of all welds, proof testing of welds, and sufficient destructive testing of weld samples fabricated during the production welding.
 - 2. Poor welding workmanship noted by visual inspection will be sufficient cause for rejection.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Gratings shall have a concentrated load (lbs per ft of length of catwalk) of 3.14.
- B. Gratings shall have a clear span (distance between supports, measured from the inside edge of one support to the inside of the next support) of 30”.
- C. Gratings shall have the following parameters:
 - 1. Standard sheet size: Width SWD of 4-4&6 and length LWD of 8&10.
 - 2. Design size: SWD of 2” and LWD of 6”
 - 3. Opening size: SWO of 1.625” and LWO of 4.88”
 - 4. Strand Size: Width of 0.312” and thickness of 0.250”.
 - 5. Overall thickness: 0.656”.

SECTION 05 53 00 METAL GRATINGS

6. No. of designs per ft: SWD of 6 and LWD of 2.
 7. Open area (%): 69.
- D. All cold-formed fittings shall be fabricated from steel conforming to one of the following ASTM specifications: A575, A576, A36, or A653. Minimum fitting thickness shall be ¼” with physical requirements per A1011.
 - E. All standard frame-to-frame connections shall be bolted. All corner frame angles at each bolted connection shall be 3”x3”x ¼” angle iron. Bolts shall be a minimum of 5/8” diameter and secured with self-locking type nuts.
 - F. All channel nuts shall be fabricated from steel conforming to ASTM specification A1011 SS GR 33.

PART 3 - EXECUTION

3.1 PREPARATION-NONE

3.2 INSTALLATION

- A. Grating and hinges shall be installed as detailed on the approved shop drawings.
- B. Grating shall interlock, with male-female legs providing a lock prohibiting horizontal movement. The outside leg of all members shall be male.
- C. Connections of grating to support elements shall be by bolting, clamping, screwing, welding or use of a manufacturer-approved hold-down clip.

3.3 TESTING -NONE

PART 4 - MEASUREMENT AND PAYMENT

4.1 METAL GRATINGS

- A. All costs for equipment and labor associated with Metal Gratings for this project shall be included in the various Bid items for “West Basin Outlet Structure” (Bid Item No. 13). No separate payment for this item shall be made.

END OF SECTION

**SECTION 26 32 13.13
DIESEL ENGINE GENERATORS**

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The CONTRACTOR shall provide finished Diesel Engine Generator, complete, in accordance with the CONTRACT DOCUMENTS.
- B. Section includes packaged engine generators used to supply non-emergency power, with the following features:
 - 1. Diesel engine.
 - 2. Diesel fuel-oil system.
 - 3. Control and monitoring.
 - 4. Generator overcurrent and fault protection.
 - 5. Generator, exciter, and voltage regulator.
 - 6. Vibration isolation devices.
 - 7. Finishes.

1.2 RELATED SECTIONS-NONE

1.3 CITED STANDARDS-NONE

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include plans and elevations for engine generator and other components specified. Indicate access requirements affected by height of subbase fuel tank.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Identify fluid drain ports and clearance requirements for proper fluid drain.
 - 4. Design calculations for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.
 - 5. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include base weights.
 - 6. Include diagrams for power, signal, and control wiring. Complete schematic,

SECTION 26 32 13.13 DIESEL ENGINE GENERATORS

wiring, and interconnection diagrams showing terminal markings for engine generators and functional relationship between all electrical components.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, manufacturer and testing agency.
- B. Seismic Qualification Data: Certificates, for engine generator, accessories, and components, from manufacturer.
- C. Source quality-control reports.
- D. Field quality-control reports.
- E. Warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Manufacturer's O&M manual and data.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Testing Agency Qualifications: Accredited by NETA.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.
- C. Retain "Testing Agency Qualifications" Paragraph below if Contractor selects testing agency or if Contractor is required to provide services of a qualified testing agency in "Field Quality Control".
- D. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of packaged engine generators and associated auxiliary components that fail in materials or workmanship within specified warranty period.
- E. Verify available warranties and warranty periods for units and components. Typical manufacturer's warranty for a prime rated unit is one year. Two- and five-year warranties and normal and extended manufacturer warranties may be available at additional cost. The generator set shall have at least a three-year, 3000-hour limited warranty for all generator set systems and components. The trailer shall have a one-year limited warranty at the minimum.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Kohler or approved equal.

2.2 MOBILE GENERATOR SET

- A. The contractor shall furnish, install, and test one KOHLER[®] MODEL 35REOZT4, 3-

SECTION 26 32 13.13 DIESEL ENGINE GENERATORS

phase, 120/208 V Mobile Generator.

- B. The generator set and its components shall be prototype-tested, factory-built, and production-tested.
- C. Generator set features:
 - 1. Unit-mounted radiator with 50 °C (122 °F) ambient air capability at the prime rating.
 - 2. Kohler's wound field excitation system with its unique PowerBoost™ design delivers great voltage response and short-circuit capability.
 - 3. The brushless, rotating-field alternator has broad range reconnectability when ordered without a selector switch.
 - 4. Generator shall also have two 15A GFCI 120V outlets, three 50A 240V outlets, and 400A camlocks.
- D. Engine features:
 - 1. Heavy-duty air cleaner with air restrictor indicator.
 - 2. The generator set engine is certified by the Environmental Protection Agency (EPA) to conform to Tier 4 Final nonroad emissions regulations.
 - 3. Uses cooled Exhaust Gas Regeneration (EGR) and Diesel Oxidation Catalyst (DOC) to meet Tier 4 Final without a Diesel Particulate Filter (DPF).
 - 4. Lockable battery disconnect switch.
- E. Enclosure/tank features:
 - 1. Durable steel, sound-attenuating housing with quiet operation of 67 dB(A) log average @ 7 m (23 ft.) with full load at the prime rating.
 - 2. Stainless steel hinges and lockable latches on doors.
 - 3. 125% environmental containment basin for oil and coolant.
 - 4. 110% secondary containment tank for fuel.
 - 5. Single-point lifting eye and four-point tie down system.
 - 6. Subbase fuel tank for 24-hour run time with full load at prime rating (minimum).
- F. Customer connection panel features:
 - 1. Decision-Makerr 3500 controller with potted circuitry for protection from vibration and debris.
 - 2. Externally mounted, recessed emergency stop switch.
 - 3. Adjustable trip main line circuit breaker.

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4. 1 load lug per phase #6- 350MCM, 400 amp.
5. Remote start/stop capabilities.
6. Shore power connection points to front of junction box for block heater, battery charger, and battery heater.

G. Generator set ratings are tabulated below:

		150 °C Rise Standby Rating		125 °C Rise Prime Rating		125 °C Rise Continuous Rating		Ordering Options*
Alternator	voltage	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	
4D5.6	120/208	30/37.5	104	28/35	97	28/35	97	A

*A-Reconnectable or selector switch, B-Reconnectable, C-Stand alone.

1. All three-phase units are rated at 0.8 power factor.
2. Standby Ratings: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating.
3. Prime Power Ratings: At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve.
4. Continuous Ratings: At constant or nonvarying load, the number of generator set operating hours is unlimited. There is no overload capability for this rating.
5. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates.

2.3 ALTERNATOR

- A. Manufacturer: Kohler or approved equal
- B. Type: 4-pole, rotating-field
- C. Exciter type: brushless, wound-field
- D. Leads:
 1. Quantity: 12; Type: Reconnectable
- E. Voltage regulator: solid state
- F. Insulation: NEMA MG1
- G. Material: Class H
- H. Temperature rise: 150°C, standby
- I. Bearing:
 1. Quantity: 1; Type: sealed

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- J. Coupling: flexible disc
- K. Amortisseur windings: full
- L. Voltage regulation, no-load to full-load: ± 0.5%
- M. One-step load acceptance: 100% of rating
- N. Unbalanced load capability: 100% of rating standby current
- O. Peak motor starting kVA: 76 (35% dip for voltage below)
- P. Other features:
 1. Temperature rise and motor starting are in compliance with NEMA MG1, IEEE, and ANSI standards.
 2. Capable of sustained line-to-neutral short-circuit current of up to 300% of the rated current for up to 2 seconds. (IEC 60092-301 short-circuit performance.)
 3. Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
 4. Self-ventilated and drip proof construction.
 5. Windings are vacuum-impregnated with epoxy varnish for
 6. dependability and long life.
 7. Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

2.4 APPLICATION DATA AND FEATURES

A. Engine:

Engine Specification	
Manufacturer	Kohler Diesel or approved equal
Engine: model, type	KDI 1903 TCR
	4-Cycle, Turbocharged
Cylinder arrangement	3 Inline
Displacement, L (cu. in.)	1.9 (115.9)
Bore and stroke, mm (in.)	88 x 102 (3.46 x 4.01)
Compression ratio	17.0:1
Piston speed, m/min. (ft./min.)	275 (905)
Rated rpm	1800
Max. power at rated rpm, kW (HP)	37 (49)
Valve (exhaust) material	Stainless Steel
Governor type	Electronic
Frequency regulation, no-load to full-load	Isochronous

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Frequency regulation, steady state	±0.28%
Air cleaner type, all models	Dry

B. Fuel System:

1. Fuel tank:

- a. Fuel tank includes the fuel level gauge, fuel fill with lockable cap, and an atmospheric vent.
- b. Subbase fuel tank for 24-hour run time with full load at prime rating (minimum).
- c. The secondary containment tank’s construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- d. Both the inner and outer tanks have emergency relief vents.
- e. Fuel tank capacity: 293 L (77 gal)

Fuel System	
Fuel supply line, min. ID, mm (in.)	8 (0.31)
Fuel return line, min. ID, mm (in.)	6.3 (0.25)
Max. lift, fuel pump: type, m (ft.)	Mechanical, 2.5 (8.2)
Max. fuel flow, Lph (gph)	35.9 (9.3)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
Fuel prime pump	Manual
Fuel filter Efficiency	Primary 5 Microns @ 98%
Water separator	Yes
Recommended fuel	ASTM D975 or EN 590
	Ultra Low Sulfur Diesel (ULSD) with sulfur content <15 mg/kg (15 ppm)

C. Exhaust System:

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m3/min. (cfm)	6.7 (238)
Exhaust temperature at rated kW, dry exhaust, C (F)	382 (720)
Allowable back pressure, kPa (in. Hg)	7- 12 (2.1- 3.5)
Back pressure available after losses due to exhaust aftertreatment system, kPa (in. Hg)	6.7 (2.0)

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D. Lubrication:

Lubricating System	
Type	Pressure
Oil pan capacity, L (qt.) *	8.4 (8.9)
Oil pan capacity with filter, L (qt.) *	8.7 (9.2)
Oil filter: quantity, type *	One, Cartridge
Oil type *	API CJ-4 or ACEA E6- E9

* Kohler recommends the use of Kohler Genuine oil and filters.

E. Cooling:

1. Radiator system capacity including engine: 17.2 (4.5) L (gal)

F. Engine Electrical:

Engine Electrical System	
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	12
Ampere rating	80
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Qty., rating for - 18C (0 F)	One, 950
Battery voltage (DC)	12

G. Operation Requirements:

1. Radiator-cooled cooling air, m³/min. (scfm): 96.3 (3400)
2. Combustion air, m³/min. (cfm): 2.4 (86.3)
3. Heat rejected to ambient air:
 - a. Engine, kW (Btu/min.): 28 (1592)
 - b. Alternator, kW (Btu/min): 6.5 (369).
4. Air density: 1.20 kg/m³ (0.075 lbm/ft³).

H. Fuel Consumption

Fuel Consumption		
Diesel, Lph (gph) at % load	Standby Ratings	Prime Ratings
100%	10.5 (2.8)	9.8 (2.6)
75%	7.8 (2.1)	7.3 (1.9)
50%	5.4 (1.4)	5.0 (1.3)
25%	3.1 (0.8)	2.9 (0.8)
0%	0.8 (0.2)	0.7 (0.2)

Note: For continuous rating fuel consumption, use the prime ratings data.

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2.5 CONTROLLER:

- A. Model: Decision-Maker 3500 Paralleling Controller
- B. Paralleling capability with bus sensing, first-on logic, synchronizer, and (isochronous, droop, and external controlled) load sharing.
- C. Digital display with adjustable contrast and menu control provide easy local data access.
- D. Measurements are selectable in metric or English units
- E. Remote communication thru a PC via network or serial configuration
- F. Controller supports Modbus protocol.
- G. Integrated hybrid voltage regulator with $\pm 0.5\%$ regulation.
- H. Potted circuitry for protection from vibration and debris.
- I. Built-in alternator thermal overload protection.
- J. NFPA 110 Level 1 capability.

2.6 CUSTOMER CONNECTION PANEL

- A. Viewable generator set controller with security cover
- B. Emergency stop switch
- C. Shore power connector, 120 V, 15 amp (for battery charger(s) and battery heater)
- D. Shore power connector, 120 V, 15 amp (for block heater)
- E. Remote start connection
- F. Mobile paralleling box connection
- G. Main line circuit breaker:
 - 1. Reconnectable and selector switch models: Rating 150 amps, field adjustable based on voltage selected.
 - 2. 600 volt models: Rating 60 amps, field adjustable

2.7 TRAILER

- A. Single-axle trailer with electric brake system and battery back-up breakaway system.
- B. DOT compliant per current specifications published by both agencies, at the time of trailer manufacture.
- C. 2 x 5/16 in. ball hitch coupler with adaptability for an optional Lunette eye.
- D. Running lights with 7-wire harness and connector.

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- E. Front tongue jack.
- F. Axle rating: single, 2266 kg (4995 lb)
- G. Tires including the spare tire are ST225/75R15 LRE with 1284 kg (2830 lb.) load rating
- H. Wheels: steel, 15x6, 6-bolt.
- I. Dimensions and weights:
 - 1. Overall size, L xW x H, mm (in.): 3576.1 x 1867 x 2087.2 (140.79 x 73.5 x 82.17)
 - 2. Weight with engine fluids and no fuel in tank, kg (lb): 1648 (3633).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:
 - 1. Notify **Construction Manager** and **Owner** no fewer than **two** working days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without **Owner's** written permission.
- B. Comply with NECA 1 and NECA 404.
- C. Comply with packaged engine generator manufacturers' written installation and alignment instructions.
- D. Equipment Mounting:
 - 1. Coordinate size and location of concrete bases for packaged engine generators. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.
- E. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.
- F. Exhaust System: Install Schedule 40 black steel piping with welded joints and connect to engine muffler. Install thimble at wall. Piping shall be same diameter as muffler outlet.
 - 1. Install isolating thimbles where exhaust piping penetrates combustible surfaces with a minimum of 9 inches of clearance from combustibles.

SECTION 26 32 13.13 DIESEL ENGINE GENERATORS

- G. Drain Piping: Install condensate drain piping to muffler drain outlet with a shutoff valve, stainless-steel flexible connector, and Schedule 40 black steel pipe with welded joints.
- H. Fuel Piping:
 - 1. Copper and galvanized steel shall not be used in the fuel-oil piping system.
- I. Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping and specialties.
- B. Connect fuel, cooling-system, and exhaust-system piping adjacent to packaged engine generator to allow space for service and maintenance.
- C. Connect cooling-system water piping to engine generator and heat exchanger with flexible connectors.
- D. Connect engine exhaust pipe to engine with flexible connector.
- E. Connect fuel piping to engines with a gate valve and union and flexible connector.
- F. Balance single-phase loads to obtain a maximum of 10 percent unbalance between any two phases.

3.3 IDENTIFICATION

- A. Install a sign indicating the generator neutral is bonded to the main service neutral at the main service location.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- D. Perform tests and inspections **with the assistance of a factory-authorized service representative.**

SECTION 26 32 13.13 DIESEL ENGINE GENERATORS

E. Tests and Inspections:

1. Perform tests recommended by manufacturer and each visual and mechanical inspection and electrical and mechanical test listed in first two subparagraphs below, as specified in NETA ATS. Certify compliance with test parameters.
 - a. Visual and Mechanical Inspection:
 - i. Compare equipment nameplate data with Drawings and the Specifications.
 - ii. Inspect physical and mechanical condition.
 - iii. Inspect anchorage, alignment, and grounding.
 - iv. Verify that the unit is clean.
 - b. Electrical and Mechanical Tests:
 - i. Perform insulation-resistance tests according to IEEE 43.
 - ii. Test protective relay devices.
 - iii. Verify phase rotation, phasing, and synchronized operation as required by the application.
 - iv. Functionally test engine shutdown for low oil pressure, overtemperature, overspeed, and other protection features as applicable.
 - vi. Perform vibration test for each main bearing cap.
 - vii. Verify correct functioning of the governor and regulator.
2. Battery Tests: Equalize charging of battery cells according to manufacturer's written instructions. Record individual cell voltages.
 - a. Measure charging voltage and voltages between available battery terminals for full-charging and float-charging conditions. Check electrolyte level and specific gravity under both conditions.
 - b. Test for contact integrity of all connectors. Perform an integrity load test and a capacity load test for the battery.
 - c. Verify acceptance of charge for each element of the battery after discharge.
 - d. Verify that measurements are within manufacturer's specifications.
3. Battery-Charger Tests: Verify specified rates of charge for both equalizing and float-charging conditions.
4. System Integrity Tests: Methodically verify proper installation, connection, and integrity of each element of engine generator system before and during system operation. Check for air, exhaust, and fluid leaks.
5. Exhaust-System Back-Pressure Test: Use a manometer with a scale exceeding **40-inch wg**. Connect to exhaust line close to engine exhaust manifold. Verify that back pressure at full-rated load is within manufacturer's written allowable limits for the engine.

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6. Exhaust Emissions Test: Comply with applicable government test criteria.
 7. Voltage and Frequency Transient Stability Tests: Use recording oscilloscope to measure voltage and frequency transients for 50 and 100 percent step-load increases and decreases, and verify that performance is as specified.
 8. Harmonic-Content Tests: Measure harmonic content of output voltage at 25 and 100 percent of rated linear load. Verify that harmonic content is within specified limits.
 9. Noise Level Tests: Measure A-weighted level of noise emanating from engine generator installation, including engine exhaust and cooling-air intake and discharge, at **four** locations **25 feet from edge of the generator enclosure**, and compare measured levels with required values.
- F. Coordinate tests with tests for transfer switches and run them concurrently.
 - G. Test instruments shall have been calibrated within the past 12 months, traceable to NIST Calibration Services, and adequate for making positive observation of test results. Make calibration records available for examination on request.
 - H. Leak Test: After installation, charge exhaust, coolant, and fuel systems and test for leaks. Repair leaks and retest until no leaks exist.
 - I. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation for generator and associated equipment.
 - J. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - K. Remove and replace malfunctioning units and **retest** as specified above.
 - L. Retest: Correct deficiencies identified by tests and observations, and retest until specified requirements are met.
 - M. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation resistances, time delays, and other values and observations. Attach a label or tag to each tested component indicating satisfactory completion of tests.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain packaged engine generators.

SECTION 26 32 13.13 DIESEL ENGINE GENERATORS

PART 4 - MEASUREMENT AND PAYMENT

4.1 DIESEL ENGINE GENERATORS

- A. All costs for equipment and labor associated with Diesel Engine Generators for this project shall be included in the Bid item “West Basin Generator” (Bid Item No. 14). No separate payment for this item shall be made.

END OF SECTION

SECTION 31 10 00 SITE CLEARING

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The Contractor shall furnish all labor, materials, tools, supervisions, transportation, and equipment required to clear the site of existing vegetation consisting of trees, surficial logs, brush, and shrubs within the limits indicated in the Construction Drawings; includes cutting, loading, hauling, and disposal of all vegetation. Includes permits, protection of work, maintenance of the cleared areas, and dust control.
- B. The Contractor shall furnish all equipment, labor and materials to load, haul, and dispose of green waste at the Miramar Greenery or other area as directed by the Engineer. Includes permitting, staging, handling, moving, stockpiling, DOT compliance weighing, loading, and hauling.

1.2 RELATED SECTIONS

- A. Section 01 33 00 – Submittal Procedures
- B. Section 01 55 29 – Staging Areas
- C. Section 02 41 00 – Demolition
- D. Section 31 20 00 – Earth Moving

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall be responsible for all site clearing operations within the limits indicated in the Construction Drawings.
- B. Cleared green materials shall be disposed by the Contractor at the Miramar Greenery or other area as directed by the Engineer. No burning of combustible materials shall be allowed.
- C. Site clearing shall include, but not be limited to, removal and disposal of existing vegetation consisting of trees, surficial logs, brush, and shrubs within the limits of construction. Site clearing shall not include soil or excavation of roots.

SECTION 31 10 00 SITE CLEARING

PART 4 - MEASUREMENT AND PAYMENT

4.1 SITE CLEARING

- A. All costs for equipment and labor associated with Site Clearing for this project shall be included in the various Bid items for “Hawthorne Basin Demolition” (Bid Item No. 7), “West Basin Outlet Demolition” (Bid Item No. 8), and “East Basin Demolition”(Bid Item No. 9). No separate payment for this item shall be made.

END OF SECTION

SECTION 31 14 13.16 SOIL STOCKPILING

PART 1 - GENERAL

- A. All soil stockpiles shall conform to the following requirements, where applicable, unless otherwise noted in these Specifications:
1. The Contractor shall be solely responsible for the proper management of soil stockpiles as outlined below.
 2. Soil stockpiles shall be placed outside of concentrated flow paths.
 3. The perimeter of stockpiles shall be protected at the end of each day using temporary perimeter sediment barriers.
 4. Water shall be applied to soil stockpiles for dust control in conformance with Section 01 57 26.
 5. Soil stockpiles shall be covered or protected with soil stabilization immediately following cessation of use if the soil stockpile is not scheduled to be used within 14 days, or after 14 days of unplanned inactivity, as applicable.
 6. Soil stockpiles shall be covered or protected with soil stabilization in the event of a predicted rain event.
 7. Proper management of soil stockpiles is required for the duration of the project.
 8. Any additional soil stockpile management Best Management Practices (BMPs) prescribed in the current Industrial General Permit (IGP) Storm Water Pollution Prevention Plan (SWPPP) for the Miramar Landfill facility are required to be implemented during the project.

PART 2 - MATERIALS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT AND PAYMENT

- A. All costs for equipment and labor associated with Soil Stockpiling for this project shall be included in the various Bid items for “Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel” (Bid Item No. 10), “Hawthorne Basin Spillway, Outlet Structure, and Skimmer” (Bid Item No. 11), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), “West Basin Outlet Structure” (Bid Item No. 13), “West Basin Maintenance Pad” (Bid Item No. 15), “East Basin Grading and Access Ramp” (Bid Item No. 16), and “East Basin Down Drain and Flume” (Bid Item No. 18). No separate payment for this item shall be made.

END OF SECTION

SECTION 31 20 00 EARTH MOVING

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The Contractor shall furnish all labor, materials, tools, supervision, transportation, and equipment necessary for earthwork elements as shown on the Construction Drawings.
- B. In general, earthwork operations include the following:
 - 1. Implementing, monitoring, and complying with all Rule 59 mitigation measures as approved by the Air Pollution Control Officer of the Air Pollution Control District (APCD). Complying with Title V Site Permits.
 - 2. Excavate waste material and transport to disposal area.
 - 3. Excavate, transport, process, disk, dry and/or moisture condition, place, and compact local borrow material and unclassified fill.
 - 4. Prepare subgrade for graded gravel roads and concrete structures.
 - 5. Processing and placement of earthwork elements for the Project improvements in accordance with the Project Drawings.

1.2 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 55 26 – Traffic Control
 - 3. Section 31 14 13.16 – Soil Stockpiling
 - 4. Section 31 35 19.16 – Geotextile Slope Protection
 - 5. Section 31 37 00 – Riprap
 - 6. Section 31 25 00 – Erosion and Sedimentation Controls
 - 7. Section 32 15 00 – Aggregate Surfacing

1.3 INTRODUCTION/SPECIAL CONDITIONS

- A. Except as otherwise indicated in this Section, the Contractor shall comply with the 2018 edition of the Greenbook, together with the 2018 edition of the City of San Diego Supplement, Whitebook.

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B. Construction Drawings

1. The Construction Drawings were prepared based on aerial topographic maps of the landfill. The surface of the landfill at present and for the duration of this Contract is not necessarily that shown as existing contours on the grading plan due to differential settlement of the landfill mass and re-grading for maintenance purposes. It is anticipated that there may be additional movement during construction. The proposed grading and improvement project is a "line and grade" project. Prior to Construction of any improvement, the Contractor shall verify actual field conditions, and shall make all adjustments in the subgrade for paving and hardscape installation as appropriate, to meet this design intent.
2. Field modifications of subgrade, and excavation and fill volumes for earthwork, may result in an adjustment of Contract Bid Quantities. Such modifications do not constitute a change in the "character" of the work, as these adjustments are anticipated, and are typical of landfill surface improvement construction.
3. Adjustments in Contract quantities will be compensated under the applicable Bid Item, and in accordance with Section 7, Measurement and Payment of the WHITEBOOK, unless otherwise noted.

1.4 CONTRACTOR SUBMITTALS

- A. The Contractor shall thoroughly review the Specifications and identify all required project submittals. The submittals listed below are intended as a general summary of the submittal items contained in this section. This submittal list does not release the Contractor from the responsibility of identifying and providing all information requested.
- B. The Contractor shall submit, in writing, materials testing reports and other pertinent information satisfactory to the Engineer, demonstrating that materials and methods Contractor proposes to use will comply with the provisions of this Section.
- C. The Contractor shall submit, in writing, the Contractor's outline of proposed sequencing and methods for achieving the design intent for development of the subgrade in an Earthwork Operations Plan.
- D. Submittals as required by the General Conditions and in accordance with the requirements of Section 01 33 00.

PART 2 - PRODUCTS

2.1 USE OF EXISTING MATERIALS

- A. It is anticipated that aggregate roadway subgrade reshaping will not involve the import of additional materials. If additional materials are required to achieve design grades, such materials shall be in conformance with this Section.

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2.2 UNCLASSIFIED FILL MATERIAL

- A. Fill material to be used for unclassified fills shall be generated from the unclassified excavations or stockpile(s) stockpiled in proximity to the work by the CITY.
- B. Rocks or rock fragments greater than 6 inches in any dimension shall be removed from the fill and disposed of as directed by the Engineer. Rocks or rock fragments less than 6 inches shall be distributed evenly throughout the fill. "Nesting" of rock or rock fragments will not be permitted.

PART 3 - EXECUTION

3.1 GENERAL

- A. All earthwork shall conform to the following requirements, where applicable, unless otherwise noted in these Specifications:
 - 1. The Contractor shall be solely responsible for the satisfactory completion of all earthwork in accordance with the Drawings and Specifications.
 - 2. Equipment used in the excavation, transport, stockpiling, processing, drying, placement and compaction of all materials used in construction of the alternative final cover system will be standard-of-practice grading machinery of known specifications suitable for performing the required work in a timely and efficient manner.
 - 3. All material considered by the Engineer to be unsuitable for use in the construction of the project shall be removed. All materials incorporated as part of the compacted fill must be inspected and placement must be observed by the Engineer.
 - 4. All clearing, grubbing, stripping, and site preparation for the Project shall be accomplished to the satisfaction of the Engineer prior to placement of fill material.
 - 5. Material deemed unlikely to meet the performance specification and not disposed of during clearing and grubbing of demolition shall be removed from the stockpiles, borrow and/or fill as directed by the Engineer.
 - 6. The surface to receive fill shall be prepared (cleared, grubbed, or stripped) to the satisfaction of the engineer and the fill shall be placed, spread, mixed, watered and compacted in accordance with the project specifications and as recommended by the engineer.
 - 7. The intermediate cover surface prepared to receive fill shall be scarified, disked, or bladed until it is uniform and free from uneven features which may prevent uniform compaction. The scarified intermediate cover surface shall then be brought to a minimum of 2 percent over optimum moisture content, mixed as required, and compacted to a minimum of 90 percent of the maximum dry density as determined by American Society for Testing and Materials (ASTM) D1557. The prepared surface shall be firm and unyielding. If the scarified zone is greater

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than eight inches in depth, the excess material shall be removed and placed in lifts of six to eight inches in thickness. Prior to fill placement, the ground surface to receive fill shall be inspected by the Engineer.

8. Irreducible rock or rock fragments in excess of three (3) inches in maximum dimension shall not be utilized for the upper 12-inches of subgrade surfaces.
9. Suitable and sufficient processing and compaction equipment shall be on the job site to handle the amount of fill being stockpiled, processed, mixed and/or placed. If necessary, excavation or import equipment will be shut down temporarily in order to allow time for proper preparation and/or compaction of fills. Sufficient water apparatus will be provided with due consideration to the type of fill material, curing characteristics, rate of placement, and time of year.
10. Fill material shall be placed in thin, horizontal lifts with a maximum uncompacted thickness not to exceed eight inches. Each layer shall be spread evenly and thoroughly mixed to obtain a near uniform condition in each layer. In areas of excess lift thickness, re-grading of the surface to the maximum lift thickness will be completed prior to construction of additional lifts.
11. The minimum compaction for all fill materials placed shall be 90 percent (95% for proposed roadway subgrades and drive surfaces) of the maximum dry density as determined by ASTM D1557 and the specified moisture content is a minimum of 2 percent above optimum moisture content as determined by ASTM D1557 and D2216.
12. Material import shall not exceed the capability of the processing operation to meet the project specifications.
13. Representative samples of fill material will be tested in the laboratory in order to determine the physical characteristics of the material. During processing and/or grading operations, no soils, or soil types, other than those previously analyzed may be used unless the Engineer documents the suitability of these soils with appropriate additional testing paid for by the Contractor.
14. Where tests by the Engineer indicate that the moisture content or density of any layer of fill, or portion thereof, is below the Project requirements, the particular layer or portion thereof will be reworked until the required moisture/density has been attained. The moisture/density of the reworked fill will be verified by re-testing by the Engineer. No additional fill shall be placed over an area until the prior fill has been tested horizontally and vertically and meets the requirements of these Specifications to the satisfaction of the Engineer.

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15. Where work is interrupted by heavy rains, fill operations shall not be resumed until observations and field tests by the Engineer indicate the moisture content and density of the in-place fills and/or materials intended for placement are within the limits previously specified. This requirement does not preclude the Contractor from disking or aerating excessively wet areas to enhance drying.
16. As determined by the Engineer, fill over cut slopes shall be properly keyed and benched through topsoil, colluvium, or creep material into firm material. Final cover soils placed over foundation layer soils shall be excluded from this requirement. All transitions shall be stripped of all loose soils prior to placing fill.
17. Throughout construction, all excavated and/or fill areas shall be graded to provide positive drainage to collection/transport features and to prevent ponding of water. No ponding of water will be allowed on the landfill surface. Surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site.
18. Excavated materials shall be hauled to the closest City-designated stockpile within 0.5 to 2.0 miles of cut/fill area for each basin.
19. The Contractor shall assume all responsibility for damage to completed portions of the final cover improvements arising from sequencing of work and location of haul routes.

3.2 REFUSE REMOVAL AND RECONSOLIDATION

- A. The majority of work will occur in soil cover areas adjacent to refuse.
- B. The Contractor shall be responsible for implementation and monitoring of all requirements of the Rule 59 mitigation measures as required by APCD.
- C. If refuse is encountered the contractor shall excavate and remove refuse and dispose of the material on site at the direction of the City. All excavated refuse shall be transported in covered vehicles to the active disposal area of the Miramar Landfill or other area as directed by the Engineer. A 1-ft thick interim cover layer of soil shall be placed and compacted by the Contractor above the exposed waste. Measurement and payment shall be considered under the Unclassified Fill Bid Item. The contractor may encounter refuse during excavation operations adjacent to existing roadways or within pavement areas and at various designated areas of the project to establish revised slope gradients, and/or to accommodate construction of various improvements. At the conclusion of each day's operation, all exposed waste material, whether in the excavation area or reconsolidation area, shall be covered with a minimum of 6-inches of soil, or other material as approved by the Engineer.

3.3 SUBGRADE PREPARATION

- A. The subgrade shall be prepared to create the lines and grades to be reflected in the ultimate project improvement final grade.
- B. Aggregate roadway subgrade preparation and placement of aggregate base shall be in

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accordance with Section 32 15 00 except where superseded by Whitebook Section 301.

- C. Subgrade shall be graded with machinery sufficient to remove loose and unsuitable soils prior to placement of aggregate base. Subgrade acceptance will be by proof roll. The geotechnical design engineer will be contacted at least 48 hours prior to the scheduled proof roll and the geotechnical design engineer or his/her representative shall be onsite for the proof roll. The proof roll shall be conducted according to the direction of the geotechnical design engineer or his/her representative with a fully loaded three-axle dump truck. Areas identified during the proof roll as unacceptable shall be excavated to a depth sufficient to reach competent soils, moisture conditioned, and recompacted per Whitebook Section 301-1.

PART 4 - MEASUREMENT AND PAYMENT

4.1 CONTRACT UNIT PRICE COMPLETENESS

- A. The contract unit price for each of the following civil improvements shall include full compensation for all labor, material and equipment required to construct the improvements in accordance with the Contract Documents, Construction Drawings, Specifications, and manufacturer's recommendations. Quantities installed beyond the limits indicated on the drawings will not be compensated unless previously authorized by the Engineer.

4.2 REFUSE EXCAVATION AND DISPOSAL

- A. The Contract unit price per cubic yard (Bid Item No. 21) for refuse removal and transport to the active disposal area of the Miramar Landfill or to locations within the Miramar Landfill boundary as directed by the Engineer for disposal shall include full compensation for all labor, material, and equipment required for excavation of waste material, including daily health and safety monitoring, and transport to the working face of the approved disposal area.
- B. Final pay quantities for refuse excavation and disposal will be based on surveyed pre-excavation and post-excavation topography, and shall include all previously landfilled refuse removed and disposed in accordance with these specifications to the limits indicated on the drawings. Survey shall be performed by the City's surveyor on staff at the Miramar Landfill at no cost to the Contractor. Work performed outside of these limits will not be compensated unless the work has been authorized by the Engineer.

4.3 UNCLASSIFIED EXCAVATION AND UNCLASSIFIED FILL

- A. Full compensation for all labor, material, and equipment required to perform unclassified excavation and unclassified fills including transport, placement, and compaction of the material in designated fills as indicated on the Drawings shall be included in the Contractor's unit price.
- B. Final pay quantities shall be determined by comparing the volumetric difference

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between the pre-construction and post-construction topographic surveys of the fill areas. Contractor will commission pre- and post-construction topographic surveys. Costs for pre- and post-construction surveys will be included at a lump sum price in the Bid. Fill placed beyond the limits indicated on the drawings will not be compensated unless previously approved by the Engineer.

4.4 SUBGRADE PREPARATION

- A. If subgrade is required to be excavated and recompacted, payment for such unclassified excavation will be made according to Section 301, Subgrade Preparation, Treated Materials, and Placement of Base Materials of the Whitebook. The geotechnical engineer or his or her representative will be notified at least 48 hours before excavation is scheduled to commence and will be present for excavation activities. Areas and depths to be excavated will be determined by the geotechnical engineer at the time of excavation. Quantities excavated and recompacted beyond the limits determined by the geotechnical engineer will not be compensated unless previously authorized by the Engineer.
- B. All costs for Subgrade Preparation shall include full compensation for all labor, material, and equipment required for scarifying, grading, processing, and compaction of aggregate roadway subgrade or concrete structure subgrade. All costs for subgrade preparation shall be included in the specific elements of work and there shall be no separate payment made.

END OF SECTION

SECTION 31 22 19 FINISH GRADING

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. Upon completion of the installation of equipment, structures and pavement, graveled contoured areas, the remaining disturbed area shall be finish graded.
- B. The Contractor shall furnish all labor, materials, tools, supervision, transportation, and equipment necessary for grading as shown on the Construction Drawings and in accordance with the Contract Documents.

1.2 RELATED SECTIONS -NONE

1.3 CITED STANDARDS -NONE

1.4 NOTED RESTRICTIONS - NONE

1.5 QUALITY CONTROL- NOT USED

PART 2 - PRODUCTS -NOT USED

PART 3 - EXECUTION

3.1 PREPARATION -NOT USED

3.2 INSTALLATION

- A. Final finish grade of the basins and trapezoidal channel areas shall be consistent with the drawings provided by the Engineer. Final finish grade of concrete slabs shall match existing grade of the surrounding area. The area under concrete slabs shall be cleared and grubbed and graded in accordance with grading plans, and shall be graded to drain away from the concrete slabs and trapezoidal channel areas to facilitate positive drainage.
- B. Dust shall be controlled by watering or other effective measures.

3.3 TESTING -NOT USED

SECTION 31 22 19 FINISH GRADING

PART 4 - MEASUREMENT AND PAYMENT

4.1 FINISH GRADING

- A. All costs for equipment and labor associated with Finish Grading for this project shall be included in the various Bid items for “Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel” (Bid Item No. 10), “Hawthorne Basin Spillway, Outlet Structure, and Skimmer” (Bid Item No. 11), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), “West Basin Outlet Structure” (Bid Item No. 13), “West Basin Maintenance Pad” (Bid Item No. 15), “East Basin Grading and Access Ramp” (Bid Item No. 16), and “East Basin Down Drain and Flume” (Bid Item No. 18), and “Erosion Control Area 1” (Bid Item No. 19). No separate payment for this item shall be made.

END OF SECTION

SECTION 31 25 00
EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The Contractor shall furnish all labor, materials, tools, supervision, transportation, equipment, and incidentals necessary for the installation of erosion and sediment controls. The work shall be carried out as specified herein and in accordance with the Construction Drawings.
- B. The work shall include, but not be limited to, delivery, storage, and placement of the various drainage components of the project.

1.2 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 57 19 – Temporary Environmental Controls
 - 3. Section 01 57 23 – Temporary Storm Water Pollution Controls
 - 4. Section 01 57 26 – Site Watering for Dust Control
 - 5. Section 31 14 13.16 – Soil Stockpiling
 - 6. Section 31 20 00 – Earth Moving
 - 7. Section 33 40 00 – Stormwater Utilities

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated in this Section, the Contractor shall comply with the 2018 edition of the Greenbook, together with the 2018 edition of the City of San Diego Supplement, Whitebook.

1.4 CONTRACTOR SUBMITTALS

- A. The Contractor shall submit, in writing, materials testing reports, certifications, job-mix formulas, and other pertinent information satisfactory to the Engineer, demonstrating that materials and methods the Contractor proposes to use will comply with the provisions of this Section. Submittals shall be in accordance with the requirements of Section 01 33 00 – Submittal Procedures.

SECTION 31 25 00 EROSION AND SEDIMENTATION CONTROLS

1.5 QUALITY ASSURANCE

- A. Quality assurance testing will be provided by the City Materials and Testing Lab. This does not relieve the Contractor from securing the necessary construction control testing during construction when required by the contract documents.

PART 2 - PRODUCTS

2.1 STRAW WATTLES

- A. Straw wattles shall consist of a biodegradable jute/sisal/coir fiber netting exterior and an interior made from 100% weed-free wheat or rice straw to achieve a nominal finished diameter of nine (9) inches with a weight of at least 1.1 lb/ft.

2.2 WOODEN STAKES

- A. Wooden stakes shall be 2-inch x 2-inch x 24-inches in length per Construction Drawings.

2.3 WATER TRUCK

- A. Materials for water truck shall conform to the requirements of Section 01 57 26.

2.4 SEEDING MIXTURE

- A. Seeding mixtures shall consist of the following species and application rates:

Seed Mixture

SPECIES	COMMON NAME	*PLS lbs/acre
Bromus carinatus ‘Cucamonga’	Cucamonga Brome	10
Bromus carinatus	California Brome	10
Festuca microstachys	Small Fescue	6
Trifolium ciliolatum	Foothill Clover	3
	Total PLS lbs/acre	29

*NOTE: PLS % = % Purity X % Germination.

PLS = Pure Live Seed Mixture

2.5 HYDROSEED

- A. Hydroseed shall be applied using the following materials and application rates:

MATERIAL	APPLICATION RATE (lbs/acres)
Wood Fiber Mulch	500
Seed Mixture	29 PLS

SECTION 31 25 00 EROSION AND SEDIMENTATION CONTROLS

2.6 HYDRAULIC MULCH

- A. Hydraulic Mulch shall be applied using the following materials and application rates per the Construction Drawings:

MATERIAL	APPLICATION RATE (lbs/acres)
Wood Fiber Mulch	2,500
Tackifier	125

PART 3 - EXECUTION

3.1 EROSION CONTROL AREA 1 (SHEETS C-3, C-4, C-5, C-6, AND C-7)

- A. Work shall be timed to occur between October 1 and December 15 unless otherwise approved by the City.
- B. Grade soil surface to eliminate existing erosional features (i.e. rills).
- C. Apply water prior to roughening to facilitate de-compaction of soil. Roughen soil surface no more than two (2) inches in depth to loosen up existing compaction.
- D. Following surface de-compaction, track-walk up and down slopes with bulldozer such that the tracks are perpendicular to slope.
- E. Install nine (9) inch diameter straw wattles per manufacturers’ specifications along contour at forty (40) foot intervals. Wattles shall be composed of 100% weed-free agricultural straw encased in a biodegradable burlap.
- F. Following straw wattle installation, the area shall be hydroseeded.
- G. Following hydroseeding, the area shall be capped with hydromulch. Hydromulch shall be hydraulically sprayed from multiple directions to eliminate “shadowing” and to accomplish complete soil coverage.
- H. Erosion Control Area 1 shall be monitored and maintained until 70% vegetative coverage is achieved or NOT has been approved.

3.2 EROSION CONTROL AREA 2 (SHEET G-3)

- A. Work shall be timed to occur between October 1 and December 15 unless otherwise approved by the City.
- B. Grade soil surface to eliminate existing erosional features (i.e. rills).
- C. Apply water prior to roughening to facilitate de-compaction of soil.
- D. Roughen soil surface no more than three (3) inches in depth to loosen existing compaction.
- E. Apply two (2) inches of 0.25-inch to 0.5-inch sized West Miramar Landfill-produced compost on roughened soil surface and incorporate compost into the soil. Compost

SECTION 31 25 00 EROSION AND SEDIMENTATION CONTROLS

will be provided by the City at no cost to the Contractor. Contractor will be responsible for loading and hauling compost from the City's Greenery.

- F. Track-walk up and down slopes with bulldozer such that the tracks are perpendicular to slope.
- G. Following track-walking, the area shall be hydroseeded.
- H. Following hydroseeding, the area shall be capped with hydromulch application. Hydromulch shall be hydraulically sprayed from multiple directions to eliminate "shadowing" and to accomplish complete soil coverage.

PART 4 - MEASUREMENT AND PAYMENT

4.1 CONTRACT UNIT PRICE COMPLETENESS

- A. The contract unit price for each of the following civil improvements shall include full compensation for all labor, material and equipment required to construct the improvements in accordance with the Contract Documents, Construction Drawings, Specifications, and manufacturer's recommendations. Quantities installed beyond the limits indicated on the drawings will not be compensated unless previously authorized by the Engineer.

4.2 EROSION CONTROL AREA 1 (SHEETS C-3, C-4, C-5, C-6, AND C-7)

- A. All costs for equipment and labor associated with Erosion Control Area 1 for this project shall be included in the Bid item "Erosion Control Area 1" (Bid Item No. 19). No separate payment for this item shall be made.
- B. All costs for material, equipment, and labor associated with Monitoring and Maintenance of Erosion Control Area 1 shall be included in the Bid item "Erosion Control Area 1 Monitoring and Maintenance" (Bid Item No. 22).

4.3 EROSION CONTROL AREA 2 (SHEET G-3)

- A. The quantity to be paid for Erosion Control Area 2 shall be determined by the accepted number of acres of the improvement measured at completion of the project and the unit cost for the improvement in the bid document.
- B. All costs for equipment and labor associated with Erosion Control Area 2 for this project shall be included in the Bid item "Erosion Control Area 2" (Bid Item No. 20). No separate payment for this item shall be made.

END SECTION

SECTION 31 35 19.16 GEOTEXTILE SLOPE PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes providing all material, labor, tools and equipment for delivery, storage, placement, seaming, and installation of geotextiles as shown in the Contract Documents and as specified in this section.

1.2 RELATED SECTIONS AND DIVISIONS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 33 00 – Submittal Procedures
- C. Section 31 20 00 – Earth Moving
- D. Section 31 25 00 – Erosion and Sedimentation Control
- E. Section 31 37 00 – Riprap
- F. Section 32 15 00 – Aggregate Surfacing
- G. Section 33 40 00 – Stormwater Utilities

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM) standards:
 - 1. ASTM D 4355 Standard Test Method for Deterioration of Geotextile from Exposure to Ultraviolet Light and Water
 - 2. ASTM D 4491 Standard Test Method for Water Permeability of Geotextile by Permittivity
 - 3. ASTM D 4533 Standard Test Method for Trapezoid Tearing Strength of Geotextile
 - 4. ASTM D 4632 Standard Test Method for Breaking Load and Elongation of Geotextile (Grab Method)
 - 5. ASTM D 4751 Standard Test Method for Determining Apparent Opening Size of a Geotextile
 - 6. ASTM D 6241 Standard Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe
 - 7. ASTM D 5261 Standard Test Method for Measuring Mass Per Unit Area of Geotextile

SECTION 31 35 19.16 GEOTEXTILE SLOPE PROTECTION

1.4 SUBMITTALS

- A. The Contractor shall submit to the Engineer, at least 7 days prior to geotextile delivery, the following information regarding the proposed geotextile:
 - 1. Manufacturer and product name;
 - 2. Minimum property values of the proposed geotextile and the corresponding test procedures;
 - 3. Projected geotextile delivery dates; and
 - 4. List of geotextile roll numbers for rolls to be delivered to the site.
- B. At least 7 days prior to geotextile placement, the Contractor shall submit to the Engineer the manufacturing quality control certificates for each roll of geotextile. The certificates shall be signed by responsible parties employed by the geotextile manufacturer (such as the production manager). The quality control certificates shall include:
 - 1. Lot, batch, and/or roll numbers and identification; and
 - 2. Results of quality control tests, including a description of the test methods used.

1.5 QUALITY ASSURANCE

- A. The Contractor shall ensure that the geotextile and installation methods used meet the requirements of the Construction Drawings and this Section. Any material or method that does not conform to these documents, or to alternatives approved in writing by the Engineer, will be rejected and shall be repaired or replaced by the Contractor.
- B. The Contractor shall be aware of all monitoring and conformance testing required by the Construction Quality Assurance (CQA) Plan. The Engineer will perform this monitoring. If non-conformances or other deficiencies are found in the Contractor's materials or completed work, the Contractor will be required to repair the deficiency or replace the deficient materials.

PART 2 - MATERIALS

2.1 GEOTEXTILE PROPERTIES

- A. Geotextile suppliers shall furnish materials in which the "Minimum Average Roll Values", as defined by the Federal Highway Administration (FHWA), meet or exceed the criteria specified in Table 31 35 19.16-1.
- B. The geotextile for "Inlet Protection," "Coarse Aggregate Channel," "Riprap," and "Type 2 Energy Dissipator," shall be TenCate Mirafi 500X woven polypropylene geotextile or equivalent as approved by the Engineer.

SECTION 31 35 19.16 GEOTEXTILE SLOPE PROTECTION

2.2 MANUFACTURING QUALITY CONTROL

- A. The geotextile shall be manufactured with quality control procedures that meet or exceed generally accepted industry standards.
- B. The Geotextile Manufacturer shall sample and test the geotextile to demonstrate that the material conforms to the requirements of these Specifications.
- C. Any geotextile sample that does not comply with this Section shall result in rejection of the roll from which the sample was obtained. The Contractor shall replace any rejected rolls.
- D. If a geotextile sample fails to meet the quality control requirements of this Section the Geotextile Manufacturer shall sample and test, at the expense of the Manufacturer, rolls manufactured in the same lot, or at the same time, as the failing roll. Sampling and testing of rolls shall continue until a pattern of acceptable test results is established to bound the failed roll(s).
- E. Additional sample testing may be performed, at the Geotextile Manufacturer's discretion and expense, to identify more closely any non-complying rolls and/or to qualify individual rolls.
- F. Sampling shall, in general, be performed on sacrificial portions of the geotextile material such that repair is not required. The Geotextile Manufacturer shall sample and test the geotextile, at a minimum once every 130,000 ft², to demonstrate that the geotextile properties conform to the values specified in Table 31 35 19.16-1. At a minimum, the following manufacturing quality control tests shall be performed on each type of geotextile:
 1. Mass per unit area according to ASTM D5261
 2. Grab strength according to ASTM D4632
 3. Tear strength according to ASTM D4533
 4. Puncture strength according to ASTM D4833
 5. Apparent opening size (AOS) according to ASTM D4751
- G. The Geotextile Manufacturer shall comply with the certification and submittal requirements of these Specifications.

2.3 PACKING AND LABELING

- A. Geotextile shall be supplied in rolls wrapped in relatively impermeable and opaque protective covers.
- B. Geotextile rolls shall be marked or tagged with the following information:
 1. Manufacturer's name;
 2. Product identification;

SECTION 31 35 19.16 GEOTEXTILE SLOPE PROTECTION

3. Lot or batch number;
4. Roll number; and
5. Roll dimensions.

2.4 TRANSPORTATION, HANDLING, AND STORAGE

- A. Handling, unloading, storage, and care of the geotextile prior to and following installation at the site, is the responsibility of the Contractor. The Contractor shall be liable for any damage to the materials incurred prior to final acceptance by the Engineer.
- B. The geotextile shall be protected from sunlight, excessive heat or cold, puncture, or other damaging or deleterious conditions. The geotextile shall be protected from mud, dirt, and dust. Any additional storage procedures required by the Geotextile Manufacturer shall be the responsibility of the Contractor.

PART 3 - EXECUTION

3.1 FAMILIARIZATION

- A. Prior to implementing any of the work described in this Section, the Contractor shall become thoroughly familiar with the site, the site conditions, and all portions of the work falling within this Section.
- B. Inspection:
 1. The Contractor shall carefully inspect the installed work of all other Sections and verify that all such work is complete to the point where the installation of this Section may properly commence without adverse effect.
 2. If the Contractor has any concerns regarding the installed work of other Sections or the site, the Engineer shall be notified, in writing, prior to commencing the work. Failure to notify the Engineer or installation of the geotextile will be construed as Contractor's acceptance of the related work of all other Sections.

3.2 PLACEMENT

- A. The Contractor shall handle all geotextile in such a manner as to ensure they are not damaged in any way.
- B. The Contractor shall take any necessary precautions to prevent damage to underlying materials during placement of the geotextile.
- C. After unwrapping the geotextile from its opaque cover, the geotextile shall not be left exposed for a period in excess of 15 days unless a longer exposure period is approved in writing by the Geotextile Manufacturer.
- D. The Contractor shall take care not to entrap stones, excessive dust, or moisture beneath the geotextile during placement.

SECTION 31 35 19.16 GEOTEXTILE SLOPE PROTECTION

- E. The Contractor shall anchor or weight all geotextile with sandbags, or the equivalent, to prevent wind uplift.
- F. The Contractor shall examine the entire geotextile surface after installation to ensure that no foreign objects are present that may damage the geotextile or adjacent layers. The Contractor shall remove any such foreign objects and shall replace any damaged geotextile.

3.3 SEAMS AND OVERLAPS

- A. Geotextile shall be overlapped a minimum of 12 inches.

3.4 REPAIR

- A. Any holes or tears in the geotextile shall be repaired using a patch made from the same geotextile. Geotextile patches shall be overlapped a minimum of 12 inches. Should any tear exceed 50% of the width of the roll, that roll shall be removed and replaced.
- B. Where geosynthetic materials underlie the geotextile being placed, care shall be taken to remove any soil or other material that may have penetrated the torn geotextile.

3.5 PLACEMENT OF OVERLYING MATERIALS

- A. The Contractor shall place overlying materials (aggregate, rebar, rebar chairs, concrete, etc.) on top of the geotextile in such a manner as to ensure that:
 - 1. The geotextile and the underlying materials are not damaged;
 - 2. Minimum slippage occurs between the geotextile and the underlying layers during placement; and
 - 3. Excess stresses are not produced in the geotextile.
- B. Sections of plywood or other approved methods shall be employed by the Contractor in highly trafficked areas and where materials are to be stockpiled (i.e. under rebar bundles) to minimize the potential for damage to the underlying geotextile.
- C. Equipment shall not be driven directly on the geotextile.
- D. At no time shall stakes or other objects be driven through the geotextile.

3.6 PROTECTION OF WORK

- A. The Contractor shall use all means necessary to protect all work of this Section.
- B. In the event of damage, the Contractor shall make repairs and replacements to the satisfaction of the Engineer at the expense of the Contractor.

SECTION 31 35 19.16 GEOTEXTILE SLOPE PROTECTION

TABLE 31 35 19.16-1

REQUIRED PROPERTY VALUES FOR WOVEN GEOTEXTILE

PROPERTIES	QUALIFIERS	UNITS	MINIMUM AVERAGE ROLL VALUES (MARV)		TEST METHOD
			MACHINE DIRECTION	CROSS DIRECTION	
<u>Mechanical Requirements</u>					
Grab tensile strength	minimum	lb	200	200	ASTM D 4632
Grab tensile elongation	minimum	%	15%	15%	ASTM D 4632
Trapezoid tear strength	minimum	lb	75	75	ASTM D 4533
Puncture strength	minimum	lb	700	700	ASTM D 6241
<u>Durability</u>					
Ultraviolet resistance @ 500 hours	minimum	% strength retained	70	70	ASTM D 4355
<u>Filter Requirements</u>					
Apparent opening size (O ₉₅)	maximum	mm		0.425	ASTM D 4751
Permittivity	minimum	s ⁻¹		0.05	ASTM D 4491

PART 4 - PAYMENT AND MEASUREMENT

4.1 GEOTEXTILE SLOPE PROTECTION

- A. All costs for equipment and labor associated with Geotextile Slope Protection for this project shall be included in the Bid items “Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel” (Bid Item No. 10), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), and “East Basin Down Drain and Flume” (Bid Item No. 18). No separate payment for this item shall be made.

END OF SECTION

SECTION 31 37 00 RIPRAP

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Riprap shall be placed as shown on the Construction Drawings.
- B. The Contractor shall furnish all labor, materials, tools, supervision, transportation, and equipment necessary to install riprap as shown on the Construction Drawings.

1.2 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 31 20 00 – Earth Moving
 - 3. Section 31 14 13.16 – Soil Stockpiling
 - 4. Section 31 25 00 – Erosion and Sedimentation Controls
 - 5. Section 31 35 19.16 – Geotextile Slope Protection
 - 6. Section 33 40 00 – Stormwater Utilities

1.3 REFERENCES

- A. 2018 Greenbook
- B. 2018 Whitebook
- C. American Society for Testing and Materials (ASTM) standards:
 - 1. ASTM C 33 Standard Specification for Concrete Aggregates
 - 2. ASTM C 131 Resistance of Small Size Coarse Aggregate to Degradation in the Los Angeles Machine

1.4 SUBMITTALS

- A. The Contractor shall submit, in writing, materials testing reports and other pertinent information satisfactory to the Engineer to the City, Construction Manager, Engineer, and Construction Quality Assurance (CQA) Consultant. These submittals shall demonstrate the materials and methods Contractor proposes to use and how these materials and methods comply with the provisions of this Section. Submittals shall be in conformance with Section 01 33 00. Material shall not be delivered until approved by the Construction Manager, CQA Consultant, and Engineer.

SECTION 31 37 00 RIPRAP

- B. Suitability Tests of Proposed Materials: For materials not produced by a supplier currently authorized by the City Materials and Testing Lab, tests for conformance with the Specifications shall be performed before start of the Work. The samples shall be identified to show the name of the material, aggregate source, name of the supplier, contract number, and the segment of the Work where the material represented by the sample is to be used. Results of all tests shall be submitted to the Construction Manager for approval. Materials to be tested shall include aggregate base.
- C. The Contractor shall submit certification and test records of all proposed materials showing that they meet the applicable requirements.

1.5 QUALITY ASSURANCE

- A. Quality assurance testing will be provided by the City Materials and Testing Lab. Frequency of sampling and testing for quality control laboratory testing for alternative materials is at the sole discretion of the Engineer. This Section does not relieve the Contractor from securing the necessary construction control testing during construction when required by the contract documents.
- B. The Contractor shall ensure that the materials and methods used for placement of aggregate meets the requirements of the Construction Drawings and this Section. Any material or method that does not conform to these documents, or to alternatives approved in writing by the Engineer will be rejected and shall be repaired or replaced by the Contractor.

PART 2 - MATERIALS

2.1 GENERAL

- A. Riprap materials shall meet grading and durability requirements specified in Section 200, Rock Materials of the Whitebook, and the 2018 CalTrans Standard Specifications, and/or the current version of ASTM C33.
- B. Alternative materials to those specified below may be proposed by the Contractor. Alternative materials must meet gradation and durability requirements as specified by the Engineer and confirmed by the City's material testing laboratory. Frequency of sampling and testing for quality control laboratory testing for alternative materials is at the sole discretion of the Engineer.

2.2 RIP RAP

- A. Whitebook ¼ Ton
 - 1. ¼ Ton Rip Rap shall be used in the Type 2 Energy Dissipater, or as directed by the Engineer.
 - 2. ¼ Ton Rip Rap shall conform to the requirements of Section 200-1.7 of the Whitebook.

SECTION 31 37 00 RIPRAP

B. Caltrans Class I (No. 1)

1. Class I Rip Rap shall be used in Inlet Protection, or as directed by the Engineer.
2. Class I Rip Rap shall conform to the requirements of the 2018 CalTrans Standard Specifications Section 72-2 for Class I RSP.

C. Caltrans Class III (No. 3)

1. Class III Rip Rap shall be used in the Coarse Aggregate Channel, or as directed by the Engineer.
2. Class III Rip Rap shall conform to the requirements of the 2018 CalTrans Standard Specifications Section 72-2 for No. 3 RSP.

D. ¾-Inch Crushed Rock

1. ¾-inch Crushed Rock shall be used as part of the Skimmer Assembly.
2. ¾-inch Crushed Rock shall conform to the ¾ inch maximum grading requirements of Section 200-2.9.2, Class 2 Aggregate Base of the Whitebook.

PART 3 - EXECUTION

3.1 PLACEMENT

- A. The Contractor shall place the riprap in a manner which does not tear or otherwise damage any underlying, overlying, or otherwise adjacent geosynthetic installed per Section 31 35 19.16.
- B. The Contractor shall load and place riprap in a manner which minimizes fines production and migration.

3.2 PROTECTION OF WORK

- A. The Contractor shall use all means necessary to protect all work of this Section.

PART 4 - MEASUREMENT AND PAYMENT

4.1 RIPRAP

- A. All costs for equipment and labor associated with Riprap for this project shall be included in the Bid items “Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel” (Bid Item No. 10), “Hawthorne Basin Spillway, Outlet Structure, and Skimmer” (Bid Item No. 11), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), “East Basin Outlet Structure and Skimmer” (Bid Item No. 17), and “East Basin Down Drain and Flume” (Bid Item No. 18). No separate payment for this item shall be made.

END OF SECTION

SECTION 31 62 00 DRIVEN PILES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The Contractor shall furnish all labor, materials, tools, supervision, transportation, equipment, and incidentals necessary for the installation of driven piles.
- B. Piles shall be driven as described herein and in accordance with the design drawings to anchor the floating metal dock and its associated submersible pump in place.

1.2 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 33 00 Submittal Procedures
 - 2. Section 05 01 00 Metal Catwalks
 - 3. Section 05 52 00 Metal Railings
 - 4. Section 05 53 00 Metal Gratings
 - 5. Section 35 51 00 Floating Construction – Pump Dock

1.3 REFERENCES

- A. CA Dept. of Industrial Relations, Article 12. Pile Driving and Pile Extraction
- B. American Society for Testing and Materials (ASTM) standards:
 - 1. ASTM D25 - 12(2017) Standard Specification for Round Timber Piles
 - 2. ASTM D2899 - 12(2017) Standard Practice for Establishing Allowable Stresses for Round Timber Piles
- C. OSHA 1926.603 - Pile driving equipment.

1.4 SUBMITTALS

- A. Contractor is responsible for submission of round wood piling length, diameter, material and procedures for installation applicable with local and state standards.

1.5 QUALITY ASSURANCE

- A. A danger zone shall be clearly delineated around the operating hammer where workers involved in cutting, chipping or welding operations shall be prohibited so as to protect them from the hazards of falling objects.

SECTION 31 62 00 DRIVEN PILES

1. The Contractor shall establish the danger zone.
 2. The danger zone shall be maintained under the supervision of a competent person designated by the Contractor performing the work.
- B. A blocking device or other effective means capable of safely supporting the weight of the hammer shall be provided to secure the hammer in the leads and shall be used at all times when any worker is under the hammer.

PART 2 - MATERIALS

2.1 ROUND WOOD PILINGS

- A. Round wood pilings (or an Owner's alternative approved equal) rated for pier and dock use shall be utilized. The round pilings shall meet internationally accepted ASTM D25 and D2899 design standards and include supplier notification of durability to last no less than 30 years.
- B. The pilings shall be minimum 12-inches in diameter, 30 feet in height (with at least six feet buried into basin floor) in order to have a minimum 4 feet of piling showing when protruding from maximum basin elevation.
- C. Anchoring and connection shall be as described in 35 51 00 Floating Construction – Pump Dock and/or as shown in the design drawings.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Pressurized Lines and Hoses.
1. All pile driver hose connections including those to pile driver hammers, pile ejectors, or jet pipes shall be securely tethered with an adequate length of at least 1/4 inch (0.635 cm) alloy steel chain having 3,250 pounds (1,500 kg) rated capacity (working load limit), or equivalent strength alloy steel cable to prevent the line from thrashing around in case the coupling becomes disconnected.
 2. Chains or wire rope shall not be shortened with knots, bolts or other makeshift devices.
 3. Steam and compressed air line controls shall consist of two shutoff valves. At least one shutoff valve shall be equipped with a quick-acting lever within easy reach of the pile hammer operator.
- B. When used, platforms shall be of sufficient size so that workers can easily avoid contact with the hammer. It shall be surrounded on all sides, except between the hammer leads, with a railing or guard line 42 to 45 inches in height. Guard lines shall be taut and at least 3/8 inch wire rope or metal equivalent.
1. Exception: Pipe or structural steel railings of equivalent strength may be used.
- C. Precautions shall be taken to ensure that objects are secured against wind and

SECTION 31 62 00 DRIVEN PILES

accidental displacement, to prevent tools, material, and equipment from falling off elevated platforms. Toeboards shall be installed on all sides of the platform in accordance with Section 1621(b).

D. Access to Pile Leads.

1. Leads shall be provided with a continuous ladder or horizontal bracing that is uniformly spaced at intervals no greater than 18 inches, and the leads shall be equipped with adequate anchorages, so that workers may engage their personal fall protection system to the leads. The personal fall protection system shall comply with the requirements of Article 24.
2. The operator of the equipment will apply all brakes and necessary safety switches to prevent uncontrolled motion of the equipment before workers may access the leads.

E. Sheet Pile Access.

1. If a worker is required to go aloft on sheet piling, the worker shall use an aerial device or ladder.
 - a. Workers shall not ride the hammer, crane load block or overhaul ball.
 - b. A crane suspended personnel platform may be used for access if used in accordance with Section 1616.6(p).
2. Sheet piling shall be firmly stabilized before workers are permitted to work on them.
3. Stirrups shall be provided for use by workers who must take a position on sheet piles.

F. Specific Pile Driving Requirements.

1. Where work is to be performed, walkways at least 20 inches in width shall be provided across piles or other open work with the exception of those piles on which the driver is standing.
2. Before any type of pile is placed in position for driving, the pile head must be cut square to the driving head and free of concrete spall, steel fragments, or other debris.
3. Where a drop hammer is used for driving piling other than sheet piling, a driving head or bonnet shall be provided to bell the head of the pile and hold it true in the leads.

3.2 INSTALLATION

A. Pile Hammer Requirements.

1. General
 - a. The pile hammer, clamp, power unit and supply hoses shall be inspected in

SECTION 31 62 00 DRIVEN PILES

accordance with their manufacturer's recommendations. Associated equipment such as the couplings, support and lifting equipment, rigging and retaining bolts shall be inspected before each shift and periodically during use.

- b. Driving heads shall be kept aligned with the pile and pile hammer as a pile is driven.
2. Vibratory pile hammers.
 - a. When driving with a crane-suspended vibratory pile hammer, the person operating the remote on/off clamp switch shall be in direct visual contact with the signal person.
 - b. The exciter (vibratory pile hammer) shall not be unclamped from the pile when there is any line pull on the suspension or when the pile hammer is still vibrating.
 - B. Ring buoys shall be provided by the Contractor and located where readily available at intervals not exceeding 200 feet on all structures over water under the course of construction.
 1. Where workers are concentrated in groups, there shall be additional ring buoys consisting of not less than 1 additional buoy for each 25 workers in that area. Portable standards or equivalent means to hold the ring buoys in plain view shall be provided. Life-saving boats shall be provided in accordance with Article 13.
 - C. Pile driving from barges and floats. Barges or floats supporting pile driving operations shall meet the requirements of Article 13. All floating rigs, with the exception of small work rafts or pontoons, shall be equipped with at least 2 ring buoys.
 - D. In every crew there shall be a designated signaler, and the engine or winch operator shall receive signals from no other except, that when a worker is aloft, the hammer shall not be moved except on the signal of the worker aloft.
 - E. All deck engines, not operated by an operator on the throttle sides, shall be equipped with a cross extension of the throttle that is within the reach of the spool tender.
 - F. Hoist Drums.
 1. Every hoisting drum on a pile driver that uses a pawl and ratchet arrangement to hold it in position shall be equipped with an effective pawl and ratchet capable of holding the rated load capacity when it is suspended.
 2. This pawl shall be readily visible from the engine operator's station or shall be provided with a directly connected and positive telltale device that will be visible.
 3. Pawls which automatically disengage either by relieving the load or rotating the drum are prohibited.
 - G. Pile Leads.
 1. Stop blocks shall be provided for the leads to prevent the hammer from being

SECTION 31 62 00 DRIVEN PILES

raised against the head block.

2. Guards or devices shall be provided across the top of the head block to prevent the cable from jumping out of the sheaves.
3. When the leads must be inclined in the driving of batter piles, provisions shall be made to stabilize the leads.
4. Pile gates, when used, shall be of a size sufficient to secure piling at the bottom of the leads during driving operations.

H. Pile Driving Rig Stability.

1. Guys, outriggers, thrustouts, or counter-balances shall be provided as necessary to maintain stability of pile driver rigs.
2. Hammers shall be lowered to the bottom of the leads while the pile driver is being moved (traveling).
3. All workers shall be kept clear when piling is being hoisted into the leads.

I. When steel tube (pipe) piles are being blown out, workers shall be kept well beyond the range of falling materials.

J. When driving jacked piles, all access pits shall be provided with ladders and bulkheaded curbs to prevent material from falling into the pit.

1. Note: Section 5158 of the General Industry Safety Orders prescribes the minimum standards for preventing worker exposure to dangerous air contamination and/or oxygen deficiency in confined spaces.

K. Hoisting of piling shall be done by hooks provided with a means to prevent accidental disengagement or a shackle shall be used in place of a hook.

L. Taglines shall be used for controlling unguided piles and free hanging (flying) hammers.

1. Note: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

3.3 TESTING

- A. Requirements for testing during activity shall be consistent with local and state and OSHA requirements.

PART 4 - MEASUREMENT AND PAYMENT

4.1 DRIVEN PILES

- A. All costs for equipment and labor associated with Driven Piles for this project shall be included in the Bid item for "West Basin Outlet Structure" (Bid Item No. 13). No separate payment for this item shall be made.

SECTION 31 62 00 DRIVEN PILES

END OF SECTION

SECTION 32 15 00 AGGREGATE SURFACING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Aggregate shall be placed as shown on the Construction Drawings.
- B. The Contractor shall furnish all labor, materials, tools, supervision, transportation, and equipment necessary to install aggregate as shown on the Construction Drawings.

1.2 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 31 20 00 – Earth Moving
 - 3. Section 31 14 13.16 – Soil Stockpiling
 - 4. Section 31 25 00 – Erosion and Sedimentation Controls
 - 5. Section 31 35 19.16 – Geotextile Slope Protection

1.3 REFERENCES

- A. 2018 Greenbook
- B. 2018 Whitebook
- C. American Society for Testing and Materials (ASTM) standards:
 - 1. ASTM C 33 Standard Specification for Concrete Aggregates
 - 2. ASTM C 131 Resistance of Small Size Coarse Aggregate to Degradation in the Los Angeles Machine

1.4 SUBMITTALS

- A. The Contractor shall submit, in writing, materials testing reports and other pertinent information satisfactory to the Engineer to the City, Construction Manager, Engineer, and Construction Quality Assurance (CQA) Consultant. These submittals shall demonstrate the materials and methods Contractor proposes to use and how these materials and methods comply with the provisions of this Section. Submittals shall be in conformance with Section 01 33 00. Material shall not be delivered until approved by the Construction Manager, CQA Consultant, and Engineer.
- B. Suitability Tests of Proposed Materials: For materials not produced by a supplier currently authorized by the City Materials and Testing Lab, tests for conformance with

SECTION 32 15 00 AGGREGATE SURFACING

the Specifications shall be performed before start of the Work. The samples shall be identified to show the name of the material, aggregate source, name of the supplier, contract number, and the segment of the Work where the material represented by the sample is to be used. Results of all tests shall be submitted to the Construction Manager for approval. Materials to be tested shall include aggregate base.

- C. The Contractor shall submit certification and test records of all proposed materials showing that they meet the applicable requirements.

1.5 QUALITY ASSURANCE

- A. Quality assurance testing will be provided by the City Materials and Testing Lab. Frequency of sampling and testing for quality control laboratory testing for alternative materials is at the sole discretion of the Engineer. This Section does not relieve the Contractor from securing the necessary construction control testing during construction when required by the contract documents.
- B. The Contractor shall ensure that the materials and methods used for placement of aggregate meets the requirements of the Construction Drawings and this Section. Any material or method that does not conform to these documents, or to alternatives approved in writing by the Engineer will be rejected and shall be repaired or replaced by the Contractor.

PART 2 - MATERIALS

2.1 GENERAL

- A. Aggregate materials shall meet grading and durability requirements specified in the Section 200, Rock Materials of the Whitebook, the 2018 CalTrans Standard Specifications, and/or the current version of ASTM C33.
- B. Alternative materials to those specified below may be proposed by the Contractor. Alternative materials must meet gradation and durability requirements as specified by the Engineer and confirmed by the City's material testing laboratory. Frequency of sampling and testing for quality control laboratory testing for alternative materials is at the sole discretion of the Engineer.

2.2 SELECT AGGREGATE

- A. The Contractor shall use an aggregate mix that conforms to the ¾ inch maximum grading requirements of Section 200-2.9.2, Class 2 Aggregate Base of the Whitebook, or an equal as approved by the Engineer, for the construction of "Graded Gravel Road" and "¾" Crushed Rock".

SECTION 32 15 00 AGGREGATE SURFACING

Select Aggregate Gradation

Sieve Size		Percent Passing
1"	25 mm	100
3/4"	19 mm	87-100
#4	4.75 mm	30-60
#30	600 µm	5-35
#200	75 µm	0-12

- B. The Contractor shall present the results of analytical soil testing for presence of Title 22 metals to the Engineer 10 days prior to initiation of compaction activities on the roadways. No Title 22 exceedances shall be permitted in imported aggregate materials.

PART 3 - EXECUTION

3.1 PLACEMENT

- A. The Contractor shall place the aggregate in a manner which does not tear or otherwise damage any underlying, overlying, or otherwise adjacent geosynthetic installed per Section 31 35 19.16.
- B. The Contractor shall load and place aggregate in a manner which minimizes fines production and migration.
- C. Unless otherwise specified by the Construction Drawings, these Specifications, or the Engineer, Roadway Aggregate shall be placed at optimum moisture content plus or minus 2%. Optimum moisture content shall be determined by ASTM D1557.
- D. Unless otherwise specified by the Construction Drawings, these Specifications, or the Engineer, Roadway Aggregate shall be compacted to a minimum density of 90% of the maximum dry density as determined by ASTM D1557.
- E. Unless otherwise specified, Roadway Aggregate shall be placed in lifts not to exceed 12 inches thick of loose material.

3.2 PROTECTION OF WORK

- A. The Contractor shall use all means necessary to protect all work of this Section.

PART 4 - MEASUREMENT AND PAYMENT

4.1 AGGREGATE SURFACING

- A. All costs for equipment and labor associated with Aggregate Surfacing for this project shall be included in the Bid items "Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel" (Bid Item No. 10), "Hawthorne Basin Spillway, Outlet Structure, and Skimmer" (Bid Item No. 11), "Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy

SECTION 32 15 00 AGGREGATE SURFACING

Dissipaters” (Bid Item No. 12), “West Basin Maintenance Pad” (Bid Item No. 15), “East Basin Grading and Access Ramp” (Bid Item No. 16). No separate payment for this item shall be made.

END OF SECTION

SECTION 33 40 00 STORMWATER UTILITIES

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The Contractor shall furnish all labor, materials, tools, supervision, transportation, equipment, and incidentals necessary for the installation of drainage systems. The work shall be carried out as specified herein and in accordance with the Construction Drawings.
- B. The work shall include, but not be limited to, delivery, storage, and placement of the various drainage components of the project.

1.2 RELATED SECTIONS

- A. The Work of the following Sections applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 57 19 – Temporary Environmental Controls
 - 3. Section 01 57 23 – Temporary Storm Water Pollution Control
 - 4. Section 31 20 00 – Earth Moving
 - 5. Section 31 25 00 – Erosion and Sedimentation Controls
 - 6. Section 31 35 19.16 – Geotextile Slope Protection
 - 7. Section 31 37 00 – Riprap
 - 8. Section 32 15 00 – Aggregate Surfacing

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated in this Section, the Contractor shall comply with the 2018 edition of the Greenbook, together with the 2018 edition of the City of San Diego Supplement, Whitebook.
- B. 2018 edition of the City of San Diego Standard Drawings for Public Works Construction.

SECTION 33 40 00 STORMWATER UTILITIES

1.4 CONTRACTOR SUBMITTALS

- A. The Contractor shall submit, in writing, materials testing reports, job-mix formulas, and other pertinent information satisfactory to the Engineer, demonstrating that materials and methods Contractor proposes to use will comply with the provisions of this Section. Submittals shall be in accordance with the requirements of Section 01 33 00 – Submittal Procedures.
- B. Suitability Tests of Proposed Materials: For materials not produced by a supplier currently authorized by the City Materials and Testing Lab, tests for conformance with the Specifications shall be performed before start of the Work. The samples shall be identified to show the name of the material, aggregate source, name of the supplier, contract number, and the segment of the Work where the material represented by the sample is to be used. Results of all tests shall be submitted to the Construction Manager for approval. Materials to be tested shall include aggregate base and coarse and fine aggregate for concrete.
- C. The Contractor shall submit certification and test records of all proposed materials showing that they meet the applicable requirements.

1.5 QUALITY ASSURANCE

- A. Quality assurance testing will be provided by the City Materials and Testing Lab. This does not relieve the Contractor from securing the necessary construction control testing during construction when required by the contract documents.

PART 2 - PRODUCTS

2.1 WOVEN GEOTEXTILE MAT (HIGH TENSILE STRENGTH)

- A. Woven geotextile mat (high tensile strength) shall conform to the requirements of Section 31 35 19.16 of this document.

2.2 RIP-RAP

- A. Materials for rip-rap shall conform to the requirements of Section 31 05 16 of this document.

2.3 HIGH DENSITY POLYETHYLENE (HDPE) PIPE

- A. HDPE shall meet AWWA C901/C906, ASTM D2239, ASTM D2737, ASTM D3035, ASTM F714, Cell Class Per ASTM D3350, PPI Listed Material (TR-4) PE 4710, and ANSI/NSF-14, DR-11. Pipe and fittings shall be homogenous throughout and free of visible cracks, holes, foreign inclusions, or other injurious defects. Pipe and fittings shall also be uniform in color, capacity, density, and other physical properties.
 - 1. Molded HDPE Fittings: ASTM D3350, PE resin, butt-fusion type, made to match HDPE pipe dimensions and class.

SECTION 33 40 00 STORMWATER UTILITIES

2.4 POLYVINYL CHLORIDE (PVC) PIPE

- A. PVC shall meet Cell Classification 12454-B polyvinyl chloride per ASTM D1784. Clean rework or recycle material generated by the manufacturer's own production may be used so long as the pipe or fittings produced meet all the requirements of this Section. Pipe and fittings shall be homogenous throughout and free of visible cracks, holes, foreign inclusions, or other injurious defects. Pipe and fittings shall also be uniform in color, capacity, density, and other physical properties.
1. PVC Pipe: ASTM D1784 and D1785, Schedule 40 PVC pipe.
 2. PVC Fittings: ASTM D2466, solvent-weld type, made to match PVC pipe dimensions and type.
 3. PVC pipe and fitting primer shall meet the requirements of ASTM F656 and solvent cements shall meet the requirements of ASTM D2564.

2.5 CONCRETE PIPE AND FITTINGS

- A. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76.
1. Bell-and-spigot ends and gasketed joints with ASTM C 443, rubber gaskets
 - a. Pipe shall comply with Section 207-2 of the Whitebook and meet all requirements of ASTM C76.
 - b. Portland Cement: Type II. Conforming to ASTM C150.
 - c. Strength Classes: Minimum design shall be shown under Class III with D loading of 1350. D-Load classification shall be shown on plans.
 2. Joints:
 - a. Class C mortar, as specified in Section 201-10.2 of the Whitebook.
 3. Hydrostatic Pressure: Manufacture pipe capable of withstanding an internal pressure of 10 psi.
 - a. Class II, Wall A

2.6 STORMWATER INLETS

- A. Frames and Grates: Heavy duty, according to utility standards.

PART 3 - EXECUTION

3.1 WOVEN GEOTEXTILE MAT

- A. Installation of woven geotextile mat (high tensile strength) shall conform to the requirements of Section 31 35 19.16 of this document and as shown on the Construction Drawings.

SECTION 33 40 00 STORMWATER UTILITIES

3.2 RIPRAP

- A. Installation of riprap shall conform to the requirements of Section 31 37 00 of this document.

3.3 PIPE HANDLING

When shipping, delivering, and storing pipe, fittings, and accessories, do so to ensure a sound, undamaged installation. Provide adequate storage for all materials and equipment delivered to the job site. Pipe and pipe fittings shall be handled carefully in loading and unloading so as not to damage the pipe, fittings, or underlying materials.

3.4 CONCRETE PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install pipe in accordance with ASTM D 2321, UNI-B-5 and the following:
 - 1. Inspect each pipe and fitting before lowering the pipe or fitting into the trench. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.
 - 2. Use implements, tools, and facilities for the safe and proper protection of the pipe. Handle pipe in such a manner as to avoid any physical damage to the pipe. Do not drop or dump pipe into trenches under any circumstances.
 - 3. When installing piping in trenches, do not deviate more than 1 inch from line or 1/4 inch from grade. Measure for grade at the pipe invert.
 - 4. Grade the bottom of the trench to the line and grade to which the pipe is to be laid, with allowance for pipe thickness. Remove hard spots that would prevent a uniform thickness of bedding. Before laying each section of the pipe, check the grade with a straightedge and correct any irregularities found. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between bell holes, except that the grade may be disturbed for the removal of lifting tackle.
 - 5. At the location of each joint, dig bell (joint) holes in the bottom of the trench and at the sides to permit visual inspection of the entire joint.
 - 6. Provide and maintain means and devices at all times to remove and dispose of all water entering the trench during the process of pipelaying. The trench shall be kept dry until the pipelaying and jointing are completed. Removal of water shall be in conformance with specifications in Section 01 06 5.

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7. When the pipelaying is not in progress, including the noon hours, close the open ends of pipe. Do not permit trench water, animals, or foreign material to enter the pipe.
 8. Lay pipe without break, upgrade from structure to structure, with the bell ends of the pipe upgrade.
 9. Do not use the pipe as a drain for removing water that has infiltrated into the trench.
 10. After joint assembly, bring the bedding material up to 1 foot above the top of the pipe. Place and compact the imported sand as directed in Section 02 30 0. The remainder of the backfill shall be native earth backfill, installed per Section 02 30 0.
- C. Reinforced Concrete Pipe Installation Procedures and Workmanship: Contractor shall ensure that proper installation instructions be furnished by the pipe manufacturer. The pipe shall be laid true to line and grade as shown on the Plans.
1. All pipe shall be laid on a prepared subgrade with a firm even bearing along the entire length of the pipe. The pipe shall be lowered into position in a careful and safe manner using equipment capable of handling the pipe without overloading the equipment or damaging the pipe.
 2. Concrete pipe sections shall be closely jointed, the invert being carefully matched to form a smooth flowline. Pipe with elliptical reinforcement shall be placed with the minor axis of the reinforcement in a vertical position. Pipe shall be laid beginning at the outlet and proceeding upgrade. Tongue and groove pipe shall be laid with the groove upgrade.
 3. The maximum spread allowed to obtain pipe alignment shall be one inch measured on the outside of the joint. For short radius curves, pipe with five-degree bevel on one or both ends as required shall be used.
 - a. Jointing: Field jointing shall be executed per subsection 306-1.2.4. The inside of mortar joints shall be cleared of all excess mortar and the joint troweled to form a finished joint that is smooth and a regular true plane surface from one pipe to the other.
 - b. Butt Joints: Where necessary, pipe shall be cut to a neat butt joint, the flowlines evenly matched and the joint shall be encased in a concrete collar. The concrete collar and ends of pipe within structures shall be constructed in accordance with the Standard Drawings D-62. The inside of butt joints shall be completed as described above.
 4. Structures: Where cleanouts, inlets, catch basins or other structures are constructed, the ends of pipes shall be placed flush or cut off flush with the inside structure face unless otherwise directed by the City's Representative. Pipe ends at structures shall be rounded in accordance with the Standard Drawings.

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- a. Provide a joint within a distance of one pipe diameter of the face of concrete at each structure.
- D. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
- E. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- F. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- G. Install gravity-flow, non-pressure drainage piping according to the following:
 1. Install piping pitched down in direction of flow.
 2. Install piping with minimum cover, as shown on the drawings.
- H. Pipe Joint Construction
 1. Apply the joint manufacturer's lubricant to the pipe spigot to assemble the joint. Follow the manufacturer's instructions. Make joints water tight and root tight.
 2. Join gravity flow, non-pressure drainage piping according to ACPA's "Concrete Pipe Installation Manual" for rubber gasketed joints.

3.5 HDPE AND PVC PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions. Use pipe, fittings, and joining methods for piping systems according to the pipe material and the following applications.
- B. Pipe shall be inspected for cuts, scratches, or other damage prior to installation. Any pipe showing damage, which in the opinion of the Engineer will affect performance of the pipe, must be removed from the site. Replace any material found to be defective at no additional cost to the City.
- C. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.
- D. Do not use flanges or unions for underground piping. Underground installation of piping shall be performed in accordance with ASTM D2774.
- E. Flanges, unions, grooved-end-pipe couplings, and special fittings may be used, instead

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of joints indicated, on aboveground piping and piping in vaults.

- F. Where PVC pipe is installed within concrete without a sleeve, the pipe shall be wrapped with closed cell expanded polyethylene (CCPE) foam, or equivalent approved by the Engineer, such that no part of the pipe be exposed to concrete. The minimum thickness of the expansion wrap shall be ¼ inch.

3.6 JOINING OF PVC PIPE

- A. PVC pipe and fittings shall be joined by primer and solvent-cements in accordance with ASTM D2855.
- B. All burrs, chips, etc., shall be removed from pipe interior and exterior.
- C. All loose dirt and moisture shall be wiped from the interior and exterior of the pipe end and the interior of fittings.
- D. All pipe cuts shall be square and perpendicular to the centerline of the pipe.
- E. Pipe and fittings shall be selected so that there will be as small a deviation as possible at the joints, and so inverts present a smooth surface. Pipe and fittings that do not fit together to form a tight fit shall be rejected.

3.7 STORMWATER INLET AND OUTLET INSTALLATION

- A. Construct inlet head walls, aprons, and sides of reinforced concrete, as indicated in Sheets C-3, C-4, C-5, and C-10 of the Construction Drawings.
- B. Construct riprap, as indicated in Sheets C-3, C-4, C-5, C-7, C-8, and C-10 of the Construction Drawings.
- C. Install outlets that spill onto grade, anchored with concrete, where indicated in Sheets C-3, C-4, C-5, and C-7 of the Construction Drawings.
- D. Construct energy dissipaters at outlets, as indicated in Sheets C-3, C-5, and C-7 of the Construction Drawings.

3.8 TYPE A CONCRETE DRAINAGE DITCH

- A. Construct Type A concrete drainage ditches of reinforced concrete, as indicated in Sheets C-3 and C-4 of the Construction Drawings.
- B. Place cast-in-place concrete according to ACI 318 and Section 03 30 00.

3.9 IDENTIFICATION

- A. Materials and their installation are specified in Section 31 20 00 "Earth Moving." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.
 - 1. Use detectable warning tape over nonferrous piping and over edges of underground structures.

SECTION 33 40 00 STORMWATER UTILITIES

3.10 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
1. Submit separate reports for each system inspection.
 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
 3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
 2. Test completed piping systems according to requirements of authorities having jurisdiction.
 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
 4. Submit separate report for each test.
- C. Reinforced Concrete Storm Drain Pipe Field Tests and Inspections, General: The City's Representative will conduct field inspections and witness all field tests specified in this section. The Contractor shall perform all field tests and provide all labor, equipment, and incidentals required for testing, except that water and electric power needed for field tests will be furnished as set forth in Division 1. The Contractor shall be able to produce evidence, when required, that any item of work has been constructed properly in accordance with the drawings and specifications.
1. Warranty Period Test: Pipe found to have a deflection of greater than five percent when deflection test is performed just prior to end of one-year warranty period shall be replaced and tested as previously specified for leakage and deflection.

3.11 CLEANING

SECTION 33 40 00 STORMWATER UTILITIES

- A. Clean interior of piping of dirt and superfluous materials.

3.12 CLOSEOUT DOCUMENTATION

- A. Report: Prepare a written report documenting the field tests performed including the following:
 - 1. Pipe location, identified by the City's storm drain numbering system.
 - 2. Pipe sections being viewed.
 - a. Markup pipe section in conjunction with storm drain Drawings.
- B. Submit written report, and Drawing markups to City in accordance with Section 01 78 39 – Project Record Documents.

PART 4 - MEASUREMENT AND PAYMENT

4.1 STORMWATER UTILITIES

- A. All costs for equipment and labor associated with Inlet Protection, Type 2 Energy Dissipaters, Reinforced Concrete Pipe, HDPE Pipe, PVC Pipe, Type A Concrete Drainage Ditch, Concrete Headwalls/Endwalls, Grated Inlets, Cleanout Structures, or other items as necessary. Construction of Stormwater Utilities for this project shall be included in the Bid items “Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel” (Bid Item No. 10), “Hawthorne Basin Spillway, Outlet Structure, and Skimmer” (Bid Item No. 11), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), “East Basin Grading and Access Ramp” (Bid Item No. 16), “East Basin Outlet Structure and Skimmer” (Bid Item No. 17), and “East Basin Down Drain and Flume” (Bid Item No. 18.) No separate payment for this item shall be made.

END OF SECTION

SECTION 35 51 00
FLOATING CONSTRUCTION – PUMP DOCK

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The Contractor shall furnish all labor, materials, tools, supervision, transportation, equipment, and incidentals necessary for the installation of the floating pump dock systems. The work shall be carried out as specified herein and in accordance with the Construction Drawings.
- B. The work shall include, but not be limited to, delivery, storage, and placement of the various components of the project.

1.2 RELATED SECTIONS

- A. Section 05 01 00 – Metal Catwalk
- B. Section 05 52 00 – Metal Railings
- C. Section 05 53 00 – Metal Gratings
- D. Section 31 62 00 – Driven Piles

1.3 CITED STANDARDS

- A. American Institute of Steel Construction (AISC).
 - 1. AISC 207 - Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components
 - 2. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges
 - 3. AISC 325 - Steel Construction Manual
 - 4. AISC 326 - Detailing for Steel Construction
- B. American Welding Society (AWS).
- C. American Iron and Steel Institute (AISI) Standards for light gauge steel building.
- D. American Society for Testing Materials (ASTM).
 - 1. ASTM A36 - Carbon Structural Steel
 - 2. ASTM A53 – Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 3. ASTM A325 – Structural Bolts, Steel, Heat Treated 120/105 ksi Minimum Tensile Strength.
 - 4. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural

SECTION 35 51 00 FLOATING CONSTRUCTION – PUMP DOCK

Tubing in rounds and Shapes.

5. ASTM A501 – Hot-rolled Welded and Seamless Carbon Steel Structural Tubing.
 6. ASTM A572 – High-Strength Low-Allow Columbium-Vanadium Structural Steel.
 7. ASTM A576-90b (2000) Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.
 8. ASTM A992 – Steel for Structural Shapes
- E. United States Military Standard
1. MIL-M-17194C (Metals, Expanded, Steel)
 2. MIL-G 18015 (Ships, Gratings, metals, other than Bar Type)
 3. Federal Specification RR-G-661-B.

1.4 NOTED RESTRICTIONS

1.5 QUALITY CONTROL

- A. The floating dock system shall be provided by a commercial manufacturer experienced in the design, manufacture and installation of commercial floating dock systems similar to those proposed for use in this project.
- B. Floating Construction Dock and primary related accessories shall be provided by Floating Docks Mfg. Co., Indianapolis, IN (800) 969-3625 or an approved equal.
- C. The grating shall conform to Military Specifications MIL-M-17194C (Metals, Expanded, Steel) and Mil-G 18015 (Ships, Gratings, metals, other than Bar Type) and the deflection requirements of Federal Specification RR-G-661-B.
- D. The concentrated load deflection for grating shall not exceed the ¼” maximum deflection as stated by Federal Specification RR-G-661b and the generally accepted recommendation for normal pedestrian comfort.
- E. Contractor shall certify that grating has been tested, indicating maximum allowable uniform and concentrated loads, with a factor of safety of 2, per AISC, Section 6.
- F. Components shall be welded using filler metal in accordance with AWS A5.28 for the GMAW process. Welding and weld procedure qualifications tests shall conform to AWS D1.1.
- G. All welds shall be inspected by the fabricator to verify the reliability of production as follows:
 - a. Visual inspection of all welds, proof testing of welds, and sufficient destructive testing of weld samples fabricated during the production welding.
 - b. Poor welding workmanship noted by visual inspection will be sufficient cause for rejection.

SECTION 35 51 00 FLOATING CONSTRUCTION – PUMP DOCK

- H. All welding shall conform to the requirements of the American Welding Society. Welds are a solid homogeneous part of the metals joined and are free from pits and scale. Welds are also of lengths and areas necessary for proper structural strength. Welding on galvanized steel frame shall be avoided whenever possible. However, if necessary, all welding on galvanized metal shall be thoroughly cleaned and coated with two coats of cold galvanizing compound. All finished structural members will be free from twists, bends, distortions, and open joints. The steel shall also be free from sharp edges and burrs.
- I. The manufacturer shall warrant that the dock will be free from defects in materials and workmanship for a period two years from the date of shipment or two years from the date of installation (if installed by the manufacturer). If during this period a part is inspected and found to be defective, the manufacturer shall furnish to the owner a replacement part at no cost. This warranty does not cover damage from abuse, misuse, alteration, debris flow, fire, or Acts of God.
- J. The concentrated load deflection for grating shall not exceed the ¼” maximum deflection as stated by Federal Specification RR-G-661b and the generally accepted recommendation for normal pedestrian comfort.

PART 2 - PRODUCTS

2.1 DESIGN LOADS

A. Vertical Design Loads

1. Dead loads consist of the entire weight of the floating structure including bridges, accessories, and utilities.
2. Deck surface and structural frame live load shall be a minimum of 50 PSF applied to the full surface area of the deck.
3. Bridges and ramps shall be designed for a minimum of 50 PSF applied to the full surface area.
4. Bridge handrails shall be designed for a minimum of a 200-pound load in any direction at any point on the handrail.
5. Deck flotation live load shall be a minimum of 10 PSF and a maximum of 50 PSF applied to the full area of the deck surface. The owner shall specify deck live load based on the intended use.
6. Freeboard shall be approximately 24”. If other freeboard heights are required they should be specified by the owner.

SECTION 35 51 00 FLOATING CONSTRUCTION – PUMP DOCK

2.2 HORIZONTAL DESIGN LOADS

1. The docks shall be designed to withstand a wind load in any direction of 15 PSF on all projected surfaces

2.3 SPECIAL DESIGN LOADS

1. The docks shall be designed to withstand torsional forces such that there will not be more than 3 inches of freeboard variation per 100 feet of length under any combination of horizontal and vertical loads.
2. The docks shall be designed to withstand a 400-pound vertical point load at any point on the docks without violating the freeboard or torsion design requirements.
3. The docks shall be designed for use in a safe harbor environment as described in ASCE Report No. 50

2.4 MATERIAL AND CONSTRUCTION-SUBSTRUCTURE

A. Substructure Steel Truss Frames

1. Substructure steel frames shall be a box-truss design which is 12 inches high using all angle iron. All structural steel shall be ASTM A36 material. The top and bottom main rails shall be a minimum of 1-1/2" x 1-1/2" x 3/16" angle iron. Cross bracing and diagonal bracing shall be a minimum of 1-1/2" x 1-1/2" x 1/8" angle iron. All frames shall be hot-dip galvanized after fabrication in accordance with ASTM A123 specifications.

B. Connections

1. All standard frame-to-frame connections shall be bolted. All corner frame angles at each bolted connection shall be 3"x3"x 1/4" angle iron. Bolts shall be a minimum of 5/8" diameter and secured with self-locking type nuts.

C. Flotation

1. Formex™ Encased Flotation, or equal.
 - a. Molded Shell shall be made from high density, high molecular weight polyethylene. The high tensile strength shell shall be resistant to impacts and impermeable to water. The shell shall be ultraviolet radiation resistant and shall protect the foam core from wave action, animals, and general degradation.
 - b. Premolded Solid Foam Core shall be made from top grade expanded polystyrene (EPS) foam that conforms and thermally fuses to the shell. The premolded solid foam block shall have no loose fill or voids that can fill with water, reducing buoyancy.

SECTION 35 51 00 FLOATING CONSTRUCTION – PUMP DOCK

- c. Floats shall meet the U.S. Army Corps of Engineers warranty requirements for less than 3 lbs./cu. ft. of water absorption.
 - d. Floats shall be designed to support a 2,500 lb pump unit and a 20 psf live load on the platform with a freeboard of approximately 20” at dead load condition.
2. Rotationally Molded Encased Flotation
 - a. All units manufactured from virgin polyethylene resin containing U.V. ray inhibitors and carbon black pigment to protect against ultra-violet deterioration. Resins shall offer a balance of toughness, rigidity, environmental stress crack resistance and low temperature impact performance. Resin shall also be in compliance with FDA title 21. This is a food grade material that will not contaminate the waterways. Nominal wall thickness of the polyethylene shall be .150” and the encasement shall be recyclable.
 - b. The flotation material shall be expanded polystyrene of not less than 0.9 lbs./cu. ft. density. Floats shall meet the Corps of Engineers Regulation #36 CFR Part 327.
 - c. Floats shall meet the U.S. Army Corps of Engineers warranty requirements for less than 3 lbs./cu. ft. of water absorption. Floats shall pass a puncture test, the "Hunt Absorption Test" and be 100% impervious to water and gasoline.
 3. Decking – all decking shall be of metal material as defined in related sections.

D. Anchorage

1. Anchorage shall be designed for the specific location and exposure of the dock installation via use of driven piles into the basin bed. The anchoring system shall be designed to resist the specified loads at the maximum and minimum water levels.
2. The driven piles shall be installed as described in 31 62 00.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Contractor shall examine building drawings and areas and conditions in which systems are to be installed. Notify the Engineer of areas or conditions not acceptable for support of system. Do not begin installation until unacceptable areas or conditions have been corrected.
- B. Contractor shall take precautions to avoid scarring or marring steel surfaces. Any such damage causing objectionable appearance or contributing to weakness of the structure will be cause for rejection.
- C. Contractor shall check all dimensions before installation.
- D. Tubing shall be seamless, clean, smooth and free from defects.

SECTION 35 51 00 FLOATING CONSTRUCTION – PUMP DOCK

3.2 INSTALLATION -NONE

3.3 TESTING -NONE

PART 4 - MEASUREMENT AND PAYMENT

4.1 FLOATING CONSTRUCTION – PUMP DOCK

- A. All costs for equipment and labor associated with Floating Construction – Pump Dock for this project shall be included in the Bid item for “West Basin Outlet Structure” (Bid Item No. 13). No separate payment for this item shall be made.

END OF SECTION

SECTION 40 05 13.11 LEAK TESTING OF PIPING

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. This specification identifies the minimum requirements for leak testing of HDPE piping installed by the Contractor.

1.2 RELATED SECTIONS - NONE

1.3 CITED STANDARDS

- A. Leak testing shall be conducted according to the latest revision of AWWA specifications and procedures. Leak test procedures may vary for different pipe materials.

1.4 NOTED RESTRICTIONS

- A. Leak testing shall be limited to 1,000-foot intervals or between isolation valve locations, whichever is the shorter distance.
- B. Changes in temperature will increase or decrease the apparent test pressure in any piping system. The effect depends on the rate of expansion of the pipe wall compared to the water in the pipe. When possible, testing should be done during periods of relatively stable atmospheric temperatures. Early mornings and late afternoons are good times to test the pipe.
- C. Under no circumstances shall the total time under the test exceed eight (8) hours at 1.5 times the pressure rating of the lowest rated component in the system. If the test is not completed due to leakage, equipment failure, etc., the test section shall be allowed to “relax” for eight (8) hours prior to the next test.

1.5 QUALITY CONTROL

- A. The Contractor shall perform hydrostatic testing of single-walled piping and the inner pipe of double-walled piping.
- B. The Contractor shall develop detailed procedures for leak testing based on the minimum requirements of this specification, and manufacturer's instructions. Leak testing procedures shall be submitted to the Engineer for review and approval.
- C. Leak testing shall be witnessed by the Engineer.
- D. In general, service leak testing shall be conducted on the following systems:
 - 1. All equipment, equipment connections, hose and pipelines.
 - 2. Instruments and instrument tubing connections to equipment, piping, or ducting.

SECTION 40 05 13.11 LEAK TESTING OF PIPING

3. Flanges or other connections temporarily blinded or capped for hydrostatic or pneumatic testing.
- E. Requirements Prior to Testing
1. Before testing, the pipeline should be held in place while testing.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All temporary test gauges, fittings, valves, pumps, compressors, test media, relief devices, and leak inspection materials, including soap solutions, shall be specified and provided by the Contractor.
- B. Any replacement hose and piping components required to repair leaks, shall be provided by the Contractor.
- C. Water
 1. Make-up water for testing shall be clean water.

2.2 TESTING EQUIPMENT

- A. The Contractor shall provide equipment required for hydrostatic testing, including, but not limited to:
 1. All fittings bleed points, pumps, flanges, connections, etc., necessary to perform hydrostatic test.
 2. Clean water, with sufficient quantity to fill pipeline section under test.
 3. A strainer on the inlet side of pump to prevent foreign matter from entering the pipeline.
 4. Flange connections and/or valves suitable to isolate the pipeline section being tested without leaking.
 5. A relief valve capable of permitting pressure relief if pressure exceeds 20 to 25 percent above required test pressure to prevent pipeline failure.
 6. Testing pressure gauge(s)
 - a. Sufficient number of pressure gauges capable of measuring 50 percent over the intended test pressure. Pressure gauges shall be accurate within 1.0 percent.
 - b. Pressure gauges and relief valves shall be checked for accuracy prior to use during actual testing of the pipeline.
 7. A booster pump with sufficient capacity to boost the source water pressure to the required test pressure.

SECTION 40 05 13.11 LEAK TESTING OF PIPING

PART 3 - EXECUTION

3.1 EXAMINATION

- A. The system or portion of the system to be tested shall be verified to determine that the system is mechanically completed, and the following requirements have been met:
1. All solvent welded or bonded joints have cured for at least 8 hours unless the ambient temperature is less than 70 degrees Fahrenheit (°F). If the ambient temperature is less than 70°F, the cure time shall be in accordance with the manufacturer's instructions.
 2. All welding has been completed, including the acceptance of all required nondestructive examinations on pressure retaining welds.
 3. All fusion joints have been completed, including the acceptance of required nondestructive examinations on pressure-retaining welds.
 4. All flanged connections have been completed, including bolting and gaskets.
 5. All expansion joints have been installed and suitably anchored or guided in accordance with the manufacturer's instructions.
 6. All nipples and valves have been installed for vents, drains, and instrument connections as specified on the applicable design Drawings.
 7. All anchors and supports have been placed as specified on the applicable design Drawings.
 8. All joints, including welds, bonds, and piping joints have been left uninsulated and/or unburied and exposed for examination during testing.

3.2 PREPARATION

- A. The Contractor shall have a written plan, approved by the Engineer, in place and shall follow the requirements of the plan.
- B. Equipment or piping that is not to be tested shall either be disconnected or isolated by blinds or other means. A valve may be used in place of a blind if the valve is rated to the test pressure.
- C. Instrumentation shall not be installed prior to testing unless the instrument is vented.
- D. All temporary test connections shall be completed.
- E. If impractical to test in place and if specifically approved by the City or the Engineer short runs or spools of piping may be interconnected and tested together.
- F. Check valve internals shall be disassembled if the direction of the check valve does not allow complete filling or depressurizing of the system.

SECTION 40 05 13.11 LEAK TESTING OF PIPING

- G. Booster pump(s) shall provide sufficient capacity to boost the source water pressure to the required test pressure.

3.3 INSTALLATION

- A. Hydrostatic leak tests shall conform to the requirements of this specification and the manufacturer's instructions.
- B. Air vents shall be provided by the Contractor at high points in the system to ensure that air is purged from the system during filling. The number and location of high point air bleeds shall also be approved by the Engineer.
- C. The Contractor shall conduct a leak test on installed piping. The Contractor shall also furnish necessary equipment and materials and make taps in the pipe as required. The City shall be notified at least 72 hours in advance of testing.
- D. Drain valves shall be provided to facilitate filling and draining of test liquid from the system. Drain valves may be omitted if the system is to operate liquid filled.
- E. Tests shall not be performed unless weather conditions ensure a dry surface on the system to be tested or suitable weather protection can be provided.
- F. Testing shall not commence until sections of the pipeline to be tested have been secured to prevent damage to adjacent piping and equipment in the event of a joint failure. Any appurtenant instruments or devices that could be damaged by the test shall be removed from the piping or suitably isolated prior to applying the test. The Contractor will be held responsible for any damage caused by the testing.
- G. During hydrostatic leak testing of pipes installed in open trenches, joints shall be exposed for visual inspection. It is advised to cover the pipeline in intervals, especially at curves to hold the pipe in place during pressure testing.
- H. Expansion joints and/or expansion compensators shall be restrained, isolated, or removed during pressurized leak testing.
- I. Identified leaks shall be repaired and retested at no additional expense to the City, including labor and replacement of any material. After repair, the system shall be retested.
- J. After testing, the Contractor shall remove temporary blinds and remake connections disassembled for the leak test.

3.4 TESTING

- A. The hydrostatic test procedure developed by the Contractor shall include the following provisions:
 - 1. Air vents shall be opened to allow elimination of air from the system.
 - 2. The tested pipeline shall be slowly filled (<1 fps) with test fluid at the lowest point

SECTION 40 05 13.11 LEAK TESTING OF PIPING

in the system. The Contractor shall provide means for increasing pressure to the required test pressures.

3. The test section shall be completely filled with the test medium, taking care to bleed off any trapped air.
 4. When the tested pipeline is completely filled with the test fluid, the vents shall slowly be closed, and line pressure shall slowly be brought up to the indicated test pressure.
 5. Piping shall be tested up to 150% of the max. operating pressure (MAOP) of the lowest-rated component of each specified line segment.
- B. The primary system shall be pressure tested hydrostatically in two phases as follows:
1. Initial Phase – Using clean water, the piping shall be tested up to 150% of the MAOP. Once the target is reached, allow 3 hours for diametric expansion.
 2. Test Phase – After the pipeline has had time for equilibration, the test section shall be returned to 150% of the MAOP, the pump turned off, and a final test pressure held for 2 to 3 hours. If there is a leak observed, then the pipeline fails the test.
 3. If the test pressure is not returned within the allowable volume of water, the test fails.
 4. If there are no visual leaks or significant pressure drops during the final test period, the pipeline passes the test.
- C. Procedures following results
1. Examination for leakage shall be made of welds, joints, and connections.
 2. If a pressure test fails, the pipe shall be relieved, and the test section allowed to "relax" for a minimum of 8 hours before another test is attempted.
 3. Upon satisfactory completion of the test, the system shall be slowly depressurized and completely drained. Air vents shall be opened as required to prevent inducing a vacuum on the system.
 4. Provisions shall be made to divert draining test fluid from excavated and trenched areas and to maintain well-formed and supported excavations throughout the testing procedure.
- D. Test Records
1. Records shall be made of each piping system installation during the test. These records shall include:
 - a. Date of test.
 - b. Description and identification of piping tested including a marked-up plan and profile.

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- c. Starting test pressure and end pressure.
- d. Remarks, to include leaks (type, location) and repairs made on leaks
- e. Certification by the Contractor and signed acknowledgement by the Engineer.

SECTION 40 05 13.11 LEAK TESTING OF PIPING

ATTACHMENT 1 - HYDROSTATIC TEST DATA SHEET

Project Number:		Project Name:	
Piping System/Equipment:			
Description of Piping System/Equipment Being Tested:			
Reference Criteria:			
Type of Test:		Test Medium:	
Operating Pressure:		Operating Temperature:	
Test Pressure:		Test Temperature:	
Examination Pressure:		Examination Temperature:	
Minimum Holding Time at Test Pressure:		Minimum Holding Time at Examination Pressure:	
Allowable Leakage:			
Pressure Test Gauge(s)		Identification Number: _____ Calibration Due Date: _____	
Test Relief Valve(s)		Identification Number: _____ Calibration Due Date: _____	
PRETEST RELEASE SIGN-OFF			
Mechanical	Eng. _____	Date: _____	Supt: _____ Date: _____
Welded Joints	Eng. _____	Date: _____	Supt: _____ Date: _____
Instrumentation	Eng. _____	Date: _____	Supt: _____ Date: _____
Time Test Started:		Time Test Completed:	
Comments:			
Performed by Name: _____ Date: _____		Witnessed by Client Name: _____ Date: _____	
Verified by Name: _____ Date: _____		Witnessed by OWNER's REPRESENTATIVE Name: _____ Date: _____	

SECTION 40 05 13.11 LEAK TESTING OF PIPING

PART 4 - MEASUREMENT AND PAYMENT

4.1 LEAK TESTING OF PIPING

- A. All costs for equipment and labor associated with Leak Testing of Piping for this project shall be included in the Bid items for “Hawthorne Basin Grading, Embankment, Access Ramp, and Coarse Aggregate Drainage Channel” (Bid Item No. 10), “Hawthorne Basin Spillway, Outlet Structure, and Skimmer” (Bid Item No. 11), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 13), “East Basin Outlet Structure and Skimmer” (Bid Item No. 17). No separate payment for this item shall be made.

END OF SECTION

SECTION 40 05 13.74 HDPE PROCESS PIPING

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. This section includes a description of how the CONTRACTOR shall address the construction practices that relate to single-wall high density polyethylene (HDPE) discharge piping.

1.2 RELATED SECTIONS

1. SECTION 40 05 13.11 – LEAK TESTING OF PIPING

1.3 CITED STANDARDS

- A. HDPE piping shall conform to the requirements of the following standard Specifications, of the latest revisions, as applicable:
1. ASME B16.5 Pipe Flanges and Flanged Fittings NPS 1/2 through NPS 24
 2. ASME B16.21 Nonmetallic Flat Gaskets for Pipe Flanges
 3. ASME B31.3 Process Piping
 4. ASTM International C1147 Standard Practice for Determining the Short-Term Tensile Weld Strength of Chemical-Resistant Thermoplastics
 5. ASTM International D638 Standard Test Method for Tensile Properties of Plastics
 6. ASTM International D1238 Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
 7. ASTM International D1693 Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics
 8. ASTM International F2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
 9. ASTM International D2837 Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
 10. ASTM International D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
 11. ASTM International D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
 12. ASTM International D3261 Standard Specification for Butt Heat Fusion of

SECTION 40 05 13.15 HDPE PROCESS PIPING

Polyethylene Plastic Fittings for Polyethylene Plastic Pipe and Tubing

13. ASTM International F1473 Standard Test Method for Notch Tensile Test to Measure the Resistance to Slow Crack Growth of Polyethylene Pipes and Resins
14. ASTM International F714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
15. AWWA C906 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. Through 65 In. (100 mm Through 1,650 mm), for Waterworks
16. California Occupational Safety and Health Administration
17. California Code of Regulations (CCR) Title 8 Industrial Relations
18. Los Angeles County – The Standard Plans for Public Works Construction 1997
19. Los Angeles County – The Standard Plans for Public Works Construction Supplement 1999.
20. Occupational Safety and Health Administration – Code of Federal Regulations (CFR) Title 29 Part 1910
21. Occupational Safety and Health Administration – CFR Title 29 Part 1926
22. Standard Specifications for Public Works Construction (Green Book)

1.4 NOTED RESTRICTIONS

- A. Hot gas welding shall not be allowed for wetted components.
- B. Installed piping shall be tested per manufacturer specifications and **Section 40 05 13.11 Leak Testing of Piping**.

1.5 QUALITY CONTROL

- A. Fusion machine heater plate surface temperatures and hydraulic cylinder interface pressures shall be recorded during the butt fusion joining operations. Measurements shall be permanently recorded utilizing a McElroy Datalogger.
- B. The CONTRACTOR shall ensure that the persons joining the HDPE have been trained in the pipe manufacturer's recommended procedures.
- C. It is the sole responsibility of the CONTRACTOR to construct a pipeline capable of passing the leak tests. Failure of a pipeline segment to pass leak testing shall be repaired.
- D. The Supplier shall submit, in writing, that the pipe furnished under this specification is in conformance with the material and mechanical requirements specified.
- E. HDPE Pipe System
 1. Material and fittings furnished under this specification shall be from a

SECTION 40 05 13.15 HDPE PROCESS PIPING

manufacturer who has been regularly engaged in the design and manufacture of HDPE piping.

2. The HDPE piping system, including fittings and custom fabrications, shall be supplied by a single Engineer-approved manufacturer.
3. Pipe that has been tested by the manufacturer and falls outside the appropriate limits set forth in these Specifications shall be rejected for use on this project.
4. The CONTRACTOR shall submit the HDPE pipe manufacturer's Quality Assurance / Quality Control (QA/QC) records of the pipe material procured for this project to the Engineer and maintain these records for a minimum of 3 years from the date of production.

1.6 SUBMITTALS

- A. Satisfactory pipe fabrication drawings/documentation shall be submitted to the Engineer before beginning the fabrication of the pipe. Pipe fabrication drawings/documentation shall include, but not be limited to, the following information:
 1. Manufacturer/Supplier (Supplier).
 2. Type, grade, and thickness of HDPE pipe.
 3. Joint detail.
 4. Method of joint assembly.
 5. Details of flanges, dished heads, and outlets, including size and type to be utilized.
 6. Complete material lists, which shall include required hardware to assemble pipe.
 7. Pipe fusion requirements.
 8. Pipe bedding requirements and the Supplier's proposed method of construction.
 9. Pipe closure pieces and jumper pipe assemblies.
 10. Manufacturer's recommended pressure test procedure.
- B. The CONTRACTOR shall submit necessary shop drawings, vendor data, dimensional data, and inspection reports to the Engineer.
- C. The CONTRACTOR shall notify the Engineer a minimum of 7 working days in advance of intention to perform the work of this Section.
- D. If work is stopped for periods greater than 1 day for any reason other than planned or expected interruptions, the CONTRACTOR shall notify the Engineer in writing a minimum of 24 hours prior to the resumption of work.
- E. Fusion Joint Technician Certification

SECTION 40 05 13.15 HDPE PROCESS PIPING

1. The CONTRACTOR shall submit a written certification to the Engineer a minimum of 7 working days prior to construction from the HDPE pipe fusion equipment supplier and the HDPE pipe supplier that the fusion technician is employed by the pipe fusion equipment supplier and/or has received training in the proper use of the fusion equipment and manufacturer's recommended procedures.
 2. The CONTRACTOR shall submit a written certification to the Engineer from the HDPE pipe suppliers that the proposed pipe fusion method(s) and equipment are appropriate for use on the project and on the supplied HDPE pipe.
- F. Fusion bonding machine recorded parameters shall be submitted to the Engineer within 2 days following the completion of any joint. Failure to submit this information may result in the joint being rejected and replaced.
- G. Seven (7) calendar days before the start of HDPE pipe installation at the project site, the CONTRACTOR shall submit for Engineer review and approval, a comprehensive project work plan and schedule.

PART 2 - PRODUCTS

2.1 SINGLE-WALL HIGH-DENSITY POLYETHYLENE PIPE (HDPE)

- A. Polyethylene pipe shall be manufactured only from HDPE virgin compounds. piping system components (i.e., pipe, fittings, reducers, etc.) shall be of the same material and shall be the product of one manufacturer such as ISCO Industries, LLC or approved equal.
- B. The pipe and fittings shall be homogeneous throughout and free from visible cuts, cracks, holes, blisters, voids, foreign inclusions, or other defects that are visible to the naked eye and that may affect the wall integrity. Damaged sections of piping shall not be repaired. Damaged sections of piping shall be cut out and replaced per the manufacturer's procedures and recommendations.
- C. Pipe shall be uniform in color, opacity, density, and other physical properties, and free from tacky or sticky material.
- D. HDPE pipe shall be manufactured in accordance with the requirements of ASTM International F714 and AWWA C906.
- E. HDPE solid wall pipe shall be made from a plastic compound meeting the requirements of Standard PE Code Designation PE-3408 as defined by ASTM International D2837 and ASTM International D3350.
- F. HDPE pipe shall be SDR 11 and have a pressure rating of 160 psig at 73.4 degrees Fahrenheit.
- G. Exposed HDPE pipe shall be marked with a PURPLE LONGITUDINAL STRIPE extruded into the outer diameter of the pipe.

SECTION 40 05 13.15 HDPE PROCESS PIPING

H. Hydrostatic testing shall be performed for the piping. Please refer to **Section 40 05 13.11**.

2.2 HDPE FITTINGS

- A. Fittings shall be molded or fabricated from the same material as the pipe and designed for butt fusion attachment to the pipe.
 - 1. Molded fittings shall be manufactured in accordance with ASTM International D3261 and shall be so marked. Each production lot of molded fittings shall be subjected to the tests required by ASTM International D3261.
- B. Polyethylene fabricated fittings for elbows, tees, crosses, wyes, etc., shall be molded or fabricated by the pipe manufacturer.
 - 1. Butt fusion outlets shall be made to the same outside diameter or externally reinforced wall thickness, tolerances, and the internal pressure service equivalent to match the full-service pressure as the mating pipe.
 - 2. Pressure de-rated fabricated fittings shall not be permitted.
- C. Molded fittings shall be manufactured in accordance with ASTM International D3261, and so marked. Each production lot of molded fittings shall be subject to the test required under ASTM International D3261.
- D. Polyethylene flange adapters shall be made with sufficient through-bore length to be clamped in a butt fusion-joining machine without the use of a stub-end holder. The sealing surface of the flange adapter shall be machined with a series of small V-shaped grooves to provide gasket-less sealing, or to restrain the gasket against blowout.

PART 3 - EXECUTION

3.1 PREPARATION

- A. The CONTRACTOR shall carefully inspect the installed work of other sections and verify that work is complete to the point where the work of this Section may properly commence without adverse impact.
- B. If the CONTRACTOR has any concerns regarding the installed work in other sections, the Engineer shall immediately be notified in writing prior to the start of work of this Section.
- C. Installers shall be pre-qualified through sufficient training in butt fusion techniques according to ASTM International F2620.
- D. The Manufacturer's Representative shall provide on-site training in the assembly, installation, and operation of double-containment systems.

SECTION 40 05 13.15 HDPE PROCESS PIPING

3.2 INSTALLATION

A. The double-containment piping shall be installed in accordance with the manufacturer's recommended procedures.

B. Handling

1. Pipe and accessories shall be handled in a manner suitable to ensure delivery in a sound, undamaged condition. Slings for handling the pipeline shall not be positioned at butt-fused pipe joints or fitting joints to prevent stressing the fused joints.
2. The interior of the pipe and accessories shall be thoroughly cleaned of foreign matter before being installed and shall be kept clean during the operations.

C. Placing

1. Pipe and accessories shall be assembled to avoid twisting or damage to the pipe. Under no circumstances shall any of the materials be dropped or dumped.

D. Joining Methods

1. Lengths of pipe shall be assembled into suitable installation lengths by the butt-fusion process. Thermal fusion shall be conducted only by persons who have received training and are certified in the use of the fusion equipment that is intended for use on this project. The selected fusion equipment shall conform to the equipment recommended by the pipe manufacturer.

E. Pipe Supports

1. Piping shall be continuously supported throughout the piping system.
2. If necessary, additional supports shall be provided at the following locations:
 - a. where pipe changes direction
 - b. adjacent to flanged valves and strainers
 - c. equipment connections and heavy fittings.

3.3 TESTING

A. Installed piping shall be flushed and tested as per the manufacturer's specifications and as described in **Section 40 05 13.11, Leak Testing of Piping**.

SECTION 40 05 13.15 HDPE PROCESS PIPING

PART 4 - MEASUREMENT AND PAYMENT

4.1 HDPE PROCESS PIPING

- A. All costs for equipment and labor associated with HDPE Process Piping for this project shall be included in the Bid items for “Hawthorne Basin Spillway, Outlet Structure, and Skimmer” (Bid Item No. 11), “Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters” (Bid Item No. 12), “East Basin Outlet Structure and Skimmer” (Bid Item No. 17). No separate payment for this item shall be made.

END OF SECTION

SECTION 40 05 23 PROCESS VALVES

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. This section covers furnishing, installing, and testing, of valves.
- B. The Contractor shall provide valves as specified herein and as shown on the Drawings. The Contractor shall submit for approval by the Engineer a schedule of valves indicating the service, size, and connections, make, model number and any special features such as chain wheel operators, etc.

1.2 RELATED SECTIONS -NONE

1.3 CITED STANDARDS

- A. All process valves shall adhere to applicable AWWA Standards for valve material and sizing.

1.4 NOTED RESTRICTIONS

- A. No asbestos shall be used in the manufacture of any valve component.
- B. Valves shall meet the latest revision of AWWA standards. Standards may vary for different pipe materials.

1.5 QUALITY CONTROL

- A. The Contractor shall furnish and install the specified valves, complete in place, in accordance with the standard Drawings and as described in these Specifications.
- B. Manufacturer's Qualifications: Only firms, who are regularly engaged in manufacture of valves, of types and sizes required, whose products have been in satisfactory use in similar service, shall be used.
- C. Valve Types: Provide valves of same type by same manufacturer.
- D. Valve Identification: Provide valves with manufacturer's name (or trademark) and pressure rating clearly marked on valve body.
- E. Valves shall be subject to inspection at the place of manufacture, in accordance with the provisions of the referenced standards, as supplemented by the requirements herein.
- F. During the manufacture of the valves, the City or the Engineer shall be given access to areas where manufacturing and testing is in process and shall be permitted to make inspections necessary to confirm compliance with the Specifications.

SECTION 40 05 23 PROCESS VALVES

- G. Except as modified herein, materials used in the manufacture of the valves shall be tested in accordance with requirements as applicable.
- H. Valves shall be manufacturer's standard, of the design which the manufacturer recommends for the service intended. Each valve shall bear the maker's name or trademark or reference symbol to indicate the service conditions for which it is guaranteed.
- I. Packing, gaskets, discs, seats, diaphragms, lubricants, etc., shall conform to recommendations of the valve manufacturer for the intended service.
- J. Unless otherwise stated in the Specifications, the valve operating mechanisms shall be supplied by the valve manufacturer. This shall include handwheels, levers, gear boxes, and pneumatic and electric operators and positioners. The available torque shall be greater than twice the normal turning torque and shall also be greater than the seating or unseating torque.

PART 2 - PRODUCTS

2.1 VALVES

- A. The Contractor shall furnish and install the following valves:
 - 1. Hand-Wheel Gate Valve 6 inches
 - a. Ductile iron construction with bronze Stem, EPDM stem back seat rings, EPDM stem packing, and EPDM bonnet gasket
 - b. 6" Flanged inlet and outlet.
 - c. Pressure Rating 300 psi
 - d. Maximum fluid temperature 160 F
 - e. Manufacturer: NIBCO Inc. or approved equal
 - 2. Flanged Inline Swing Check Valves 6 inches
 - a. Valves shall be used on the discharge side of the pump.
 - b. Swing check valve shall use a hinge pin to swing the disc to allow or block flow. Flow from the pumps shall cause the valve to open and upon pump shut down, the disc swings off the seat to shut the valve before reverse flow starts and at a point of zero velocity of non-slam closure.
 - c. Seating shall be carbon steel. The sealing shall be 316 SS. Valve body shall be carbon steel. Disc shall be carbon steel. Hinge pin shall be 316 SS.
 - d. Manufacturer: NEWCO or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION -NONE

3.2 INSTALLATION

SECTION 40 05 23 PROCESS VALVES

- A. The Contractor shall install valving as per the Drawings, the manufacturer's directions and the Specifications contained herein.
- B. Valves shall be installed with the stems positioned in the horizontal or above the centerline of the pipe. Operators shall be positioned so that they do not interfere with pedestrian traffic. Valves shall be accessible for operation, maintenance, or removal. Valves shall be arranged to open counterclockwise by hand-wheel or lever operation unless otherwise indicated in these Specifications. Valve operators, which are 7 ft 0 in. or more above the operating floor or platform shall be chain wheel operated. Where necessary for operations as described above, valves shall be bevel or spur gear operated. Plug valve 6 in. and larger shall be gear operated.
- C. If screw end valves are recommended by the Engineer and are to be used, screw end valves shall be threaded according to the American Standard for Pipe Threads No. B2.1.
- D. Flange end valves shall have connecting end flanges in accordance with the Series of the American Standards Association for type valves covered in the Standard.
- E. Positioners or actuators shall be given special support where they overhang from the valve or where the total valve, actuator and position weight is excessive for the size of pipeline.
- F. The placement of valves, instruments and other components shall be located such that they can be easily serviced.
- G. Associated buried valves with nut operators and access vaults shall be installed per the manufacturer's recommendations.

3.3 TESTING

- A. Installed piping shall be flushed and tested as per the manufacturer's specifications.

PART 4 - MEASUREMENT AND PAYMENT

4.1 PROCESS VALVES

- A. All costs for equipment and labor associated with Process Valves for this project shall be included in the Bid items for "Hawthorne Basin Spillway, Outlet Structure, and Skimmer" (Bid Item No. 11), "Hawthorne Basin Down Drain, Gravel Surfacing, Inlet Protection, Headwall, and Type 2 Energy Dissipaters" (Bid Item No. 12), and "East Basin Outlet Structure and Skimmer" (Bid Item No. 17). No separate payment for this item shall be made.

END OF SECTION

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. This section describes how the CONTRACTOR shall furnish, install, and test (where required) the submersible solids handling wastewater pump that will be installed underneath the floating dock.

1.2 RELATED SECTIONS

- A. Section 35 51 00 - Floating Construction - Pump Dock

1.3 CITED STANDARDS

1.4 NOTED RESTRICTIONS

- A. No moving parts for any of the pumps shall be constructed from plastic or other brittle materials.
- B. The pumps should never be started unless the pump is totally submerged in water. Severe damage may be caused to the pump and motor if they are run dry.
- C. Under no circumstances shall the CONTRACTOR grip the body of the pump, cable guard or motor.
- D. When lowering the pump under the floating dock, do not use the power cables to support the weight of the pump.
- E. When working with the electrical connections, if voltage variations are larger than $\pm 10\%$, do not operate the pump.
- F. The CONTRACTOR shall be aware that voltage the generator can provide is fixed.

1.5 QUALITY CONTROL

- A. The CONTRACTOR shall provide the pump manufacturers with the necessary drawings to make certain that the pump equipment to be installed does not exceed the space allocations designated on the drawings.
- B. All pumps shall operate in the stated capacity, head, and suction lift as shown in the manufacturer's specifications.
- C. Motors shall be of ample size to operate without overload through the entire range of their designated pump characteristic curve. Ample means of lubrication shall be provided for all bearings and parts where required.
- D. Pump manufacturer shall assume responsibility for pump and motor and ensure satisfactory installation and compatible operation for completely assembled unit.

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

- E. The CONTRACTOR shall become familiar with all details of the work, verify all dimensions in the field and shall advise the Engineer of any discrepancy before performing the work.
- F. The submersible pumps and motors shall be designed for continuous submerged operation.

1.6 SUBMITTALS

- A. The submittals required in this section for each type of product include (but are not limited to) the following:
 - 1. Characteristic pump curves
 - 2. Materials
 - 3. Seal descriptions
 - 4. Impeller diameter
 - 5. Maximum impeller permissible
 - 6. NPSH requirements
 - 7. Operating point
 - 8. Certified pump tests (where required)
 - 9. Electrical characteristics of motors
 - 10. Outline dimensions
 - 11. Seal Water requirement
- B. The closeout submittals required in this section for each type of product include (but are not limited to) the following:
 - 1. Manufacturer's O&M manual and data.

PART 2 - PRODUCTS

2.1 SUMP PUMP

- A. The contractor shall furnish, install, and test one MYERS® MODELS 6VC & 6VCX Solids Handling Wastewater Pump or approved equal.
- B. Pump shall be Myers Model Numbers 6VC / 6VCX Non-Clog Submersible Pump with 8.75" 2-vane enclosed impeller or approved equal. All openings in pump impeller and volute case to be large enough to pass a 3-3/16" diameter sphere. Discharge flange shall be six (6) inch standard. The pump and motor assembly shall be FM listed for Class 1, Groups C and D explosion-proof service (6VCX only).
- C. Pump shall have a capacity of 800 GPM at a total head of 20 feet and shall use a 5 HP motor operating at 1165 RPM.

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

D. Pump shall have the following components:

1. Cable entry system - Provide triple seal protection. Cable jacket sealed by compression grommet. Individual wires sealed by epoxy potting. Terminal board separates motor chamber from cord cap.
2. Heat Sensor- Protect motor from burnout due to excessive heat from any overload conditions. Automatically resets when motor has cooled.
3. Motor Stator – Heat Shrunk into housing for perfect alignment and best heat transfer. Oil-filled motor conducts heat and lubricate bearings.
4. Ball bearings – Upper and lower ball bearings support shaft and rotor and take axial and radial loads.
5. Shaft seals – Double tandem mechanical shaft seals protect motor. Oil-filled seal chamber provides continuous lubrication.
6. Sleeve bearing – Takes radial shock loads and provides flame path.
7. Seal Leak Probes- Detect water in seal housing and activate warning light in control panel.
8. Heavy 416 SST shaft – Corrosion Resistant.
9. Volute Case – Modified constant velocity volute handles 3-3/16” solids, 6” ANSI 125 lb. flange.
10. Brass wear ring – Prevent rust buildup and reduce leakage and wear. Replaceable to restore original running clearances and pump efficiencies.
11. High efficiency impeller – 2-vane rounded ports.

2.2 MATERIALS

- A. SEALS — Motor shall be protected by two mechanical seals mounted in tandem with a seal chamber between the seals. Seal chamber shall be oil filled to lubricate seal face and to transmit heat from shaft to outer shell. Seal face shall be carbon and ceramic and lapped to a flatness of one light band.
- B. A double electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control box. This signal shall not stop motor but shall act as a warning only, indicating service is required.
- C. IMPELLER —The impeller shall be ductile iron and of the 2 vane non-clog enclosed type. Vane inlet tips shall be carefully rounded to prevent stringy material from catching in vanes. Pump-out vane shall be used in front and back chamber. Impeller shall be dynamically balanced. Impeller shall be driven by stainless steel shaft key and impeller held in place with lock screw and washer. Impeller and motor shall lift off of case as a unit without disturbing discharge piping. Impeller neck shall run in bronze

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

wear ring that is pressed into volute case.

- D. PUMP CASE — The volute case shall be cast iron and have a flanged center line discharge. Discharge flange shall be 6" standard with bolt holes straddling center line. A bronze wear ring shall be pressed into case for guiding impeller neck and to prevent corrosion freeze-up. Wear ring to be held from rotating by locking with stainless steel set screw in end of ring.
- E. PUMP AND MOTOR CASTING — All castings shall be of high tensile cast iron and shall be treated with phosphate and chromate rinse. All fasteners shall be 302 stainless steel.
- F. BEARING END CAP — Upper motor bearing cap shall be a separate casting for easy mounting and replacement.
- G. POWER CABLES — Power cord and control cord shall be triple sealed. The power and control conductor shall be single strand sealed with epoxy potting compound and then clamped in place with rubber seal bushing to seal outer jacket against leakage and to provide for strain pull. A third sealing area shall be provided by a terminal board to separate the cable entry chamber from the motor chamber. Cords shall withstand a pull of 300 pounds. Insulation of power and control cords shall be type SOOW. Both control and power cords shall have a green carrier ground conductor that attaches to motor frame.

2.3 MOTOR

- A. Pump motor shall be of the sealed submersible type rated 5 HP at 1165 RPM 60 Hertz. Motor shall be for three phase 230 volts or 460 volts Motor shall be NEMA B type.
- B. Stator winding shall be of the open type with Class H insulation good for 150°C maximum temperature. Winding housing shall be filled with a clean high dielectric oil that lubricates bearings and seals and transfers heat from winding and rotor to outer shell. Air-filled motors that do not have the superior heat dissipating capabilities of oil filled motors shall not be considered equal.
- C. Motor shall have two heavy duty ball bearings to support pump shaft and take radial and thrust loads and a sleeve guide bushing directly above the lower seal to take radial load and act as flame path for seal chamber. Ball bearings shall be designed for 50,000 hours B-10 life. Stator shall be heat shrunk into motor housing.
- D. A heat sensor thermostat shall be attached to and imbedded in the winding and be connected in series with the motor starter contactor coil to stop motor if temperature of winding is more than 130°C. Thermostat to reset automatically when motor cools to safe operating temperature. Three heat sensors shall be used. The common pump, motor shaft shall be of 416 stainless steel.

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

PART 3 - EXECUTION

3.1 PREPARATION

- A. The CONTRACTOR shall inspect pumps for defects prior to installation.
- B. Installation procedures shall be in accordance with the pump manufacturer's specifications and shall be approved by the Engineer prior to installation.
- C. The CONTRACTOR shall ensure that the minimum submersible cooling flow requirements are satisfied.
- D. Contractor shall not splice the power cables.
- E. The CONTRACTOR shall check the motor voltage, phase, and frequency indicated on the motor nameplate against the actual electrical supply.
- F. Prior to operating sump pump, the CONTRACTOR shall furnish and install necessary lubricants for proper operation.

3.2 INSTALLATION

- A. The CONTRACTOR shall adhere to manufacturer's specifications.
 - 1. Attaching the Pump to the Pipe
 - a. A back-up wrench should be used when riser pipe is attached to the pump. The pump should only be gripped by the flats on the top of the discharge chamber. Under no circumstances shall the CONTRACTOR grip the body of the pump, cable guard or motor.
 - b. When tightened down, the threaded end of the first section of the riser pipe or the nipple must not come in contact with the check valve retainer in the discharge chamber of the pump. After the first section of the riser pipe has been attached to the pump, the lifting cable or elevator should be clamped to the pipe. Do not clamp the pump.
 - c. When raising the pump and riser section, be careful not to place bending stress on the pump by picking it up by the pump-end only. It is recommended that plastic-type riser pipe be used only with the smaller domestic submersibles. The manufacturer or representative should be contacted to ensure the pipe type and physical characteristics are suitable for this use. Use the correct joint compound recommended by the specific pipe manufacturer. Besides making sure that points are fastened, a torque arrestor is recommended when using plastic pipe.
- B. Lowering the pump onto the basket under the floating dock
 - a. The CONTRACTOR shall make sure that the electrical cables are not cut or damaged in any way when the pump is being lowered in the well. Do not use the power cables to support the weight of the pump.
 - b. For use with plastic pipe (if necessary), it is important to note 200 psi at the

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

seals that plastic pipe tends to stretch under load. This stretching must be taken into account when securing the cable to the riser pipe. Leave three to four inches of slack between clips or taped points.

- c. A gate valve for pump maintenance, a check valve for backflow control, and a variable -port ball valve for flow rate control shall be installed after the pump.

C. Electrical Connections

- a. Power will be supplied by a mobile generator on-site providing consistent 230 V or 460 V.
- b. Reduced risk of electric shock during operation of this pump requires the provision of acceptable grounding. If the means of connection to the supply connected box is other than grounded metal conduit, ground the pump back to the service by connecting a copper conductor (at least the size of the circuit supplying the pump) to the grounding screw provided within the wiring compartment.
- c. Verification of the electrical supply should be made to ensure the voltage, phase, and frequency match that of the motor.
- d. A float switch controlling on/off of the pump should be installed 12" above the bottom of the pump.
- e. If voltage variations are larger than $\pm 10\%$, do not operate the pump. Single-phase motor control boxes should be connected as shown on the wiring diagram mounted on the inside cover of the control box supplied with the motor. The type of wire used between the pump control boxes should be approved for submersible pump application. The conductor insulation should be type RW, RUW or TW.

3.3 TESTING

A. Start-Up

1. Adjust the gate valve one-third of the way open and verify that the electrical connections are in accordance with the wiring diagram.
2. After proper rotation has been checked, start the pump, and let it operate until the water runs clear of sand, silt, and other impurities.
3. Slowly open the valve in small increments as the water clears until the valve is all the way open. The pump should not be stopped until the water runs clear.
4. If the water is clean and clear when the pump is first started, the valve should still be opened until it is all the way open.

B. Testing

1. The pumps shall be tested by the manufacturer or a nationally recognized testing agency in compliance with Hydraulic Institute Standards, and certified test results shall be submitted to the Engineer.

SECTION 43 21 39 SUBMERSIBLE LIQUID PUMPS

2. The CONTRACTOR shall conduct an insulation resistance test of the cable and the motor prior to installation of the pump, during installation of the pump, and after installation is complete unless specified otherwise.

PART 4 - MEASUREMENT AND PAYMENT

4.1 SUBMERSIBLE LIQUID PUMPS

- A. All costs for equipment and labor associated with Submersible Liquid Pumps for this project shall be included in the Bid item "West Basin Outlet Structure" (Bid Item No. 13). No separate payment for this item shall be made.

END OF SECTION

SUPPLEMENTARY SPECIAL PROVISIONS
APPENDICES

APPENDIX A
ENVIRONMENTAL IMPACT REPORT



Land Development
Review Division
(619) 446-5460

ENVIRONMENTAL IMPACT REPORT

Project No. 122833
SCH No. 2006051004

SUBJECT: Miramar Service Life Extension/Height Increase: SOLID WASTE FACILITY PERMIT, SITE DEVELOPMENT PERMIT, LEASE AMENDMENT for the increase in permitted height of the existing West Miramar Landfill from 470 feet above mean sea level (amsl) in the 239-acre Phase I area to 485 feet amsl, and from 465 feet amsl in the 238-acre Phase II area to 485 feet amsl. The landfill is located at 5180 Convoy Street, north of Highway 52, east of Interstate 805, and west of Interstate 15 on a leased area of Marine Corps Air Station Miramar. No other changes to existing landfill operations are proposed.

Applicant: City of San Diego, Environmental Services Department

CONCLUSIONS:

This Environmental Impact Report (EIR) is written in a format that will also serve as an Environmental Impact Statement (EIS) for the federal action of modifying the lease. It analyzes the environmental impacts of the proposed Miramar Landfill Height Increase Project. The proposed discretionary actions consist of a Site Development Permit, Solid Waste Facility Permit, and Lease Amendment. No significant unmitigated impacts have been identified for this project.

ABREVIATED IMPACTS ANALYSIS:

Land Use: The facility is an existing use on Marine Corp Air Station (MCAS) Miramar. It is designated as such within the MCAS Integrated Natural Resources Management Plan. No change to the existing land use is proposed.

Air Quality: The Proposed Project would increase the service life of the landfill, but would not increase the rate at which waste is received at the landfill. The Proposed Project would not create any new sources of air emissions, but would extend the duration of emissions already generated at the landfill. No air quality impacts, in addition to existing impacts, would be caused by implementation of the Proposed Project, though these impacts would continue for four additional years. In addition, the number of vehicular trips would remain unchanged and within permitted amounts. Therefore, no significant air quality impact is anticipated.

Biological Resources: Construction of the Proposed Project would be limited to the manufactured surface of the landfill, and would have no direct impact on any unique, rare, endangered, sensitive, or fully protected species of plants or animals. No runoff from the site goes directly into any nearby habitat areas, instead runoff is, and would continue to be, directed into the landfill's drainage system, thus no sensitive species are or would be affected by this potential indirect impact. The entire project area has been previously disturbed and offers very little new habitat for plant and animal species. Therefore, no significant impacts are anticipated.

Geology: For landfill development, geological and engineering expertise is always required in order to design and operate the landfill in accordance with state and federal laws. The Proposed Project is situated so that it cannot effect slopes outside of its own footprint, from which the slopes rise, thus the project would cause no slides offsite. The landfill would comply with all stability standards. No significant impact is anticipated.

Health and Safety: Hazardous materials are prohibited from the landfill under the existing permit, and no changes to the landfill's classification are proposed. The landfill operation includes a load-check program to ensure their exclusion, and no changes to this program are proposed. No changes to safety procedures are proposed.

Cultural Resources: A previous EIR determined that the original landfill had no impacts to cultural resources. The Proposed Project would not disturb any soil that has not already been subject to landfill operations. There would be no change in the existing condition regarding impacts to this type of resource.

Paleontological Resources: The project would result in no disturbances, grading, or excavation outside the existing footprint of the existing landfill. There would be no change in the existing condition regarding impacts to this type of resource.

Mineral Resources: The City, which is the landfill operator, conducted studies identifying the presence of aggregate resources. Useful aggregate materials were excavated to the

degree considered appropriate considering the need to protect groundwater. The mining pit was then lined and prepared for filling. Therefore no loss of valuable resources occurred. The Proposed Project would not change this existing condition.

Noise: Ambient noise levels at the site are high as a result of the existing highways and aircraft overflights. The proposed project would very slightly increase the distance between the project site and the community. The existing facility already cannot be heard as a result of distance and other noise sources. Therefore no significant impacts are anticipated.

Traffic: The Proposed Project would not change the existing 2,000 trip per day limit. No increase in traffic into the site is expected as a result of this project.

Public Services and Facilities: The Proposed Project is located at an existing landfill, and additional public facilities would therefore not be needed. The Proposed Project extends the life of an existing public facility.

Public Utilities: Existing utilities that serve the existing landfill will be adequate to serve the Proposed Project, which includes no changes in operations. The Proposed Project would place no new demand on any public utility, and would provide four extra years of disposal capacity.

Visual Quality: The proposed grading plans clearly demonstrate that the proposed landforms would very closely imitate the existing onsite landform. The Proposed Project would mimic the permitted, existing topography almost exactly, with the exception that it would raise the final grade by a maximum of 20 feet. In addition, existing landfill operations would be extended an additional four years. The Proposed Project's impacts on the visual quality of the area were found to be insignificant with respect to views from residences, roadways, and recreational areas.

Water Quality/Hydrology: The existing drainage control system for WML consists of drainage channels, berms, downdrains, energy dissipaters, and detention basins. Drainage control systems for the Proposed Project would be similar to the existing drainage control system, but would differ slightly in contour, since the Proposed Project would have a higher ultimate elevation. In addition, groundwater protection and monitoring are part of the existing landfill operation, per the requirements of state law, Title 27. No changes to this program would be needed for the Proposed Project.

Energy Consumption and Conservation: The current energy consumption associated with landfill operations would not change. Because the landfill results in a net generation of energy, and the proposed height increase only increases this potential, only beneficial impacts are associated with the project.

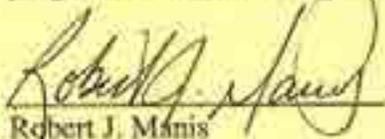
ALTERNATIVES CONSIDERED:

No Project: The Proposed Project is for vertical height increases of up to 20 feet for phases I and II of the landfill. This would allow a maximum height limit of 485 feet amsl for both phases I and II. Under the No Project Alternative, development of phases I and II would be completed under the existing lease agreement and under existing permits with regulatory agencies and would reach its maximum height by 2012. This would leave the County of San Diego with one less landfill, which would result in higher volumes of waste disposal at other in-county and, potentially, out-of-county landfills.

Reduced Expansion (10-Foot Height Increase): Reducing the height increase to 10 feet would incrementally reduce the scale of the visual effects as compared to a 20-foot increase, would be less than the Proposed Project, but would provide less capacity, and would require special engineering techniques. It is possible that, as a result of difficulties associated with this modification, somewhat less than the expected two or so years of additional capacity could be achieved. Even if a full two years of additional capacity could be achieved, it would sacrifice two years of capacity for a marginal reduction in visual impact that is not considered significant in the Proposed Project.

MITIGATION, MONITORING AND REPORTING PROGRAM INCORPORATED INTO THE PROJECT:

Because the project has no significant impacts, no mitigation monitoring and reporting program has been developed or is required.



Robert J. Manis
Deputy Director
Development Services Department

May 16, 2007
Date of Draft Report

July 13, 2007
Date of Final Report

Analyst: MARILYN MIRRASOUL

RESULTS OF PUBLIC REVIEW

- () No comments were received during the public input period.
- () Comments were received but the comments do not address the accuracy or completeness of the environmental report. No response is necessary and the letters are attached at the end of the EIR.
- (X) Comments addressing the accuracy or completeness of the EIR were received during the public input period. The letters and responses follow.

PUBLIC REVIEW:

The following individuals, organizations, and agencies received a copy or notice of the draft EIR and were invited to comment on its accuracy and sufficiency.

Distribution:

The following individuals, organizations, and agencies received a copy or notice of the draft EIR and were invited to comment on its accuracy and sufficiency.

Federal Government

Commanding General, MCAS Miramar Air Station (13)
US EPA
US Fish and Wildlife Service (23)
USDA Natural Resources Conservation SRVS (25)
Dept. of Interior, Environmental Policy and Compliance

State Government

Caltrans (31)
CA Department of Fish and Game (32)
CA Department of Fish and Game (Sacramento office)
California Integrated Waste Management Board (35)
California EPA (37A)
Resources Agency (43)
CA Regional Water Quality Control Board (44)
State Clearinghouse (46)
California Air Resources Board (49)
Water Resources Control Board
California Transportation Commission, Quality Advisory Committee

County Government

Air Pollution Control District (65)
Department of Public Works (70)
Dept. of Environmental Health (75)

City of San Diego

Mayor Sanders, MS 11A
Council President Peters, MS 10A
Councilmember Faulconer, MS 10A
Council Atkins, MS 10A
Council President Pro Tem Young, MS 10A
Councilmember Maienschein, MS 10A
Councilmember Frye, MS 10A
Councilmember Madaffer, MS 10A

Councilmember Hueso, MS 10A
Environmental Services, Lisa Wood (MS 1102A)
LDR EAS, Marilyn Mirrasoul
LDR Planning, Ismael Lopez
LDR Landscaping, Craig Hooker
LDR Transportation, Jim Lundquist
Transportation Development (78)
San Diego Fire Department, Sam Oates (MS 603)
San Diego Police Department, Jerry Hara (MS 711)
Geology, Pat Thomas (MS 401)
Long Range Planning, Maxx Stalheim (MS 4A)
Water Department, Chris Gascon (MS 910D)
LEA, Bill Prinz (MS 606L)
MWWD, Alejandro Ruiz (MS 22)
Bob Ferrier (80)
University Community Branch Library (81JJ)
Balboa Branch Library (81B)
Mira Mesa Library (81P)
Scripps-Miramar Library (81FF)
Tierrasanta Library (81ll)
Central Library (81)
Police Research and Analysis (84)
Real Estate Assets Dept. (85)
General Services (92)
Clairemont Community Service Center (MS 97)
City Attorney, Shirley Edwards (MS 59)

Others

City of Chula Vista (94)
City of Coronado (95)
City of Del Mar (96)
City of El Cajon (97)
City of Escondido (98)
City of Imperial Beach (99)
City of La Mesa (100)
City of Lemon Grove (101)
City of National City (102)
City of Poway (103)
Poway Library
City of Santee (104)
City of Solana Beach (105)
SANDAG (108)
San Diego County Regional Airport Authority (110)
SDGE (114)
Back Country Against Dumps (162)

Sierra Club (165)
San Diego Audubon Society (167)
Mr. Jim Peugh (167A)
Environmental Health Coalition (169)
California Native Plant Society (170)
Center for Biological Diversity (176)
Endangered Habitats League (182)
League of Women Voters (192)
Community Planner Committee (194)
Town Council Presidents Association (197)
Clairemont Mesa Planning Committee (248)
Clairemont Chamber of Commerce (249)
Clairemont Town Council (257)
Kearny Mesa Town Council (263)
Kearny Mesa Community Planning Group (265)
Marian Bear Recreation Council (267A)
Mira Mesa Community Planning Group (310)
Tierrasanta Community Council (462)
University City Community Planning Group (480)
University City Community Association (486)
BRG Consultants
San Diego Landfill Systems, Neil Mohr
United Veterans Council, Chairman Joe Brunner

Native Americans

Campo Band of Mission Indians
Cuyapaipe Band of Mission Indians
Inaja and Cosmit Band of Mission Indians
Jamul Band of Mission Indians
La Posta Band of Mission Indians
General Council, Chairperson
Mesa Grande Band of Mission Indians
San Pasqual Band of Mission Indians
Santa Ysabel Band of Mission Indians
Sycuan Band of Dieguena Mission Indians
Viejas Band of Mission Indians

U.S. Fish and Wildlife Service
Central Fish and Wildlife Office
2215 Hildreth Valley Road
Crestland, California 92014
(760) 481-9448
FAX: (760) 431-9602 • 3019



California Department of Fish and Game
South Coast Regional Office
4500 Viewridge Avenue
San Diego, California 92123
(619) 457-4201
FAX: (619) 457-4286

In Reply Refer To:
FW/ACFO-SDG-0373.1

Ms. Marilyn Mirwald
Development Services Center
1221 First Avenue, MS 201
San Diego, California 92104

JUL 2 2007

Subject: Comments on the Draft Environmental Impact Report for the Miramar Landfill Height Increase, San Diego County, San Diego, California

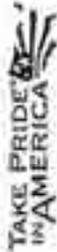
Dear Ms. Mirwald:

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Game (Department), heretofore collectively referred to as the Wildlife Agencies, have reviewed the aforementioned Draft Environmental Impact Report (EIR) dated May 17, 2006. The Wildlife Agencies have identified potential effects of this project on wildlife and sensitive habitats. The comments provided below and in the enclosures are based on the information provided in the EIR, the Biological Resources Report for the project, our knowledge of sensitive and declining vegetation communities, and our participation in regional conservation planning efforts.

The primary concern and number of the Service is the potential of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA), Sections 15346 and 15381 (respectively) and is responsible for ensuring appropriate conservation of the state's biological resources, including rare, threatened, and endangered plants and animal species, pursuant to the California Endangered Species Act (CESA) and other sections of the Fish and Game Code. The Department also administers the National Conservation Conservation Planning (NCCP) Program. The City of San Diego is currently participating in the NCCP program through its MSCP Subarea Plan.

The project proposes to increase the potential height of the existing Wind Mitigation Landfill to the 229-foot Pinedale area from 470 feet above mean sea level to 485 feet above sea level, and from 465 feet above sea level to 485 feet above sea level, within the 239-acre Phase II site. No other changes to existing landfill operations are proposed. The landfill is located at 3180 Conway Street, south of Highway 52, east of I-805 and west of I-15 on a broad area of Marine Corps Air Station, Miramar Ground by the City of San Diego.

According to the EIR, construction of the project will be limited to the unexcavated surface of the landfill and will not have a direct impact on any riparian, rare, endangered, sensitive, or fully protected species of plants or animals. Furthermore, no runoff from the site will be permitted to flow into habitat areas. Runoff from the site will be directed to the landfill's drainage system. According to the draft EIR, the entire project area has been previously disturbed.



RESPONSE TO COMMENT LETTER FROM U.S. FISH AND WILDLIFE SERVICE, SIGNED BY
THESE O'ROURKE AND CALIFORNIA DEPARTMENT OF FISH AND GAME, SIGNED BY
MICHAEL J. MULLIGAN, DATED JULY 2, 2007

Response to Comment 1-1:
This letter provides an overview of agency responsibilities, general concerns, and
project description. Specific issues identified in the subsequent enclosure are
addressed in subsequent responses.

Mr. Martye Miramont (FWS-CA-050-500-3375.1)

1-1
(cont'd)

The proposed project will impact about 0.07 acres of estuarine dependent, 1.36 acres of coastal sage scrub (CSS), 4.32 acres of western mixed chaparral, and 1.0 acre of each type woodland. The remainder of the project footprint is occupied by disturbed forest and developed lands. The 2007 Miramar Landfill Closure Conceptual Landings Plan proposes to re-landscape the project area with an approved palette of native vegetation per City of San Diego (CSD) Multiple Species Conservation Program (MSCP) guidelines.

Several terrestrial locations of fairy shrimp occur within the project buffer area according to the Biological Resources Report (BRR) (See 1.4.1). These areas must therefore be avoided by any project impacts (i.e., removal of trees shaping areas and any other project impacts). Also, Section 1, subsection 4.3 of the Biological Resources Report notes that several California gnatcatchers (*Polioptila californiensis californiensis*), a federally-threatened Song Sparrow (*Spizella socialis*), and several other species have been observed in the buffer zone on unexcavated coastal sage scrub slopes just outside of the project area. Because of the close proximity of these species and the potential for noise and occupancy of the project site, pre- and post-construction surveys should be conducted within one year of project construction. In addition, because burrowing tree shrew (*Tupaia* spp.) is a State Species of Special Concern, pre- and post-construction surveys should be conducted at any time, between one and two years prior to construction. Specific concerns regarding these issues are included in the Appendixes below.

We offer additional specific comments in the comments to permit the City to avoid, minimize, and adequately mitigate project related impacts to sensitive biological resources and to ensure that the project is consistent with all applicable requirements of the approved Subarea Plan. In summary, our primary concerns are: (1) potential adverse impacts to San Diego fairy shrimp; (2) the need for a biological resource on site; and (3) potential impacts to burrowing tree.

We appreciate the opportunity to comment on this Draft EIR. We are happy that conflict resolution between the Wildlife Agency and the City will ensure the protection of the biological resources that will be affected by this project. If you have questions or comments regarding this letter, please contact Ayolet Peltier of the Service (760) 431-1440 ext. 1, Ilana McNamara of the Department of Fish and Wildlife (650) 437-4728.

Sincerely,


Thomas O'Boyle
Assistant Field Supervisor
U.S. Fish and Wildlife Service


David A. Meyer
Deputy Regional Manager
California Department of Fish and Game

cc: State Commission
References Only

Biological Resources Report: Miramar Landfill Excavation - Proposed for City of San Diego Development Service Department. URS Project No. 23554410.0000. March 2007.

Miramar Landfill Closure Conceptual Plan. April 2007. Miramont, C. J. Hummel, L. Wood, City of San Diego and P. Muck, URS Corp.

Finalatory

Ms. Marilyn Miramar (PWS/CDFW-REQ-5375.1)

- 1-2** 1. If project impacts are proposed within 100 feet of the watershed of any vernal pool or within 100 feet of the watershed of any basin containing fairy shrimp, the project applicant should contact the Wildlife Agencies to discuss how to proceed at that impact to fairy shrimp and their habitat as needed. The "Vegetation and Native Species" figure in the final EIR should show the watersheds of the vernal pools in the buffer area.
- 1-3** 2. A monitoring biologist should be on site during (1) initial clearing and grubbing of sensitive habitat/CSS and (2) project construction within 500 feet of preserved habitat to ensure compliance with all construction measures. Because grabcatchers have been observed within the project area, the biologist must be knowledgeable of grasshopper biology and ecology. The applicant should submit the attaching biologist's name, address, telephone number, and work schedule for the project to the Wildlife Agencies at least seven days prior to beginning project impacts. The monitoring biologist should perform the following duties:
- 1-3a** c. Decrease installation of and impact the temporary fencing, a maximum of once per week to ensure that any leads in the fence or erosion control measures are repaired in a timely fashion.
 - 1-3b** d. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust, and that activities do not affect fairy shrimp, grasshoppers, burrowing birds or other habitat.
 - 1-3c** e. Train all operators and construction personnel on the biological concerns associated with this project and ensure that training is implemented by project personnel. All training should include: 1) the purpose for various protections; 2) a description of the protocols to be followed; 3) the collaborative measures given in the MS2P that should be implemented during project activities to conserve the grasshopper and other MS2P-associated species, including vehicle tracking activities, vehicles, equipment, and construction materials on the hazard project footprint to avoid sensitive resource areas in the field (i.e., alternate areas to avoid on-site or off the project site by footings); 4) environmental responsible construction practices; 5) the protocol to receive conflicts that may arise at any time during the construction process; 6) the general provisions of the Endangered Species Act; the need to adhere to the provisions of the Act, the penalties associated with violating the Act.
 - 1-3d** f. Halt work, if necessary, and confer with the Wildlife Agencies to ensure proper implementation of species and habitat protection measures. The biologist will report any violation to the Wildlife Agencies within 24 hours of its occurrence.
 - 1-3e** g. Clearing of CSS within the project footprint should occur outside of California grasshopper breeding season to avoid potential impacts on nesting grasshoppers.
 - 1-4** 3. To ensure that no direct or indirect impacts to nesting burrowing owls occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the burrowing owl's breeding season (April 15 to July 31) or sooner if a qualified biologist determines to the satisfaction of the Wildlife Agencies that it is complete. If construction (either dust mitigation clearing and grubbing) must occur

Response to Comment 1-2:

Currently no windfall from the landfill is directed toward the vernal pool watershed. No new areas are proposed for disturbance, and no new effects on vernal or proposed vernal pool watersheds have been added to figure 9, "Vegetation and Native Species."

Response to Comment 1-3:

Protocol surveys for the grasshopper were conducted as part of the information gathering for this EIR. No grasshoppers were found in the project site. Construction will not "contribute" of a particular date, it will merely continue as the landfill continues to operate. There will be no break in the existing, current operation of the landfill. A staff biologist, certified to survey for grasshoppers, works full time at the site. He and his biologist staff check the site for grasshoppers, burrowing owl, non-native species that need to be controlled, and other biological issues. That is a staff clear from his comment letter when during the ongoing operation of this landfill, a protocol survey is desired. Currently the site receives continual monitoring. If the agencies would like a protocol survey at any specific time during the life of the landfill, the City would be pleased to conduct one. Monthly the Environmental Services Department of the beginning of the season in any year a survey is desired. The Senior Biologist is John Howard. He can be reached by phone at (858) 573-1207. If/when he can be reached at 1621 Ridgewood Court, San Diego, CA 92122.

Response to Comment 1-3a:

A full-time staff biologist monitors site conditions. An ongoing windfall monitoring and control program, as required by the Regional Water Quality Control Board, and as required under the individual individual Permit for landfill operations, is conducted on site.

Response to Comment 1-3a:

Similarly, that control is required under permit by the Air Pollution Control District and also by the local Enforcement Agency, which provides regular inspections. Engineering staff oversees the work crews responsible for dust control. The staff biologist work closely with engineering staff on all operational functions.

**RESPONSE TO COMMENT LETTER FROM U.S. FISH AND WILDLIFE SERVICE, SIGNED BY
THERESE O'YOUNKE AND CALIFORNIA DEPARTMENT OF FISH AND GAME, SIGNED BY
MICHAEL J. MULLIGAN, DATED JULY 2, 2007 (cont'd)**

1-4
(cont'd.)

Ms. Marilyn Marmann (PWS/CDFG-806-0315.1)

during the breeding season, pre-construction surveys (a contractor with accepted survey protocols) must be performed by a City-approved biologist to determine the presence or absence of active burrows within all suitable habitat prior to the initiation of construction-related activities. The pre-construction surveys must be conducted within 10 calendar days prior to the start of construction, and results submitted to the City for review and approval prior to initiating any project activities. If an active burrow is detected during the breeding season, a mitigation plan should be prepared by a City of San Diego approved biologist and submitted to the City for review and approval. The applicant should implement the mitigation plan to the satisfaction of the City to ensure that disturbance of breeding activities is reduced to a level less than significant. Construction setbacks of 300 feet from occupied burrows should be implemented with the young are completely independent of the nest. A bio-monitor must be on the during construction until all young have fledged to maintain continuous input and ensure that no term are removed or disturbed and no nesting activities are disrupted. If an active burrow is found outside of the breeding season, or after an active nest is determined to no longer be active by a qualified biologist, the burrowing owl may be relocated in coordination with the Wildlife Agency.

Response to Comment 1-3b: (cont'd.)

The Environmental Services Department has voluntarily applied for and achieved SD 1450 certification, ensuring the highest level of environmental protection. Engineering staff oversee the implementation of PM programs, part of which entails continual improvement in operations.

Response to Comment 1-3c:

The staff biologists provide training on gophercatcher, vernal pools, bury shrimp, and other biological issues to Environmental Services Department employees, and also to other City employees and the public. Different trainings cover different topics, for example some are focused on vernal pools, gopher catchers, and other wetland topics, on environmental regulation, including not only MSCP and ESA, but also 1622, CWA/404, etc. A demonstration patcher nest to the native plant nursery is provided to assist with training. The site is located on the Marine Corps Air Station slatema, which is located outside the MHFA. Therefore, the MSCP topic is not covered during trainings conducted at the landfill (although it is covered at other trainings at other locations throughout the City, such as Cholla and Arizona Street).

Response to Comment 1-3d, 1-3e and 1-4:

Staff biologists at the landfill ensure that activities in or near potentially sensitive habitat occur at the appropriate time of year considering gophercatcher and burrowing owl biology, or if work is needed during nesting season, they conduct necessary surveys prior to authorizing work to proceed. They coordinate closely with engineering and field staff to ensure that no violations occur, and no nesting birds are disturbed. If any violation were to occur, it would be staff's responsibility to report such a violation within 24 hours of the incident. The trainings cover the importance of reporting violations immediately.

RIC-6

JULY 2007



CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD



San Diego Boardroom, 400 Broadway, Suite 1000, San Diego, CA 92101-4155
Tel: 619-444-2000 Fax: 619-444-2001

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wwood@ciwmb.org
619-444-2000

June 26, 2007

Ms Marilyn Miramir, Associate Planner
City of San Diego
Land Development Review
Development Services
11222 First Avenue, Mail 501
San Diego, CA 92101-4155

RECEIVED
JUN 28 2007
STAFF CLEANING HOUSE

Subject: SCIR No. 2006051004 - Draft Environmental Impact Report for the vertical expansion of West Mesquite Sanitary Landfill, Solid Waste Facilities Permit (SWPPP) No. 37-AA-0026, San Diego County

Dear Ms Miramir:

Thank you for allowing the California Integrated Waste Management Board's (Board) staff to provide comments for this proposed project and for your agency's consideration of these comments as part of the California Environmental Quality Act (CEQA) process.

Board staff has reviewed the environmental document used above and offers the following project description, analysis and our recommendations for the proposed project based on our understanding of the project. If the Board's project description varies substantially from the project as submitted by the Lead Agency, Board staff requests incorporation of any significant differences in the Final Environmental Impact Report.

Proposed Project Description

The City of San Diego, Development Services Department acting as Lead Agency is proposing a Solid Waste Facilities Permit revision to allow a 15-foot vertical increase in the height from 470 feet above mean sea level to 485 feet above mean sea level, on the 339 acre Phase 1 and a 20-foot vertical increase in height, from 465 feet above mean sea level to 485 feet above mean sea level, on the 278 acre

2-1



REC-7

July 2007

2-1
(cont'd.)

Phase II of the existing West Miramar Secondary Landfill and to expand the permitted disposal footprint area to necessarily reflect the actual size of the disposal footprint from a total of 470 acres to 479.34 acres. The vertical expansion will increase permitted disposal volume from 75.2 million cubic yards to 87.8 million cubic yards and extend the landfill life from 2011 to 2016. The landfill is located at 1190 Cotney Street on an area leased from the Marine Corps Air Station Miramar. No other changes to the existing landfill operations are proposed. The project would require modification to the lease with the Department of Defense to allow the increase in elevation.

Current and Proposed Entitlements

	807 acres	
470 acres	479.34 acres ¹	
470 feet above MSL	485 feet above MSL	
16.5 million cubic yards	76.5 million cubic yards	
2011	2016	
8,000 tons per day		
1.3 MM tons annually		
3000		

1 - Increase in acreage is a result of future accounts servicing of the site - there is no increase in the highest elevation

There are no new areas of significant impacts to health, safety and the environment.

BOARD STAFF'S COMMENTS

Since this proposed project is limited in scope and there are no new significant impacts identified Board staff has no questions or comments to make at this time. In the environmental document not specifically prohibiting an action or activity that does not give final approval to perform that action or activity.

SUMMARY

The Board staff thanks the Lead Agency for the opportunity to review and comment on the Draft Environmental Impact Report and hopes that this comment letter will be useful to the Lead Agency in carrying out their responsibilities in the CEQA process.

Response to Comment 2-2:
Comments acknowledged, no issues regarding the adequacy of the Draft EIR were identified.



STATE OF CALIFORNIA
GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



AMERICAN DEVELOPMENT CENTER
COMMUNITY

CENTRAL BUSINESS DISTRICTS

July 3, 2007

Marilyn Wrenzel
City of San Diego
303 C Street
San Diego, CA 92101

Subject: Miramar Lucille Wright Project
SCH# 200601502

Dear Marilyn:

The State Clearinghouse advised the above-named Draft EIR to schedule a public hearing for review. On the enclosed Document Drafts Report please note that the Clearinghouse has issued the public hearing date. The review period closes on July 2, 2007, and the submission from the responsible agency (if) is due. If this enclosed package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's single State Clearinghouse number in future correspondence so that we may respond properly.

Please note that Section 15200(d) of the California Public Resources Code states that:

"A responsibility of every public agency shall, in every public administrative proceeding regarding those activities involved in a project which are within the jurisdiction of the agency in which are required to be carried out or approved by the agency. Those concerns shall be supported by specific documentation."

These concerns are forwarded to you in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the responsible agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 437-5233 if you have any questions regarding the environmental review process.

Amy Roberts

Terry Wilkins
Director, State Clearinghouse

Attachment
to: Executive Agency

1400 30th Street - P.O. Box 904 Sacramento, California 95811-2018
(916) 443-6431 FAX (916) 551-3118 www.opwra.org

REC-11

July 2007

Document Details Report
State Clearinghouse Data Base

<p>FORM 0000000000</p> <p>Project Title Miramar Landfill High Voltage</p> <p>Lead Agency San Diego, City of</p>	<p>Type Draft EIR</p> <p>Association This project would allow for a modification to the existing Solid Waste Facility Permit and allow the Department of Defense to allow for the increase in the permitted weight of this existing West Mission Landfill from 410 feet above mean sea level (amsl) to the 300-foot Permit to a total of 485 feet amsl, and from 445 feet amsl to the 325-foot Permit to a total of 485 feet amsl.</p>
<p>Lead Agency Contact</p> <p>Name Muelan Merriam</p> <p>Agency City of San Diego</p> <p>Phone (619) 445-5300</p> <p>email</p> <p>Address 202 C Street</p> <p>City San Diego</p> <p>State CA</p> <p>Zip 92101</p>	<p>Fee</p>
<p>Project Location</p> <p>County San Diego</p> <p>City San Diego</p> <p>Region</p> <p>State Division Highway 56 and County Road 1</p> <p>Parcel No. 348-01-03, 06, 349-03-01</p> <p>Parasitic</p>	<p>Approved</p> <p>Date</p>
<p>Proximity to:</p> <p>Highways</p> <p>Airports</p> <p>Railways</p> <p>Residential</p> <p>Facilities</p> <p>Land Use</p>	<p>0.0E+00</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>
<p>Project Issues</p> <p>Resource/Agency: Agriculture/Lead Air Quality, Agriculture/Agency: Cumulative Effects, Geology/Seismicity, Growth Inducing, Historic, Noise, Other Issues: Public Services, Soil Erosion/Construction/Impervious Surface, Traffic/Construction, Vegetation/Water Quality/Wetlands</p>	<p>Resource/Agency: Regional Water Quality Control Board, Region 9, Department of Parks and Recreation, Native American Heritage Commission, Integrated Waste Management District, Department of Health Services, Department of Fish and Game, Region 4, Department of Water Resources, California Coastal Commission, California Highway Patrol, Caltrans, Division 11, Air Resources Board, Major Initiatives Projects, Department of Toxic Substances Control, State Water Resources Control Board, Division of Water Quality, State Lands Commission</p>
<p>Date Received 05/13/2007</p> <p>Start of Review 05/17/2007</p> <p>Date of Review 07/02/2007</p>	

Note: Blank or null fields could mean that requested information is provided by that agency.

4-1
(cont'd.)

4. Lead agencies shall include provisions for delivery of Native American human remains if completed submissions in their original state.

5. CEQA Guidelines, Section 15064 (b) requires the lead agency to work with the Native Americans identified by the Commission if a lead agency identifies the presence or likely presence of Native American human remains within the AEC. CEQA Guidelines provide for agreements with Native Americans, developed by the NAGHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave sites.

6. Health and Safety Code §105613, Public Resources Code §5027.09 and Sec. 15064.3 (d) of the CEQA Guidelines mandate procedures to be followed in the event of an accidental discovery of any human remains in a project area. Lead agencies shall coordinate procedures with the State Office of Historic Preservation, 1600 Broadway, San Francisco, California 94102-0001, and the appropriate local agencies.

Please Note: This is contact list of (916) 653-4251 if you have any questions.


 Gary A. Adams
 State Director
 Program Support

City of State Chairperson

Attachment: List of Native American Cemeteries

Native American Contacts
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May 24, 2007

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(619) 478-5818 Fax

Manzanita Band of Kumeyaay Nation
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(619) 766-4957 Fax

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(619) 663-48178 - Fax

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(760) 749-3876 Fax

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(760) 762-9062 Fax

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Kwasinyil Laguna Band of Mission Indians
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Fresno Valley, CA 91962
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This list is intended only as a guide and does not constitute an endorsement.

Discussions of this list does not relieve the person or authority responsible for the information. With a few exceptions, this list is not intended to be a public record under the Public Access Code and Section 54957 of the Public Access Code.

This list is only applicable for consulting local Native American as it report to cultural resources for the proposed San Jacinto Valley, CEQA, Notice of Preparation (NOP) for Miramar Landfill Project. It is not intended to be a public record under the Public Access Code.

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May 24, 2007

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(619) 443-0681 FAX

Diegueno-Kumeyaay

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(760) 833-5694
clinton73@aol.com

Diegueno-Kumeyaay

This list is current only as of the date of this document.
Distributions of this list does not constitute any portion of a public report as defined in Section 10905.5 of the Health and Safety Code, Section 5607.01 of the Public Resources Code and Section 1005.54 of the Public Resources Code.
This list is only available for consulting local Native Americans with regard to cultural resources for the proposed
ICM/ROD/RIA/CEQA/NEPA/NDP for Miramar Landfill (Highly Sensitive Area) Environmental
Impact Report (EIR), City of San Diego, San Diego County, California.

Final Environmental Impact Report (EIR)
Miramar Landfill Service Life Extension/Height Increase
At MCAS Miramar, County of San Diego, California

Project No. 122833
SCH No. 2006051004

City of San Diego: Lead Agency

MCAS Miramar: Cooperating Agency

July 2007

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TECHNICAL APPENDICES

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- A Notice of Public Information Meeting (Prepared by City of San Diego Department of Environmental Services, Solid Waste Local Enforcement Agency)
- B Notice of Intent/Notice of Preparation, City Scoping Letter and Public Comment Letters (Prepared by: City of San Diego, Development Services Department)
- C Proposed Lease Amendment
- D Technical Evaluation of Potential Impacts Related to Air Quality
- E Biological Resources Report
- F Traffic Impact Study
- G Visual Assessment
- H Water Quality

EXECUTIVE SUMMARY

Introduction

This Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) was prepared in compliance with the requirements of the California Environmental Quality Act (CEQA) of 1970 (PRC Section 21000 *et seq.*), as amended, including the Guidelines for Implementation of CEQA (14 CCR Section 15000 *et seq.*). This DEIS/DEIR will also serve as a Draft Environmental Impact Statement (DEIS) for the Department of Navy (DoN), Marine Corps Air Station Miramar (MCAS), in their preparation of the Final EIS and therefore complies with the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 *et seq.*), including the Council on Environmental Quality (CEQ) NEPA Regulations (40 CFR Parts 1500-1508). This document also satisfies the requirements of the Department of the Navy (DoN), Procedures for Implementing NEPA (32 CFR, Part 775); Marine Corps Order P5090.2A; DoN Environmental and Natural Resources Program Manual (OPNAVINST 5090.1A, October 2, 1990); City of San Diego Municipal Code, Sections 69.0101-69.0110 and Sections 128.0101-128.0314; City of San Diego Technical Report and Environmental Impact Report Guidelines (September 2002, updated December 2005); and City of San Diego Development Services Department's Significance Determination Thresholds, August 2006.

The certification of the EIR may potentially precede the completion of review of the EIS, and thus the final versions may differ slightly in format and content. However, this document will nonetheless serve its function of informing the public and government agencies of all potential impacts associated with the Proposed Project prior to government agencies making decisions regarding approval of the Proposed Project.

CEQA applies to projects proposed to be undertaken or requiring approval by state and local government agencies (i.e., discretionary actions). The CEQA process is primarily designed to identify and disclose significant environmental impacts of a project and is accomplished by conducting an environmental review of the project. The EIR must comply with CEQA, as amended, and the Guidelines for Implementation of CEQA, and all other applicable laws and regulations. NEPA requires federal agencies to incorporate environmental considerations in their planning and decision-making process by preparing an EIS to determine the potential impacts of a proposed action. This requirement applies to all actions authorized, funded, or carried out by a federal agency. The EIS must comply with NEPA, and related requirements, including the CEQ Regulations.

This DEIS/DEIR analyzes the potential environmental impacts associated with the proposed action, which is a maximum 20-foot increase in elevation of the active portion of the Miramar Landfill, with no other change. No horizontal expansion is proposed. No change in daily throughput is proposed. No changes in operations other than those necessary to accommodate the vertical expansion are proposed.

Consistent with the purposes of NEPA and CEQA, and with City, County, and SANDAG planning documents that emphasize extending the life of existing disposal facilities, the objective

of the Proposed Project is to increase the capacity and thereby extend the operation of an existing, conveniently-located, environmentally-focused site for disposal of municipal solid waste, provided this increase is consistent with the primary mission of the landowner, MCAS. In pursuing the Proposed Project, it is the objective of the City to provide cost-effective, environmentally-sound disposal options for those residual materials that remain after all appropriate methods of waste reduction, recycling, composting, and/or conversion have been employed.

The City operates the landfill under a lease with the Department of Navy, administered by MCAS Miramar. Operation of the facility requires a Solid Waste Facility Permit, which is issued by the City's Local Enforcement Agency that reports to the California Integrated Waste Management Board. A City of San Diego Site Development Permit would be required to implement the proposed height increase. The potential for modification to the operations and regulatory programs is discussed in Section 4.1. The Air Pollution Control Board and California Water Board impose additional requirements on landfill operations. The following is a summary of the federal, state, and local administrative actions that will be required as a result of the Proposed Project:

- Lease Amendment –MCAS Miramar;
- Lease Amendment and issuance of a Site Development Permit (SDP) – City of San Diego;
- Revision of the Solid Waste Facility Permit (SWFP) – City of San Diego Local Enforcement Agency (LEA), with concurrence by the California Integrated Waste Management Board (CIWMB);
- Waste Discharge Requirements – Regional Water Quality Control Board (RWQCB), San Diego Region; and an
- Air Quality Permit – San Diego Air Pollution Control District.

State of California regulations for solid waste (California PRC § 41700 - 41721.5) require that each region have a plan to provide at least fifteen years of disposal capacity. The solid waste plan for the San Diego County region is contained in the Integrated Waste Management Plan, Countywide Siting Element, December 2004. The plan shows that unless a new landfill is opened and/or existing landfills are expanded, the region has insufficient disposal capacity. Plan policies 2.1 and 2.2 encourage the efficient use of existing disposal sites, and extension or expansion of in-county capacity. The San Diego Association of Government's July 2004 Regional Comprehensive Plan Chapter 4F provides similar language regarding "maximizing existing disposal capacity."

The Clean Air Act prohibits federal agencies from engaging in any action that would cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS); increase the frequency or severity of an existing violation; or delay the timely attainment of a standard. The U.S. Environmental Protection Agency promulgated the General Conformity Rule in 1993 to

meet this Clean Air Act requirement. The Proposed Project is subject to the General Conformity Rule, since it is an activity engaged in by the Marine Corps Air Station Miramar. However, the Proposed Project falls under an exemption outlined in the rule. Specifically, the additional emissions generated from the landfill due to the proposed height increase would be subject to New Source Review (NSR) permitting. Federal actions that require a permit under NSR are not required to perform a conformity determination, since the NSR permitting process ensures that the proposed action does not adversely affect progress towards meeting the NAAQS. Furthermore, since the Proposed Project does not expand the horizontal footprint of the landfill or increase the daily or annual rate of waste disposal, there are no vehicular emissions or emissions from construction equipment associated with the Proposed Project that would trigger a conformity applicability determination. As such, the Proposed Project is exempt from General Conformity Rule requirements.

Alternative Analysis

Pursuant to the Guidelines for Implementation of CEQA (Section 15126.6), the Environmental Impact Report (EIR) must contain a consideration of alternatives that can attain most of the basic objectives of the project and would avoid or substantially reduce significant environmental effects of the project. Alternatives to be considered in this manner should be reasonable and feasible.

NEPA requires that an EIS describe a range of reasonable alternatives to a project, or to the location of a project, that could feasibly attain most of the basic goals of the project but would avoid or substantially lessen any significant environmental impacts while substantially attaining the basic goals of the project. Alternatives for an EIS may take the form of no project, no federal action, reduced project size, different project design, or suitable alternative project sites. Alternatives discussed in an EIS must only be within a reasonable range and an EIS need not consider an alternative that would be infeasible.

A matrix has been prepared to facilitate comparisons between the alternatives:

Comparison of Alternatives

ALTERNATIVE	DIRECT IMPACTS	INDIRECT IMPACTS	CUMULATIVE IMPACTS	MITIGATION MEASURES
No Project	No change from existing conditions.	Closure in 2012 would result in air/public facility impacts associated with vehicle emissions from transportation to more distant location, and difficulty identifying a suitable location.	No change from existing conditions.	AIR QUALITY: Measures such as watering, use of soil stabilizers, and exhaust emission controls have been required. LANDFORM ALTERATION: Revegetation per Closure Plan.
Proposed Project (Includes No Project mitigation measures as part of project design.)	Less than significant increase in visibility.	Closure in 2016 would delay transportation to more distant location, resulting in a net benefit.	The slightly greater visibility of the landfill may be REDUCED by some potential projects, but in no case would it contribute to cumulatively significant impacts.	Measures incorporated into the project design would ensure no significant impacts. These measures are required and enforced by regulatory agencies.
Reduced Project (Includes No Project mitigation measures as part of project design.)	Adverse increase in visibility would be reduced.	Closure prior to 2016 would hasten transportation to more distant location, resulting in less benefit than the Proposed Project	The slightly greater visibility of the landfill may be REDUCED by some potential projects, but in no case would it contribute to cumulatively significant impacts.	Measures incorporated into the project design would ensure no significant impacts. These measures are required and enforced by regulatory agencies.

Source: City of San Diego, ESD, 2007.

This matrix includes impacts of the Proposed Project, and includes any mitigation measures that may be associated with the various alternatives. The No Project and Reduced Project alternatives have reduced visual effects as compared with the Proposed Project, but they do not fulfill the purpose of the project to extend the life of the landfill, and do not eliminate any significant impacts.

The maximum 20-foot higher landform created by the proposed expansion would be expected to remain in perpetuity, and the land underneath would not be available for other potential structures, though the surface of the landfill could support non-structural activities after closure. The additional height of the landfill would be visible from some viewpoints offsite; however, once completed, the landfill would be landscaped with native vegetation to minimize visual contrast. Implementation of the Proposed Project would not cause significant changes to the visual character of the area. No other unavoidable adverse environmental impacts are anticipated to be significant as a result of the Proposed Project. It is not expected that the Proposed Project will be environmentally controversial.

Scoping Process:

Pursuant to Section 15082(c)(1) of the CEQA and Marine Corps Order (MCO) P5090.2A, a public scoping process is required. The MCO specifies which input from affected federal, state, and local agencies, any Native American tribe, minority and low-income populations, and other interested persons must be solicited. A public scoping meeting was held on May 10, 2006 to get additional input from the public on potential issue areas. The distribution included:

Federal Government

U.S. Marine Corps (3)
Commanding General, MCAS Miramar Air Station (13)
U.S. EPA
U.S. Fish and Wildlife Service (23)
U.S.D.A. Natural Resources Conservation SRVS (25)
Dept. of Interior, Environmental Policy and Compliance

State Government

Caltrans (31)
CA Department of Fish and Game (32)
CA Department of Fish and Game (Sacramento office)
California Integrated Waste Management Board (35)
California EPA (37A)
Resources Agency (43)
CA Regional Water Quality Control Board (44)
State Clearinghouse (46)
California Air Resources Board (49)
Water Resources Control Board
California Transportation Commission, Quality Advisory Committee

County Government

Air Pollution Control District (65)
Department of Public Works (70)
Dept. of Environmental Health (75)

City of San Diego

Mayor Sanders, MS 11A
Council President Peters, MS 10A
Councilmember Faulconer, MS 10A
Council Atkins, MS 10A
Council President Pro Tem Young, MS 10A
Councilmember Maienschein, MS 10A
Councilmember Frye, MS 10A
Councilmember Madaffer, MS 10A
Councilmember Hueso, MS 10A
Environmental Services, Lisa Wood (MS 1102A)

LDR EAS, Marilyn Mirrasoul
LDR Planning, Ismael Lopez
LDR Landscaping, Craig Hooker
LDR Transportation, Jim Lundquist
Transportation Development (78)
San Diego Fire Department, Sam Oates (MS 603)
San Diego Police Department, Jerry Hara (MS 711)
Geology, Pat Thomas (MS 401)
Long Range Planning, Maxx Stalheim (MS 4A)
Water Department, Chris Gascon (MS 910D)
LEA, Bill Prinz (MS 606L)
MWWD, Alejandro Ruiz (MS 22)
Bob Ferrier (80)
University Community Branch Library (81JJ)
Balboa Branch Library (81B)
Mira Mesa Library (81P)
Scripps-Miramar Library (81FF)
Tierrasanta Library (81ll)
Central Library (81)
Police Research and Analysis (84)
Real Estate Assets Dept. (85)
General Services (92)
Clairemont Community Service Center (MS 97)
City Attorney, Shirley Edwards (MS 59)

Others

City of Chula Vista (94)
City of Coronado (95)
City of Del Mar (96)
City of El Cajon (97)
City of Escondido (98)
City of Imperial Beach (99)
City of La Mesa (100)
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League of Women Voters (192)
Community Planner Committee (194)
Town Council Presidents Association (197)
Clairemont Mesa Planning Committee (248)
Clairemont Chamber of Commerce (249)
Clairemont Town Council (257)
Kearny Mesa Town Council (263)
Kearny Mesa Community Planning Group (265)
Marian Bear Recreation Council (267A)
Mira Mesa Community Planning Group (310)
Tierrasanta Community Council (462)
University City Community Planning Group (480)
University City Community Association (486)
BRG Consultants
San Diego Landfill Systems, Neil Mohr
United Veterans Council, Chairman Joe Brunner

Native Americans

Campo Band of Mission Indians
Cuyapaipe Band of Mission Indians
Inaja and Cosmit Band of Mission Indians
Jamul Band of Mission Indians
La Posta Band of Mission Indians
General Council, Chairperson
Mesa Grande Band of Mission Indians
San Pasqual Band of Mission Indians
Santa Ysabel Band of Mission Indians
Sycuan Band of Dieguena Mission Indians
Viejas Band of Mission Indians

LIST OF ACRONYMS

ALUCP -	Airport Land Use Compatibility Plan
AICUZ -	Air Installation Compatibility Use Zone
AMSL -	Above Mean Sea Level
AQIA -	Air Quality Impact Analysis
BACT -	Best Available Control Technology
BMP -	Best Management Practice
C&D -	Construction and Demolition Debris
CCR -	California Code of Regulations
CDFG -	California Department of Fish and Game
CEQ -	Council on Environmental Quality
CEQA -	California Environmental Quality Act
CFR -	Code of Federal Regulations
CIWMB -	California Integrated Waste Management Board
CO -	Carbon Monoxide
CNEL -	Community Noise Equivalent Level
CSS -	Coastal Sage Scrub
dB -	Decibel
dBA -	Decibel (Weighted for the Human Ear)
DoD -	Department of Defense
DoN -	Department of Navy
DSD -	Development Services Department (of the City of San Diego)
EA -	Environmental Assessment
EAS -	Environmental Analysis Section (of the City of San Diego, DSD)
EIR -	Environmental Impact Report
EIS -	Environmental Impact Statement
EO -	Executive Order
EMS -	Environmental Management System
EPA -	Environmental Protection Agency (of the United States)
ESD -	Environmental Services Department (of the City of San Diego)
FEMA -	Federal Emergency Management Agency
FIRM -	Flood Insurance Rate Map
GDP -	General Development Plan
GHG -	Greenhouse Gas
HIA -	Hazard Index (Acute)
HIC -	Hazard Index (Chronic)
Hr -	Hour
INRMP -	Integrated Natural Resources Management Plan
JTD -	Joint Technical Document
KOP -	Key Observation Point
L _{d-n}	Acceptable Day-Night Average Exterior Sound Levels
LEA -	Local Enforcement Agency

Leq -	Equivalent Sound Level
LFG -	Landfill Gas
m ³ -	Cubic Meters
MCAS -	Marine Corp Air Station
MCO -	Marine Corps Order
mcy -	Million Cubic Yards
MEIR -	Master Environmental Impact Report
MHPA -	Multiple Habitat Planning Area
MICR -	Maximum Individual Cancer Risk
MSCP -	Multiple Species Conservation Program
MRF -	Materials Recovery Facility
MSW -	Municipal Solid Waste
NAS -	Naval Air Station
NEPA -	National Environmental Policy Act
NHPA -	National Historic Preservation Act
NO _x -	Various Nitrous Oxides
NO ₂ -	Nitrogen Dioxide
NSPS -	New Source Performance Standards
NPDES -	National Pollutant Discharge Elimination System
NSR -	New Source Review
O ₃ -	Ozone
OSHA -	Occupational Safety and Health Administration (United States)
Pb -	Lead
PCPCMP -	Preliminary Closure/Post Closure Management Plan
PEIS -	Programmatic Environmental Impact Statement
PEL -	Permissible Exposure Limits
PM _{2.5} -	Particulate Matter Smaller than 2.5 µg (Microgram)
PM ₁₀ -	Particulate Matter Smaller than 10µg (Microgram)
PPM -	Parts per Million
PPHM -	Parts per Hundred Million
PRC -	Public Resources Code
PTE -	Potential to Emit
RCRA -	Resource Conservation Recovery Act
RONA -	Record of Non-Applicability
RWQCB -	Regional Water Quality Control Board
SANDAG -	San Diego Association of Governments
scfm -	Standard cubic feet per minute
SDAB -	San Diego Air Basin
SDAPCD -	San Diego Air Pollution Control District
SHPO -	State Historic Preservation Office
SO ₂ -	Sulfur Dioxide
SR -	State Route
SWFP -	Solid Waste Facility Permit

SWPPP -	Storm Water Pollution Prevention Plan
TAC -	Toxic Air Contaminant
UCSD -	University of California, San Diego
USC -	United States Code
USMC -	United States Marine Corps
USFWS -	U.S. Fish and Wildlife Service
UW -	Universal Waste
VOC -	Volatile Organic Compound
WML -	West Miramar Landfill
§ -	Section

1.0 PURPOSE AND NEED OF THE PROPOSED PROJECT

The Proposed Project is a maximum 20-foot increase in elevation of the active portion of the Miramar Landfill, with no other change. No horizontal expansion is proposed. No change in daily throughput is proposed. No changes in operations other than those necessary to accommodate the vertical expansion are proposed.

The California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Division 13, §21000), as amended, states that:

- “the maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern;”
- “The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution;” and
- “It is the intent of the Legislature that all agencies of the state government that regulate activities of private individuals, corporations, and public agencies that are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.”

State of California regulations for solid waste (California PRC § 41700 - 41721.5) require that each region have a plan with adequate capacity to manage or dispose of solid waste for at least fifteen years into the future. The solid waste plan for the San Diego County region is contained in the Integrated Waste Management Plan, Countywide Siting Element, December 2004. The plan shows that unless a new landfill is opened and/or existing landfills are expanded, the region has insufficient disposal capacity. Plan policies 2.1 and 2.2 encourage the efficient use of existing disposal sites, and extension or expansion of in-county capacity. The San Diego Association of Government’s July, 2004 Regional Comprehensive Plan Chapter 4F provides similar language regarding “maximizing existing disposal capacity.”

Two purposes of the National Environmental Policy Act (NEPA) of 1969 (42 USC § 4321) are

- “to declare a national policy which will encourage productive and enjoyable harmony between man and his environment” and
- “to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.”

Consistent with the purposes of NEPA and CEQA, and with City of San Diego, County of San Diego, and SANDAG planning documents all of which emphasize extending the life of existing disposal facilities, the objective of the Proposed Project is to increase the capacity and thereby extend the operation of an existing, conveniently-located, environmentally-focused site for

disposal of municipal solid waste, provided this increase is consistent with the primary mission of the landlord, Marine Corps Air Station Miramar (MCAS). In pursuing the Proposed Project, it is the objective of the City of San Diego (City) to provide cost-effective, environmentally-sound disposal options for those residual materials that remain after all appropriate methods of waste reduction, recycling, composting, and/or conversion have been employed.

The City operates the landfill under a lease with the Department of Navy, administered by MCAS Miramar. Operation of the facility requires a Solid Waste Facility Permit, which is issued by the City's Local Enforcement Agency, which reports to the California Integrated Waste Management Board. A City of San Diego Site Development Permit would be required to implement the proposed height increase. The potential for modification to the operations and regulatory programs is discussed in Section 4.1. The Air Pollution Control Board and California Water Board impose additional requirements on landfill operations.

Other existing components within the City's leasehold include a recyclable materials collection point, a household hazardous waste collection point, gas use and energy generation, native plant nursery, and composting operations. South Miramar Landfill was the first landfill operated by the City on the military base. Parts of it now underlie Highway 52. North Miramar was the next area to be filled and is currently inactive. These two older landfills are within the City's leasehold, but there is no active permit for disposal operations in these areas. The Proposed Project would involve only the footprint of West Miramar, the existing, active landfill, currently operating under Solid Waste Facility Permit issued by the Local Enforcement Agency.

The City of San Diego's Environmental Services Department (ESD) operates the landfill and also provides other solid waste management services throughout the City. For example, it provides collection and recycling services. ESD also regulates private haulers and facility operators via franchises.

1.1 Purpose and Need for the Proposed Project

Safe handling of refuse in a manner that protects water and air resources, and prevents the proliferation of disease vectors such as flies and mosquitoes, is essential in order to protect public health and safety. The purpose of landfills is to prevent exposure to air contamination from uncontrolled burning of refuse, and air and water contamination from open dumps. Although there have been improvements in waste diversion technologies and programs, there is still a need for safe disposal options for residual materials. The purpose of the Proposed Project is to provide for this need by maximizing the life of an existing facility in accordance with planning documents, while assuring that the facility remains consistent with the national defense purpose of Marine Corps Air Station Miramar (MCAS).

The Miramar Landfill has served much of the City of San Diego's municipal solid waste disposal needs for more than five decades. This centrally-located facility, bordered by three freeways,

has changed in nature over the years from a facility focused only on disposal, to a resource recovery-oriented suite of operations that includes disposal of residual materials as one of its components. Other components include: a recyclable materials collection point, a household hazardous waste collection point, gas use and energy generation, native plant nursery, and composting operations. Figure 1 depicts the location of the Proposed Project in a regional perspective.

Two other landfills, Allied Waste's Sycamore Landfill and Otay Landfill, provide disposal capacity within the urbanized region. The Sycamore Landfill is located to the east of Miramar within the City's boundaries. The Otay Landfill is located within an unincorporated island within the City of Chula Vista. The Sycamore Landfill has been proposed for expansion. As proposed, this expansion would be more extensive than the expansion proposed for the Miramar Landfill and would make many modifications to the facility, including greatly increasing the through-put volumes.

Disposal operations at Miramar are as environmentally sound as possible. It is the first municipal International Organization for Standardization (ISO) 14001-certified disposal facility dedicated to continual improvement under this internationally-recognized Environmental Management System. (ISO standards are developed by a federation of 157 countries with a broad range of stakeholders. They are designed to promote sustainability, transparency, and good managerial and organizational practices.) One of the goals of the Environmental Management System developed for Miramar Landfill pursuant to its ISO certification is to maximize the capacity of the facility, thereby reducing the extent of land necessary for disposal purposes. This is consistent with the general environmental goal of maximizing the useful life of existing facilities.

One perspective with regard to landfills and certain other public service facilities is that visibility provides educational benefits. For example, the June 5, 2006 issue of Waste News explains that the fact that Anderson Elementary School students in Sand Springs Oklahoma can see the American Environmental Landfill from the front of their school provides educational benefits that result in better solid waste practices. The landfill and the school partner on recycling programs, and the visibility of the landfill provides a teaching point. Other landfills, such as the Puente Hills Landfill, in Los Angeles, has provided a visible, but heavily landscaped, "Disneyland of Landfills" that is also used as a teaching facility. While views of the Miramar Landfill are more limited than those of the landfills mentioned above, opportunities for public education are currently exploited, primarily through frequent landfill tours.

The primary focus of the City of San Diego's solid waste management planning is on preventing materials from entering the waste stream through citywide source reduction, recycling and composting programs. This emphasis is consistent with the federal law under the Resource Conservation and Recovery Act (RCRA), subtitle D, and the State of California's Integrated Waste Management Act. These waste reduction programs are detailed in the City's Source Reduction and Recycling Element planning document, which is updated annually. The purpose of these waste reduction, recycling, and composting programs is to reduce the environmental impacts associated with the use of virgin materials in manufacturing processes, and also to preserve capacity in the landfill.

The City operates the landfill under a lease with the Department of Navy, administered by MCAS Miramar. Within the leasehold for landfill operations there are several waste reduction facilities that help provide infrastructure for the separation and transportation of materials for recycling. The General Development Plan (GDP) for the landfill provides a snapshot of planning for these facilities. In addition, disposal operations themselves are designed to maximize the capacity of the existing footprint of the Miramar Landfill, within the existing height limits imposed by the lease.

Several components of the disposal operations target increased capacity and extending the life of the facility. In advance of landfill operations at the West Miramar Landfill (WML), aggregate extraction operations ensured that valuable geological resources were not wasted, and also resulted in the development of a pit that increased the capacity of the site. Slopes are constructed at the steepest possible contours to provide additional capacity, within the limits of safety and integrity of pollution control systems. Additionally, various compaction techniques, including use of specialized equipment and surcharging of soils, are used. A fourth measure includes replacement of the daily dirt cover, a method that had been used for many years as a daily cover in accordance with federal regulations, with an alternative that takes up less capacity. Tarpaulins are now used to ensure that the refuse is properly covered at the end of each day, but these tarpaulins can be rolled out and rolled back. Since they are reused, they take up no space in the landfill. The solid waste facility permit limits the use of tarpaulins, so dirt is also used as cover but use of dirt is minimized. As much dirt as possible is scraped off at the start of each work day, to be used again as cover. A fifth measure includes a salvaging project at the face of the landfill, where loads rich in recyclable materials are identified and the materials collected for recycling. Finally, new techniques and technologies to improve efficiency are constantly evaluated.

In its efforts to investigate new technologies, the Local Enforcement Agency (LEA) and Regional Water Quality Control Board (RWQCB) approved a pilot steam injection project at the Miramar Landfill. The theory behind this and other "bioreactor" approaches is that the waste is wetted to speed decomposition, instead of the traditional approach of keeping the buried materials dry to prevent the formation of leachate, or liquid contamination, and methane). Additional controls such as double liners and additional monitoring are often required in order to prevent environmental contamination.

Bioreactors typically have three benefits. 1) The first benefit is faster and controllable gas recovery. Within certain parameters, the rate at which water is added determines the rate at which gas is generated and can be used to produce energy. The appropriate amount added depends on the specific characteristics of each fill, and is designed to maximize decomposition, but not to the point of combustion. 2) The second benefit is a shortened closure maintenance period. Speeding the decomposition process produces a mostly inert residual much more rapidly. 3) The third benefit is an increase in usable capacity. Rapid decomposition of the biodegradable portion of the waste stream can produce usable capacity faster than the dry-tomb landfilling technique prescribed under the Resource Conservation Recovery Act (RCRA), subtitle D.

The City will evaluate the results from this pilot project. Evaluation of bioreactor technology at Miramar may conclude that this approach does or does not increase the rate of settling. Other desirable effects of bioreactors, such as faster gas production and reduced closure period, may have limited benefit at this particular facility, given the nature of the gas extraction and energy production program, and considering that older portions of the landfill will be subject to prolonged closure maintenance anyway. Therefore, it is not a given that the evaluations will suggest that bioreactor technology is appropriate at Miramar. If, however, the analysis does point to benefits, expected increases in life span would be approximately one to two years. Therefore bioreactor technology would be in addition to, not instead of, the Proposed Project.

The City regularly evaluates its waste reduction and recycling program and makes annual changes, resulting in updates to the overall solid waste management program. All options are considered, including the current proposal to increase the height of the existing landfill. This solution will only provide a small gain in capacity, and additional solutions will be needed, some of them requiring lengthier permitting. For example, preliminary discussions have occurred with Marine Corps personnel about investigating landfill options in other areas on and near the MCAS property. An important part of long term planning is consideration of new technologies. Innovative technologies, including thermochemical conversion technologies, such as gasification and pyrolysis, have been used extensively in Japan. These technologies have higher electrical conversion efficiencies than traditional incineration. A technical analysis paid for by the State of California compared potential impacts and benefits of various solid waste management strategies including burial in a landfill, composting, recycling, and various conversion technologies. Depending on the waste stream, conversion technologies produce useful products, such as fuel and electricity. These processes require less water than bioreactors or composting, produce no water pollution, and are cleaner energy producers than coal.

Thermochemical conversion technologies are regulated by many of the same agencies that regulate solid waste management, and are also subject to energy regulations. They require advanced engineering and the development of complex infrastructure. Therefore, they are more capital intensive than other approaches to solid waste management. The planning horizon for permitting and development of such infrastructure is beyond the planning horizon for the Proposed Project. There are no current plans for a thermochemical conversion project, and even

with such technology, residue from recycling processes and conversion technologies still require safe disposal. Even the most aggressive recycling and conversion-based solid waste management programs still have a need to dispose of residual materials. Therefore, such general solid waste planning is in addition to, not in lieu of, the Proposed Project.

Although improvements are being made in the methods and technologies for reduction, reuse, recycling, composting, and processing of waste, environmental consequences have not been completely eliminated. Furthermore, environmental impacts are associated with product manufacture as well as with waste material processing and disposal. Therefore, California State law (PRC Section 40004 et. seq.) recognizes “source reduction” as the most environmentally-sound strategy in diverting materials from disposal. State law currently sets a target of 50% waste reduction. Although the City has achieved the 50 percent goal, additional measures, above and beyond what were originally described in the Source Reduction and Recycling Element, are being pursued as part of the City’s commitment to continued improvement and fiscal and environmental stewardship.

ESD is currently pursuing options for the provision of a mixed construction and demolition (C&D) debris recycling facility. Study of the waste stream indicates that, despite existing private businesses that recycle many C&D components, much of this material continues to be buried in the landfill. Options being considered include development of policies and ordinances assisting private recycling efforts, and also potential public sector involvement in facility development. C&D recycling facilities typically are able to divert 50% or more of the material sorted and processed from disposal. The proposed mixed C&D Recycling facility would target unsorted materials that are currently not accepted at existing recycling facilities. This unsorted input would require equipment and handling to process, and would generate significant quantities of residual materials not suitable for recycling. It may be possible to accept residual materials for use at the landfill as alternative daily cover, if the material is appropriate and the measure is approved by the LEA.

Disposal needs in the San Diego area continue to grow despite a diversion rate in excess of 50% as compared to waste generation rates in 1990. This continued increase in the amount disposed, despite increasing diversion, is a result of population growth, and changes in the nature of the commercial, industrial, and residential sectors of the City. Disposal options have dwindled over that same time period. According to forecasts in the County of San Diego’s Integrated Waste Management Plan and Siting Element, even if the region meets the state’s target of 50% waste reduction, the region is expected to run out of landfill capacity in less than the state’s prescribed 15-year planning horizon unless existing facilities are expanded, new facilities are sited, or unless waste is transported out of the region.

Environmental impacts are typically associated with all three of these alternatives. Transporting waste out of the region moves the impacts to other areas, but does not eliminate them. It requires development of transfer stations, and it adds costs and environmental impacts associated with handling and transportation. Siting new processing and disposal facilities is extremely costly and

time consuming, and cannot occur without environmental impacts. Increased waste reduction and recycling could postpone this eventuality, and the City plans to maximize diversion, but must also consider ways to maximize the life of the one disposal facility it operates. It is the goal of the San Diego Association of Governments' (SANDAG) Comprehensive Resource Management Plan, the County's Siting Element, and the proposed draft of the City's General Plan to make every effort to extend the life of existing disposal facilities.

The City expects that its emphasis on waste reduction and recycling will increase diversion rates; however, increasing waste diversion rates will not be able to keep up with increases in waste generation resulting from the increasing population and economic growth of the region. Therefore, no decline in acceptance rates of materials to be disposed at the Miramar Landfill is expected. It is assumed that recycling and waste diversion efforts will continue to improve and expand. In addition, the private sector operator of the Sycamore Landfill, located within the City of San Diego, modified its permit in July 2006 to dispose of an additional 665 tons per day. This operator is currently proposing to increase acceptance rates again, this time in excess, not just of what is generated within the current service area of the facility, but of the entire region. If this proposal is approved, throughput rates at the Miramar Landfill could decline, depending on pricing and fee structure. Additionally, two new private landfills are proposed, one in North County, the Gregory Canyon Landfill, and one in East County, the Campo Landfill. If approved, these facilities would also be expected to draw from the service areas of existing landfills, though potentially also from outside the region.

Until last year, approximately 25% of the material entering the Miramar Landfill was from outside the City. With recent shifts in fees, there has been a decline in the material entering the landfill, primarily as a result of a decline in this percentage, which was precipitated by fee changes that increased costs for wastes that originate outside the City. Thus, considering private sector proposals for disposal facilities, together with modifications to the fee structure at the landfill, the plans for the Miramar Landfill are neither to increase nor decrease its throughput rate, but rather to keep it at its current rate.

No matter how efficiently the Miramar Landfill is operated, and regardless of the technologies that can be employed in the near future, it is expected to reach capacity by approximately 2012 at the current rate of acceptance of waste, and the existing height limit.

At the time the lease for the Miramar Landfill was renegotiated in 1996, the height limit was imposed by the Department of Navy in order to ensure that landfill operations did not interfere with flight operations at what was then Naval Air Station Miramar. The air station has subsequently been realigned as a Marine Corps Air Station.

In 2004, the City began discussions with the Marine Corps about the possibility of a height increase. Although the goal of the project is to extend the life of the Miramar Landfill as long as possible, three factors were considered in moderating the amount of increase requested: 1) it is important not to interfere with flight operations, 2) visual impacts from the surrounding areas

must be minimized, and 3) because of the tapered sides of the landfill, greater heights have diminishing returns.

1.2 Purpose of the EIS/EIR

The City of San Diego has prepared this Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the potential environmental effects associated with the revision of the Miramar Landfill Solid Waste Facility Permit (SWFP) and the associated lease with the Department of Navy, MCAS, to allow a maximum 20-foot increase in height. The existing SWFP reflected a measurement from a topographic map of 470 acres, however, subsequent surveys more accurately measure the site size as 476.34 acres, and this size would be reflected in the new SWFP application. Additionally, the current permit has an annual limit on tonnage, and this limit would be removed entirely from the permit, to be consistent with the current protocol. However, no change in operation is proposed, therefore the daily tonnage and traffic limits would not change.

This EIS/EIR is intended to provide information on the impacts associated with the Proposed Project for all federal, state, and local agencies that may need to take an action to allow the maximum 20-foot height increase. The proposed height increase would require the following discretionary actions and permits:

- Lease Amendment – MCAS;
- Lease Amendment and issuance of a Site Development Permit – City of San Diego;
- Revision of the SWFP – City of San Diego Local Enforcement Agency (LEA), with concurrence by the California Integrated Waste Management Board (CIWMB);
- Waste Discharge Requirements – Regional Water Quality Control Board (RWQCB), San Diego Region; and
- Air Quality Permit – San Diego Air Pollution Control District.

Approval of the discretionary actions and permits associated with the proposed height increase would increase the total permitted capacity of Miramar Landfill from the maximum 1996 permitted airspace volume of 75,210,000 cubic yards to the total permitted airspace capacity of 87,760,000 cubic yards and extends the operating life by an estimated four years to 2016. This information is based on the information provided in the Joint Technical Document, dated February 2007, Table 3-1.

The City of San Diego serves as the “lead agency” for development and certification of this environmental document pursuant to the California Environmental Quality Act (CEQA). Marine Corps Air Station Miramar must take a major federal action of modifying the lease, and so serves as the federal cooperating agency for environmental review pursuant to National Environmental Policy Act (NEPA).

The most recent environmental document addressing Miramar Landfill and planned ancillary facilities was the Programmatic Environmental Impact Statement (PEIS)/Master Environmental Impact Report (MEIR) for the Miramar Landfill General Development Plan (GDP) and the Fiesta Island Replacement Project/Northern Sludge Processing Facility and the West Miramar Landfill Overburden Disposal LDR No. 91-0653 (NAS/Miramar, City of San Diego, July 1994). For ease of reference to this report in the current EIS/EIR, it is incorporated by reference and is called the EIS/EIR for the GDP. The GDP arranged projects into timed phases, with “phase 1” projects expected to be developed in the near term, and “phases 2 and 3” projects in the more distant future. The EIS/EIR for the GDP addressed the anticipated environmental impacts of all planned facilities in the GDP area for which there were detailed plans at a project level, and analyzed at a program level of detail those proposed facilities scheduled in project phases 2 and 3, for which much less information was available at the time.

The WML is divided into two geographical areas, “Phase I” to the east, and “Phase II” to the west. The lease agreement for operation of the landfill sets a maximum height limit of 465 feet above mean sea level (amsl) for West Miramar Landfill, Phase II, and 470 feet amsl for Phase I. In January 2005, after evaluating the potential for interference with aircraft, the U.S. Marine Corps, now in control of the base, indicated it would be willing to process a lease amendment to increase this limit by a maximum of 20 feet (15 feet in Phase I and 20 feet in Phase II). Section 2 of the August 17, 1995 Ground Lease between the United States of America and the City of San Diego will be modified to accommodate the height increase. Specifically, the section describing the uses on Parcel 4 will be modified to change the height limit to 485’ MSL on page 3 of the document (see Appendix C).

This EIS/EIR will be used by the Marine Corps Air Station Miramar in its consideration of a proposed revised lease for Miramar Landfill. It will also be used by the City of San Diego in considering the revised lease and issuance of a Site Development Permit and Solid Waste Facility Permit. This EIS/EIR is made available to the public for their review and comments, as provided in the NEPA and CEQA processes. The Proposed Project will also be reviewed by the Federal Aviation Administration Office at the following address:

Express Processing Center
Federal Aviation Administration
Southwest Regional Office
Air Traffic Airspace Branch, ASW-520
2601 Meacham Boulevard
Fort Worth, TX 76137-0520

The FAA is expected to file a determination of “no objection” for the Proposed Project.

This draft environmental document will be made available to appropriate state and federal agencies, and to the public, for review and comment, as required by CEQA and NEPA.

1.3 History of Project Changes

The originally proposed 60-foot height increase was modified in response to flight considerations associated with the MCAS landing strip. Federal Regulation Title 14 Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for:

- Evaluating the effect of the construction or alteration on operating procedures;
- Determining the potential hazardous effect of the proposed construction on air navigation;
- Identifying mitigating measures to enhance safe air navigation; and
- Charting of new objects.

Notification allows the FAA to identify potential aeronautical hazards in advance thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace.

Any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

- Any construction or alteration exceeding 200 ft above ground level;
- Any construction or alteration
 - within 20,000 ft of a military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.;
 - within 10,000 ft of a military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.;
 - within 5,000 ft of a public use heliport which exceeds a 25:1; surface;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport.

Construction or alteration of objects on or around airports can have an adverse impact to operations at an airport:

- If objects may result in an increase to approach minimums to runways.
- If constructed objects may impact runway protection zones, safety areas, object free areas and obstacle free zones.
- If transmitting frequencies could impact the navigational aid facilities.

Airport owners and operators should assure that all such improvements are properly evaluated by the FAA prior to commencement of the work. Alterations can be temporary or permanent. Projects such as the Proposed Project would increase the ground elevation, and also would include temporary construction alterations, such as equipment, stockpiles, and haul routes.

For the Proposed Project, proposed amsl elevations, the engineered drawings provided with this EIS/EIR, and a Landfill Height Controls and Operational Procedures Guidance Document were provided to MCAS Miramar. As previously stated, the City initially proposed a 60-foot increase in the active landfill area, which is called West Miramar Landfill, phases I and II. MCAS staff and military experts evaluated the proposal. It was determined that a 20-foot height increase would pose no obstruction or hazard to navigable airspace around MCAS Miramar. Thus the Proposed Project was reduced in scale by two thirds to ensure that the Proposed Project would not interfere with flight operations. This reduced project is now the Proposed Project. The increase could extend the life of the landfill by approximately four years.

1.4 Scoping Process

In the Fall of 2005, all community groups in the vicinity were contacted by phone and provided an information sheet on the Proposed Project. One group, the Kearny Mesa Community Planning Group, invited City staff to make a presentation. None of the groups contacted raised concerns about the Proposed Project; their primary question involved what the destination of waste would be after the ultimate closure of the facility. This question is the subject of overall long range solid waste management planning. The City has recently begun a public process of evaluating the options, some of which are described in the alternatives section of this report.

The City sent a Notice of Public Information Mailing on March 23, 2006 (Appendix A). The following people were informed of the informational meeting held by the Solid Waste Local Enforcement Agency (LEA) on April 5, 2007:

MCAS Miramar

Jack Harkins

Community Groups

Clairemont Mesa Planning Committee, Eleanor Mang, Chair
Kearny Mesa Community Planning Group, Buzz Gibbs, Chair
Mira Mesa Community Planning Group, Ted Brengel, Chair
Tierrasanta Community Council, Eric Germain, Chair
University Community Planning Group, Linda Colley, Chair

Legislators

Christine Kehoe
Lori Saldana

Council Members

Council President Scott Peters
Councilmember Kevin Faulconer
Councilmember Toni Atkins
Council President Pro Tem Tony Young

Councilmember Brian Maienschein
Councilmember Donna Frye
Councilmember Jim Madaffer
Councilmember Ben Hueso

Property Owners Near W. Miramar Landfill

Idec-Nobel Research Center
Arden Realty Limited Partnership
Dmtm Investments, Inc.
Hudson & Zimmerman LLC
Matthew Zetumer Trust
Ellen Nemiroff
James Malcom Serial LLC
Gordon & Judy Rick Family Trust
George Henderson
David Diccico
Sonnenberg Family Trust
Ronald Pondrom
Lippert Family Trust
Wilfred Wright
Seckelman & Assoc.
Thomas Cartier
Ian Busch
Philip Karn, Jr.
Renko Meijer Trust
Amanda Dunkin
Antoinette Yager Trust
Joan Sieving
Thomas Sansone
Louie & Karen Linarelli Family Trust
Joan Brightman Trust
Birch Family Trust
Marc Nguyen
Charles & Rosa Young
Nelen Family Trust
Sheila Fisher Revocable Living Trust
Disalvo Trust
Robert & Cheryl Gustafson
Cambell Living Trust
Arlyn & Janet White Family Trust
Sargent Family Trust
Edward Howes
Chen Family Trust
Johnson Survivors Trust
Mark Efron
Armando & Sally Estacio

Philmore & Margaret Steele
Noel Quintana
Stephen Harris
Jeffrey & Mary Bostwick
Andrew & Esta Hearsom
Marvin & Janet Svoboda Trust
4-U Trust c/o Ann Eblen
Virginia Nash Trust
John Clemens Trust
Renee Krolikowski
Weyer Family Trust
Sol & Meryl Rochman Revocable Trust
John & Mary O'Neill
Glenn & Ellen Mitneer
Erik & Jonabelle Hustoft
Jamie Smith
James & Debra Dawson
Richard & Deborah Shea
Daniel & Tina Vaught
Michel & Jacqueline Bouchard
Douglas Carlone
Ralph & Perly Tam
Lito Lazzaro Trust
James & Anne Wurdeman
Nancy Irwin
Leif & Esther Ljungquist
Cochrane Family Trust
William Cason
Wampach Family Trust
Isreal & Michal Sneider
Jonathan & Elke Berke
Fort Family Trust
John & Alice Dryden
Michelle Glen
Stafford Family Trust
Thomas & Mary Jensen
Wade & Elizabeth Mains
Robert Youngquist, Jr.
Frank & Pamela Smal
Guillermo & Theresa Adame
Charles & Vicki Miller
Cynthia Tanner Revocable Trust
Fink Masako Kodama
David & Vera Nelson
Basile Family Trust
Ahmad Aminilari

Lin Huey Hsiu-Yi
Arden Realty Ltd Partnership c/o Deloitte Tax LP
Kilroy Realty LP c/o Heidi Roth
Crolyn Warfield
James Christian
Eugen Birch
Michael & Lisa Sackett
Cademy Family Trust
Katalidis Family Trust
Christopher & Hoa Doan
Yashfumi & Katsuko Yamamoto
Anne Hones
Giacomini Trust
Hall Family Trust
Watse Oostenvelds Trust
HCA Office Park LLP
Eva Casner Family Survivors Trust
Cmk Kearney Park LLC
Royal Hospitality Inc. c/o Ramada Inn & Conference Center
Kearney Mesa Self-Storage c/o Lack Mtn Invs
Bergo Enterprises
Pedro Medin Revocable Trust
Peter & Rose Nguyen
George Hermain Living Trust
Charles Hargrave Trust
James Duke, Jr.
Shahrokh & Mohebbi Salehi Revocable Trust
Bolic Family Trust
John & Michelle Mabie
Rt SD-Denver LP c/o Dimension Development Co. Inc.
O'Connor & Herlihy
Carlstead Inc.
Carlstead Inc. Al Bahr Temple
Tatsue Shuku Jo
Cubic Corp.
Cabrillo Commerce Center LLC
Arvco Industrial Park c/o Arvco Realty
John Hancock Life Ins. Co. c/o Manulife Financial
Security Pacific Nat. Bank John Hancock Life Ins. c/o Manulife Financial
Abraham Perl
Convoy Properties LLC
Kusuhara/Reiko Toshihiro
Ubc Kearney Mesa LLC c/o Union Bank
Genuine Parts Co. c/o Finance Department
Stewart A. Sale
Rose Childrens Trust

Benny Miao Trust
M+I Leverant Trust
Nordic Investment Co.
Ostrow Partners
Behrooz/Jeannette Farhood
George C. Jach Trust
Roxanne V. Greene
Noelle Espinosa c/o Michelle Shaw
American Commercial Properties c/o Property Tax Dept
Clairemont Mesa Medical Arts Center c/o Thomas B Crosbie
Spectrum Property Mgmt.
James/Mary Clark Trust c/o Us Bank
Boyle Real Estate c/o Pillsbury Winthrop Shaw
G T E Mobilnet of Oregon c/o Wireless Asset Mgmt.
Hendrickson Family Trust
Rahim/Jamshide Sakhavat
Farhood Family Trust
Catellus Development Corp. c/o Deloitte Tax Attn. Raymond
Yuan Chen Ho/Chang Hua Kang
San Diego Crossroads Center Land c/o Oran J Laymon
Lamon Family Trust c/o Commercial Facilities
Gordon Frost Trust c/o Martha M. Frost
Kaiser Foundation Health Plan
Barcarco Inc.
Northern Star Growth Trust
CNS Properties
Kaiser Health Plan c/o Kaiser Foundation Hospitals
Frank Z. Parker
Kearny II c/o Alfredo Gallone
Eleanor Bucciarelli Trust Att. Property Tax Dept
Catellus Development Corp c/o Deloitte Attn Raymond
Diego I Investment Co. c/o Chestnut Properties
Arjmand Family Trust
Abbey III San Diego c/o The Abbey Co.
Balisimar Holdings
Richland Villas
Reza Siry
Mercury Village Holdings c/o Anza Pacific Properties
Union Bank c/o Union Bank
Krylow Trust
San Diego Investment Properties c/o Chuck Peterson
Katherine Bevash Trust
Hedy Aardema Trust
Iron Workers Local 229
Marina Piccioni Trust
Copley Park Developers c/o Thompson Fetter

T. Fetter & Co.
52 & Convoy Corp.
Velocity Properties of Calif.
R V Investment Ca c/o Holland Motor Homes
Puterbaugh Brothers
M I C Ltd. c/o Jim St. John
Gateway West Properties Inc. c/o Epropertytax Inc.
Pacific Office Properties/Seville Plaza c/o Shidler Group
Ellison Family Trust
M I C Ltd. c/o Modern Bookkeeping
Jaime Brener Trust
Constantine Family Trust
Potomac Family Trust
Grace Mitchell Estate c/o Janice Wicklund
Peter/Ladene Aardema Family Trust
Asteroid Corp.
Alexander P. Petakovich
Trepte Industrial Park
101 Enterprises
Hall/Johnston Family c/o Victor M. Hall
Neil/Barbara Shooter
Windbigler Family Trust c/o Fallbrook Equipment Rentals
Distabile Family Trust c/o Empire Realty
Mesa 5700 Kearny Villa Investors
Cook Inlet Region Inc. c/o Project Development
Waxies Nterprises Inc.
Waxie Way LLC
Mesa View Plaza Inc. c/o Todd Bailey
Sanford Development Corp. Chesapeake Management
Ninyo / Inter Vivos Trust
CBRE Operating Partnership c/o Depasqual Kelley & Co.
Chesapeake Center LP
Hazard R E Contracting
Surfstone LLC c/o Lounsbry Ferguson Alton & Pea
Four Points Partners LLC
Hazard Capital Assets LP c/o Commercial Facilities
Golden Girl Ltd. Liability
Abey III San Diego LLC c/o The Abbey Co.
Atkins Investments LP
Hazard R E Contracting Co.
Theodore R. Schonlaw
Arden Realty Finance c/o Deloitte Tax LP
Joseph Jr./Evangeline Salas Trust
FEH Income Properties
Gateway West Properties c/o Eproperty Tax Inc. Dept 207
Entravision Communications Corp C/O Michael Rowles

Jayscott LLC c/o Greg Watkins
Fenton Miramar Portfolio c/o H. G. Fenton
9194 Chesapeake Dr. LLC c/o Susan Mercurio
Stadion LLC C/O Alfred L. Elkins
Susi Simon Family Trust
Fowler Family Trust
Chesapeake Court LLC
Tremore LLC
Kearny Villa Center West c/o Collins Dev Co.
Archie/Wanda Humphrys Trust c/o Hydro Scape
Bernard Kuhl & Assoc.
Elizabeth & Darrow Roundy
Hic Kearny Mesa LLC c/o Harsch Inv. Corp.
5925 Kearny LLC
Getchell Family Trust
Conrique E. Trestand c/o Rancho Santa Fe Tech

In addition to the Kearny Mesa Community Planning Group presentation and the informational meeting held by the LEA on April 5, 2007, City staff has presented the project to the following groups:

- University City Community Planning Group on April 10, 2007;
- Mira Mesa Community Planning Group on April 16, 2007;
- Clairemont Mesa Community Planning Group on April 17, 2007; and
- Kearny Mesa Community Planning Group on April 18, 2007.

CEQA requires state and local agencies to consider the environmental impacts of their discretionary actions. Per the City's Land Development Code, the City's Environmental Analysis Section provides CEQA staff to perform the environmental review for the Proposed Project, including determining if potential significant impacts might occur, and if so, what specific mitigation measures would be required to reduce impacts to below a level of significance.

In determining what environmental issues should be addressed, factors such as regional waste generation rates (described in the Purpose and Need Section), were considered. As described in that Section, despite increasing regional waste reduction and recycling rates, disposal rates are not expected to decrease, and in fact, are expected to increase. However, no increase in the allowed trips per day at the Miramar Landfill is proposed with the Proposed Project. Other solid waste facilities will be relied on to handle the increasing amount of waste generated within the region. Alternatively, existing transfer facilities currently have sufficient permitted capacity to transport the material out of the region, should none of the alternative local disposal options be approved.

Marine Corps Air Station Miramar must take a “major federal action” if it amends the lease to allow this additional 15 to 20 feet. The project proposal will be evaluated pursuant to Marine Corps Order P5090.2A, the Environmental Compliance and Protection Manual, which requires that an EIS provide a full and unbiased discussion of all significant environmental impacts and informs decision makers and the public of the reasonable alternatives that would minimize impacts or enhance the quality of the human environment. The City is the “lead agency” for environmental review under CEQA, and Marine Corps Air Station Miramar is the cooperating agency for the review under NEPA. Both processes require the lead agency to determine issues that could result in significant impacts, and to provide a Notice of Preparation and Notice of Intent, respectively, allowing the public the opportunity to comment on the scope of environmental issues to be addressed in the documents.

Pursuant to Section 15082(c)(1) of CEQA and Marine Corps Order (MCO) P5090.2A, a public scoping process is required. The MCO specifies that input from affected federal, state, and local agencies, any Native American tribe, minority and low-income populations, and other interested persons must be solicited. A public scoping meeting was held on May 10, 2006 to get additional input from the public on potential issue areas. The distribution included:

Federal Government

U.S. Marine Corps (3)
Commanding General, MCAS Miramar Air Station (13)
U.S. EPA
U.S. Fish and Wildlife Service (23)
U.S.D.A. Natural Resources Conservation SRVS (25)
Dept. of Interior, Environmental Policy and Compliance

State Government

Caltrans (31)
CA Department of Fish and Game (32)
CA Department of Fish and Game (Sacramento office)
California Integrated Waste Management Board (35)
California EPA (37A)
Resources Agency (43)
CA Regional Water Quality Control Board (44)
State Clearinghouse (46)
California Air Resources Board (49)
Water Resources Control Board
California Transportation Commission, Quality Advisory Committee

County Government

Air Pollution Control District (65)
Department of Public Works (70)
Dept. of Environmental Health (75)

City of San Diego

Mayor Sanders, MS 11A
Council President Peters, MS 10A
Councilmember Faulconer, MS 10A
Council Atkins, MS 10A
Council President Pro Tem Young, MS 10A
Councilmember Maienschein, MS 10A
Councilmember Frye, MS 10A
Councilmember Madaffer, MS 10A
Councilmember Hueso, MS 10A
Environmental Services, Lisa Wood (MS 1102A)
LDR EAS, Marilyn Mirrasoul
LDR Planning, Ismael Lopez
LDR Landscaping, Craig Hooker
LDR Transportation, Jim Lundquist
Transportation Development (78)
San Diego Fire Department, Sam Oates (MS 603)
San Diego Police Department, Jerry Hara (MS 711)
Geology, Pat Thomas (MS 401)
Long Range Planning, Maxx Stalheim (MS 4A)
Water Department, Chris Gascon (MS 910D)
LEA, Bill Prinz (MS 606L)
MWWD, Alejandro Ruiz (MS 22)
Bob Ferrier (80)
University Community Branch Library (81JJ)
Balboa Branch Library (81B)
Mira Mesa Library (81P)
Scripps-Miramar Library (81FF)
Tierrasanta Library (81II)
Central Library (81)
Police Research and Analysis (84)
Real Estate Assets Dept. (85)
General Services (92)
Clairemont Community Service Center (MS 97)
City Attorney, Shirley Edwards (MS 59)

Others

City of Chula Vista (94)
City of Coronado (95)
City of Del Mar (96)
City of El Cajon (97)
City of Escondido (98)
City of Imperial Beach (99)
City of La Mesa (100)
City of Lemon Grove (101)
City of National City (102)

City of Poway (103)
 Poway Library
 City of Santee (104)
 City of Solana Beach (105)
 SANDAG (108)
 San Diego County Regional Airport Authority (110)
 SDGE (114)
 Back Country Against Dumps (162)
 Sierra Club (165)
 San Diego Audubon Society (167)
 Mr. Jim Peugh (167A)
 Environmental Health Coalition (169)
 California Native Plant Society (170)
 Center for Biological Diversity (176)
 Endangered Habitats League (182)
 League of Women Voters (192)
 Community Planner Committee (194)
 Town Council Presidents Association (197)
 Clairemont Mesa Planning Committee (248)
 Clairemont Chamber of Commerce (249)
 Clairemont Town Council (257)
 Kearny Mesa Town Council (263)
 Kearny Mesa Community Planning Group (265)
 Marian Bear Recreation Council (267A)
 Mira Mesa Community Planning Group (310)
 Tierrasanta Community Council (462)
 University City Community Planning Group (480)
 University City Community Association (486)
 BRG Consultants
 San Diego Landfill Systems, Neil Mohr
 United Veterans Council, Chairman Joe Brunner

Native Americans

Campo Band of Mission Indians
 Cuyapaipe Band of Mission Indians
 Inaja and Cosmit Band of Mission Indians
 Jamul Band of Mission Indians
 La Posta Band of Mission Indians
 General Council, Chairperson
 Mesa Grande Band of Mission Indians
 San Pasqual Band of Mission Indians
 Santa Ysabel Band of Mission Indians
 Sycuan Band of Dieguena Mission Indians
 Viejas Band of Mission Indians

A copy of the meeting notice is provided in Appendix B of this document. The notice was published in the San Diego Daily Transcript and mailed directly to 19 groups and individuals within the vicinity or interested in the issue. However, no members of the public attended, and the meeting was adjourned after 25 minutes. Written comments regarding the scope of the document were provided by the California Integrated Waste Management Board and are included in Appendix B.

1.5 Relevant Statutes, Regulations, and Guidelines

This EIS/EIR has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA, 42 USC, § 4321 *et seq.*); the Council of Environmental Quality (CEQ) Regulations (40 CFR, Part 1500); Department of the Navy (DoN), Procedures for Implementing the National Environmental Policy Act (32 CFR, Part 775); Marine Corps Order P5090.2A; Department of the Navy Environmental and Natural Resources Program Manual (OPNAVINST 5090.1A, October 2, 1990); the California Environmental Quality Act (CEQA) of 1970, as amended (California Public Resources Code, §21000, *et seq.*); California Guidelines for Implementation of the California Environmental Quality Act, as amended September 2004 (Title 14 CCR, § 15000 to 15387); City of San Diego Municipal Code, §69.0101-69.0110 and §128.0101-128.0314; City of San Diego Technical Report and Environmental Impact Report Guidelines (September 2002, updated December, 2005); and City of San Diego Development Services Department's Significance Determination Thresholds, August 2006.

2.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) of 1970, as amended, and the National Environmental Policy Act (NEPA) of 1969 require a discussion and analysis of alternatives to a proposed action.

Pursuant to the Guidelines for Implementation of CEQA (Section 15126.6), the Environmental Impact Report (EIR) must contain a consideration of alternatives that can attain most of the basic objectives of the Proposed Project and would avoid or substantially reduce significant environmental effects of the Proposed Project. Alternatives to be considered in this manner should be reasonable and feasible. Specifically, Section 15126.6(a) states the alternatives section of an EIR shall:

Describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

The CEQA Guidelines (Section 15126.6(b)) state the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. According to CEQA Guidelines, the range of potential alternatives to the project required in an EIR is governed by the “rule of reason” and shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (Sections 15126.6(c), (f)). The CEQA Guidelines also require discussion of the “No Project” alternative (Section 15126.6(e)).

NEPA requires that an Environmental Impact Statement (EIS) describe a range of reasonable alternatives to a project, or to the location of a project, which could feasibly attain most of the basic goals of the project but would avoid or substantially lessen any significant environmental impacts while substantially attaining the basic goals of the project. Alternatives for an EIS may take the form of no project, no federal action (no permits), reduced project size, different project design, or suitable alternative project sites. Alternatives discussed in an EIS must only be within a reasonable range and an EIS need not consider an alternative that would be infeasible.

According to the Council on Environmental Quality (CEQ) NEPA Regulations (40 CFR 1502.14), the alternatives section of an EIS is required to:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of no action.
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

This section provides a description of the Proposed Project and a description and analysis of feasible alternatives to the Proposed Project, including the No Project alternative, pursuant to the requirements of CEQA and NEPA.

2.1 Proposed Project

The Proposed Project would extend the life of the existing, approved WML by increasing the landfill height up to 20 feet above the currently approved landfill elevations, and thus increasing the total waste disposal capacity. The necessary “major federal action” to allow the Proposed Project is the approval of a revised lease document by MCAS Miramar. The existing site topography is shown in Figure 2a. The currently approved height is depicted in Figure 2b, and ranges from 465 feet amsl to a maximum of 470 feet amsl. Temporary stockpiles and other currently-permitted topography does not mimic natural landforms in the area; instead it provides an engineered surface. The purpose of this design is to provide for maximum capacity. The 1980 EIR for WML did not find significant visual impacts associated with this engineered shape, and therefore no analysis of the benefits of increased capacity was considered. The large setback from San Clemente Canyon and from view locations along I-805 reduced potential impacts of the proposed grading. This, combined with the required Closure Plan, which included required revegetation, was considered to result in no significant impact. For the currently Proposed Project, the proposed landfill elevation of 485 feet amsl is shown in Figure 2c. The proposed elevation would almost exactly mirror the existing final elevation, but would be 15 to 20 feet higher. As with the previous elevation and design, the new landfill design would not conform to surrounding natural mesa/canyon topography. However, the increase in height is relatively small, as shown in the visual simulations. The setback distance and proposed revegetation upon closure would not change, although, as before, the exact nature of the ultimately required revegetation will not be known until the Closure Plan is submitted for final review prior to implementation. The City has proposed native species for revegetation.

The current height limit of 465 feet amsl to 470 feet amsl was included in the DoN 1996 lease agreement with the City of San Diego, to ensure that landfill operations did not interfere with flight operations at what was then Naval Air Station Miramar. The base has subsequently been realigned as a Marine Corps Air Station. ESD approached the Marine Corps in 2004 to discuss the possibility of a height increase. The base determined that a 20-foot height increase could be allowed without interfering with flight operations. The proposed lease amendment is included as Appendix C to this EIS/EIR document.

The proposed height increase would increase the total permitted capacity from 65,834,000 cubic yards to 76,458,000 cubic yards. As a result, it is anticipated that the operating life of Miramar Landfill would be extended approximately four years to late 2016 or possibly to 2017.

The proposed vertical expansion consists of placing additional refuse to raise the final surfaces of both phases I and II areas to a maximum elevation of 485 feet above mean sea level.

Figure 2a - Existing Topography, West Miramar Landfill

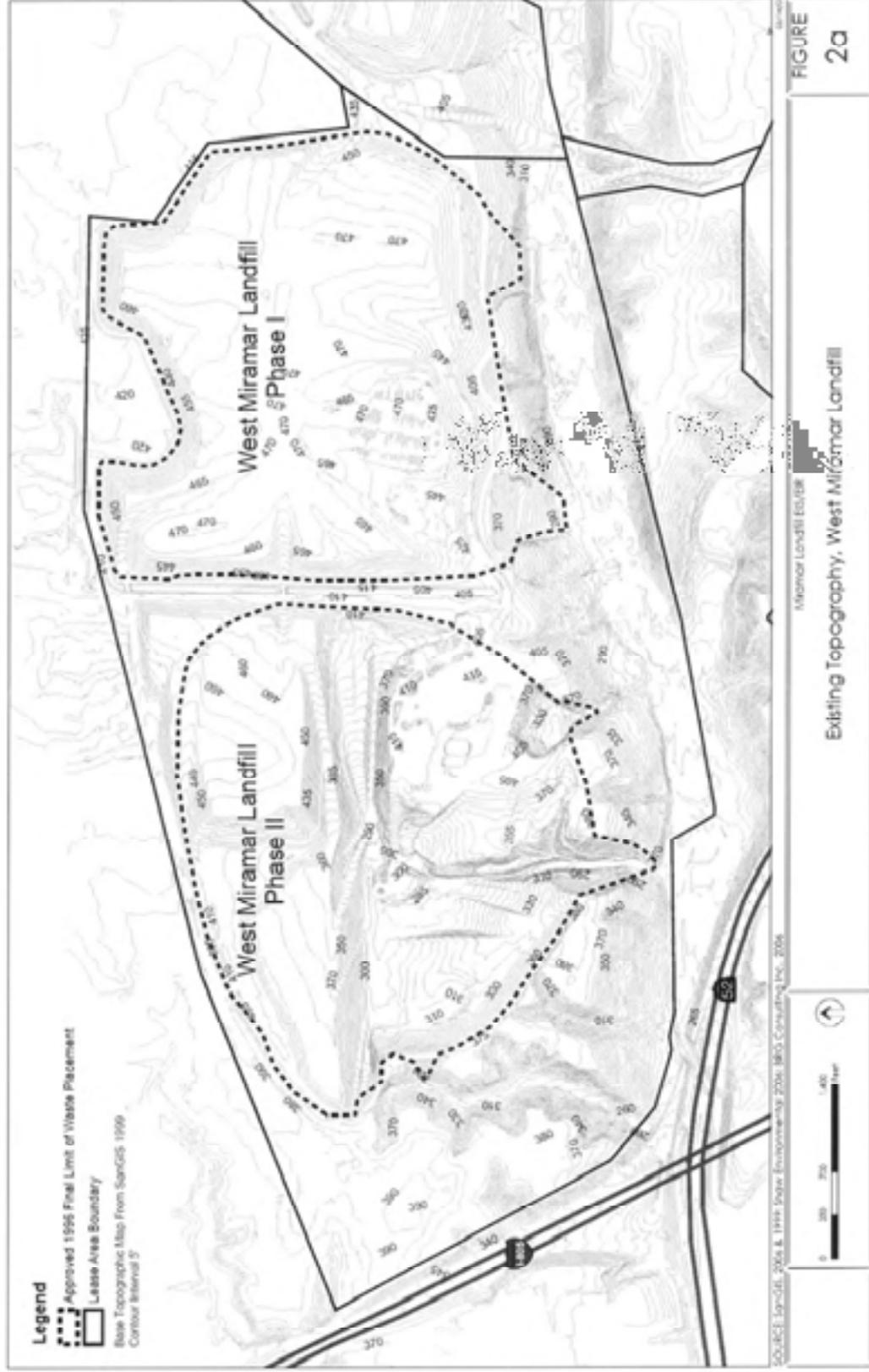


Figure 2b - Currently Permitted Topography, West Miramar Landfill

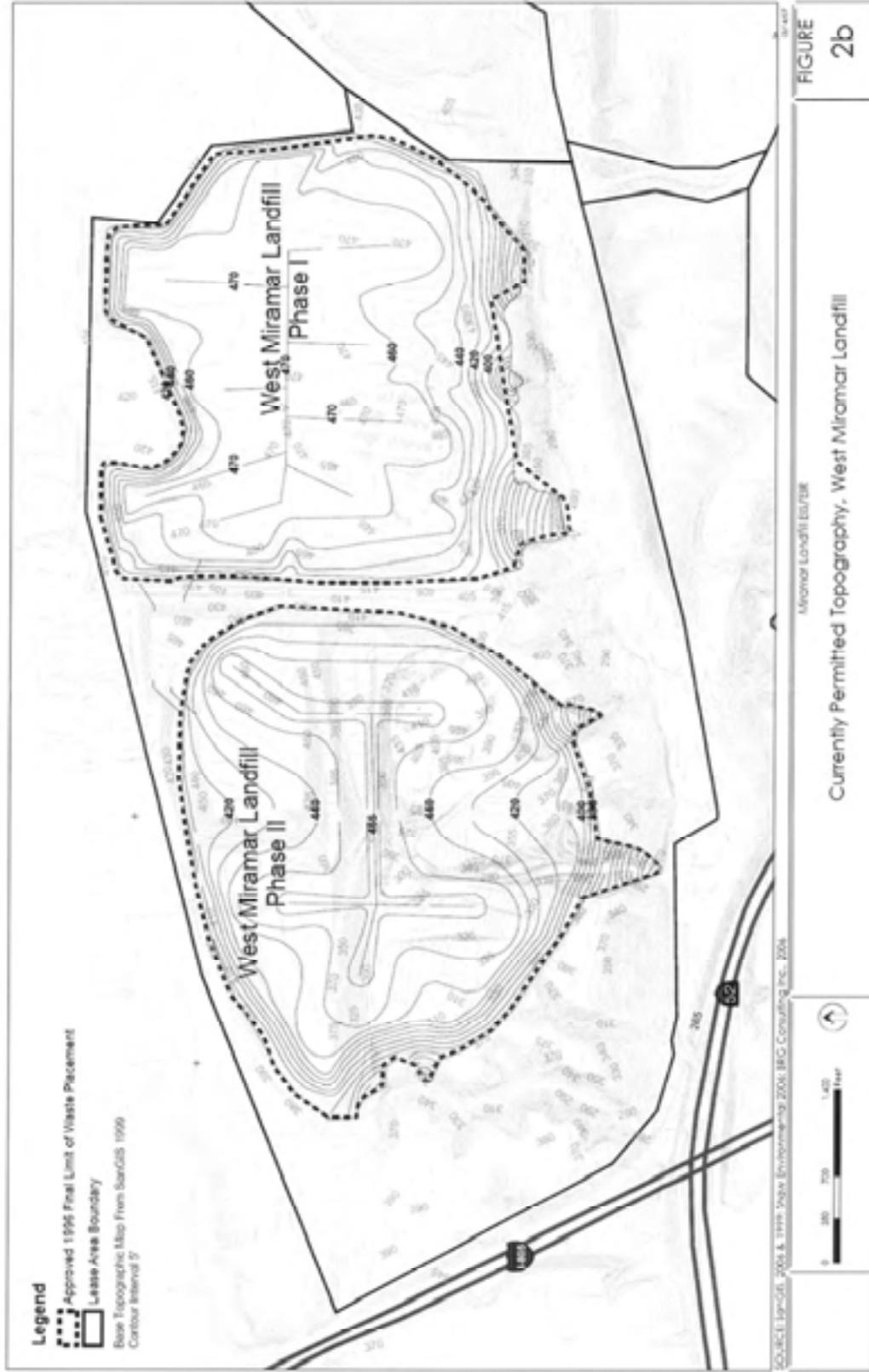


Figure 2c - Proposed Topography, West Miramar Landfill

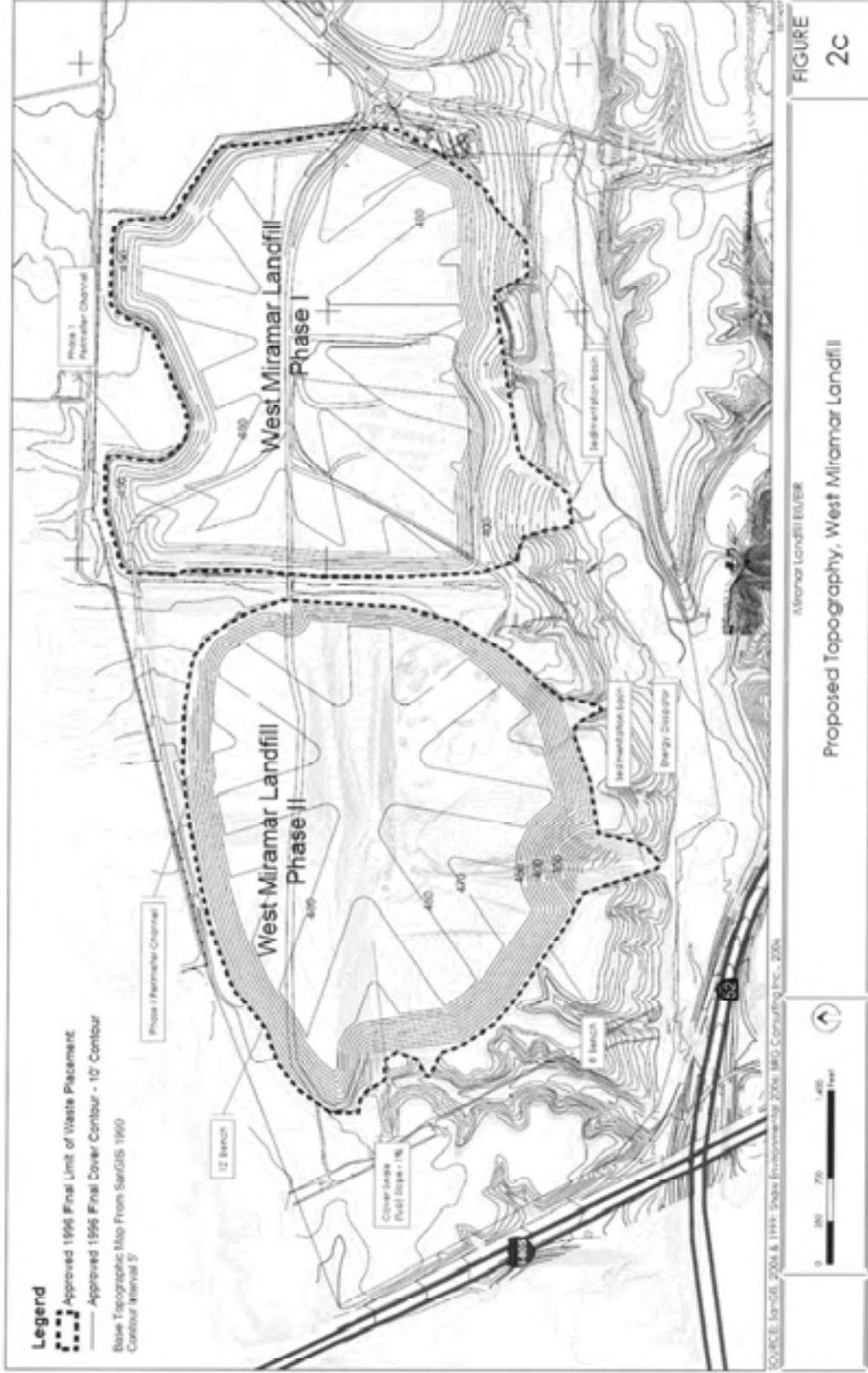


FIGURE 2c

Proposed Topography, West Miramar Landfill

Under the 1996 preliminary closure plan, the maximum elevation of Phase I was to be 470 feet and that of Phase II was to be 465 feet above mean sea level. The final surface of Phase I would therefore be raised by about 15 feet and that of Phase II by about 20 feet. In both cases, the expansion would involve continuing the side slopes upward at inclinations of 3:1 (horizontal:vertical) to meet the designed edge of the raised top slope. A horizontal bench, 12 feet wide where needed to accommodate LFG header pipes and eight feet wide at other locations, would be left at the junction of the existing and newly proposed side slopes. Waste placement methods and practices would remain essentially the same as those now practiced.

The estimated new net refuse volume resulting from the vertical expansion would be 9,374,000 cubic yards (5,999,000 tons) with a net airspace volume increase of 11,718,000 cubic yards. This information is based on the data provided in the Joint Technical Document, dated February 2007, Table 3-1. The current solid waste facility permit has the permitted design capacity at 56,500,000 cubic yards; however, those numbers were improved in the summer of 2006 to 65,834,000 cubic yards with data produced by flying over the landfill and producing far more accurate readings than were previously obtained with ground surveying techniques.

Existing facilities on the surface of the landfill, such as the yard waste processing area, would be shifted within the footprint of the landfill to accommodate the height increase. The Greenery facility would remain where it is located as the first cells are filled, then the facility would be moved to the new, top deck of the landfill and the area under the current location would be filled. The City is also considering the possibility of moving the Greenery from the WML area to the surface of the South Miramar Landfill. No horizontal expansion is proposed. No change in the amount of daily waste acceptance is proposed, nor would it be allowed under the proposed SWFP. No changes in operations other than those necessary to accommodate the vertical expansion are proposed.

The vertical expansion would involve the placement of solid waste across the surfaces of Phase I and Phase II, up to the grades defined by the final grading design. Solid waste would continue to be placed in the Phase II area until the proposed height limit is reached, at which time solid waste disposal operations would return to the Phase I area. The vertical expansion would require changes to the drainage control system; the steepening of some side slopes in Phase I from 4:1 to 3:1 (horizontal:vertical) to maximize capacity; and changes to the landfill gas control system and the monitoring networks. Waste placement methods and practices would remain essentially the same as methods now used.

The existing drainage control system consists of major drainage channels and berms, downdrains, energy dissipaters, and detention basins. These systems would be modified to accommodate the proposed height increase. Whether the Proposed Project is approved or not, the final drainage system would be designed, constructed, and maintained as a formal, permanent system. The existing drainage facilities would be removed during placement of the final cover and reestablished as final drainage facilities after the final cover is in place. A horizontal bench, about eight to 12 feet wide (level projection), would be placed at the base of the proposed

vertical expansion. The side slope inclination of the landfill is proposed to be no steeper than 3:1 between drainage and access benches. The side slopes in Phase II would continue upward at inclinations of 3:1 to meet the designed edge of the raised top slope. The proposed benches would serve as corridors for landfill gas headers and as drainage breaks on the slope to intercept stormwater runoff and limit erosion of the final cover.

The landfill gas control system in the Phase I area consists of 107 vertical extraction wells, two main headers and a network of subheaders. The present system in the Phase II area consists of eight horizontal extraction wells, 39 vertical extraction wells, two main headers, and a network of subheaders. The existing LFG collection system depicted in Figure 5-1 of the 2006 Preliminary Closure/Post-Closure Management Plan shows existing gas extraction wells. Additional wells may be needed to collect the additional gas as a result the proposed height increase. Under a contract with the City, a private company owns the gas, and provides collection wells in exchange for this resource; however the ultimate responsibility for provision of adequate collection is with the City. The horizontal wells do not perform as well as vertical wells and are gradually being replaced. Future modifications to the control and collection system arising from the vertical expansion would largely be limited to extending existing vertical extraction wells and associated piping as the landfill reaches its final height, and installing additional vertical wells. The proposed plan for the LFG collection system is shown in Figure 5-2 of the Preliminary Closure/Post-Closure Management Plan.

To revise the SWFP as necessary to allow the height increase, regulatory agencies require development of a new Closure Plan. The only proposed changes to the previously approved Closure Plan are those necessary to provide for the increased height. Slopes in the new Closure Plan were designed to maximize capacity. The proposed revegetation would not be altered, although the revegetation plan would be subject to modification by regulatory agencies at the time of closure.

The existing 1996 Preliminary Closure Plan was approved by the RWQCB, the LEA, and the CIWMB. It proposed the use of two prescriptive cover systems after final closure of the landfill. Prescriptive covers are designed to act as a hydraulic barrier. The updated preliminary Closure Plan proposes the use of a “monolithic” (dirt) cover system; however, the final decision on the closure method that is ultimately used would be up to the RWQCB. The proposed cover relies on a thick layer of vegetated soil to control infiltrating water by means of storage in soil pores, and subsequent extraction via evapotranspiration. This cover design is often used in southern California because the area’s dry climate, and the design’s relative economy, environmental benefits, and history of successful performance.

2.2 Continue Existing Operations (No Project Alternative)

Under the No Project alternative, WML would continue to operate under its existing permits and lease. This operation includes acceptance of more than 1.4 million tons per year of mixed municipal waste. Gas collection and groundwater monitoring would continue, as would ancillary

activities, such as composting and salvaging, both of which divert materials from disposal. These operations occur within the footprint of the WML. Figures 3 and 4 provide an overview of the WML facility and its vicinity. Figure 5 shows locations of specific facilities within the landfill lease boundaries. The No Project alternative would result in closure of the landfill approximately four years before closure under the Proposed Project scenario. All identified alternative options for solid waste management during those four years that have been identified would have greater traffic and air quality impacts associated with longer trip distances than are associated with disposal at the Miramar Landfill under the Proposed Project.

Operation of the permitted landfill is the baseline against which impacts of the 20-foot height increase are measured. The Proposed Project would make no changes at all to the footprint, or to the operations. Since the footprint of the Proposed Project and the No Project alternatives is the same, there would be no changes in impacts to cultural, paleontological, or biological resources. The geology and mineral resources effect associated with both alternatives is identical since it is the same site, although slightly different engineering would be required for the higher slopes. The hydrology of the identical footprints is the same, although runoff control structures would be slightly modified to ensure no net change in runoff velocities as a result of the 20-foot height increase. The noise impacts associated with identical operations would be the same, although slightly reduced as a result of the new topography. Since operations would not be changed, energy consumption and conservation, and impacts to health and safety, public services and facilities and utilities, and traffic impacts would be identical to baseline traffic.

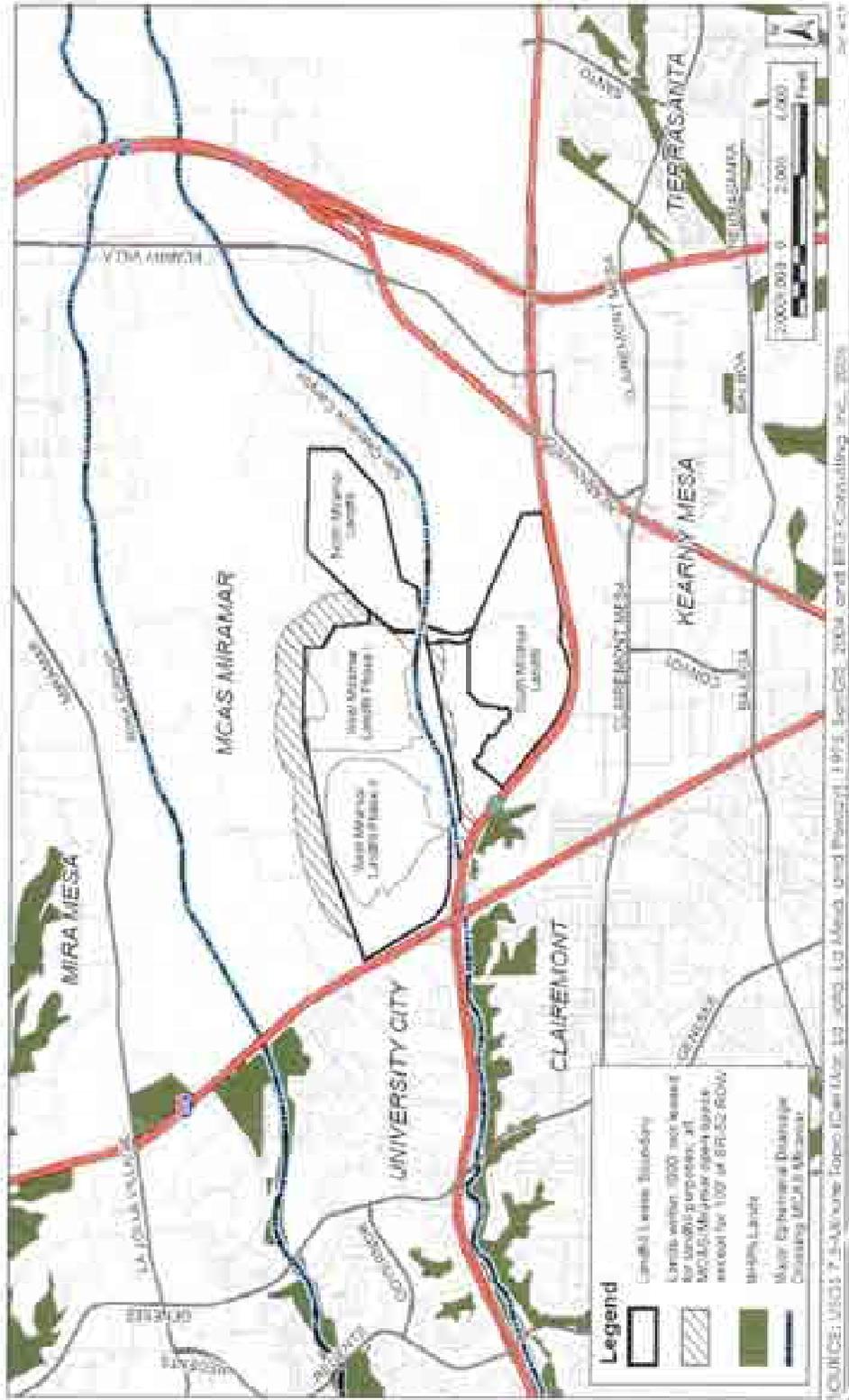
For many issue areas, therefore, the impacts of the Proposed Project and the No Project alternative are identical. Because operations would occur over a longer period of time, however, there would, over the life of the landfill, be more methane gas generation for the Proposed Project. However, on a daily basis, control measures would ensure that there would be no net increase in emissions associated with the landfill. Because the landfill is constantly changing, adjustments in the control systems are required under the existing permit and from the Proposed Project. Regulators inspect monitoring reports and the landfill itself, and they require changes accordingly. Changes in regulations and/or adjustments resulting from the proposed height increase may require additional monitoring and gas extraction wells in the future to maximize gas capture.

Similarly, groundwater monitoring would not change, and runoff controls for the proposed height increase would also assure no net increase. Therefore with one exception, the impacts at the Miramar Landfill of the No Project alternative are virtually identical to the Proposed Project; however, the No Project alternative would have other impacts. Specifically, the No Project alternative would have increased trip distances to alternative transfer and disposal sites, resulting in potential traffic impacts at alternative facilities and increased emissions from longer hauls associated with longer transport to other transfer and disposal sites.

The one issue area where the No Project alternative has a measurable difference at the Miramar Landfill as compared to the Proposed Project is with respect to visual impacts. The Proposed

Project would be a maximum of 20 feet higher than the No Project alternative, and thus would be more visible. However, the direct and cumulative visual impacts of the Proposed Project are not significant. Thus, the No Project alternative would not alleviate any significant direct, indirect, or cumulative impacts, because no significant impacts are associated with the Proposed Project. The No Project alternative would, however, have less visual impacts than the Proposed Project, but would not accomplish the goal of extending the life of the landfill by four additional years. Under the No Project alternative the landfill would close in 2012, whereas the Proposed Project would extend the life of the facility by approximately four years.

Figure 3 - Project Vicinity Map



Project Vicinity Map

FIGURE 3

Figure 4 - Aerial Photo, Project Area and Vicinity

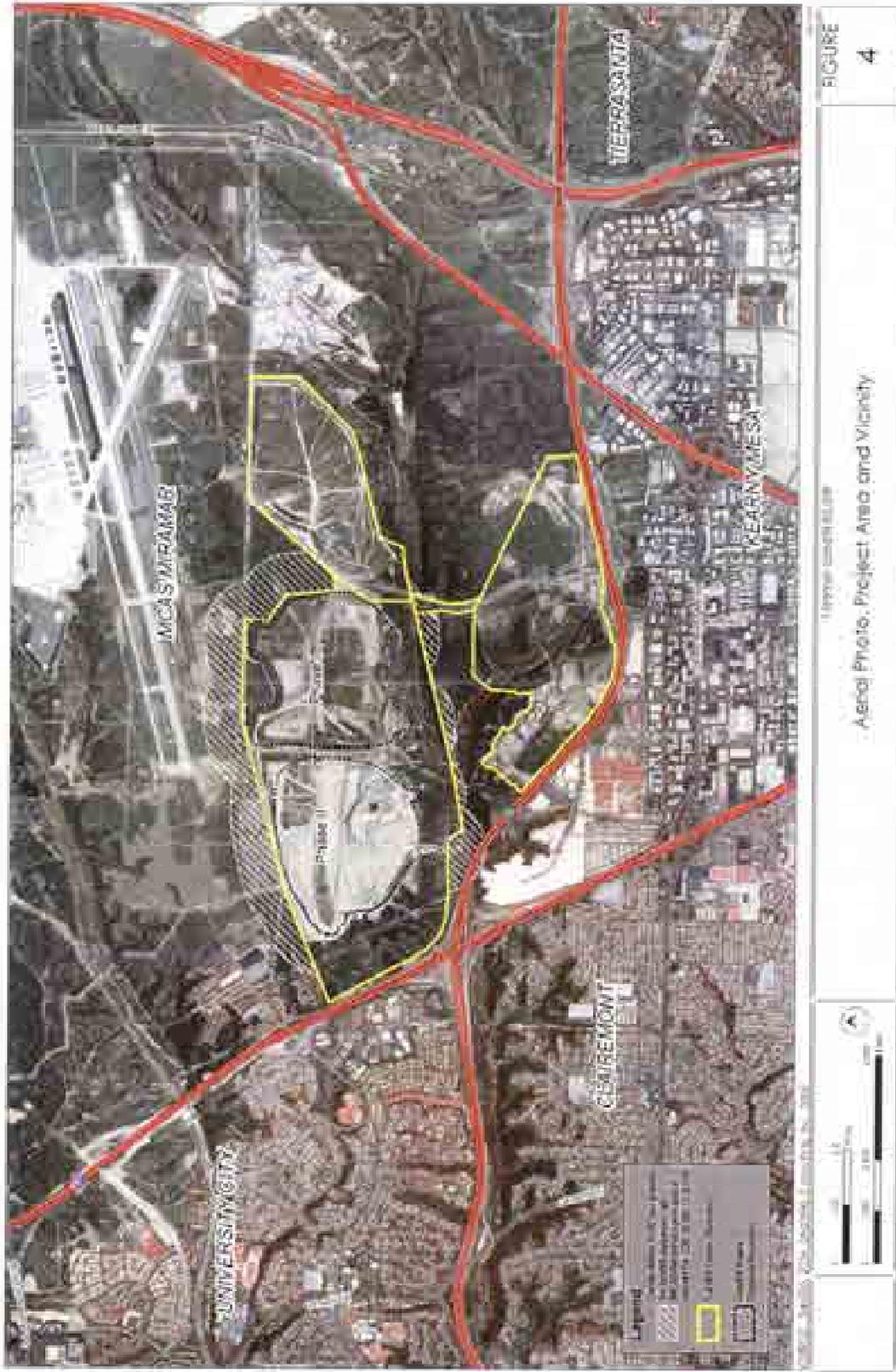
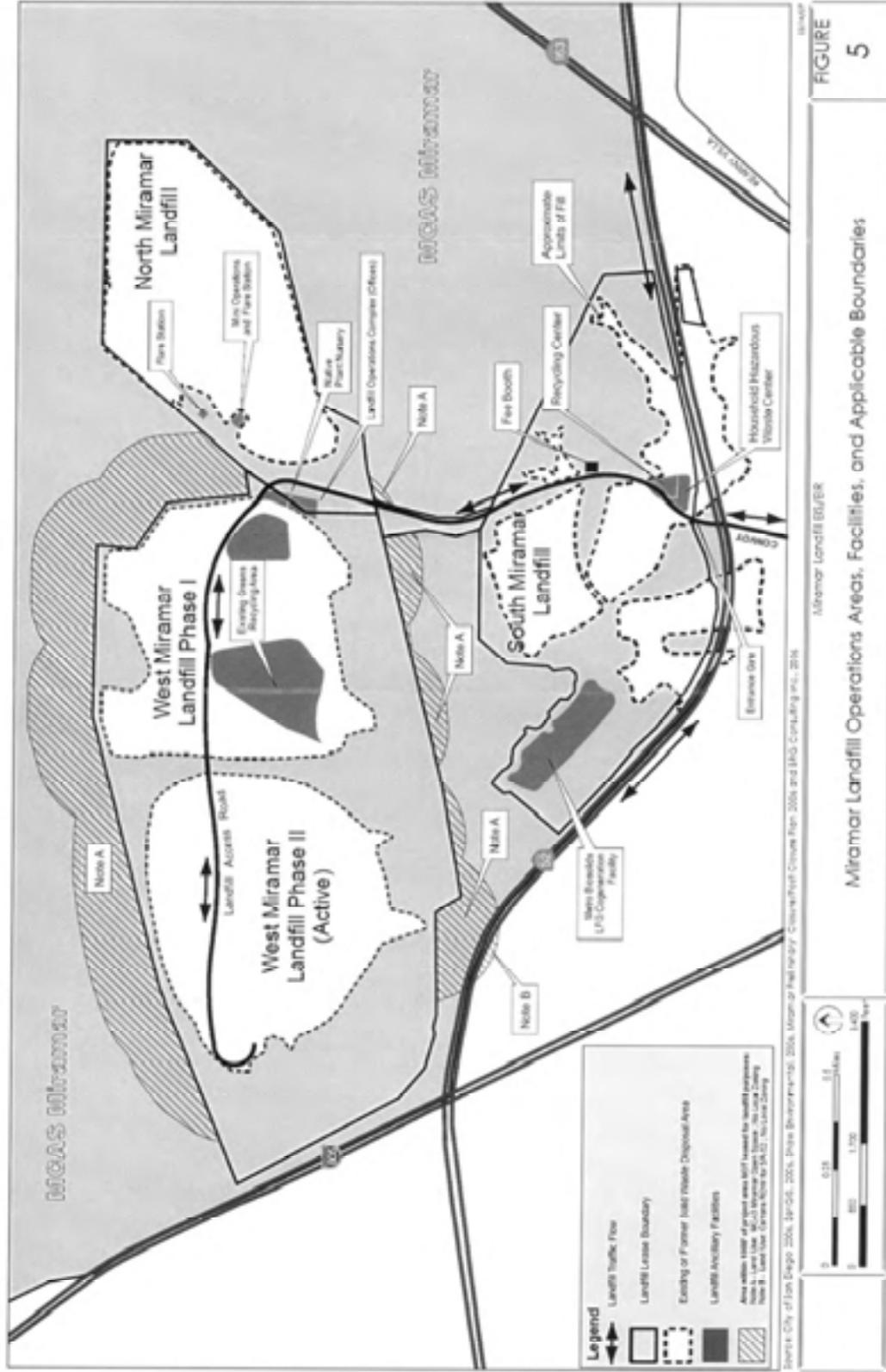


FIGURE
4

Aerial Photo, Project Area and Vicinity

Figure 5 - Miramar Landfill Operations Areas, Facilities, and Applicable Boundaries



Miramar Landfill Blower

Miramar Landfill Operations Areas, Facilities, and Applicable Boundaries

FIGURE 5

2.3 Other Alternatives

2.3.1 Reduced Expansion – Ten-Foot Increase

A common alternative considered in environmental documents is a smaller project. The Proposed Project is already a smaller scale project than originally proposed. Reducing the height increase even more, down to 10 feet, would reduce the visual effects compared with the No Project alternative. The visual scale would be approximately half that of the Proposed Project. The surrounding landscape as described in the cumulative impact analysis would not change. The nature of the change to the landscape caused by this alternative would be the same as the Proposed Project; however, the blending effect of a ten-foot increase, as compared to a 20-foot increase, would be marginally reduced.

The ten-foot increase alternative would not fully meet the project goals as it would provide less capacity than the Proposed Project. This alternative would require reengineering of cells that are normally engineered in 20-foot lifts. The more they are reduced, the more labor is associated with each cell, making it more costly. Also, unless tarpaulins are used as the only cover, the cover material (such as dirt) occupies more and more of the cell capacity, thereby thwarting the environmental imperative to preserve disposal capacity in existing landfills. Thus a 20-foot lift is more efficient than a 15-foot lift, which is more efficient than a 10-foot lift. It is possible that, as a result of difficulties associated with this modification, somewhat less than the expected two or so years of additional capacity could be achieved. Even if a full two years of additional capacity could be achieved, implementation of this alternative would sacrifice two years of capacity for a marginal improvement to a project impact that is not considered significant.

2.3.2 Alternatives Considered but Rejected

60-foot Increase

ESD initially suggested a 60-foot height increase. It was anticipated that at this height, the landfill would still be sufficiently low profile to avoid interference with military flight operations. Additionally, though more capacity can be gained with increasing height, there are diminishing returns because of the tapered sides of the landfill, therefore a greater height increase, while it would add capacity and would be worthwhile, would not be as effective.

As tenants on a military base, the ESD recognizes and respects the primary mission of the base, which is national security. A key component of national security is flight operations. Base personnel reviewed the proposal and determined that only a 20-foot increase could be allowed without interfering with flight operations.

With regard to other issues areas, and depending on the nature of the replacement for Miramar, it could be argued that a greater vertical increase would reduce impacts that would be associated with the eventual need to find a replacement destination for waste materials after the closure of

the Miramar Landfill. Other public facilities have been required to consider the impacts associated with their closures, and in some cases, have been forced to remain open as a result of this consideration. In some cases, the impacts of expanding/continuing one essential public facility can be less than the foreseeable alternatives. However, in this case, because of the public service needs of the landowner, a greater vertical increase is not a possibility. Since the alternative to provide a larger vertical expansion is not possible, a comparison of the impacts of the options that may replace the Miramar Landfill once it is closed is speculative and unwarranted.

Another option considered, but rejected by the Marine Corps, was a potential increase in the height of North Miramar. This area is located very near the jet landing strip and an increase in the height of the landfill in this area could interfere with flight operations. However, other proposals to make maximum use of this area, such as landfill mining, are being considered. Furthermore, horizontal expansions into other MCAS areas have been discussed and are also being considered, but these activities will require a longer planning and permitting horizon, and so are considered in addition to, not instead of the Proposed Project. When and if proposed, they will require additional environmental review.

Another option considered but rejected by staff landfill engineers, was the potential to increase the height of South Miramar Landfill. This portion of the landfill is now considered “closed,” and is bisected by SR 52. Raising the height of this portion of the landfill would require reopening of the landfill and reengineering of the freeway. Reengineering and realignment of the freeway would be more expensive than any other solid waste management options considered, costing hundred of millions of dollars for filling an area in a manner that could support a freeway, and then realigning the freeway to cross over the newly raised landfill.

Several other solid waste management activities were considered as potential alternatives, but rejected as alternatives of the Proposed Project because they would not increase disposal capacity at Miramar Landfill, the objective of the Proposed Project. These activities include increased diversion of solid waste from disposal in the landfill; conversion of solid waste to other materials or to energy; siting of one or more new disposal sites in San Diego County; and transportation of San Diego municipal solid waste to other regions.

Diversion of Materials from Disposal

A primary goal of ESD is to maximize diversion of materials from disposal. For example, ESD is currently pursuing development of a mixed construction and demolition (C&D) debris recycling facility. Careful study of the waste stream and analysis of the private recycling infrastructure indicated a need for a mixed C&D Materials Recovery Facility. However, even recycling processes usually produce residual materials, usually requiring a landfill for disposal. While diversion and recycling of solid waste are important solid waste strategies, and are assumed as part of the rationale for not requesting an increase in the allowable throughput into the landfill, they would not increase the capacity of Miramar Landfill. Thus, diversion is needed

addition to the Proposed Project, in order to allow the landfill to continue to accept the current volume of waste.

Thermochemical Waste Conversion

Thermochemical waste conversion technologies that produce energy or other marketable products from specialized waste streams have been used extensively in Japan. These technologies are more capital-intensive than other solid waste management methods. They have higher electrical conversion efficiencies than traditional incineration, and are highly compatible with recycling. Thermochemical technologies treat almost the entire organic fraction of municipal solid waste, including high energy content plastics that are not helpful in the decomposition process and have no market value. “Gasification” can be used to produce usable fuels, and uses air (though less air than incineration) and temperatures above 1300°F to convert feedstock into a synthetic gas or fuel gas. “Pyrolysis,” in contrast, is a process that uses no oxygen at all.

An environmental advantage of these technologies includes extracting the energy resources in the waste stream. This provides “green energy” and avoids environmental impacts associated with extracting and generating energy using other methods. Standard landfills that flare collected gases do not exploit the energy resources that are present in the waste stream at all. The Miramar Landfill uses the gas that is collected to generate energy, but advanced technologies use the energy resources in the waste stream more efficiently. Thus, while there is not a specific impact associated with the Miramar Landfill that would be mitigated by use of any type of advanced technology, this alternative would have a comparatively greater benefit in terms of reduced impacts associated with production of other sources of energy.

A second advantage of this technology is that the residues are of extremely reduced volume. Thus, if the technology were available today, the life of the Miramar Landfill could be extended well beyond the four years of the Proposed Project, thus doing a better job of fulfilling the purpose of the Proposed Project.

Although there are environmental advantages associated with these advanced technologies, there are also higher capital costs. An article in Waste Management and Research (Volume 18 Issue 1 Page 41 - February 2000; H. Ecke, H. Sakanakura, T. Matsuto, N. Tanaka, A. Lagerkvist) entitled “State-of-the-art Treatment Processes for Municipal Solid Waste Incineration Residues in Japan” discusses the state of the art treatment processes for municipal solid waste and for incineration residues. Although advanced technologies show promise for efficient use of waste materials, especially those with a high organic content, the equipment must be carefully controlled and maintained to prevent pollution during the treatment process, and then additional treatment may be required for the resulting ash material. This high technology approach requires the same or more capital investment for permitting as do traditional solid waste management facilities, and there are additional expenses. For example, there are costs associated with sorting loads to ensure that the waste stream provides the proper feedstock for the technology selected.

Furthermore, the high tech treatment equipment costs millions of dollars, as compared with the relatively low costs of equipment such as bulldozers used at the Miramar Landfill. The solid residues from the process are low in volume, but may contain dioxin and/or potentially hazardous metals. In Japan, handling of residues is of major concern and treatment prior to landfilling is required. Accepted treatment techniques include, for example, using the ash material in cement (stabilization and solidification), or stabilization with a chemical agent and acid extraction. Disposal in a southern California landfill typically costs between \$30 and \$60 per ton, while the cost for advanced Japanese and European technologies exceeds \$100 per ton.

Not only are thermochemical conversion technologies more capital intensive than other solid waste management approaches (including the Proposed Project), the planning horizon for permitting and development of infrastructure is beyond the planning horizon for the Proposed Project. ESD has no current plans for a thermochemical conversion project. Thermochemical waste conversion processes would not increase the capacity of Miramar Landfill but they could divert enough materials to extend the life of the landfill. However, they are rejected because they are not available or economically feasible at this time, as an alternative to the Proposed Project.

Development of New Disposal Facilities in the City of San Diego

Siting new facilities is extremely costly and time consuming, and cannot occur without environmental impacts. Landfill siting studies conducted by the City of San Diego and the County of San Diego between 1988 and 1992 identified three potential regional-size landfill sites within the City of San Diego (Dames & Moore, 1990). Since the time of this study, these sites either have been designated under City plans for other uses, or have become incorporated into the City's Multiple Species Conservation Program and are no longer available for landfill development. Locations of these sites are shown in Figure 6. None of these alternative sites would meet the main Proposed Project objective, to maximize the disposal capacity of the Miramar Landfill, to continue operation of an existing, conveniently-located site for disposal of San Diego municipal solid waste. Additionally, unless a suitable previously disturbed site could be found, development of a disposal facility at any alternative site could disturb about 100 to 300 acres of biological habitat. These totals do not include biological habitat disturbance necessary for ancillary facilities, or for access roads to the landfill. Visual resources, air quality, and traffic impacts would also be expected for the alternative sites. Thus alternative landfill site would not result in avoidance of significant impacts associated with the Proposed Project. For these reasons, the development of alternative landfill sites is rejected as a feasible alternative for consideration in this EIS/EIR.

Figure 6 - Possible Regional Landfill Sites, City of San Diego, Southwest San Diego County Solid Waste Facility Siting Study



Transportation of Solid Waste to Other Regions

Transporting waste out of the region moves the impacts of landfilling to other areas, but does not eliminate them. Trash must be transferred from the smaller trucks that travel down narrow streets to collect trash to larger, more efficient trucks for hauling longer distances on highways. This adds costs associated with the development and operation of the transfer station, and labor to transport and transfer the materials, in addition to fuel and energy costs. This process also may add impacts such as noise and odor that may be associated with the transfer facility development and operation, and additional traffic and air pollution associated with the travel. While this may eventually be an action that the City of San Diego must make, it is not consistent with the objective of the Proposed Project, to maximize the disposal capacity of Miramar Landfill, in order to continue operation of an environmentally-operated and conveniently-located site for disposal of municipal solid waste. Therefore, it is rejected as an alternative to the Proposed Project.

2.3.3 Comparative Matrix of Alternatives

A matrix, Table 2.3.3-1, has been prepared to facilitate comparisons between the alternatives. This matrix includes impacts of the Proposed Project, and includes any mitigation measures that may be associated with the various alternatives. The No Project and Reduced Project alternatives have reduced visual effects as compared with the Proposed Project, but they do not fulfill the purpose of the Proposed Project to extend the life of the landfill, and do not eliminate any significant impacts. Therefore, on balance, the Proposed Project is considered environmentally superior.

**TABLE 2.3.3-1
Comparison of Alternatives**

ALTERNATIVE	DIRECT IMPACTS	INDIRECT IMPACTS	CUMULATIVE IMPACTS	MITIGATION MEASURES
No Project	No change from existing conditions.	Closure in 2012 would result in air/public facility impacts associated with vehicle emissions from transportation to more distant location, and difficulty identifying a suitable location.	No change from existing conditions.	AIR QUALITY: Measures such as watering, use of soil stabilizers, and exhaust emission controls have been required. LANDFORM ALTERATION: Revegetation per Closure Plan.
Proposed Project (Includes No Project mitigation measures as part of project design.)	Less than significant increase in visibility.	Closure in 2016 would delay transportation to more distant location, resulting in a net benefit.	The slightly greater visibility of the landfill may be REDUCED by some potential projects, but in no case would it contribute to cumulatively significant impacts.	Measures incorporated into the project design would ensure no significant impacts. These measures are required and enforced by regulatory agencies.
Reduced Project (Includes No Project mitigation measures as part of project design.)	Adverse increase in visibility would be reduced.	Closure prior to 2016 would hasten transportation to more distant location, resulting in less benefit than the Proposed Project	The slightly greater visibility of the landfill may be REDUCED by some potential projects, but in no case would it contribute to cumulatively significant impacts.	Measures incorporated into the project design would ensure no significant impacts. These measures are required and enforced by regulatory agencies.

Source: City of San Diego, ESD, 2007.

3.0 AFFECTED ENVIRONMENT/EXISTING CONDITIONS

3.1 City's Existing Organizational Structure

The City of San Diego's ESD currently operates the landfill and a portion of the solid waste collection service in the City of San Diego. In addition, the Department provides solid waste planning services, waste reduction and recycling programs, code enforcement, energy conservation programs, and other services.

Rather than requiring the landfill provider to provide a "free dump" day, so that members of the community can bring in their oversized items, the City provides community cleanups. Additionally, the landfill provides free passes on a case-by-case basis to nonprofit and other community organizations involved in cleanup events, especially in areas of economic need.

The Department has prepared for any national emergency that could cause the Marine Corps to need to close the Miramar Landfill suddenly. The August 2006 "Preparedness Planning for Solid Waste Management Services in the Event of Sudden Closure of the Miramar Landfill" document received input from regulatory agencies, the Marine Corps, and private solid waste management operators, and is available from ESD.

3.2 Environmental Setting

The Proposed Project site is located at the Marine Corp Air Station Miramar (MCAS Miramar) on land owned by the Department of Defense. The landfill is operated by the City of San Diego via a lease from the DoN. The landfill is located in the middle of the oddly shaped City of San Diego boundary, the "centroid" of the City. The landfill is bordered on the west by Interstate 805 (I-805), on the south by State Route 52 (SR-52), on the east and north by other MCAS Miramar property. Surrounding land uses include MCAS Miramar to the north and east; industrial, commercial, office, and residential to the south; industrial and undeveloped open space to the east; and residential, office, and commercial to the west.

Response times for fire and life safety emergency vehicles to guard shack at Miramar Landfill, Copley Drive entrance are as follows:

- The response time for Engine 28, housed at Fire Station 28, located at Kearny Villa and Aero Drive is 8.1 minutes.
- The response time for Engine 36, housed at Fire Station 36, located at Mt. Abernathy and Chateau is 8.4 minutes.
- The response time for Engine 27, housed at Fire Station 27, located at Clairemont Drive and Cole is 9.4 minutes.
- The response time for Truck 28, housed at Fire Station 28, located at Kearny Villa and Aero Drive, is 2.1 minutes.

- The response time for Battalion Chief 5, from Fire Station 35, located at Genesee and Eastgate Mall is 11.7 minutes.

The site is within police beat 313, which is served by Eastern Division Police Command located at 9225 Aero Drive. The following are response times for police beat 313:

- For emergency calls: 7.16 minutes
- For priority 1 calls: 12.17 minutes

The Citywide response time average is:

- For emergency calls: 7.21 minutes
- For priority 1 calls: 14.25 minutes

The leasehold is comprised of four areas: North Miramar Landfill, South Miramar Landfill, and the entrance road and West Miramar (Phases I and II). These four areas are collectively known as Miramar Landfill. The Proposed Project would be located on the 807-acre West Miramar Landfill (WML) site. The Proposed Project would be completely within the existing 476-acre footprint.

The first landfill activities at Miramar Landfill began at South Miramar Landfill in December 1959, when the Mission Bay Landfill was closed. The lease for the approximately 192-acre South Miramar Landfill was issued prior to the enactment of NEPA and CEQA; therefore, there is no environmental documentation for this portion of the landfill. South Miramar became inactive upon reaching its approximately 4.2 million cubic yard capacity in 1973.

The lease for the North Miramar Landfill was signed in September 1970. The first landfill activities at North Miramar began May 5, 1973, when South Miramar reached its capacity. North Miramar was constructed and operated on approximately 260 acres. Excavation to a depth of approximately 152 feet provided a total capacity of 16.2 million cubic yards of fill.

An EIR was certified by the City of San Diego in 1981 addressing the impacts of disposal operations on the 807-acre WML site. The City issued a Conditional Use Permit for this facility. Subsequent projects, such as the development of the Household Hazardous Waste collection facility, have not required City land use permits (CEQA and NEPA compliance for the Proposed Project were provided via the EIS/EIR for the GDP). In 1982 the SWFP for North Miramar disposal operations was modified to allow disposal operations to occur on the WML site. The first landfill activities began at WML in April 1983, when North Miramar reached its capacity. WML is a municipal solid waste disposal facility located on 807 acres, operated in two phases: Phase I and Phase II. Phase I operated on 354 acres of the eastern portion of West Miramar from April 1983 to June 1993 and is temporarily not accepting waste. Phase II is the only portion of Miramar Landfill currently accepting waste. It operates on 453 acres of the western portion of West Miramar, and started receiving waste in July 1993.

In February 1988, a land swap between the City of San Diego and the DoN returned 9.2 acres in the northwestern corner of the lease area to the Navy in exchange for 9.2 acres on the old North Miramar lease area for a proposed vehicle mini-operations area. The vehicle mini-operations area is used to maintain vehicles and equipment needed for disposal and composting operations. The City determined this action to be categorically exempt from environmental review because it would not change the land use in the area or affect undisturbed areas.

In 1992, an EA prepared by the Marine Corps evaluated the impacts associated with increasing the capacity of the WML by means of an aggregate extraction program within the footprint of the WML. The WML was described as an existing facility in this document. A Finding of No Significant Impact was made.

In 1994 a joint NEPA/CEQA document was prepared for two projects: a sewage sludge drying facility, which is now located within the leasehold in the southern part of the Miramar Landfill, and a General Development Plan, detailing how the City saw the continuing transition from simply burying solid waste in the landfill to a suite of operations designed to divert materials from disposal. The General Development Plan addressed impacts associated with several facilities that are now in operation, including the Household Hazardous Waste collection facility. The WML was described as an existing disposal facility in this document.

The environmental document for the GDP identified impacts within the existing, permitted landfill footprint. This document discussed off-site and in-situ remediation in general, and said that any measures would be subject to refinement by the federal government through the U.S. Fish and Wildlife Service. One month after the document had been finalized, a Biological Opinion was issued to enforce a U.S. military policy requiring all permanent mitigation to take place outside of federal lands in order to retain training ground and ensure military readiness. Subsequent off-site mitigation has taken place and includes, two mitigation measures: purchase of property supporting upland habitats that were assumed to be present in the landfill footprint area prior to landfilling activities, and purchase of vernal pool areas assumed to be present prior to these activities. These requirements were fulfilled by the purchase of two properties: “Parcel F,” in Boden Canyon, containing upland habitats, located east of the wild animal park, and Copp Parcel, containing both upland habitats and vernal pools, located on Del Mar Mesa.

The Phase I area is located in the eastern half of the WML. This area was used for a landfill site from 1983 to 1994, and is temporarily not accepting waste. Other uses, including the composting operation, occur in this area. The Phase II area is in the western half of the WML. This is the currently active phase of the landfill and it has been receiving waste since 1993.

San Clemente Canyon runs roughly east to west. It is south of the Proposed Project site. The Canyon area is excluded from the lease and the existing landfill has no direct impact on the Canyon. Indirect impacts of the existing operation, such as runoff, are controlled through various Best Management Practices, which are routinely inspected by regulatory agencies. The Canyon contains an ephemeral stream linking the mountainous areas in eastern San Diego

County with Rose Canyon, and eventually Mission Bay and the Pacific Ocean. The Canyon, where it is adjacent to the Proposed Project site, functions as a wildlife corridor and provides habitat for many plants and animals. The Proposed Project site is entirely within the footprint of the existing, permitted, WML active landfill.

The Proposed Project site is not included in the MHPA because the military provides its own habitat planning. Most of the surrounding area within 1,000 feet is characterized by undeveloped mesas, interspersed with canyons, covered by low-growing shrubs, as described in Section 3.3.3 and depicted in Figures 3 and 4. The only land use within 1,000 feet that is not either land leased for landfill purposes by the City of San Diego, or open space buffer surrounding MCAS Miramar, is approximately 1,000 feet of SR 52 ROW south of WML, Phase II. The site is zoned AR-1-1 and is covered by Conditional Use Permit (CUP) 10-632-0; however, the Proposed Project would not trigger an amendment to this CUP.

A private plant nursery, operated within the base under lease with the federal government, and MCAS Miramar airstrip are located more than 1,000 feet to the north; ancillary landfill facilities and State Route 52 are located to the south; Interstate 15, State Route 163, and older phases of the Miramar Landfill are located to the east; and, open space and Interstate 805 are located to the west. North of MCAS Miramar is the community of Mira Mesa, approximately 1.25 miles north of the Proposed Project site. The area of Mira Mesa that is closest to the Proposed Project site is comprised primarily of light industrial and commercial uses, though other parts of this community have single family residential uses. On the south side of State Route 52 are the Kearny Mesa and Clairemont communities. Kearny Mesa is mostly light industrial (with commercial) uses, although there are limited areas of mixed use commercial/residential and low-density residential uses. The area of Clairemont that is closest to the Proposed Project site is comprised of open space and single-family residential (minimum lot size of 5,000 square feet) uses. Vacant land on MCAS Miramar is located to the east of Interstate 15 and State Route 163. To the west of Interstate 805 is the community of University City. The areas of University City that are closest to the Proposed Project site include single-family residential (minimum lot size of 5,000 square feet) and light industrial (with office) uses.

The nearest residence is located approximately 0.93 mile (4,919 feet) southwest of the Proposed Project site in the University City community. The nearest commercial use is located approximately 0.83 mile (4,380 feet) west of the Proposed Project site in the Kearny Mesa community. A detailed land use map of the Proposed Project vicinity is shown in Figure 7.

Figure 7 - Existing Land Use Map

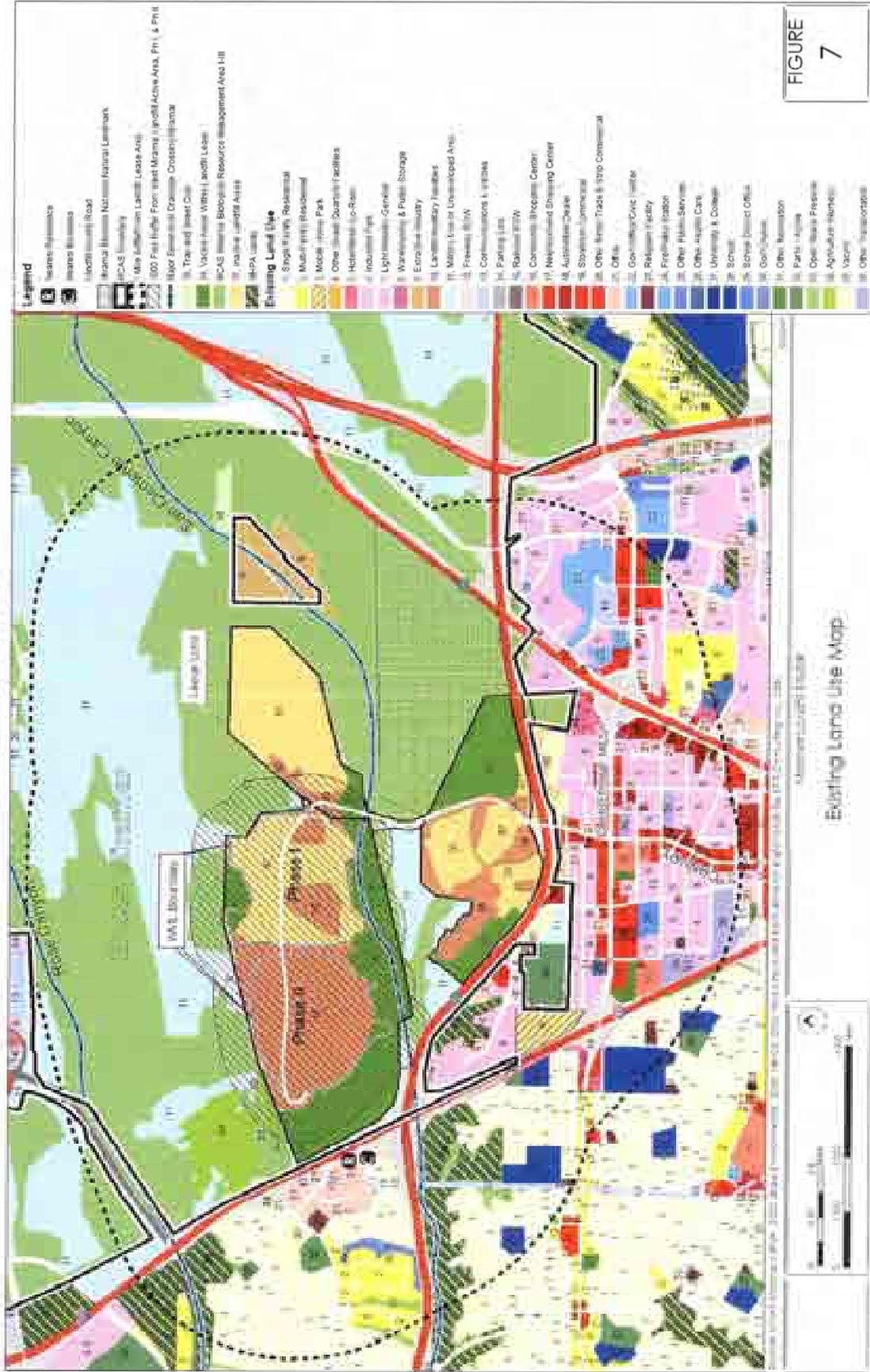


FIGURE 7

3.3 Existing Conditions for Each Issue Area

3.3.1 Land Use

Applicable Rules, Regulations, Policies, and Guidelines

The project site is depicted in the City's General Plan as a military facility. Land use on this site is determined by the Marine Corps, which oversees all development and operations on the Station. The Marine Corps is assigned the unique defense mission among the nation's armed services of being able to field, on virtually immediate notice, a self-sufficient air and ground combat force trained to fight as an integrated team under a single command. To prepare for this mission, the Marine Corps must maintain training facilities that offer diversity and flexibility to train its units so they are prepared for the challenges they may face in combat. The base has a variety of land use pressures, including providing residences, recreational opportunities for military personnel, and military functions. These land use needs are balanced with the natural resource needs, and with the Air Installations Compatible Use Zones, which provide guidance regarding noise and crash potential both on- and offsite.

Under the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), an additional land use consideration is any impact that the project may have to agricultural resources. Special areas within the state have been identified on California's Important Farmlands Maps as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Additionally, the US Department of Agriculture Natural Resources Conservation Service has developed Land Use Capability classifications based on the type of soils present.

The history of human use at the site originates with Native Americans who used it as a hunting area. The area then became part of a Spanish land grant owned by Don Santiago Arguello. At that time, cattle grazing is likely to have occurred. After the Civil War the site was purchased by Edward Scripps and during the mid to late 1880s the land was grazed, and there was some non-irrigated agriculture. During WWI, an Army Infantry training center called Camp Kearney was established, housing approximately 5,000 men and 20,000 horses and mules. Additional realignments were made within the military, with designation of the site as Naval Air Station Miramar in 1952. It remained NAS Miramar until 1997, when Marine flight operations were transferred and the site became MCAS Miramar.

Although there has been some agricultural use of the site in the history of the site, it has primarily served a military purpose. There is no suitable farmland soil at the site because the substrate of the Proposed Project site itself is MSW fill material, which is not suitable for agricultural purposes.

Existing Conditions

The EIS/EIR for the General Development Plan found the landfill and proposed new land uses to be consistent with the existing NAS Miramar Master Plan Update. Subsequent planning documents, such as the Marine Corps Air Station Miramar Integrated Natural Resources Management Plan (2005) (INRMP), have continually included this land use.

The Marines provide natural resources planning, via the INRMP pursuant to Section 101 of the Sikes Act (16 USC 670a). “The primary purpose of the Integrated Natural Resources Management Plan (INRMP) is to integrate Marine Corps Air Station Miramar's land use needs, in support of the military mission, with the management and conservation of natural resources. The INRMP establishes MCAS Miramar's approach and guidelines relative to natural resources to accomplish this end. This INRMP does not dictate land use decisions but rather provides important resource information to support sound land use decisions and natural resource management.”

The INRMP explains that “[l]and uses at MCAS Miramar include both military and non-military functions and facilities. The majority of military and non-military land uses exist primarily to support the Marine Corps mission, which is to provide an operational and training facility for Marine Corps pilots and ground support personnel. Military land uses at MCAS Miramar include operation (e.g., aircraft operations) and non-operational (e.g., community support uses and functions.” In addition to air and land training areas, “[l]and uses not directly related to or supportive of the military mission also take place within the boundaries of MCAS Miramar. These non-military uses primarily include leases and easements for public highways, roadways, utilities, and landfills encompassing about 2,900 acres.”

Non-military land uses on the base include San Diego Gas and Electric facilities, a trap and skeet club, landfill operations, sand and gravel extraction, Hickman Field Athletic Complex, Eastgate Mall road, a commuter rail station, Nobel Drive, Miramar Road, and Metropolitan Waste Water Department facilities. These uses are existing uses, and are considered compatible with the primary mission of the base.

3.3.2 Air Quality

Applicable Rules, Regulations, Policies, Guidelines

Federal actions have a general conformity threshold of 100 tons per year of emissions. If the sum of the direct and indirect emissions exceeds this threshold, a full conformity determination must be performed.

In addition, the Proposed Project site is located in the San Diego Air Basin (SDAB), and is under the jurisdiction of the County of San Diego Air Pollution Control District (SDAPCD). The SDAPCD regulates sources of air pollution within San Diego County and administers state and federal mandates. The main applicable rules, regulations, policies, and guidelines include: Title V of the 1990 Clean Air Act Amendments; New Source Performance Standards Subpart W for Municipal Solid Waste Landfills; and SDAPCD Rules 59.1, 51, 20.3, and 1200.

- **Title V** of the 1990 Clean Air Act Amendments mandates that all major stationary sources obtain an operating permit that encompasses all the applicable requirements for the emission units operated at the stationary source. This is a federal regulation that is delegated to SDAPCD.
- **New Source Performance Standards (NSPS) Subpart W** is a federal regulation that requires the installation of gas collection and control systems for new and existing landfills. The gas control systems must reduce landfill emissions by 98 percent.
- **SDAPCD Rule 59.1** implements and enforces NSPS Subpart W locally. This rule requires operators of landfills to install gas collection systems and to monitor the effectiveness of these systems.
- **SDAPCD Rule 51** provides the regulatory mechanism for SDAPCD to control and enforce activities or occurrences that are a nuisance, such as landfill odor, to a number of persons or the public.
- **SDAPCD New Source Review (NSR) Rules 20.1 and 20.3** provides specific requirements for non-major and major sources of air pollutants and includes standards for Best Available Control Technology (BACT), Lowest Achievable Emission Rate, Air Quality Impact Analysis (AQIA), Prevention of Significant Deterioration, public notification, and emission offsets. The specific air quality goal of this regulation is to ensure emission increases from new or modified permitted sources do not negatively affect progress toward attaining or maintaining attainment with applicable air quality standards for non-attainment air contaminants or their precursors.
- **SDAPCD Rule 1200** stipulates that proposed facilities with potential emissions of toxic air contaminants (TACs) conduct a Health Risk Assessment to evaluate offsite impacts on human health. This rule is the NSR for TACs.

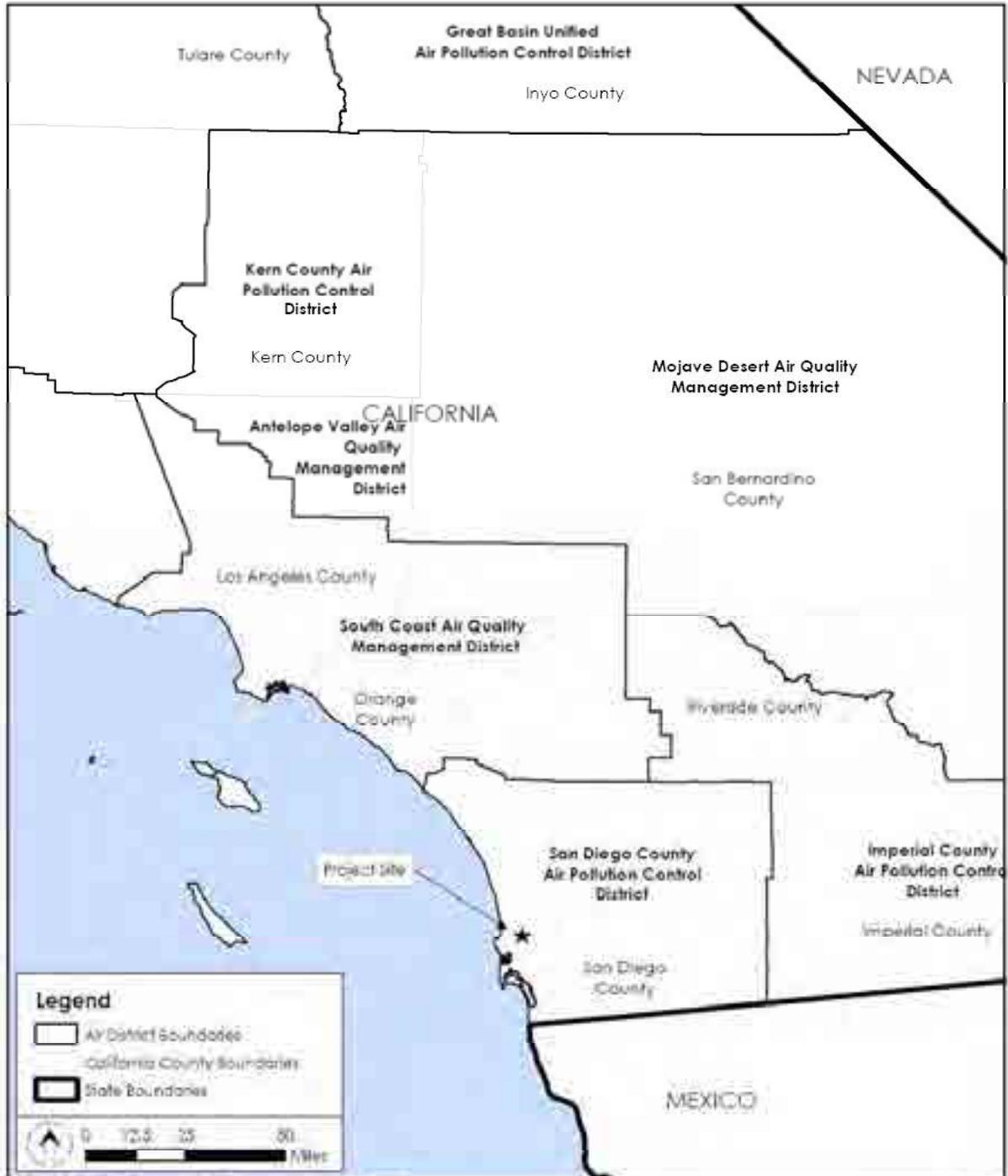
Existing Meteorology and Air Quality

The WML is located approximately seven miles east of the Pacific Ocean and is characterized as a Mediterranean-type climate. Temperatures range from a minimum low of 45°F in January to a high of 63°F in August, and a maximum low of 65°F in January to a high of 81°F in August. The prevailing wind direction is from the west-northwest, with average wind speeds ranging from five to eight miles per hour. The area often experiences “Santa Ana” wind conditions, which are hot, dry easterlies blowing from inland desert areas. These winds tend to disperse air pollutants out over the ocean, producing clear days.

The WML is located within the San Diego Air Basin (SDAB). Currently, the SDAB is in attainment for federal standards of ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), total suspended particulate matter smaller than ten microns in diameter (PM₁₀), and lead (Pb), and in non-attainment for federal standards for O₃ (eight-hour). The SDAB is also in attainment of state air quality standards for all pollutants with the exception of O₃ (one-hour and eight-hour), PM₁₀, and PM_{2.5} (particulates smaller than 2.5 microns). Air pollutants transported into the SDAB from the adjacent South Coast Air Basin (Los Angeles, San Bernardino County, Orange County, and Riverside County) substantially contribute to the non-attainment conditions in the SDAB. Figure 8 depicts the SDAB in relation to the other air basins in Southern California.

Existing air quality for the Proposed Project site is best characterized by air quality data from the Kearny Mesa air monitoring station, located on Overland Avenue approximately three miles southeast of the Proposed Project site. In general, the Proposed Project area has good air quality with the exception of ozone (O₃). Air quality monitoring data from the Kearny Mesa monitoring station indicates that in 2004, PM₁₀ and NO₂, did not exceed the state standards; however, one-hour O₃ levels exceeded the state standard six days during that year. Table 3.3.2-1 depicts the ambient air quality summary for the Kearny Mesa air monitoring station from 2002 through 2004.

Figure 8 - Southern California Air Basins



SOURCE: SanGIS and BRG Consulting, Inc., 2007

Miramar Landfill EIS/EIR

Southern California Air Basins

FIGURE 8

through the landfill surface are referred to as fugitive emissions. Fugitive emissions and flared emissions contain both criteria pollutants and TACs. Regulators will inspect monitoring data to determine if additional gas extraction wells or perimeter landfill gas monitoring probes may be required. Most of the LFG at WML is collected for use in the cogeneration plants (one located onsite near the biosolids center in the South Miramar area, and one located offsite, to the north near a water treatment facility operated by the City's Metropolitan Waste Water Department) or burned in the one of the two flares. The permitted flare stations are currently only used when the permitted cogeneration facilities are not operational, for example when an engine is down for maintenance. This currently occurs approximately once per month. When the LFG is flared, combustion byproducts are emitted and some pollutants are not completely destroyed because of the destruction efficiency of the flares. The existing LFG collection system, cogeneration facilities and flares meet the requirements of Best Available Control Technology (BACT) as defined in SDAPCD Rule 20.3.

The WML permit from the Air Pollution Control District (#971254) addresses emissions associated with the quarrying to increase landfill airspace, disposal of municipal solid waste, waste compaction, application of cover material, and haul road activities. Under a contract with a private company, the gas that is generated at the landfill is the property of that company. The company provides gas collection infrastructure, and combines the landfill gas with gas from another facility, the sludge drying facility, and uses these gases to generate electricity under permit number #96387B. There is also a separate permit (#96387A) for the flare stations used to control any methane not consumed by the gas company. Currently the amount of gas burned in the flares averages 219 scfm, while the amount used in the cogeneration facilities averages 4,345 scfm (URS, EIS/EIR Appendix D, Air Quality Report Appendix E, page 2). The flare station permit allows combustion of up to 6,000 scfm (two flares, each with a capacity of 3,000 scfm). The Proposed Project does not include any proposed changes to the flare stations or cogeneration facilities, or to the applicable APCD permits. There is sufficient capacity within the existing infrastructure to process all gas generated by the WML facility with or without to proposed height increase.

Table 3.3.2-2 provides the estimated existing criteria pollutant emissions from the landfill surface and flare stations at WML. As shown in Table 3.3.2-2, the existing, permitted flare stations are a major source of NO_x and the landfill itself is a major source of VOC due to fugitive emissions from the surface. Table 3.3.2-2 does not include emissions from the cogeneration facilities, which are operated by a private company.

Table 3.3.2-3 provides the existing TAC emissions for WML. The values shown are a combination of emissions from the landfill surface and flare stations. As shown in Table 3.3.2-3, the TAC emissions range from 8.6 pounds per year (formaldehyde) to 31,153.7 pounds per year (CO).

In addition to the criteria pollutant and TAC emissions outlined above, the landfill operations can result in detection of odors offsite. Landfill activities that may result in odor dissemination include contaminated waste transport, unloading operations, compaction activities, fugitive gas releases, and leachate evaporation. Additionally, green waste shredding, green waste storage, and green waste composting may result in odors; however, these green waste operations occur under a separate permit issued by the Local Enforcement Agency that is not currently being revised.

**TABLE 3.3.2-2
Estimated Existing Emissions for Criteria Pollutants**

Criteria Pollutant	Existing Emissions (lb/day)	Existing Emissions (tons/year)
Total Existing Emissions		
CO	85.83	15.66
NO _x	12.61	2.30
PM ₁₀	3.15	0.58
SO _x	4.73	0.86
VOC	1,151.36	210.12
Flare Stations		
CO	0.50	0.09
NO _x	12.61	2.30
PM ₁₀	3.15	0.58
SO _x	4.73	0.86
VOC	1.90	0.35
Landfill Surface (Fugitive Emissions)		
CO	85.33	15.57
NO _x	0.00	0.00
PM ₁₀	0.00	0.00
SO _x	0.00	0.00
VOC	1,149.46	209.78

Source: URS Corporation (Table 4-8), 2005.

**TABLE 3.3.2-3
Estimated Existing Emissions for TACs**

	Baseline (lb/yr)	TAC	Baseline (lb/yr)
Acetone	3,211.7	Hexane	4,466.3
Acrylonitrile	2,649.4	Hydrogen Sulfide	9,543.5
Benzene	1,176.8	Methyl Chloroform (1,1,1-Trichloroethane)	505.3
Carbon Disulfide	3,48.3	Methylene Chloride (Dichloromethane)	9,585.3
Carbon Monoxide	31,153.7	Methyl Ethyl Ketone (2-Butanone)	4,032.9
Carbonyl Sulfide	232.2	Methyl Isobutyl Ketone	1,477.5
Chlorobenzene	222.1	Perchloroethylene (Tetrachloroethylene)	4,881.3
Chloroethane (Ethyl Chloride)	636.4	Toluene	28,560.9
Chloroform	28.3	Trichloroethylene	2,924.2
Ethyl Benzene	3,860.5	Vinyl Chloride	3,620.2
Ethylene Dichloride (1,2-Dichloroethane)	320.2	Xylene(s)	10,132.7
Ethylidene Dichloride (1,1-Dichloroethane)	1,835.4	Hydrochloric Acid	709.1
Fluorocarbons (chlorinated)	823.9	Formaldehyde	8.6

Source: URS Corporation (Table 4-12), 2005.

Onsite vehicular emissions consist primarily of NO_x and PM, with CO, VOC, and SO_x emitted in lesser amounts. PM emissions result from engine combustion and are also a result of traffic on haul roads.

Worker exposure to emissions is regulated by OSHA, and is minimized in the City by way of an Injury and Illness Prevention Plan, which is included as Appendix K of the JTD. In addition, staff has done independent monitoring for asbestos.

3.3.3 Biological Resources

Applicable Rules, Regulations, Policies, Guidelines

According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), impacts on biological resources are assessed through the CEQA review process, the Environmentally Sensitive Lands Ordinance, and through the review of the Proposed Project's consistency with the City's MSCP Subarea Plan (City of San Diego, 1998). The direct, indirect, and cumulative impacts of a project must be analyzed for significance, and the extent of "take" to sensitive species and habitats quantified. It is the policy of the City under the MSCP program to minimize all direct and indirect impacts on undisturbed habitats and sensitive species where practicable, and the Biology Guidelines provide guidance as to appropriate mitigation ratios. The site is not mapped within the MHPA; however, these standards were used to provide guidance on questions of significance in the analysis.

Existing Biological Resources

The Proposed Project would be located on top of the existing landfill, and would not include any impacts to previously undisturbed areas. Full-time staff biologists ensure that no high flying bird species that could cause an air-strike hazard with Marine aircraft, specifically sea gulls, are attracted to the landfill site. The existing WML site comprises 476 acres of the 807-acre leased WML area. Under the existing permit, all 476 acres will be subject to closure requirements, including establishment of final grade and vegetation design. A Closure Plan has been developed and approved, including drainage control and revegetation with native species; however, the Plan must be resubmitted to regulatory agencies two years prior to closure for potential modification before it becomes the final plan. Typically, revegetation densities necessary to prevent erosion are equal to or greater than natural plant cover densities in Southern California habitats, thus it is expected that the final revegetation would be with native plant species, but possibly at greater densities than in a more natural condition.

Regulatory agencies have required an update of this Closure Plan to accompany the proposal to increase the height of the landfill by a maximum of 20 feet. The only changes made to the Closure Plan as part of this Proposed Project are those required by the agencies to support the proposed height increase. The height has been increased, and the slopes have been designed to maximize capacity. The drainage has been modified accordingly. No changes to the revegetation plan have been made.

At the time of landfill closure the RWQCB, LEA, and/or California Integrated Waste Management Board may modify the plans as necessary to comply with laws that may be imposed between now and then. Thus the existing condition calls for the ultimate reworking of the entire landfill area, as required by regulatory agencies, to comply with laws that will be in place at the time of closure. It is not currently known exactly what those closure requirements will be. The Proposed Project would not change that requirement to submit and modify the

Closure Plan and recontour and revegetate the entire landfill at the time of closure. The Proposed Project would put that date off by approximately four years.

Under the Proposed Project, existing slopes would be retained in many cases, but would be built 15 to 20 feet higher. The actual direct footprint for grading impacts to vegetation associated with the Proposed Project covers 468 acres of the 476-acre landfill. Eight acres of existing slope would not be impacted by the Proposed Project, although the entire footprint of the landfill will be subject to closure in the future. Thus, 8 acres of “Tier II” habitat (per the City’s Land Development Manual) would be avoided.

The 468-acre Proposed Project footprint is within the 476-acre manufactured landfill, but it is surrounded by a diverse coverage of native habitat to the south, east and west, including riparian scrub habitat in the San Clemente Canyon drainage system. Most of the surrounding area has intact and disturbed vegetation, and supports a high diversity of flora and fauna (Figure 9).

The entire Proposed Project site is a manufactured landfill surface, but dirt has been used as a cover material, and the surface can be evaluated for habitat value. A majority of the Proposed Project area is characterized by disturbed or developed habitats. Small portions of the landfill have been revegetated with native and non-native vegetation as they have become inactive in order to resist erosion. Most of the site is characterized as disturbed habitat and developed land, but six acres (one percent) of the site now supports six vegetation communities: chamise chaparral, coastal sage scrub, disturbed coastal sage scrub, southern mixed chaparral, and disturbed eucalyptus woodland (Figure 9).

Habitat Types

“Developed areas” support nonnative vegetation because of the presence of buildings or roads. The level of soil disturbance on this site is so great that many developed areas support no plants at all. Because it is subject to ongoing operations, most areas have not received soil cover that can support most plant communities. In the developed areas, only ruderal plant species are present, such as *Salsola tragus* (Russian thistle), *Melilotus* (sweet clover), *Malva parviflora* (cheese weed) and *Hordeum murinum* (foxtails). Within the Proposed Project site these developed areas include most of the active landfill, areas supporting structures, and associated access roads.

Developed areas cover 276 acres. Combined, the disturbed and developed areas of the site cover 462 acres, or 99% of the area, with small patches of reestablished vegetation in the remaining 1% of the area. “Disturbed habitat” is a Tier IV habitat according to the City of San Diego’s classification system. It is land on which the native vegetation has been significantly altered by land-clearing activities such that the species composition and site conditions are not characteristic of the disturbed phase of a defined plant association (e.g., disturbed coastal sage

scrub). Such habitat is typically found in vacant lots, roadsides, abandoned fields or previously graded lands, and is dominated by non-native annual and perennial broadleaf species. Much of the area (185 acres) within the Proposed Project footprint has been sparsely colonized by species characteristic of disturbed habitat, including areas that have been revegetated with non-native ornamental species.

“Southern mixed chaparral” is a Tier III habitat according to the City of San Diego’s classification system. It usually occurs on steeper, more mesic north-facing slopes than chamise chaparral. This vegetation community type is characterized by relatively high species diversity. Species occurring within the Proposed Project area include wart-stemmed ceanothus (*Ceanothus verrucosus*), black sage (*Salvia mellifera*), Yerba Santa (*Eriodictyon crassifolium*), chamise (*Adenostoma fasciculatum*), coast spine bush (*Cneoridium dumosum*), blue dicks (*Dichelostemma capitatum*), and toyon (*Hertomeles arbutifolia*). Approximately 4.52 acres of vegetation characteristic of southern mixed chaparral are contained within the footprint of the Proposed Project.

“Coastal sage scrub” is a Tier II habitat according to the City of San Diego’s classification system. It is comprised of low, soft-woody shrubs to about 1 meter (3 ft) high, many of which are facultatively drought-deciduous. Dominant shrub species in this vegetation type may vary, depending on local site factors and levels of disturbance. Dominant species within coastal sage scrub locations on the northeast side of the Proposed Project area include California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), deerweed (*Lotus scoparius*), and black sage (*Salvia mellifera*). Coastal sage scrub vegetation has colonized a very small component of the Proposed Project site, comprising 2.36 acres within the Proposed Project footprint.

“Eucalyptus woodland” is a Tier IV habitat according to the City of San Diego’s classification system. It is characterized by dense stands of gum trees (*Eucalyptus* spp.). Gum trees naturalize readily and, where they form dense stands, tend to completely supplant native vegetation, greatly altering community structure and dynamics. Very few native plants are compatible with eucalyptus. The disturbed eucalyptus stands on the Proposed Project site contain a mixture of small eucalyptus trees, acacia (*Acacia baileyana*), and lemonade berry (*Rhus integrifolia*) and cover approximately 1.0 acres.

“Chamise chaparral” is a Tier III-A habitat according to the City of San Diego’s classification system. It is characterized by nearly monotypic stands of chamise (*Adenostoma fasciculatum*) to 1-3 m (3-9 ft) in height. Additional shrub species, such as deerweed (*Lotus scoparius*) and broom baccharis (*Baccharis sarathroides*) are also present in this community. This habitat type is very limited within the Proposed Project area, comprising 0.07 acres within the Proposed Project’s footprint.

Sensitive Plants

No resident sensitive plant species are located within the Proposed Project's footprint (Table 3.3.3-1). The area surrounding the Proposed Project site supports several sensitive plant and animal species (list provided in Appendix E), including four plants that are considered by the California Native Plant Society to be seriously endangered in California, although they are not listed by the state or federal agencies as threatened or endangered: little mouse-tail (*Myosurus minimus* ssp. *Apus*), Orcutt's brodiaea (*Brodiaea orcuttii*), San Diego barrel cactus (*Ferocactus viridescens*), San Diego goldenstar (*Muilla clevelandii*), and wart-stemmed ceanothus (*Ceanothus verrucosus*). None of these species occurs in the Proposed Project footprint, and none would be impacted by the Proposed Project. Also present in the area surrounding the Proposed Project site are two plants that are listed by the state and federal government as endangered: willow monardella (*Monardella linoides viminea*), San Diego mesa mint (*Pogogyne abramsii*). These species are not within the Proposed Project footprint. No areas that support mesa mint receive any drainage from the Proposed Project site.

Sensitive Animals

Sensitive animals in the vicinity, though also not within the Proposed Project footprint, include species of concern such as California horned lark (*Eremophila alpestris*), northern harrier (*Circus cyaneus*), southern California rufous-crowned sparrow, (*Aimophila ruficeps canescens*), and government-listed animals, such as the endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), and the threatened California gnatcatcher (*Polioptila californica*).

Of these species, the only one located near the existing landfill is the California gnatcatcher (*Polioptila californica*). Despite ongoing noise, this species has entered a revegetated area just east of the Proposed Project footprint. No changes to the existing condition of the area are proposed. No California gnatcatchers have been detected in coastal sage scrub or disturbed coastal sage scrub within the Proposed Project footprint. California gnatcatcher is listed federally threatened under the Endangered Species Act. Protocol surveys for California gnatcatcher performed in the Proposed Project's footprint in June 2006 were negative.

Additionally, the 1994 EIS/EIR identified no unacceptable noise impacts from the WML area on wildlife. However, since 1994 nesting sites may have shifted, and gnatcatchers may occur closer to the Proposed Project site in some years than in others. Surveys conducted according to US Fish and Wildlife Service protocols identified no gnatcatchers within the Proposed Project's footprint; however field staff are aware of territories nearby (see Figure 9). In the 1994 EIS/EIR, for projects near or in gnatcatcher territories, biological monitoring and onsite measures to time construction activities outside of the nesting season and locate staging areas away from nests was considered to mitigate potential impacts.

Staff biologists continue to monitor the site, including WML, and adjustments in landfill operations are made as necessary for the various goals of the staff, including gnatcatcher habitat

protection and enhancement. Furthermore, the Marine Corps INRMP identifies gnatcatcher habitat areas necessary for the protection of this species on the base. These areas do not include the WML. Thus, there is no change in this existing condition.

No wildlife corridors can develop on the landfill surface because of the scarcity of vegetation. The east-west canyon that occurs south of the landfill likely functions as a habitat linkage in the Proposed Project’s vicinity. Noise-sensitive habitats include adjacent areas supporting California gnatcatchers.

**TABLE 3.3.3-1
Likelihood of Occurrence of Sensitive Species within Proposed Project Footprint**

Sensitive Species	Likelihood of Occurrence
Little mouselink	Not present
Orcutt’s brodiaea	Not present
San Diego barrel cactus	Not present
San Diego goldenstar	Not present
Wart-stemmed ceanothus	Not present
Willow monardella	Not present
San Diego mesa mint	Not present
California horned lark	Not present
Northern harrier	Not present
Southern rufous-crowned sparrow	Not present
San Diego fairy shrimp	Not present
California gnatcatcher	Not present

Source: John Howard, City of San Diego, Environmental Services Department.

3.3.4 Geologic Conditions

Applicable Rules, Regulations, Policies, and Guidelines

Title 27 of the California Code of Regulations requires that municipal solid waste landfills be designed with appropriate slope stability, and to resist damage from an earthquake.

Modifications to the existing Joint Technical Document have been required by the LEA and RWQCB, in part to show that the proposed slopes are engineered to the necessary standards.

The Joint Technical Document is included in this analysis by reference, and the key points have been excerpted in this EIR.

Existing Conditions

San Diego lies in the coastal plain section of the Peninsular Ranges geomorphic province, which is characterized by elongated, northwest-trending mountains that extend from the Los Angeles Basin south into Baja California, and by a coastal plain which flanks the mountains. The mountain ranges consist of pre-Cretaceous intrusive rocks locally overlain by younger sedimentary and volcanic rocks. The coastal plain section consists of Tertiary sedimentary rocks that were eroded by wave action and then covered by a thin sequence of Quaternary near-shore and beach deposits. These sedimentary rocks were then dissected to form the mesas and terraces present today.

The geologic units present in San Diego consist of a succession of Late Cretaceous, Eocene, Pliocene, Pleistocene and Holocene sedimentary rocks that rest on Mesozoic metamorphic and plutonic basement rocks. Bedrock units within and adjacent to the site include, in ascending age, the Scripps Formation, Friars Formation, Stadium Conglomerate and Linda Vista Formations. Sedimentary rocks of the middle Eocene Scripps Formation comprise the oldest strata in the Proposed Project area and are exposed only along the walls of San Clemente Canyon southwest of the site and within tributary canyons west of the site. The Scripps Formation consists of pale-yellowish brown medium-grained sandstone with occasional cobble-conglomerate interbeds. Within the Proposed Project area, the Scripps Formation overlies older Eocene strata. The middle to late Eocene Friars Formation overlies the Scripps Formation and forms the uppermost unit of the La Jolla Group. Within the Proposed Project area, Friars Formation rocks are exposed within the walls of the San Clemente Canyon south of the site. The Friars Formation rocks are massive, yellow gray medium-grained sandstone interbedded with dark greenish gray sandy claystone. The late Eocene Stadium Conglomerate overlies the Friars Formation and is the oldest formation of the Poway Group.

The dominant bedrock exposed in the area are non-marine conglomerates and sandstones of the Stadium Conglomerate, which are evident in canyon side slopes and artificial quarry slopes with over 100 feet of vertical exposure in many locations. As exposed in this area, the Stadium Conglomerate is characterized by a massive, well rounded cobble conglomerate with a dark, yellowish-brown fine to coarse-grained silty sandstone matrix. Gravel and cobble clasts within the sandstone matrix range in size from one inch to one foot in diameter, with an average clast

size of approximately three inches. The ratio of gravel and cobbles to sand matrix varies widely within the formation with some areas being clast supported and other intervals consisting of sandstone devoid of cobbles. Discrete conglomerate and/or sandstone intervals are, in general, laterally discontinuous with many of these discrete intervals truncated abruptly or pinching out laterally in a relatively short distance.

Where landfill activities have not occurred, the Stadium Conglomerate is overlain by an approximately five- to 10-foot thick mantle of surficial deposits. Terrace deposits are easily recognized by their distinctive reddish-brown color and relative resistance to erosion. The composition of the terrace deposits varies widely from a sandy clay to a clayey silt and silty sand, most of which contain significant interbeds of gravel and cobbles. In many locations on the site, a one- to three-foot thick layer of well cemented tan sand and silt (locally referred to as hard pan) has been reported in excavations at a depth of four to five feet below the ground surface. Additionally, relatively thin alluvial deposits are located along the bottoms of active drainage courses and are typically composed of a mixture of silt, sand, and gravel weathered from older formational materials.

Artificial fills on the site consist of refuse fill and stockpile and structural fills composed of inert soils. Stockpiled fill material is generally composed of an unsorted mixture of cobbles, gravel, and fine-to-coarse silty sand which has been generated from excavation of materials from the Terrace Deposits and Stadium Conglomerate. Stockpiled fill material is currently used as daily and intermediate cover in landfilling operations.

No active or potentially active faults are known to exist at or near the WML. Minor offsets of Stadium Conglomerate beds at the site are thought to have resulted from older faulting or differential slumping during deposition. No Alquist-Priolo Special Studies Zones are present at or near the site. Although faults capable of generating frequent, very large earthquakes are distant from the site, local active faults also produce moderate to large earthquakes at the WML. Relative movements of the North American and Pacific plates control the faulting and seismicity in southern California. This movement occurs along the San Andreas Fault System, a 140-mile-wide zone of strike-slip faults that extends northwest from the Gulf of California to the coast north of San Francisco. Major faults in this system include the San Jacinto and Elsinore Fault zones and the San Gabriel, Palos Verdes, Rose Canyon, Coronado Bank, San Diego Trough, San Clemente, Newport-Inglewood, and Palos Verdes Faults. Also present are the smaller Earthquake Valley and San Joaquin Hills Faults. All of these structures are considered active and capable of generating significant earthquakes. None of these faults actually passes through or near the WML. The closest such fault, the Rose Canyon Fault, is about 8.2 kilometers, or 5.0 miles, from the landfill. The maximum moment magnitudes for active faults within 100 kilometers of the WML range from 6.5 to 7.6.

The largest earthquake on record (Magnitude 6.7) occurred in 1892 near Live Oak Springs in southeast San Diego County, about 82 kilometers east-southeast of the WML (unknown fault). The second-largest earthquake, an M6.5 event in 1800, may have occurred on an offshore fault (possibly the Rose Canyon Fault) about 20 kilometers northwest of the WML. Other earthquakes exceeding M6.0 include an M6.3 event in 1892, about 97 kilometers to the east-southeast (San Jacinto Fault), and an M6.0 event in 1910, about 96 kilometers to the north near

Lake Elsinore (Elsinore Fault). In recent years, several seismic events have occurred offshore of north San Diego County. The largest of these was the July 1986 Oceanside earthquake (M5.8). Another earthquake of M5.3 took place on the San Clemente Fault in June 2004.

Other seismic hazards such as liquefaction, lateral spreading, and seismically-induced settlement, are not credible causes of significant damage at WML. These hazards generally require the presence of relatively loose, granular, saturated soils in the subsurface, in addition to strong ground motion. The landfill excavation penetrates clayey and sandy terrace deposits into bedrock of the Stadium Conglomerate and terminates well above the groundwater table. Under these conditions, significant liquefaction, lateral spreading, or seismically-induced settlement are very unlikely.

3.3.5 Health and Safety

Applicable Rules, Regulations, Policies, and Guidelines

As explained in the Purpose and Need Section of this report, the purpose of landfills is to manage solid waste in a way that promotes health and safety. Laws prescribing landfill engineering techniques are intended to ensure that Class III sanitary landfills provide daily cover and other measures to control disease vectors, such as mosquitoes and flies, and require load-checking programs, to ensure that hazardous materials do not enter these facilities. The Resource Conservation Recovery Act (RCRA), subtitle D is the most significant of the laws prescribing how landfill operations will be conducted in order to protect public health and safety, along with Title 27 of the California Code of Regulations (CCR).

Existing Conditions

The WML is a permitted landfill, and as such, complies with current laws and regulations ensuring that the facility is operated safely. The implementation of the mitigation measures in the EIS/EIR for the GDP was determined to reduce potential impacts to below a level of significance.

Since the date of certification of the EIS/EIR for the GDP, the Household Hazardous Waste collection facility has been developed near the entrance to the landfill. This facility is designed to provide a convenient location for households and small businesses to take their hazardous waste, such as un-used paints and other household products. This facility helps reduce the likelihood of inappropriate materials entering the landfill.

The Miramar Landfill as a “Class III landfill” is permitted to accept non-hazardous residential and commercial refuse. The Miramar Landfill accepts treated wood waste, non-friable asbestos, contaminated soil, and industrial solids after approval and scheduling with an inspector from the landfill load check program.

The Miramar Landfill staff originally implemented a Hazardous Waste Exclusion Program (Program) in October 1991 to comply with state regulations under 27 CCR, §20870. The load check component of the Program contains the following major elements:

- Random inspections of incoming loads to ensure loads do not contain unacceptable wastes, including regulated hazardous wastes or PCB wastes.
- Records of inspections.
- Training of facility personnel including recognition of unacceptable wastes.
- Notification to the Certified Unified Program Agency (CUPA) if regulated hazardous wastes or PCB wastes are discovered at the facility.

Program inspectors are on duty on Miramar Landfill's 361 operational days per year. They conduct inspections and provide spill response, special waste acceptance, and other hazardous waste diversion related activities.

The initial step in the load check program consists of a visual screening of all incoming vehicles at the scales. Scale house personnel look for any indication of potentially unacceptable wastes. If suspicious loads are encountered, Program inspectors are alerted. The inspector determines if the waste is acceptable.

Spotters are also located at the tipping areas to observe waste as it is unloaded. In addition, the equipment operators are trained in the identification of potentially unacceptable wastes. Spotters alert Program inspectors if potentially unacceptable wastes are encountered. The inspectors identify the responsible party.

In addition to the initial screening, Program inspectors select loads for inspection. Inspections are conducted in all tipping areas – commercial, public, greens, and demolition. Commercial waste loads chosen for inspection are directed to unload the wastes in a designated area. The driver is instructed to pull forward while discharging the waste, resulting in the formation of a long, narrow row of trash. The inspectors then tear down the row of trash, using a rake and/or other hand tool. In public hand-unload areas, inspectors visually inspect vehicles and monitor waste unloading for the presence of prohibited wastes. For all inspections, information and observations are recorded on an inspection form. If necessary, photographs and samples are taken.

If prohibited wastes are identified, the driver/responsible party is notified that the wastes cannot be accepted and information on proper waste disposal is provided. In some cases, the load may be detained pending regulatory agency inspection. A Notice of Violation may be issued to the responsible party. Specific types of incidents are also reported to the LEA and the CUPA. If the generator of the hazardous or unacceptable wastes cannot be identified, the inspector segregates and stores the waste and arranges for appropriate disposal in accordance with regulatory requirements.

Program inspectors inspect waste loads for all types of unacceptable waste including universal wastes (UW) such as electronics, computers, televisions, household batteries, light bulbs, and mercury containing devices. UW has not been accepted for disposal in Class III landfills since an exemption for these materials expired on February 8, 2006. Prior to the sunset of the UW exemption, flyers were given out at the landfill scales to all customers informing them that effective February 9, 2006 disposal of any quantity of UW in the landfill would be prohibited.

Program inspectors allowed landfill customers who had not yet been informed of the prohibition on disposing of UW a grace period. For approximately seven months, Program inspectors accepted UW commingled in waste loads brought to the landfill. Inspectors educated drivers and generators on proper UW disposal, and packaged the wastes accepted through this temporary

courtesy acceptance program for proper recycling/disposal. Loads containing regulated electronics, including computers, and televisions were referred to the recycling center located adjacent to the landfill entrance.

3.3.6 Cultural Resources

Applicable Rules, Regulations, Policies, and Guidelines

The City of San Diego's Land Development Code contains Historical Resources Regulations (City of San Diego, 2001). The purpose and intent of those regulations is to protect, preserve and, where damaged, restore the historical resources of San Diego. The regulations apply to all proposed development within the City of San Diego over which the City has jurisdiction, particularly when the historical resources meet the definitions contained in Chapter 11, Article 3, Division 1 of the Code. The following sources are used to help evaluate the significance of historical resources: the National Register of Historic Places, California Environmental Quality Act (CEQA), City of San Diego Progress Guide and General Plan, City of San Diego Historical Resources Register, and the City of San Diego CEQA Significance Determination Guidelines.

According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), a significant historic resource is eligible or potentially eligible for the National Register of Historic Places, or one which qualifies for the California Register of Historical Resources or is listed in a local historic register or deemed significant in a historical resource survey, as provided under Section 5024.1(g) of the Public Resources Code. A resource that is not listed in, or determined to be eligible for listing in, the National Register of Historic Places, the California Register of Historical Resources, not included in a local register of historic resources, or not deemed significant in a historical resource survey may nonetheless be historically significant for purposes of CEQA if the site has unique or special attributes.

Section 15064.5 of the State CEQA Guidelines describes a substantial adverse change in the significance of a historical resource as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Further, a resource is "materially impaired" if it is demolished or materially altered.

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties. They must provide the Advisory Council on Historic Preservation a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations (36 CFR Part 800), which became effective January 11, 2001. These regulations require that the federal agency determine whether it has an undertaking that is a type of activity that could affect historic properties. If it is an undertaking that could affect historic properties, then the agency reviews background information, consults with the State Historic Preservation Officer (SHPO) and others, seeks information from knowledgeable parties, and conducts additional studies as necessary. Districts, sites, buildings, structures, and objects listed in the National Register are considered; unlisted properties are evaluated against the National Park Service's published criteria, in consultation with the SHPO and any Indian tribe or Native Hawaiian organization that may attach religious or cultural importance to them. If, after this research, the agency finds that

no historic properties are present or affected, it provides documentation to the SHPO and, barring any objection in 30 days, proceeds with its undertaking. If the agency finds that historic properties are present, it proceeds to assess possible adverse effects. If the agency and SHPO agree that there will be no adverse effect, the agency proceeds with the undertaking and any agreed-upon conditions. If they find that there is an adverse effect, or if the parties cannot agree and ACHP determines within 15 days that there is an adverse effect, the agency begins consultation to seek ways to avoid, minimize, or mitigate the adverse effects.

Existing Conditions

The site is located exclusively within the footprint of the existing WML. The site is entirely underlain by waste deposited at the site since initiation of operations. Thus, there are no historic or archeological resources within the footprint of the site that would be disturbed by deposition of additional layers of waste.

3.3.7 Paleontological Resources

Applicable Rules, Regulations, Policies, and Guidelines

According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), impacts to paleontological resources may occur through grading activities associated with Proposed Project construction. Appendix G of the State CEQA Guidelines suggests that destruction of “unique” paleontological resources onsite may have a significant impact.

Existing Conditions

The project site is underlain by the following formations, which are listed from low to high sensitivity for paleontological resources: Scripps, Friars, Stadium Conglomerate, terrace deposits, alluvium, and slopewash. The potential for finding resources within these formations varies; however, the project would result in no disturbance, grading, or excavation outside the existing footprint of the landfill or into these formations. Although a significant amount of waste would be imported, and soils already stockpiled onsite would be moved, no intact paleontological formations would be disturbed. The 1980 EIR determined that the original landfill had no impacts to paleontological resources. The type of material underlying the site was of high mineral value as aggregate, and so was extracted. The Proposed Project would not disturb any soil that has not already been subject to landfill operations. There would be no change in the existing condition regarding impacts to this type of resource.

The site is located exclusively within the footprint of the existing WML. The site is entirely underlain by waste deposited at the site since initiation of operations. No excavation of this material is proposed. The Proposed Project would lay additional waste over the surface of existing waste. No disturbance of paleontological resources would occur.

3.3.8 Mineral Resources

Applicable Rules, Regulations, Policies, and Guidelines

According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), a project that would result in the loss of availability of a significant mineral resources (i.e., classified as Mineral Resource Zone (MRZ) 2 by the California Department of Conservation) may be considered to have a significant impact on mineral resources.

Existing Conditions

Prior to commencement of fill operations at WML, aggregate resources meeting the classification of MRZ2 were excavated by a private contractor. Usable materials were exported from the site, and the residual material has been used onsite in the liner system and as a cover material.

3.3.9 Noise

Applicable Rules, Regulations, Policies, and Guidelines

The City of San Diego Noise Ordinance (San Diego Municipal Code, Chapter 5, Article 9.5) focuses on non-transportation-related noise generators and provides standards that regulate outdoor site, indoor, and construction-related noise levels. The Ordinance establishes one-hour average (L_{eq}) limits for residential, commercial, industrial, and agricultural land uses by time of day. Industrial uses are prohibited from generating noise that exceeds 75 dB L_{eq} at the property line at any time during the day. Developments that would expose commercial or residential receptors to new, unacceptable noise levels are considered to have impacts.

The City of San Diego, through its noise ordinance (Section 59.5.0401) has established property line sound levels limits for various land use zones. The applicable sound level limit is determined by the land use zone and the time of day. The noise subject to the limits is that part of the total noise at the specified location that is due solely to the action of the noise generator. The sound level limits are summarized in Table 3.3.9-1.

**TABLE 3.3.9-1
City of San Diego Sound Level Limits**

Zone	Time	Applicable Limit One-Hour Average Sound Level (Decibels)
Single Family Residential	7:00 a.m. – 7:00 p.m.	50
	7:00 p.m. – 10:00 p.m.	45
	10:00 p.m. – 7:00 a.m.	40
Multifamily Residential (Maximum Density of 1/2000)	7:00 a.m. – 7:00 p.m.	55
	7:00 p.m. – 10:00 p.m.	50
	10:00 p.m. – 7:00 a.m.	45
All other residential	7:00 a.m. – 7:00 p.m.	60
	7:00 p.m. – 10:00 p.m.	55
	10:00 p.m. – 7:00 a.m.	50
Commercial	7:00 a.m. – 7:00 p.m.	65
	7:00 p.m. – 10:00 p.m.	60
	10:00 p.m. – 7:00 a.m.	60
Industrial and Agricultural	Anytime	75

Source: City of San Diego Noise Ordinance, Section 59.5.0401.

The U.S. Department of Housing and Urban Development (DHUD) limits noise levels at new housing construction sites being considered for federal funding or subsidy. These regulations are found in 24 CFR 51, Subpart B. DHUD-acceptable day-night average exterior sound levels (L_{d-n}) within proposed housing sites are those that do not exceed 65 dB (24 CFR 51, Subpart B,

Sec. 55.103). The agency's goals for interior sound levels are 45 dB L_{d-n}. Typically, standard frame construction result in interior sound level decreases of 15 dB.

Existing Conditions

As explained in the EIS/EIR for the General Development Plan of the landfill, "the pre-landfill noise environment would have been quiet, averaging 35 to 45 dBA, with the exception of occasional aircraft overflight. . . ." However, since that time, freeways and commercial and industrial development have been added to the area. Now, "[t]he noise environment near the Miramar Landfill GDP area is dominated by vehicular traffic on I-805 and SR 52, flight operations . . . , and current landfill operations." Traffic noise was estimated at 75 Community Noise Equivalent Level (CNEL) on portions of the landfill closest to the freeway. Station aircraft operations were estimated at more than 65 CNEL.

Worker exposure to noise is regulated by OSHA, and is minimized in the City by way of an Injury and Illness Prevention Plan, which is included as Appendix K of the JTD.

3.3.10 Traffic

Applicable Rules, Regulations, Policies, and Guidelines

The City of San Diego Circulation element provides rankings of acceptable levels of service, as shown in Table 3.3.10-1.

**TABLE 3.3.10-1
LOS Standards for Roadways**

Roadway Functional Classification	LOS				
	A	B	C	D	E
Expressway (6-lane)	< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Prime Arterial (6-lane)	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Major Arterial (6-lane, divided)	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Secondary Arterial/Collector (4-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (4-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane w/ continuous left-turn lane)					
Collector (2-lane no fronting property)	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (2-lane w/ commercial fronting)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane multi-family)					
Sub-Collector (2-lane single-family)	-	-	< 2,200	-	-

Source: Traffic Impact Study Manual, City of San Diego, July 1998.

Chapter 16 of the *Highway Capacity Manual (HCM) 2000, Transportation Research Board Special Report 209* provides LOS rankings for intersections, as shown in Table 3.3.10-2.

**TABLE 3.3.10-2
LOS Standards for Intersections**

Average Control Delay	LOS Characteristics
<10	<i>LOS A</i> has a low delay, progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
>10– 20	<i>LOS B</i> has good progression and/or short cycle lengths. More vehicles stop than for <i>LOS A</i> , causing higher levels of average delay.
>20 – 35	<i>LOS C</i> has some delays, fair progression and/or longer cycle lengths. Individual cycle failures may occur. Many vehicles stop, although many still pass through the intersection without stopping.
>35– 55	<i>LOS D</i> has high delay, because of unfavorable progression, long cycle lengths, or high volumes. Congestion and individual cycle failures are noticeable.
>55 – 80	<i>LOS E</i> is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80	<i>LOS F</i> has excessively high delay, considered unacceptable to most drivers. This condition often occurs when <i>LOS D</i> at the intersection is exceeded. Poor progression and long cycle lengths may be contributing causes.

Source: Highway Capacity Manual (HCM) 2000, TRB Special Report 209.

Topic 406 of the *Caltrans Highway Design Manual (HDM)*, 5th Edition provides rankings of on and off ramps, as shown in Table 3.3.10-3.

**TABLE 3.3.10-3
LOS Standards for Ramps**

Threshold, ILV/hr	Description
<1200: (<i>Under Capacity</i>)	Stable flow with slight, but acceptable delay. Occasional signal loading may develop. Free midblock operations.
1200-1500: (<i>At Capacity</i>)	Unstable flow with considerable delays possible. Some vehicles occasionally wait two or more cycles to pass through the intersection. Continuous backup occurs on some approaches.
>1500: (<i>Over Capacity</i>)	Stop-and-go operation with severe delay and heavy congestion ⁽¹⁾ . Traffic volume is limited by maximum discharge rates of each phase. Continuous backup in varying degrees occurs on all approaches. Where downstream capacity is restrictive, mainline congestion can impede orderly discharge through the intersection.

Notes: ⁽¹⁾The amount of congestion depends on how much the ILV/hr value exceeds 1500. Observed flow rates will normally not exceed 1500ILV/hr, and the excess will be delayed in a queue.

Source: Caltrans Highway Design Manual 5th Edition, Topic 406.

Existing Conditions

In the years since State Route 52 was constructed, after development of the Miramar Landfill, addition development in the Kearny Mesa area has increased traffic congestion on surface streets, the freeway, and freeway ramps. As shown in Table 3.3.10-4, all five road segments in the vicinity are currently operating at LOS D worse. The existing conditions include the community that has grown up in the area, freeway traffic, traffic associated with the landfill at its current permitted level of 8,000 tons per day, and 2,000 trips per day going for disposal at the landfill, and an additional materials that are not disposed within the landfill, including, for example, in FY 05 99,507 tons of diverted materials and 37,116 tons of clean fill. An average of 4,476 tons per day is diverted to beneficial uses. All of the existing traffic, including traffic bearing waste to be disposed of at WML, plus traffic for diverted materials, is considered in the existing conditions. A traffic impact study is included in Appendix F.

**TABLE 3.3.10-4
Existing Roadway LOS**

Street	Segment	Cross-Section	Capacity	Volume	V/C	LOS
Convoy Street	Between SR-52 WB Ramps and SR-52 EB Ramps	3-Lane	15,000	17,167	1.144	F
	Between SR-52 EB Ramps and Copley Park Pl	4-Lane	30,000	32,453	1.082	F
	Between Copley Park Pl and Convoy Ct			22,393	0.746	D
	Between Convoy Ct and Clairemont Mesa Blvd			22,973	0.766	D
	Between Clairemont Mesa Blvd and Raytheon Rd			28,617	0.954	E

Source: Wilson & Company, Inc., May 2006.

Table 3.3.10-5 shows that all of the intersections investigated in the vicinity of the Proposed Project are currently operating at acceptable LOS D or better.

**TABLE 3.3.10-5
Existing Peak Hour Intersection LOS**

Intersection	AM		MD		PM	
	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
Convoy St / SR-52 WB ramps	53.7	D	48.8	D	33.9	C
Convoy St / SR-52 EB ramps	52.1	D	24.6	C	37.4	D
Convoy St / Copley Park Pl	10.9	B	15.7	B	16.9	B
Convoy St / Convoy Ct	28.6	C	33.5	C	33.3	C
Convoy St / Clairemont Mesa Blvd	29.2	C	46.6	D	39.3	D

Source: Wilson & Company, Inc., May 2006.

As shown in Table 3.3.10-6, the westbound SR-52 ramp intersection is currently operating “At Capacity” in the AM peak hour and the eastbound SR-52 ramp intersection is operating “At Capacity” during the PM peak hour with a potential for unstable flow and considerable delays during these times. All other peaks for both ramp intersections are operating “Under Capacity” with stable flow and slight delay.

**TABLE 3.3.10-6
Existing Ramp Service Rating**

Intersection	Peak Hour	ILV / Hour	Description
Westbound SR-52 / Convoy Street	AM	1,222	1200-1500: (At Capacity)
	MD	1,167	<1200: (Under Capacity)
	PM	1,133	<1200: (Under Capacity)
Eastbound SR-52 / Convoy Street	AM	1,042	<1200: (Under Capacity)
	MD	973	<1200: (Under Capacity)
	PM	1,282	1200-1500: (At Capacity)

Source: Wilson & Company, Inc., May 2006.

As shown in Table 3.3.10-7, potential queuing issues currently exist at the Convoy Street / SR-52 eastbound ramps (the northbound right-turn queues exceed the storage capacity during the PM peak period) and at the Convoy Street / Convoy Court intersection (existing queues exceed storage capacity at the northbound left-turn lane during the AM, Midday (MD), and PM peak hours; and at the southbound left-turn lane during the AM and MD peak hours).

**TABLE 3.3.10-7
Existing Ramp Queuing**

Intersection	Movement	Available Storage (feet)	Queue Length (feet)			Sufficient Storage?		
			AM	MD	PM	AM	MD	PM
Convoy St / SR-52 EB ramps	NBR	410	70	79	471	Yes	Yes	No
Convoy St / Copley Park Pl	NBL	85	46	54	27	Yes	Yes	Yes
Convoy St / Convoy Ct	NBL	70	235	290	83	No	No	No
	SBL	90	175	158	79	No	No	Yes
Convoy St / Clairemont Mesa Blvd	NBL	250	91	224	155	Yes	Yes	Yes
	SBL	275	63	138	111	Yes	Yes	Yes

Source: Wilson & Company, Inc.; April 2006.

Table 3.3.10-8 shows that the segment of SR-52 to the east of Convoy Street currently operates at an unacceptable level.

**TABLE 3.3.10-8
Existing Freeway Segment LOS**

Freeway	Segment	ADT	Peak Hour Volume	Lanes Per Direction	% HV	Volume (pc/h/ln)	LOS
SR-52	West of Convoy Street	106,000	9,300	3	3.1%	1,739	C
	East of Convoy Street	125,000	11,900	3	3.1%	2,225	E

Source: Wilson & Company, Inc., April 2006.

3.3.11 Public Services and Facilities

Applicable Rules, Regulations, Policies, and Guidelines

According to CEQA Guidelines, Appendix G, a project may be deemed to have a significant impact to public services and facilities if the project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services (fire protection, police protocol, schools, parks, or other public facilities).

Existing Conditions

Public services required by this facility include inspection by the Local Enforcement Agency, which charges cost-recoverable fees for this service. The landfill operations augment other public services. Personnel and equipment can be and have been used as part of the City's overall emergency response in the event of a disaster, for example by using the equipment to suppress fires and/or manage debris. Landfill personnel have also assisted San Diego police with investigations.

3.3.12 Public Utilities

Applicable Rules, Regulations, Policies, and Guidelines

Projects may be considered to have an impact if they would construct or alter public utilities, such as sewage service, electricity, or solid waste.

Existing Conditions

All utilities, such as water connections, have already been provided. The facility is also used to provide green power for City operations and to San Diego Gas and Electric. A cogeneration plant located near South Miramar takes gas from the landfill, and gas from a biosolids treatment plant and generates electricity onsite. A second generation plant takes gas from the landfill and powers a City water reclamation plant. The facility also minimizes water consumption, by recycling leachate for use as dust suppression, and by using reclaimed water for compost production.

3.3.13 Landform Alteration/Visual Quality

Applicable Rules, Regulations, Policies, Guidelines

A. Federal

- **Integrated Natural Resources Management Plan, MCAS Miramar, May, 2000**
–The purpose of this plan is to integrate MCAS Miramar’s land use needs, in support of the military mission, with the management and conservation of natural resources. Although there are no specific policies relating to visual resource protection, the intent of the plan states that natural resources within MCAS Miramar must be protected and maintained.
- **Base Exterior Architectural Plan, MCAS Miramar, 1999** – This plan provides detailed architectural requirements and aesthetic values for MCAS Miramar. The aesthetic values include, but are not limited to, the type of lighting fixtures, the colors of paint, the heights of signage, and the general appearance of all aspects of development within MCAS Miramar.
- **National Environmental Policy Act (NEPA)** – The visual regulatory guidelines included in NEPA ensure that environmental considerations, such as impacts related to aesthetics and visual quality, are given due weight in project decision-making. NEPA is applicable to all major actions sponsored, funded, permitted, or approved by federal agencies.
- **Federal Highway Administration (FHWA) Visual Resource Guidelines** – These guidelines provide a methodology that helps to identify potential aesthetic impacts. A visual impact is defined as a combination of a resource change and viewer response to the change. To evaluate the resource change, one must define the visual resources in the area, their character, and their quality. To evaluate viewer response, one must define the viewers (“of” and “from” the road), their exposure, and their sensitivity. The FHWA guidelines are applicable to the Proposed Project because the FHWA owns land within the Proposed Project’s viewshed.

B. State

- **California Environmental Quality Act (CEQA)** – The visual resources guidelines included in CEQA are a means to measuring potential visual impacts. CEQA Guidelines provide a framework for addressing impacts to visual sources.
- **State Scenic Highway Program** – This program was created to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of land adjacent to those highways. Portions of four roadways in San Diego County (SR-75, SR-78, SR-125, and SR-163) are officially designated scenic highways; however, the “scenic” portions of those roadways are not within the viewsheds of the Proposed Project.

C. Local

- **City of San Diego, Development Services Department, Significance Determination Thresholds, August, 2006** – Several City of San Diego Development Services Department’s Significance Determination Thresholds address visual quality. These significance thresholds specifically apply to views, neighborhood character/architecture, landform alteration, development features, and light/glare.
- **City of San Diego, Progress Guide and General Plan, Approved February 1979, Updated, June, 1989** – This Plan establishes criteria for determining scenic quality. The document states that disturbed areas designated for open space should be recontoured where feasible to recreate the natural topography and these areas should also be restored or enhanced where feasible with native vegetation to return these areas to a natural appearance.
- **County of San Diego, Scenic Highways and Conservation Elements, December, 1986** – These are two of several elements of the County of San Diego General Plan that address scenic and visual resources in San Diego County. The same roadways as noted for the State Scenic Highway Program are designated Scenic Highways in the Scenic Highway Element. State Route 52 is an “eligible” State Scenic Highway, but has not yet been adopted. The Conservation Element establishes zoning areas to protect scenic and natural resource areas within the county.
- **Miramar Landfill General Development Plan EIR/EIS, July 1994** – The General Development Plan is a comprehensive master plan for the future development of Miramar Landfill. Landform alteration/visual quality conclusions in the EIS/EIR were as follows: “the permanent manufactured slopes adjacent to SR-52 would be a significant impact to visual resources in a setting that has historically contained open spaces with broad vistas to the distant mountains.”
- **Adjacent Community Plans** – Communities surrounding MCAS Miramar include: Mira Mesa and Scripps Ranch to the north, Kearny Mesa and Tierrasanta to the south, University City to the west, and Clairemont Mesa to the southwest. Each of the community plans include a similar overall goal and policy, “to preserve whenever possible scenic resources including scenic views and view corridors.”

Existing Visual Environment

The Proposed Project site is visible to the public from several high-volume roadways including SR-52 to the south; I-15, SR-163, and Kearny Villa Road to the east; and I-805 to the west. The site is most visible to travelers along SR-52 and I-805, since daily traffic counts along these roadways are the highest of the five roadways from which the site is visible. The site is visible from the surrounding roadways for brief to extended periods of time, depending on the rate of travel and direction of movement; for example, the landfill is visible for a longer period of time

if traffic is slow. Some nearby residents are able to view the site. In addition, there are few residential, park or recreational locations that have views to the site.

The Proposed Project area is visible from surrounding areas in the communities of University City, Clairemont Mesa, and Kearny Mesa and high points in Tierrasanta. Residences located on Wolfstar Court in University City, less than one mile from the boundary of the lease boundary, have a direct view of the Proposed Project site. Residences located on Palmyra Avenue in Clairemont Mesa, less than one mile from the lease boundary, have backyard views of the Proposed Project area; however, man-made structures are within the foreground views. The Kearny Lodge Trailer Park, located in Kearny Mesa approximately 3,300 feet from the lease boundary, is the nearest residential development to the Proposed Project site. Limited views of the Proposed Project area can be seen from elevated structures (i.e., staircases or residential walls); however, most residents have no views to the Proposed Project site. Hickman Field, a ball field located in Kearny Mesa approximately 3,600 feet from the lease boundary, has limited distant views of the Proposed Project site. There are direct views of the Proposed Project site from the MHPA (Marian Bear Natural Park), which is located approximately 6 miles southwest of site.

Manmade features and vegetated mesas and canyons are especially dominant in the Proposed Project site landscape. There are no major water bodies within the area, although ephemeral streams run through the region. The existing open site contrasts strongly with the surrounding land uses. The site is located on MCAS Miramar. It is bounded on three sides by freeways, and on the fourth side by the airstrip portion of the base. Beyond the freeways to the west, south, and east, are urban areas, where as more military uses are located to the north. Urban communities beyond the freeways include Kearny Mesa, Clairemont Mesa, University City, and Mira Mesa. The overall characterization of the Proposed Project site is rural, with interspersed landfill features including earth cuts and fills exposing unvegetated landfill areas. Other manmade elements, such as moving landfill vehicles, traverse the area. Intermittent green and/or brown mesas and canyons covered by grasses and shrubs are interspersed with obvious man-made tan landfill features and moving vehicles.

The Miramar Landfill General Development Plan (GDP) characterizes the MCAS property as follows: “Regionally, NAS [MCAS] Miramar provides one of the largest, most contiguous remaining land parcels in southern California that is interconnected to other large tracts of land by wildlife corridors.” The MCAS Miramar Integrated Natural Resources Management Plan, May 2000 describes the topography as follows: “Elevations on MCAS Miramar range from just over 1,178 feet in the east to 240 feet in the west. The gently sloping, eroded plateaus or mesas where the flight line and air operations are located are cut by southwesterly draining canyons. These give rise to a series of marine wave-cut terraces, which in turn grade to the steep and dissected hills of Sycamore Canyon. The hummocky topography that includes impervious subsurface layer supports vernal pools in the western and central areas of MCAS Miramar. It consists of alternating well-drained to moderately well drained mounds and poorly drained swales.”

The visual patterns of MCAS Miramar can be grouped into three main categories: undeveloped mesas and canyons, airfield/developed areas, and landfill-related. Surrounding areas to the north, west, south, and southeast of the Station are characterized by dense development. The densely developed communities surrounding MCAS include: Mira Mesa and Scripps Ranch to the north, University City to the west, Clairemont to the southwest, and Kearny Mesa and Tierrasanta to the south (Appendix G, Figure 1.1-1 of the Visual Impact Analysis). Major freeways also intersect and bound the Station. Interstate 805 bounds the western edge, State Route 52 traverses the southern edge and Interstate 15 intersects the Station toward the center. A small portion of State Route 163 also crosses the southern portion of MCAS merging into Interstate 15. There are no major water bodies or rivers within the area; however, several large ephemeral drainages flow through the Station including, but not limited to: Rose Canyon, San Clemente Canyon, Sycamore Canyon, Oak Canyon, Spring Canyon and Quail Canyon. Locations of Rose and San Clemente Canyons are shown in Figure 3, but the other drainages are located six miles or more east of West Miramar Landfill.

3.3.14 Water Quality/Hydrology

Applicable Rules, Regulations, Policies, Guidelines

The City of San Diego has developed storm water standards for non-point sources that contribute to the City's storm water system. This landfill, however, is governed under an Industrial Permit system administered by the RWQCB, and is not regulated under the City's storm water program. The RWQCB has issued Order No. 87-54 specifying waste discharge requirements for this landfill, amended in 1993 with Order No. 93-86. Operations are conducted in compliance with these orders, with the Solid Waste Facility Permit conditions, and according to a Storm Water Prevention Plan prepared in compliance with the National Pollution Discharge Elimination System industrial discharger requirements as set forth in the Fact Sheet issued by the RWQCB on April 17, 1997. Regulated sites, including landfills, are required to develop a Storm Water Prevention Plan and a Storm Water Monitoring Program. As specified in these documents, the City provides employee training and good housekeeping measures. Best Management Practices (BMPs) can include, but are not limited to the following: desilting devices such as straw bales, silt fences, silt dikes, and de-silting basins, as well as erosion control measures such as permanent swales and vegetation. The existing drainage control system for WML consists of drainage channels, berms, downdrains, energy dissipaters, and detention basins. Mulch has been used extensively on decks and sideslopes to prevent erosion. Drainage berms along the perimeter of the landfill decks convey surface water to San Clemente Canyon after traveling through the downdrains or improved drainage channels and then into detention basins, where suspended sediments settle out prior to discharge of the water to San Clemente Creek.

Five surface water monitoring locations are located along San Clemente Canyon: a control point upstream of the landfill provides background readings, and the five downstream points monitor water quality changes associated with landfill discharges. These stations are monitored twice annually, according to conditions, and results are reported to the RWQCB in an annual compliance report.

Groundwater protection and monitoring are required for the existing landfill operation, per the requirements of Title 27 of the California Code of Regulations. Depth to groundwater measurements must be taken on a quarterly basis and samples must be taken on a semi-annual basis. Samples must be analyzed for a modified list of constituents as modified for onsite leachate characteristics. (Leachate is water containing dissolved materials from the waste material in the landfill.) Once every five years, samples are analyzed for the entire Title 27 suite of constituents. Groundwater reports must be filed with the RWQCB twice a year. The annual report summarizes the year's sampling events and includes a trend analysis with historical data.

Existing Water Quality/Hydrology

According to the 1994 Water Quality Control Plan developed by the RWQCB, the Proposed Project site occurs within the Penasquitos Hydrographic Unit (Unit 6) of the San Diego Basin

Planning Area (Area 9), within the Peninsula Range Physiographic Province of California. Water resources in the San Diego Region are classified as coastal waters, surface waters, ground waters, imported surface waters, and reclaimed water. The Proposed Project site occurs along the San Clemente Canyon drainage (hydrologic basin number 6.4), which has recreational uses identified in areas such as Mission Bay. A water quality report is included in Appendix H.

The City currently provides Title 27 groundwater protection and monitoring. Current operations provide collection berms installed across the mouths of the filled canyons tributary to San Clemente Canyon for the purpose of intercepting potential leachate flows at the original ground surface. The berms are equipped with perforated PVC risers installed in a gravel filled sump to monitor for the presence of leachate. These leachate sumps are monitored on a quarterly basis.

Except for Module 1 (which was developed before passage of RCRA, subtitle D liner requirements), Phase II is equipped with a leachate collection and removal system (LCRS). This LCRS consists of a blanket-type, pipe and gravel system designed to carry twice the estimated maximum daily leachate volume. The LCRS is designed to allow flow by gravity to the main below ground collection tank. Leachate is then pumped to above grade 10,000-gallon storage tanks inside a concrete secondary containment structure. The tanks are emptied periodically by gravity via piping into a water truck. It is delivered to the top of the active tipping face and dumped into the daily cell. The waste absorbs the leachate and the increased moisture content and beneficial microorganisms help enhance the decomposition process and methane production. No additional leachate is expected as a result of the Proposed Project, since the rainfall will not change, and the surface area receiving precipitation will not change. Groundwater monitoring is provided to ensure that these pollution control measure and landfill engineering are successful at protecting public health and safety or the environment. The Proposed Project would not change the footprint, and would make no changes to the existing groundwater protection and monitoring program. The height of the landfill is not one of the parameters evaluated in designing the liner; the additional height and weight will have no impact on the integrity of the liner as described in the JTD.

3.3.15 Energy Conservation

Applicable Rules, Regulations, Policies and Guidelines

CEQA Guidelines Appendix F stresses the importance of conserving energy by 1) decreasing per capita consumption, 2) decreasing reliance on natural gas and oil, and 3) increasing reliance on renewable energy sources. It does not directly mention development of renewable energy sources; however, clearly these goals and objectives cannot be successful unless renewable energy is developed. The City provides its guidance in its Significance Determination Thresholds under “public utilities,” but again, the emphasis is on reducing consumption, not specifically on green power generation.

ESD currently operates the City’s energy conservation and green power programs. ESD provides the planning and coordination to ensure the adequate provision of traditional and green power, which is the basis for impacts assessments, both per the CEQA Guidelines Appendix F, and per the City of San Diego Development Services Department’s Significance Determination Thresholds (August 2006). ESD works with state agencies, including the legislature, California Environmental Protection Agency, and Integrated Waste Management Board on development of laws, standards, and policies to require and incentivize adequate conservation and green power generation to ensure that energy demands are met. It evaluates the existing shortfall in local energy generation, and works to promote conservation measures to reduce the load, as well as encouraging green power, including, for example, installation of solar panels on City facilities. By the standards developed by ESD, projects that do not provide conservation and/or green power generation features, and that consume large amounts of electricity, may have significant impacts.

Existing Conditions

The existing landfill support services are housed in a few mobile buildings and consume less energy than is generated by the gas collected at the landfill. The central location of this disposal facility provides for short trip distances, thereby minimizing fuel consumption.

4.0 ENVIRONMENTAL CONSEQUENCES

In providing environmental analysis, the City's guidelines specify that the following should be considered: Is there a resource, hazard or other environmental factor of significance involved with the location proposed for the project? This question should be kept in mind for each issue area, however, overall it is noted that the site is an existing landfill, and no change to this use is proposed.

4.1 Impacts of Proposed Project by Issue Area

4.1.1 Land Use

Criteria for Significance Determination

The City has adopted a Progress Guide and General Plan, which provides comprehensive long-term planning for the physical development of the City. In order to achieve this plan, the General Plan addresses 14 elements that include key aspects of the City's development: housing; transportation; commercial; industrial; public facilities, services, and safety; open space; recreation; redevelopment; conservation; energy conservation; cultural resource management; seismic safety; urban design; and strategic framework.

The City's existing, adopted Progress Guide and General Plan, 1979 version, updated in 1989, provides a brief discussion of landfill siting, solid waste collection, and waste diversion in the Public Facilities and Services, and Safety section, on page 299. The City of San Diego General Plan Final Public Review Draft, October 2006, provides more detail on page PF-33 on the need for these facilities and services, with an emphasis on the following page (PF-34) regarding extending the life of existing facilities. Both plans emphasize efficient and adequate services.

The San Diego County Integrated Waste Management Plan, Countywide Siting Element showed "unless changes are made, by the year 2007 existing disposal facilities will not have the necessary permitted throughput rates to accommodate projected waste disposal needs in the region". The Siting Element identifies the potential to increase the vertical expansion of the Miramar Landfill to extend its waste capacity for an additional three to ten years (based on final elevation) (The San Diego County Integrated Waste Management Plan, County Wide Siting Element, SC-17 – SC-18).

In October 2002, the City Council adopted the Strategic Framework Element, which established a growth management program for the City and region. The Strategic Framework Element discusses the City's shortage of landfill capacities, its efforts to reduce the amount of refuse buried in landfills to comply with Integrated Waste Management Act, and the Miramar Landfill's role in meeting this mandate (Strategic Framework Element, IV-94). The Strategic Framework Element is consistent with the San Diego County Integrated Waste Management Plan, County Wide Siting Element.

The City operates the Miramar Landfill on leased land on MCAS Miramar. The landowner is the United States Navy. MCAS Miramar has developed the MCAS Air Installations Compatible Use Zones (AICUZ) to protect the public's health, safety, and welfare, and to promote sustainability strategies in working with local, regional, state and federal agencies for land use planning purposes. The AICUZ states any proposed land use that exceeds 200 feet above ground level or penetrates the 100:1 slope extending 20,000 feet from the nearest point of the closest runway must be submitted to both the FAA and MCAS Miramar for review (AICUZ, 5-1). Additionally, the AICUZ discusses land uses and compatibility guidelines for Accident Potential Zones (APZs) (areas near runways with the highest potential for an accident) to limit the density of people at any one time and the coverage of development on a particular. The Miramar Landfill is located within an area zoned for Junkyard/Dump/Landfill use, and has a 12.7-acre APZ (AICUZ, 6-1 – 6.8).

Appendix J of the Environmental Compliance and Protection Manual, Marine Corps Order P5090.2A, specifies the Department of Defense policy on achieving compatible use of public and private lands in the vicinity of military airfields. Appendix J is consistent to the MCAS AICUZ. Appendix J, Section (C)(3)(a)(1) explains areas immediately beyond the ends of runways and along primary flight paths are subject to more aircraft accidents than other areas. Accordingly, these areas should remain undeveloped, or sparsely developed in order to limit, as much as possible, the adverse effects caused by a possible aircraft accident. The Miramar Landfill is located in a sparsely developed area of the military base, and its vertical expansion would be consistent to the policies and guidelines outlined in Appendix J.

The Marine Corps determines land uses within the base, and ensures that land uses on the base are compatible with their primary mission, which is national defense. The existing land use (landfill) has already been determined to be compatible, but the proposed height increase was evaluated to determine if there could be any interference with aircraft operations. The criteria used by the military for this determination is not public information.

4.1.1-1 Would the Proposed Project require a Site Development Permit and deviation or variances that would result in a physical impact on the environment?

A. Environmental Consequences

The City has required a Site Development Permit. No deviations or variances would be required. No change to the existing land use is proposed.

B. Analysis of Significance

Because the Miramar Landfill would continue an existing compatible use, there would not be any significant impacts caused by implementation of the Proposed Project. The Proposed Project's vertical expansion of the Miramar Landfill would be consistent with the policies and goals for improving and meeting the City's waste disposal methods and needs. These policies

and goals are identified in the draft General Plan; Public Facilities, Services and Safety Element; and Integrated Waste Management Plan, Countywide Siting Element.

The Proposed Project would continue an existing, compatible land use, therefore there would be no impact.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.1-2 Would the Proposed Project result in a conflict with the environmental goals, objectives and recommendations of Miramar's Integrated Natural Resources Management Program?

A. Environmental Consequences

The facility is listed as an existing use within the INRMP. No change to the existing land use is proposed.

B. Analysis of Significance

The Proposed Project would continue an existing, compatible land use, therefore there would be no impact.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.1-3 Would the Proposed Project conflict with the provisions of the City's Multiple Species Program Subarea Plan or other approved local regional or state habitat conservation plan?

A. Environmental Consequences

The site is not mapped as a conservation area in any local, regional, or state habitat plan. The nearest MHPA lands are shown on Figure 7, approximately .3 miles away, located on the other side (south) of State Route 52 in the San Clemente tributary. Approximately .5 miles away, on the far side (south) of SR 52 and west of highway 805, in San Clemente Canyon is another MHPA area. To the northwest, on the west (far) side of the highway 805, approximately 1.0 mile away, is another MHPA area in Rose Canyon. The Proposed Project conflicts with no provisions of the City's MSCP. No change to the existing land use is proposed.

B. Analysis of Significance

The Proposed Project would continue an existing land use, therefore there would be no impact.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.1-4 Would the Proposed Project result in land uses that are not compatible with an adopted Airport Compatibility Land Use Plan (ALUCP)?

A. Environmental Consequences

The first NAS Miramar Air Installation Compatibility Zone study was produced in 1976, and adopted in 1977. A revised AICUZ, as amended, was then used by SANDAG, serving as the Airport Land Use Commission to guide development. Now the San Diego Airport Authority has the role SANDAG once served. Off the base, the Marine Corps has no ability to dictate land uses within the City of San Diego, and so it depends upon cooperation from the City and from airport authorities to ensure that its landing strip does not result in exposure of people to unacceptable noise and/or crash hazards. The current Airport Land Use Compatibility Plan MCAS Miramar, San Diego, California, was amended on October 4, 2004. It is required by Section 21675 of the Public Utilities Code. Local agency land use regulations are required to be submitted to the Airport Land Use Commission for determination of consistency with the plan.

The plan includes a compatibility matrix for noise levels. Pursuant to this table, the landfill would be considered an industrial use. Given the nature of landfill operations, no specific noise restrictions are provided. The plan also includes a compatibility matrix for uses with the accident potential from military aircraft. "Landfill" is not included in the list of uses subject to restrictions. The Marine Corps has determined that this use, which occurs on the base property, but is not located at the end of the runway where the highest accident potential zone rating (A) is applied, is compatible. Although it is in accident potential zone B, the low ratio of people to land, the existence of large, unpopulated expanses, makes this use compatible with the intent of the plan. No change to the existing land use is proposed.

B. Analysis of Significance

The Proposed Project would continue an existing, compatible land use, therefore there would be no impact.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.2 Air Quality

Criteria for Significance Determination and Methods of Analysis

For federal actions, if the sum of direct emissions from the landfill, plus indirect emissions, such as vehicles, exceed 100 tons per year of nitrous oxides and volatile organic compounds, then a conformity determination must be performed. In addition, the Air Pollution Control District has developed specific thresholds of significance for each criteria pollutant and several non-criteria, TAC, pollutants have been developed and implemented to prevent new or modified emission sources from negatively impacting the region’s progress toward maintaining or achieving attainment. According to the San Diego Air Pollution Control District New Source Review rules, the Proposed Project would qualify as a major modification if the Proposed Project would exceed the following thresholds:

- Rule 20.3: Major Stationary Source/Major Modification

Pollutant	Major Modification Threshold (tons/year)
CO	100
NO _x	25
PM ₁₀	15
SO _x	40
VOC	25

- Rule 20.3: Best Available Control Technology (BACT)

A net increase in potential to emit (PTE) PM₁₀, NO_x, VOCs, or SO_x and a post-project PTE of 10 pounds per day or more of PM₁₀, NO_x, VOCs, or SO_x.

- Rule 20.3: Air Quality Impact Analysis (AQIA)

Pollutant	SDAPCD AQIA Threshold (lbs/day)	SDAPCD AQIA Threshold (tons/year)	SDAPCD AQIA Threshold (lbs/hour)
CO	550	100	10
NO _x	250	40	25
PM ₁₀	100	15	--
SO _x	250	40	25
VOC	--	--	--

- Rule 20.3: Emission Offsets

If the Proposed Project constitutes a new major source or major modification of a major stationary source, any increases in NO_x and VOC must be offset at a ratio of 1.2 to 1.0, on a pollutant-specific basis.

- Rule 1200: Screening Health Risk Assessment

Receptor	Permitting Threshold Value ¹
Maximum Individual Cancer Risk – Residential	10.00 x 10 ⁻⁶
Maximum Individual Cancer Risk – Commercial	10.00 x 10 ⁻⁶
Maximum Chronic Hazard Index	1.0
Maximum Acute Hazard Index	1.0

Note: ⁽¹⁾ At a receptor distance of 1,000 feet.

The City specifies that projects should be evaluated to ensure that current air quality regulatory compliance attainment status is not adversely affected by stationary sources of emission, including CO hotspots, from new development. Projects should not conflict with air quality plans, violate any air standards, expose receptors to substantial pollutant concentrations, create objectionable odors, produce 100 pounds or more per day of particulates, or alter existing air movements. Projects should include measures to reduce project-related ozone and particulate matter.

The U.S. Occupational Safety and Health Administration has established employee exposure limits to various emissions set forth in the Code of Federal regulations, Section 29, which are summarized below. Limits set by OSHA are known as Permissible Exposure Limits (PEL). All limits are eight hour time weighted averages in parts per million, unless marked as ceiling values.

Substance	OSHA PEL
CO	50
CO ₂	5000
NO ₂	5 ¹
SO ₂	5

Note: ⁽¹⁾ Ceiling value, not time-weighted average.
Source: OSHA Website.

The May 2005 U.S. Environmental Protection Agency (EPA) Office of Research and Development Landfill Gas Emissions Model, LandGEM Version 3.2 was used to calculate LFG generation rates resulting from the Proposed Project and LFG generation rates from the baseline (No Project). Model defaults are based on empirical data from U.S. landfills. When available,

field test data can be used in place of model defaults. For the Proposed Project, historical site-specific disposal rates were used. To double-check the results of the LandGem model, the results were compared to site-specific gas collection data. To project the LFG generation rate for the Proposed Project, it was estimated that a 20-foot height increase would increase the active life of the landfill by approximately four years (Shaw Environmental, 2005).

Baseline and Proposed Project LFG generation rates were estimated for the entire Miramar Landfill, and for WML only. The estimates were made for the entire Miramar Landfill, at the request of the SDAPCD, to compare the extent of the effects of the Proposed Project in relation to the whole landfill. Data for the entire Miramar Landfill are provided in Appendix D. However, this comparison is not considered as strenuous as the comparison of the Proposed Project against the emissions of the existing WML alone. Therefore, a second analysis was done for this more critical comparison.

For WML, the maximum projected LFG generation rates for the baseline and Proposed Project would be reached in years 2012 and 2017, respectively. The LFG generation rate would peak the year that the landfill closes, and then decrease. Although the estimate of years of capacity the height increase would provide is approximately four years, five years was used in this analysis as a worst case scenario.

Emissions of criteria pollutants and TACs were calculated based on the maximum projected LFG generated for both baseline and expansion cases for WML and the entire Miramar Landfill. Default values from the EPA were used to estimate the criteria pollutants and TACs emitted from the flare stations. Equations were used to calculate expected: fugitive emissions from the landfill surface, LFG emitted from the flare stations, and combustion emissions from the flare stations. For the baseline and Proposed Project scenarios, the fugitive emissions and the flare emissions for the criteria pollutants were added together and the fugitive emissions and the flare emissions for the TACs were added together. The incremental changes between the baseline and Proposed Project scenario years were then compared to evaluate the increase in criteria pollutants and TACs. It was assumed that due to additional gas collection planned, the fugitive emissions from the surface of the landfill would not increase and that all the additionally collected LFG would burn in the already-permitted flare stations. Therefore, the only emission increases are associated with the flares.

To estimate the potential health risks from the Proposed Project, the EPA SCREEN3 model was used. The SCREEN3 model incorporates information such as meteorology, distance to the closest offsite residential and commercial receptor; the height and diameter of the flares, and the maximum incremental increase in annual emissions of carcinogens and non-cancer chronic TACs. The results from the model were compared to the threshold values to determine the health risk of the Proposed Project.

4.1.2-1 *Would the Proposed Project result in air emissions that would substantially deteriorate ambient air quality?*

A. Environmental Consequences

The Proposed Project would increase the service life of the landfill, but would not increase the rate at which waste is received at the landfill. The Proposed Project would not create any new sources of air emissions, but would extend the duration of emissions already generated at the landfill.

Because of the increased volume of waste, the Proposed Project would eventually increase the landfill's annual LFG generation rate (the curve representing annual emissions would reach a higher level at closure than the existing curve). Although virtually the same surface area would be involved, with only minor increases as a result of higher side slopes, eventually the potential rate of fugitive emissions would increase. The Proposed Project would generate an additional 1,360 standard cubic feet per minute (SCFM) of LFG from the baseline (at WML). The projected LFG generation rates for the baseline and Proposed Project were calculated to be approximately 10,070 and 11,430 SCFM in years 2012 and 2017, respectively (summary of pre- and post-project criteria pollutant emissions and TAC emissions is provided in Appendix D).

The requirement for Best Available Control Technology (BACT) is triggered when a project has a net increase in its PTE PM_{10} , NO_x , VOC, and SO_x and has a post project PTE of 10 or more pounds per day of PM_{10} , NO_x , VOC, and SO_x . Because of the existing PTE, the Proposed Project site is already equipped with BACT, such as the LFG collection system, cogeneration facility, and flares. Air monitoring will determine if the APCD should require additional extraction wells, and/or raising existing wells higher to increase efficiency, maximize capture of gas for energy production, and to control migration of landfill gas. Thus, the Proposed Project would modify the LFG collection system by the addition of pipes and wells, which would allow a larger volume of LFG collection and continue to control the collected gases through the use of the existing cogeneration facilities and flares.

The Proposed Project includes sufficient LFG control to ensure that fugitive emissions from the surface of the landfill would remain unchanged. The separately permitted flare emissions would increase compared to the baseline scenario. This excess amount is within the permitted capacity of the existing flares.

In addition, due to vehicular traffic, the Proposed Project would extend PM_{10} emissions at the landfill by approximately four years, five to consider "worst case"; however, these PM_{10} emissions would be present in San Diego County regardless of whether the proposed height increase is implemented, because it is expected that once the Miramar Landfill closes, the solid waste, the associated vehicular traffic and its emissions would be transferred to another disposal or transfer facility within the County.

The Proposed Project would not be considered a major modification of a major source, because the major modification thresholds listed under Rule 20.3 (Section 5.1.1.1 of this EIS/EIR) would not be exceeded. Therefore, the need for emission offsets would not be triggered. In addition, the AQIA thresholds would not be exceeded and thus, an AQIA would not be required for the Proposed Project. The Proposed Project would continue to trigger BACT requirements because of PTE emissions and more than 10 pounds per day of five criteria pollutants. The majority of emission increases are due to combustion of LFG in the flare, which are permitted separately from the WML operations. Table 4.1.2-1 shows the allowable emissions levels at West Miramar Landfill.

**TABLE 4.1.2-1
Potential to Emit Summary and Significance**

Pollutant	Project Emissions (tons per year)	SDCAPCD AQIA Threshold (tons/year)	Significant
CO	0.56	100	No
NO _x	14.30	40	No
PM ₁₀	3.57	15	No
SO _x	1.21	40	No
VOC	2.11	-	NA

Source: URS, 2006.

As Table 4.1.2-1 shows, the potential to emit nitrous oxides and volatile organic compounds is well below the 100 ton per year federal threshold. Therefore a Record of Non-Applicability (RONA) can be issued by the Commanding Officer at MCAS Miramar.

B. Analysis of Significance

The Proposed Project would extend the duration of emissions already generated at the landfill. No new sources of emissions would result from implementation of the Proposed Project. The Proposed Project would continue to trigger BACT requirements as a result of extension of the current emissions; however, this would not be considered a significant impact because BACT is already required and implemented at the existing site. BACT would ensure that no emissions exceeding existing levels would occur. Thus the Proposed Project would not result in air emissions that would substantially deteriorate ambient air quality. No air quality impacts, in addition to existing impacts, would be caused by implementation of the Proposed Project. In addition, the number of vehicular trips would remain unchanged and within permitted amounts. Therefore, no significant air quality impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.2-2 *Would the Proposed Project result in the exposure of receptors to substantial pollutant concentrations?*

A. Environmental Consequences

Based on the Screening Health Risk Assessment summarized in the air quality report, the closest commercial receptor is located 4,380 feet (0.83 mile) west of the Proposed Project site. The nearest residence is located 4,919 feet (0.93 mile) southwest of the Proposed Project site. A map of the locations of receptors is provided in Appendix D of this EIS/EIR. Potential health impacts due to emissions from a facility tend to decrease significantly at distances greater than 1,000 meters (approximately 3,281 feet or 0.62 mile). SDAPCD Rule 1200 sets forth threshold values for cancer risk, and chronic and acute hazards to assess the potential health impacts at the nearest receptor. Table 4.1.2-2 shows the thresholds associated with the types of health risk and the calculated potential health risk values for the receptors closest to the Proposed Project site.

**TABLE 4.1.2-2
Potential Health Risk**

Receptor	Permitting Threshold Value	Calculated Value at 1,000 meters/0.62 mile	Significant?
Maximum Individual Cancer Risk – Residential (MICR _{Residential})	10.00 x 10 ⁻⁶	0.12 x 10 ⁻⁶	No
Maximum Individual Cancer Risk – Commercial (MICR _{Commercial})	10.00 x 10 ⁻⁶	0.017 x 10 ⁻⁶	No
Maximum Chronic Hazard Index (HIC _{Maximum})	1.0	0.03	No
Maximum Acute Hazard Index (HIA _{Maximum})	1.0	0.015	No

Source: *West Miramar Landfill Vertical Expansion, Technical Evaluation of Potential Impacts Related to Air Quality*, URS Corporation, 2005.

As shown in Table 4.1.2-2, the potential health risks caused by the maximum potential emissions associated with the Proposed Project would not exceed any of the applicable Rule 1200 thresholds.

The emissions data established for this analysis looks at potential to emit, not at resultant pollutant levels in the workers’ area. Actual field measurements would determine resultant concentrations, but in an open air environment such as the landfill, the dilution effect of fresh air rapidly reduces the parts per million measured. OSHA standards allow higher standards for workers than EPA allows for stationary receptors because employees can be required to take measures to reduce exposure, and because they are expected to be exposed only for eight hours, not continually. OSHA standards apply not only to outdoor facilities, such as the landfill, but also to enclosed operations, which may be operating diesel engines or involved in other

operations that generate emissions. Open air facilities such as the WML do not typically require specialized equipment to reduce employee exposure.

B. Analysis of Significance

There would be no change in the relative position of receptors to the landfill given the proposed height increase. Neither the existing landfill, nor the Proposed Project would result in the exposure of receptors to substantial pollutant concentrations. There would not be a significant impact associated with the Proposed Project.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.2-3 Would the Proposed Project create objectionable odors?

A. Environmental Consequences

Activities at landfills may result in offsite detection of odors. Such activities include transport of waste, unloading operations, compaction activities, fugitive gas releases, leachate evaporation, green waste shredding, green waste storage, and green waste composting. Good waste management and cover maintenance practices are the primary methods of preventing odors that may result in a public nuisance. When the City first began mulching and composting operations there were odor complaints. These operations have been improved to avoid odor problems. Since 2004, only one odor complaint related to WML has been received by SDAPCD. The complaint was investigated by SDAPCD personnel, and could not be validated.

The Proposed Project is strictly to increase the height of the existing landfill by a maximum of 20 feet. It would not change the daily amount of waste disposal at WML, nor would the current waste management practices, including placing of daily cover, be changed. As a result of continuation of current landfill practices, no significant odor impact is anticipated, even though the proposed waste management disposal would continue over a longer period of time.

B. Analysis of Significance

No significant objectionable odor impact would result from the Proposed Project because there would be no changes in waste quantities, types, or odor management procedures.

C. Mitigation Measures

Since no significant odor impact is expected, no mitigation measures are proposed.

4.1.2-4 *Would the Proposed Project create dust?*

A. Environmental Consequences

Dust, or particulate matter, emissions at the landfill are mainly the result of four landfill activities: vehicle traffic on paved roads, vehicle traffic on unpaved roads, cover material quarry operations, and application of the cover material. Quarry operations at Miramar Landfill have ended. The Proposed Project is an increase in the height limit of the landfill, but proposes no changes in daily operations, including no increases in the current limit of tons of waste or trips that can be accepted at the facility. As a measure to conserve landfill space, operations have already transitioned from dirt cover, as prescribed in the RCRA subtitle D, to an alternative tarpaulin system approved by the LEA. This measure also reduces particulate emissions. In addition, the Proposed Project would not change the vehicle traffic on paved roads because only a small portion of Miramar Landfill is paved beyond the entrance gate and the number of vehicles per day on that roadway would not change.

The Proposed Project would result in an increased distance of approximately 48 feet (roundtrip) of unpaved roads because of the higher slope of the proposed vertical expansion. However, the increased distance would be offset by a shorter haul distance of approximately 1.6 miles (roundtrip) when waste disposal shifts to Phase I. The most likely plan for implementation of the Proposed Project would be to continue operations in the Phase II area until that portion of the landfill is filled to the new limit, and then to return to the Phase I area, which would have the shorter trip distance.

B. Analysis of Significance

Without the Proposed Project, operations would continue in the Phase II area to its current limit, at which point the landfill would be closed. After closure, dust emissions at the site would be greatly reduced, although overall emissions will, at closure, include longer trip distances to a more remote facility, and ongoing emissions at that facility. However, with the Proposed Project, after Phase II is filled to the new limit, operations would return to the Phase I area, which would shorten trip distances. Since dust is directly related to trip distance, there would be no increase in dust emissions associated with trip distance. As shown in Table 4.1.2-1, project emissions are projected to be 3.57 tpy, well below the significance threshold of 15 tpy. Therefore, there would be no significant impacts.

C. Mitigation Measures

Since no significant dust impact is expected, no mitigation measures are proposed.

4.1.2-5 *Would the Proposed Project, when considered in combination with past, current, and future projects in San Clemente Canyon, result in cumulatively significant impacts to air quality?*

A. Environmental Consequences

The Proposed Project site and the adjacent areas of San Clemente Canyon are located within MCAS Miramar. Any past, current, and future projects in this area would be included in the 1999 MCAS Miramar Master Plan, the Integrated Natural Resources Management Plan for MCAS Miramar, or the Miramar Landfill GDP. No substantial changes to MCAS Miramar facilities are planned or anticipated. Future ancillary facilities proposed in the Miramar Landfill GDP that may cause an air quality impact include a materials recovery facility, a transfer station, and a paper pulp processing plant. Some of these projects were included in the GDP at a programmatic level of analysis and others were analyzed for impacts at a project-specific level. None of them are included in this analysis; these facilities must, at the time they are proposed, be reviewed to see if existing environmental analysis is adequate, or if additional review is needed.

As described in Section 4.1.2.1 B, the Proposed Project would not increase emission levels. As provided in a contract with the City, a private company owns the gas, and will make use of it in the energy generation facility(s) located at Miramar under separate permits. As is currently the case under the existing permits, any emissions not captured by this “green energy” facility would be directed to the existing flare stations, with no changes to the flare stations’ permit. Therefore, the Proposed Project would not add to any cumulatively significant air quality impact when considered in combination with past, current, and future projects in San Clemente Canyon.

B. Analysis of Significance

Since the Proposed Project would result in no change in emission rates associated with the existing landfill, it would have no direct impact. While adverse but not significant impacts can contribute to cumulatively significant impacts, when there is no direct impact, the Proposed Project would not contribute to cumulatively significant air quality impacts.

C. Mitigation Measures

Since no cumulatively significant air quality impact is expected, no mitigation measures are proposed.

4.1.3 Biological Resources

Criteria for Significance Determination

Direct impacts occur when biological resources are altered or destroyed during the course of, or as a result of, project implementation. Indirect impacts may include elevated levels of dust, erosion, invasive exotic species, noise or artificial lighting within native habitats adjacent to the Proposed Project direct impact area. According to the City of San Diego Significance Determination Guidelines, the direct, indirect, and cumulative impacts of a project must be analyzed for significance, and the extent of “take” of sensitive species and habitats should be quantified. It is the policy of the City under the MSCP program to minimize all direct and indirect impacts on undisturbed habitats and sensitive species where practicable.

To determine significance of impacts to biological impacts, potential impacts on candidate, sensitive, or special status species, habitats, and wildlife corridors must be considered, along with the edge effects of the Proposed Project, potential conflict with local policies or ordinances, and potential introduction of invasive species. One factor to consider is whether the site has been graded. According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), “in general, if the site has been legally graded or grubbed and/or is characterized by ruderal species, is not included in the City’s MHPA, and does not support wetland or Tier I, II or III habitat, it probably does not support significant biological resources.” These guidelines also specify that “habitat mitigation is not required for impacts to manufactured slopes or areas that have been planted with native species for the purpose of erosion control.”

4.1.3-1 Would the Proposed Project result in a reduction in the number of any unique, rare, endangered, sensitive, or fully protected species of plants or animals?

A. Environmental Consequences

Construction of the Proposed Project would be limited to the manufactured surface of the landfill, and would have no direct impact on any unique, rare, endangered, sensitive, or fully protected species of plants or animals. The existing permitted landfill operation may cause indirect impacts as a result of noise, dust, non-native species, and runoff, although these are minimized by use of runoff controls and dust suppression. The proposed height increase would not alter these existing impacts. These impacts are currently reduced by use of Best Management Practices (BMPs), described in Section 3.3.12. Erosion and sedimentation are currently controlled within the active landfill and would continue to be managed with the Proposed Project. BMPs currently focus on air and water pollution, with revegetation specifications to be determined upon closure, and little control for invasion of nonnative species during active landfill operation. Because of the steeper, taller sides, runoff velocities would be greater, requiring modifications to the BMPs. The greater runoff velocities would be controlled with engineered basins so that there would be no change from existing runoff rates, thus avoiding

any indirect affects to downstream sensitive species. No runoff from the site goes directly into any nearby habitat areas; instead runoff is, and would continue to be, directed into the landfill's drainage system, thus no sensitive species are or would be affected by site runoff.

Many non-native species are weedy or "pioneer" species that invade disturbed areas. Some disturbed areas have been recolonized by non-native eucalyptus trees; however, these specimens are small, young, and are not thriving on the harsh landfill surface. Thus they are small and thin and do not support raptor nests, though raptors may use them as perching spots from time to time, and may forage over the landfill. The raptors do not occur in numbers nor do they fly at heights sufficient to pose a strike hazard with aircraft. Existing landfill operations have left large disturbed areas that are completely bare, or have been invaded by nonnative species. Under the Proposed Project, this condition would remain, though it would be restricted to a slightly smaller area (468 acres) within the existing landfill footprint (476 acres). Impacts to eight acres of habitat area that are within the permitted footprint of the landfill would be avoided. Although disturbance to this area could occur under the existing permit, disturbances to these areas are not necessary for the Proposed Project.

Noise sources associated with the operation of the landfill include trucks and other heavy machinery used to transport refuse and dirt within the facility, and pyrotechnic devices used to manage seagulls and other nuisance wildlife. These sources may currently affect sensitive wildlife located in the surrounding Proposed Project area, including the California gnatcatcher. Noise levels from the Proposed Project would be equivalent to noise levels from the current landfill operation, although eventually they would be slightly less, as a result of greater separation from noise sources. As described in Section 3.3.9, 81 dBA is the maximum reading recorded at the landfill, and was achieved as a result of military aircraft overflight, which increased readings by as much as 20 dB.

No increases in overall noise levels are expected as a result of implementation of the Proposed Project, and no reduction in military aircraft overflight are expected; however, the landfill height increase would create additional earthen berms that would act as noise barriers to adjacent gnatcatcher occupied habitat.

The Proposed Project site is a manufactured landfill and provides very little habitat for wildlife. Less than seven acres within the Proposed Project site supports disturbed associations of revegetated natural vegetation (CSS and Chaparral). The entire Proposed Project area has been previously disturbed and offers very little new habitat for plant and animal species. Additionally, the Proposed Project would not conflict with the preservation of wildlife corridors in the Miramar area. All construction activities would occur on previously disturbed land, and would not create new impacts on wildlife corridors.

B. Analysis of Significance

The changes to the Closure Plan required by the regulatory agencies did not modify the proposed use of native species to revegetate the landfill. The changes to the Plan address the taller steeper side slopes generated by the maximum 20-foot height increase. Although it is not known if the regulatory agencies may ultimately make changes to the proposed revegetation plan at the time of closure, the Proposed Project does not change the existing condition regarding the plan.

The original EIR for WML done in 1980 found that avoidance of habitat areas outside of the landfill footprint and revegetation provided adequate mitigation, although additional measures were provided in conjunction with the EA for the aggregate extraction project, as previously described. The Proposed Project would be completely within the footprint of the previously-approved projects (WML and the aggregate extraction project). In this case, the purpose of allowing and promoting vegetation on the landfill surface is for erosion control. Furthermore, impacts to areas with native vegetation could occur under the existing permit as operations are shifted within the landfill footprint. Therefore, the proposed height increase would result in no new impacts above and beyond what is already permitted, and would not contribute to cumulatively significant impacts.

Indirect impacts from edge effects are also not significant, because the current condition and the Proposed Project effects would be identical, except, as explained above and in the noise analysis, noise levels would be slightly reduced.

Eight acres of existing manufactured slope supporting habitat would be avoided. It is not necessary to disturb these areas as part of the Proposed Project. However, this avoidance is not project mitigation for potential impacts, because under both the No Project scenario and for the Proposed Project, eventually the entire landfill will require resurfacing and planting with native species per the Closure Plan, pending approval of regulatory agencies. The closure, including final contouring of the site, is required per the Resource Conservation Recovery Act, subtitle D, and would occur with or without the proposed height increase. At that closure, with or without the Proposed Project, the entire footprint of the landfill will be subject to final grading, and any interim erosion control provided by the City may be subject to alteration. Revegetation will be required as prescribed by the California Integrated Waste Management Board and the Regional Water Quality Control Board. The City has proposed revegetation with native species in the existing and proposed Closure Plans, and has biology staff and a native plant nursery to facilitate large-scale restoration efforts.

Although the onsite nursery was developed to facilitate use of container stock in revegetation efforts, experimentation provided by onsite biologists in revegetating the challenging conditions present on landfill surfaces has shown that broadcast seeding provides superior results. At the time the Closure Plan is submitted for review prior to implementation, staff biologists will present their findings and recommendations to regulatory agencies for determination of the most appropriate revegetation techniques; however, if container plantings are required, the onsite

nursery would provide appropriate specimens, produced from locally-collected seeds, thereby ensuring genetic integrity of the habitat.

C. Mitigation

Because no significant impacts were identified, no mitigation is proposed.

4.1.3-2 Would the Proposed Project impact important habitat or result in interference with the movement of any resident or migratory fish or wildlife species?

A. Environmental Consequences

As described above, the Proposed Project would not result in any change to the existing conditions of any important habitat.

With regard to wildlife movement, San Clemente Canyon is located to the south of the Proposed Project site. The Canyon, where it is adjacent to the Proposed Project site, functions as a wildlife corridor and provides habitat for many plant and animal species, including small and large mammals. It contains coast live oak riparian forest, and willow scrub. The existing landfill does not interfere with any wildlife movement in this Canyon, but may have indirect impacts as a result of noise, dust, exotic species, and runoff. The Proposed Project site is entirely within the footprint of the existing, permitted WML active landfill, and would not alter the existing conditions.

B. Analysis of Significance

Because the Proposed Project would result in no change compared to existing conditions, it would have no significant direct, indirect, or cumulative impacts.

C. Mitigation Measures

Because no impacts were identified, no mitigation measures are proposed.

4.1.3-3 Would the Proposed Project affect the long-term conservation of biological resources? Would the Proposed Project impact the Multi-Habitat Planning Area (MHPA)?

A. Environmental Consequences

As shown in Figure 3, the Proposed Project is not located within, or adjacent to, the MHPA. Under both the Proposed Project and No Project scenarios, parts of the 468-acre landfill that are not developed will be closed and are proposed to be revegetated with native species per the Closure Plan and provide a long-term benefit to local wildlife populations. Additional mitigation

has been provided over the years, including a 240-acre offsite purchase and preservation of an area in Boden Canyon as explained in Section 3.2. The Proposed Project would result in no change to the existing conditions, and would have no adverse affect on the long-term conservation of biological species.

B. Analysis of Significance

There would be no change in the long-term conservation of resources, and therefore no impact.

C. Mitigation Measures

Because no impacts were identified, no mitigation is proposed.

4.1.4 Geology

Criteria for Significance Determination

Geologic conditions exist within the City of San Diego that can pose serious problems when land is developed. Unstable slopes, slide prone soils, and faults occur in many parts of the City. Seismically liquefiable areas exist near the bays and rivers. Geologic Hazards maps that are part of the City of San Diego Seismic Safety Study illustrate where adverse geological conditions exist that require evaluation by a geologist, engineer, or both. The City provides a table within its Significance Determination Thresholds indicating the types of hazards that require this expertise. However, for landfill development, geological and engineering expertise is always required in order to design and operate the landfill in accordance with state and federal laws. The City's landfill staff includes both engineers and a geologist, and a consulting engineering and geological firm assisted with preparation of documents required by the RWCB, CIWMB, and LEA for the Proposed Project.

According to 27 CCR 21750, a 1.5 factor of safety against sliding is the minimum acceptable value for any slope-stability analysis, static or dynamic, at a Class III landfill. This minimum value applies to both permanent and temporary slopes. As required by the RWQCB, the existing landfill was designed to withstand the maximum credible earthquake.

4.1.4-1 Would the Proposed Project result in a substantial increase in wind or water erosion of soils, either on or off site?

A. Environmental Consequences

The Proposed Project would result in no change to off-site runoff velocities because of drainage controls. These controls under the existing permit and under the Proposed Project are modified as necessary as the landfill topography is filled and covered. The landfill is a constantly changing landform. These changes to the controls are made in consultation with and inspected by the RWQCB and LEA. Onsite slopes would be taller for the Proposed Project, and have been designed with additional runoff controls to ensure no substantial increase in erosion. The engineered shape of the cells and final topography are streamlined, a shape that minimizes wind erosion. Further measures to minimize wind and water erosion include the use of mulch, berms, downdrains, and detention basins.

B. Analysis of Significance

The landfill would result in no change to existing conditions. No significant impact is anticipated.

C. Mitigation Measures

Because no significant impact is anticipated, no mitigation measures are included.

4.1.4-2 *Would the Proposed Project result in slopes that could become unstable, and potentially result in on or offsite landslides?*

A. Environmental Consequences

The Proposed Project is situated so that it cannot affect slopes outside of its own footprint, from which the slopes rise; thus the Proposed Project would cause no slides offsite. For onsite stability, studies were conducted to determine proper engineering to prevent instability.

Four cross-sections were analyzed, two in Phase I and two in Phase II. The following table, Table 4.1.4-1, summarizes the geotechnical parameters used in the analysis. These standard parameters were used to provide the stability analysis, summarized in Table 4.1.4-2. Table 4.1.4-2 shows the likelihood of failure of manufactured slopes within the landfill. The key parameters subject to regulation are the static safety factor and the amount of displacement expected on the slope.

The static stability of the WML was evaluated at all four cross sections. The computed factors of safety exceed the minimum of 1.5 in every case. The stability of Phase II, cross-section 2 is dependent on the presence of the berm at the toe of the slope, which is included in the design, as detailed in the Joint Technical Document (JTD).

TABLE 4.1.4-1
Geotechnical Parameters

Material	Moist Unit Weight (lb/ft ³)	Saturated Unit Weight (lb/ft ³)	Cohesion (lb/ft ²)	Internal Friction Angle (degrees)
Monolithic Soil Cover	95	114	50	34
Municipal Solid Waste	85	---	0	33
Synthetic Liner System	60	---	0	14
Native Soil in Subgrade	130	135	180	32

Source: Joint Technical Document.

**TABLE 4.1.4-2
Results of Stability Analysis**

Cross Section	Description	Static Safety Factor	Estimated Displacement
Phase I – 1	Circular failure surface along the outer slope face	2.21	0.1 to 0.6 inches
Phase I – 2	Circular failure surface along the outer slope face	2.57	0.03 to 0.2 inches
Phase II – 1	Circular failure surface along the outer slope face	1.95	0.2 to 1.9 inches
Phase II – 2	Block failure surface along the geosynthetic liner system	1.96	3.1 inches

Source: Joint Technical Document.

The estimated permanent displacement from the maximum credible earthquake was minor, ranging from 0.03 to 1.9 inches. However, the exposed face on the south flank of Phase II yielded an estimated average displacement of about 3.1 inches along a surface defined by the synthetic liner. Even so, this displacement is within the 6-inch limit often used at landfills. As with the static analysis, this displacement is acceptable with the proposed berm at the toe of the slope. The Proposed Project would conform to the geologic safety requirements in state law.

B. Analysis of Significance

The landfill would comply with all stability standards. No significant impact is anticipated.

C. Mitigation Measures

Because no significant impact is anticipated, no mitigation measures are included.

4.1.5 Health and Safety

Criteria for Significance Determination

The City of San Diego Development Services Department's Significance Determination Thresholds (August 2006) identifies three categories of issues: hazardous materials/public safety, human health, and brush management. The first discusses the redevelopment of landfill sites, and potential exposure of worker and the public during the redevelopment process. It also discusses potential hazards associated with underground storage tanks, floods, and other safety hazards, such as airports. The second discusses potential health hazards, such as exposure to disease carrying vectors, sewage spills, and electromagnetic fields. The third discusses specialized safety issues where normal brush management requirements cannot be met, such as a residence abutting an open space area where brush thinning may be precluded.

The purpose of the landfill is to separate the public from waste materials that could pose a threat to public health and safety, and to manage it in a way that minimizes these threats. For example a liner is provided in portions of the landfill to further decrease the potential spread of potentially harmful constituents, although, as explained in the water quality section, the existing permitted landfill, including areas without the liner, have had no significant impacts.

The City of San Diego evaluates exposure of the public to hazardous materials, health risks, and fire danger associated with vegetative fuel load and controlled with brush management. The EIS/EIR for the GDP found that the measures prescribed in law for operation of the facility precluded potential significant impacts associated with these operations.

4.1.5-1 Would the Proposed Project cause a rupture in the landfill liner?

A. Environmental Consequences

The most vulnerable time for the liner, which underlays most of Phase II (see section 4.1.14-2), is during deposition of initial layers of waste. Although the synthetic liner is protected before the initial waste deposits are spread, there is an opportunity for jabs and tears during bottom cell construction. However, all the initial cells have been constructed under the existing permit. Layers on the existing trash pose no additional threat to the liner. Height and weight of refuse are not limiting factors in liner design.

B. Analysis of Significance

The Proposed Project would make no changes to the existing operations, therefore, no significant impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.5-2 *Would the Proposed Project expose the public or onsite workers to toxic substances?*

A. Environmental Consequences

Hazardous materials are prohibited from entering the landfill under the existing permit, and no changes to the landfill's classification are proposed. The landfill operation includes a load-check program to ensure their exclusion, and no changes to this program are proposed. A separate facility is located near the fee booth where the public can take household hazardous waste, including used oil, pesticides, and cleaners. The public is provided a separate tipping area, so that there is no risk of a traffic accident involving a passenger car and a refuse truck. This separation would not change with the Proposed Project. Employees are provided safety gear, including orange vests, to increase visibility and reduce accidents, and ear protection, to protect workers from landfill noise and aircraft overflight noise. No changes to safety procedures are proposed.

To ensure that the mixed municipal waste that is disposed of in the landfill poses no hazards, daily cover and other requirements of RCRA, subtitle D control areas that could otherwise be suitable for vectors, or otherwise expose workers, the public or the environment to health or safety hazards. No changes to these standard operations are proposed. In addition to required health and safety measures, after the certification of the GDP EIS/EIR, the landfill has voluntarily entered the ISO 14001 program. ISO 14001 is an internationally accepted specification for an environmental management system. It specifies requirements for establishing an environmental policy, determining environmental aspects and impacts of products/activities/services, planning environmental objectives and measurable targets, implementation and operation of programs to meet objectives and targets, checking and corrective action, and management review. The existing Environmental Management System (EMS) provided for this facility under the ISO program is intended to improve its operations above and beyond what is required in law.

B. Analysis of Significance

The Proposed Project would make no changes to the existing operations, therefore, no significant impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.6 Cultural Resources

Criteria for Significance Determinations

Impact assessments typically focus on resources eligible for the California Register of Historical Resources, National Register of Historic Places, sites deemed significant during a resource survey, and/or resources considered sacred or sensitive to Native American groups. It is also important to consider the relative importance of the resources, the integrity of the resource, and the relative degree of protection provided for this type of resource.

4.1.6-1 Would the Proposed Project include grading of any previously undisturbed areas, not already used for landfill purposes, which have a high sensitivity for archeological resources?

A. Environmental Consequences

The 1980 EIR determined that the original landfill impacted no recorded cultural sites or resources, resulted in no significant impacts to known or unknown sites, and required no monitoring. The Proposed Project would not disturb any soil that has not already been subject to landfill operations. There would be no change in the existing condition regarding impacts to this type of resource.

B. Analysis of Significance

The Proposed Project would not expand the footprint, no previously undisturbed areas would be graded; therefore, no archeological resources could be impacted.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.7 Paleontological Resources

Criteria for Significance Determinations

According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), projects requiring more than 1,000 cubic yards of excavation at depths of 10 feet or more in a high resource potential formation, or more than 2,000 cubic yards of excavation in a moderate resource potential formation, may result in a significant impact on paleontological (fossil) resources.

4.1.7-1 Would the Proposed Project result in the loss of paleontological resources of known significance?

A. Environmental Consequences

The project site is underlain by the following formations, which are listed in order of their resource potential: Scripps, Friars, Stadium Conglomerate, terrace deposits, alluvium, and slopewash. The potential for finding resources within these formations varies; however, the project would result in no disturbance, grading, or excavation outside the existing footprint of the landfill or into these formations. Although a significant amount of waste would be imported, and soils already stockpiled onsite would be moved, no intact paleontological formations would be disturbed. The 1980 EIR determined that the original landfill had no impacts to paleontological resources. The type of material underlying the site was of high mineral value as aggregate, and so was extracted. The Proposed Project would not disturb any soil that has not already been subject to landfill operations. There would be no change in the existing condition regarding impacts to this type of resource.

B. Analysis of Significance

The Proposed Project would not expand the footprint; therefore, no significant impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.8 Mineral Resources

Criteria for Significance Determinations

The Surface Mining and Reclamation Act of 1975 mandated mineral land classification by the state geologist for the purpose of protecting mineral resources within the state from irreversible land uses that would preclude extraction. Construction aggregate was selected by the State Mining and Geology Board to be the initial commodity target for classification because of its importance to society.

The state geologist designated Mineral Zone Categories to assist in the analysis of mineral deposits. MRZ-1 is an area where adequate geological information indicates that no significant mineral resources are likely to be present. MRZ2a areas are known to be underlain by significant aggregate resources, and MRZ2b areas are where resources are likely. MRZ3a areas have known mineral resource occurrence, and MRZ3b have inferred mineral resource occurrence, whereas MRZ4 areas have no known mineral resource occurrence. Building over valuable mineral resource areas makes them unavailable for future use. The importance, value, and abundance of the underlying deposits guides the significance analysis.

4.1.8-1 Would the Proposed Project result in the loss of mineral resources of known significance?

A. Environmental Consequences

The City, which is the landfill operator, conducted studies identifying the presence of aggregate resources, making the site an MRZ2a zone, although it was not mapped as such by the state geologist. The City then investigated the opportunity to exploit underlying mineral resources, while also increasing the capacity of the landfill. Useful aggregate materials were excavated to the degree considered appropriate considering the need to protect groundwater. The mining pit was then lined and prepared for filling. Therefore no loss of valuable resources occurred. The Proposed Project would not change this existing condition.

B. Analysis of Significance

The Proposed Project would not alter the existing condition, therefore, no significant impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.9 Noise

Criteria for Significance Determination

Local, state, and federal laws, regulations, and guidelines are designed to ensure that noise levels are compatible with a person's life, health, and enjoyment of property.

Community Noise Equivalent Level (CNEL) measurements are a weighted average of sound levels gathered throughout a 24-hour period. This is a measure of ambient noise. Different weighting factors apply to day, evening, and nighttime periods, recognizing that people are usually most sensitive to noise late at night, and are more sensitive in the evening than in daytime. CNEL depends not only on the noise level of individual events, but also on the number of events during the measurement period.

The "decibel" (dB) is used to measure noise intensity. It is a "dimensionless unit," similar to percent. Decibels are useful because they allow even very large or small ratios to be represented with a conveniently small number. This is achieved by using a logarithm. The bel (symbol B) is the reduction in audio level over a 1 mile (1.6 km) length of standard telephone cable. The bel was too large for everyday use, so the decibel (dB), equal to 0.1 bel (B), is used. The d is lowercase, because it represents the prefix deci-, and the B is capitalized, because it is an abbreviation of a name-derived unit. The bel is named for Alexander Graham Bell. Written out it becomes decibel. Since the human ear is not equally sensitive to all frequencies of sound, noise levels at maximum human sensitivity — middle A and its higher harmonics (between 2 and 4 kilohertz) — are factored more heavily into sound descriptions using a process called frequency weighting. "A-weighting" parallels the sensitivity of the human ear when it is exposed to normal levels. Frequency weighted sound levels are still expressed in decibels (with unit symbol dB), although it is common to see dBA or dB(A) used for A-weighted sound levels. Finally, "dBA Leq" totals all the noise and all the quiet in a specific period, and then spreads it out evenly across the period to give an average reading.

In air, 95 dB is considered unsafe for prolonged periods and 120 dB can cause perforation of the ear drum (tympanic membrane). Windows break at about 163 dB.

The military has established outdoor noise equivalent standards for various uses, with levels in the 75 to 79 dBA range being considered acceptable for flight line operations.

Federal occupational noise limits (Code of Federal Regulations, Title 29) establishes standards that depend on the hours per day of exposure. For an eight hour work day, exposure should not exceed 90 dBA, but for a short exposure of 15 minutes or less, noise can be as high as 115 dBA.

The City of San Diego provides guidelines for noise limits in the Progress Guide and General Plan, and in the Noise Abatement and Control Ordinance. The Progress Guide and General Plan establishes Community Noise Equivalent Levels for various uses. According to the City of San

Diego Development Services Department's Significance Determination Thresholds (August 2006), a project that would generate noise levels at the property line that exceeds the City's Noise Ordinance Standards is considered to have potentially significant impacts. If a non-residential use, such as a commercial, industrial or school use, is proposed to abut an existing residential use, the decibel level at the property line should be the arithmetic mean of the decibel levels allowed for each use as set forth in Section 59.5.0401 of the Municipal Code. Although the noise level may be consistent with the City's Noise Ordinance Standards, a noise level above 65 dB (A) CNEL at a residential property line could be considered a significant environmental impact.

When evaluating noise impacts it is important to consider if the impact will create a significant increase in existing ambient noise, or if it will expose people to noise levels that exceed the City's adopted noise standards. The City provides a limit of 75 dB for industrial areas.

Areas from which noise should be considered include the property line, or from sensitive wildlife areas. In particular, according to the standards used in the 1994 EIS/EIR for the GDP, noise impacts on gnatcatchers should not exceed 60 Leq.

4.1.9-1 Would the increased height of the landfill result or create a significant increase in ambient noise levels?

A. Environmental Consequences

Ambient noise levels at the site are high as a result of the existing highways and aircraft overflights. Noise levels were measured in 1993 for the GDP at two sites over 24-hour periods from May 26 until June 2. The first site was located on the eastern boundary of the property, due east of the fee booth, and the second site was located on the southern portion of the property, just south of where the biosolids center is now located.

**TABLE 4.1.9-1
Measured Noise Levels**

Time of Day	May 26 (Wednesday) to May 27		May 28 (Friday) to May 29	
	Location 1	Location 2	Location 1	Location 2
4:00 pm	71	73	71	57
5:00 pm	68	72	68	56
6:00 pm	72	71	72	56
7:00 pm	73	71	73	53
8:00 pm	60	56	60	54
9:00 pm	53	50	53	47
10:00 pm	48	49	48	57
11:00 pm	52	52	52	53
12:00 am	43	46	43	41
1:00 am	45	46	45	42
2:00 am	47	42	47	43
3:00 am	47	41	47	43
4:00 am	40	43	41	44
5:00 am	48	47	49	49
6:00 am	55	52	55	48
7:00 am	52	55	52	48
8:00 am	73	72	74	49
9:00 am	65	67	64	49
10:00 am	56	55	56	59
11:00 am	67	67	66	55
12:00 pm	58	59	58	56
1:00 pm	62	67	63	61
2:00 pm	66	66	65	54
3:00 pm	80	78	81	55

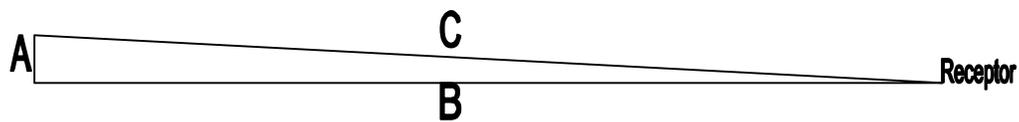
Source: Appendix of Technical Report for the EIS/EIR for the GDP.

As can be seen in Table 4.1.9-1, 81 dBA is the maximum reading recorded, and 40 dBA is the minimum reading obtained. Overflight events increased readings by as much as 20 dB. Typical highway noise levels during landfill operating hours reach this level regularly as a result of trucks traveling at a 55 mile per hour rate of speed (noise levels from traffic increases as speed increases, resulting in most highways exceeding 80 dBA according to U.S. EPA's website). All receptors are on the far side of this source. Sound diminishes logarithmically with distance, thus the slow-moving equipment used at the landfill, located .2 miles farther from receptors, cannot be detected.

B. Analysis of Significance

Most noise analyses consider two factors in assessing noise impacts: intensity of the noise, and distance from the source. However, topography can also influence noise, for example intervening hills or vegetation can dampen noise effects. Noise that has no obstacles between the point of generation and the receptor travels more readily.

By raising the height of the landfill by a maximum of 20 feet, the Proposed Project could increase the receptors having no obstacles between them and the existing noise generating equipment at the landfill. Two factors limit this possibility however. First, the noise analysis performed in 1993 assumed, as a worst case situation, no intervening interference between receptors and the noise generators. Second, the area is relatively flat and the height increase is small. To appreciate the relative effect of the height increase, the nearest residence is 4,919 feet from WML. Thus if a triangle were to be drawn representing the increased height of 20 feet, the increment would be so small it could not be seen at the scale of the triangle depicted below.



Furthermore, by increasing the height of the landfill, the hypotenuse of the triangle (C) or the distance the sound must travel to reach the receptor, would be slightly increased (compared with distance B). This effect produces a reduction of sound. A rule of thumb is a loss of 3 dBA for each doubling of distance.

Distance is an important factor when considering noise effects. The 1993 study evaluated sound from South Miramar, where the biosolids facility and cogeneration facility were subsequently built. This site is much closer to receptors than WML (only 1,500 feet). The biosolids facility contains centrifuges and other noisy equipment. A chart depicting some of the typical construction noise levels generated by landfill equipment provided the following data, which was included in the 1994 EIS/EIR.

EQUIPMENT	EXPECTED NOISE (dB at 50 feet)
Compactors	72-73
Front Loaders	72-83
Scrapers, Graders	80-92
Trucks	82-93

Noise associated with the biosolids facility, analyzed in the 1994 EIS/EIR, described a maximum of 91 dBA for all exterior equipment, a noise generation level higher than for landfill operations. The EIS/EIR found no significant impacts associated with the biosolids facility, which is significantly louder, and much closer to receptors than the WML. The 1980 EIR also identified no noise impacts from WML, concluding that noise would be masked by aircraft noise and would not be perceptible in the closest communities.

An additional consideration is noise impacts on workers. Currently, where workers could be exposed to noise levels in excess of OSHA standards, ear protection is required. There would be no change to this existing condition.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.9-2 Would the increased height of the landfill result in the exposure of people to noise levels that exceed the City's adopted noise ordinance?

A. Environmental Consequences

As explained above, noise levels would not change as a result of the Proposed Project. Just as the noise of the existing operation cannot be detected by receptors on the far side of the highway, so the noise of the Proposed Project, which would slightly increase the separation distance, thus reducing the potential for perceived noise, would not be detectible by these receptors.

B. Analysis of Significance

The Proposed Project is expected to result in no detectible change in noise levels, and would therefore not have a significant impact.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.9-3 Would the Proposed Project result in the exposure of people to current or future transportation noise levels that exceed standards established in the transportation Element of the General Plan or an adopted ALUCP?

A. Environmental Consequences

The Proposed Project would not change existing traffic. No changes to the operation of the facility are proposed. Therefore there would be no change to existing traffic-related impacts, including noise.

B. Analysis of Significance

The Proposed Project would result in no impacts or violate any standards in the ALCUP.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.10 Traffic

Criteria for Significance Determination and Methods

The City's roadway LOS standards are provided in Table 3.3.10-1. Intersections were analyzed using methods in Chapter 16 of the *Highway Capacity Manual (HCM) 2000, Transportation Research Board Special Report 209*. The HCM ranks LOS according to delay time, in terms of seconds per vehicle. The service saturation flow rate is determined by adjusting the ideal saturation according to specific conditions, including:

- Lane width,
- On-street parking,
- Bus stops,
- Pedestrian volume,
- Traffic composition (or percentage of heavy vehicles), and
- Shared lane movements (e.g., through and right –turn movements sharing the same lane).

Table 3.3.10-2 shows the LOS standards for intersections. Consistent with Caltrans requirements, the signalized intersections at SR-52 freeway ramps were analyzed using the Intersecting Lane Volume (ILV) procedures as described in Topic 406 of the *Caltrans Highway Design Manual (HDM)*, 5th Edition. This analysis categorizes intersections as being “under capacity,” “at capacity,” or “over capacity,” as shown in Table 3.3.10-6.

In the City of San Diego, LOS D is considered acceptable for roadway and intersection operations.

4.1.10-1 Would the Proposed Project result in substantial increases in the projected traffic?

A. Environmental Consequences

The Proposed Project would not change the existing 2,000 trip per day limit. No increase in traffic into the site is expected as a result of the Proposed Project.

B. Analysis of Significance

The Proposed Project would not alter the existing conditions; therefore, no significant impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.10-2 *Would the Proposed Project result in the addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp?*

A. Environmental Consequences

The Proposed Project would not change the existing 2,000 trip per day limit. No increase in traffic on any freeway segment, interchange, or ramp is expected as a result of the Proposed Project.

B. Analysis of Significance

The Proposed Project would not alter the existing conditions; therefore, no significant impact is anticipated.

C. Mitigation Measures

Since no significant impact is expected, no mitigation measures are proposed.

4.1.11 Public Services and Facilities

Criteria for Significance Determinations

Appendix G of the CEQA Guidelines asks whether a project would result in substantial adverse physical impacts from the construction or alteration of government facilities needed to maintain acceptable service ratios, response times, or other performance objectives for any of the public services. The Guidelines also discuss health and safety issues that can result from the introduction of people to hazardous situations. The City of San Diego Development Services Department's Significance Determination Thresholds (August 2006) also focus on construction impacts of new or altered facilities.

4.1.11-1 Would the Proposed Project result in the need for new or expanded facilities?

A. Environmental Consequences

The Proposed Project is located at an existing landfill, and additional public facilities would therefore not be needed. The Proposed Project extends the life of an existing public facility. The Proposed Project would have no impact on emergency response times, would not require the development of new facilities, and would provide a beneficial effect on public services by providing four additional years of disposal capacity. Effect on other services would not differ from existing effects, including positive assistance that can be provided by the staff and equipment at the landfill in an emergency.

B. Analysis of Significance

Although the beneficial effect of the Proposed Project is limited to approximately four years, because of the difficulty disposing of waste, even an extra four years of disposal capacity is considered to be a significant beneficial effect.

C. Mitigation Measures

Since no significant adverse impact is expected, no mitigation measures are proposed.

4.1.12 Public Utilities

Criteria for Significance Determinations

According to the City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), public utilities include electrical power and natural gas, solar energy, communications systems, solid waste services, water and sewer services and water conservation. Utility providers identify shortages of services, and each utility establishes their own criteria for utility capacity and service expansion.

4.1.12-1 Would the Proposed Project result in a need for new systems, or require substantial alterations to existing utilities, the construction of which would create physical impacts?

A. Environmental Consequences

Existing utilities that serve the existing landfill are adequate to serve the Proposed Project, which includes no changes in operations. The Proposed Project would place no new demand on any public utility, and would provide four extra years of disposal capacity.

B. Analysis of Significance

No negative impacts on any utility would occur, but the extra four years in disposal capacity is considered a significant beneficial impact.

C. Mitigation Measures

Since no significant adverse impact is expected, no mitigation measures are proposed.

4.1.12-2 Would the Proposed Project require excessive amounts of fuel or energy (e.g., natural gas) or power?

A. Environmental Consequences

The Proposed Project would incur no new energy demands, and would provide increases in power as a result of the gas extraction and utilization program.

B. Analysis of Significance

Although the landfill does not generate enough energy to eliminate the existing deficit in local generation sources, the power that is generated from landfill gas is "green power," for which there are state and federal procurement mandates. Thus, the contribution of the landfill to regional power supplies is a significant beneficial effect.

C. Mitigation Measures

Since no significant negative impact is expected, no mitigation measures are proposed.

- 4.1.12-3 *Would the Proposed Project require the use of excessive amounts of water?
Would predominantly drought resistant vegetation be used for landscaping?*

A. Environmental Consequences

Existing utilities that serve the existing landfill would be adequate to serve the Proposed Project, which includes no changes in operations. The Proposed Project would place no new demand on any public utility, and would provide four extra years of disposal capacity. Existing water consumption for landfill operations varies greatly. It averages approximately 40,000 gallons per month. No change to existing water consumption is proposed. Currently, reclaimed water and water collected from drainage and leachate controls is used onsite primarily for dust control. These conservation measures would be continued. Currently only native revegetation is proposed, and this vegetation is specifically selected to require no irrigation.

B. Analysis of Significance

No change to existing water consumption is proposed. Therefore, no significant impact is expected.

C. Mitigation Measures

Since no significant adverse impact is expected, no mitigation measures are proposed.

4.1.13 Landform Alteration/Visual Quality

Criteria for Significance Determination and Methodology

Federal Significance Criteria

Following federal guidance, an adverse visual impact occurs within public view when:

- A project perceptibly changes existing features of the physical environment so that they no longer appear to be characteristic of the subject locality;
- A project introduces new features to the physical environment that are perceptibly uncharacteristic of the region and/or local; and/or,
- Aesthetic features of the landscape or urban setting become less visible (e.g., partially or totally blocked from view) or are removed.

CEQA Criteria

According to City of San Diego significance criteria (August, 2006), there is the potential for a significant aesthetics impact if the Proposed Project would:

- Block public views from designated open space areas, roads, or parks or to significant visual landmarks or scenic vistas;
- Severely contrast with the surrounding neighborhood character;
- Significantly alter the natural (or naturalized) landform;
- Have a negative visual appearance; and/or, emit or reflect a significant amount of light and glare.

Because it would not interfere with any views, change the character or appearance of the area, or include a lighting element, the Proposed Project would have no potential impacts under any of these criteria, except for the alteration of a natural (or naturalized) landform. The City of San Diego Development Services Department's Significance Determination Thresholds (August 2006), provide further guidance for determining the extent of the significance of the landform alteration. The significance threshold would be exceeded if the project would:

- Alter more than 2,000 cubic yards of earth per graded acre by either excavation or fill and do one or more of the following:
 - Disturb steep (25 percent gradient or steeper) sensitive slopes in excess of the encroachment allowances of the Environmentally Sensitive Lands regulations and steep hillside guidelines as defined by the Municipal Code;
 - Create manufactured slopes higher than 10 feet or steeper than 2:1; or

- Change the elevation of steep slopes (25 percent gradient or steeper) from existing grade by more than five feet.

However, the above conditions may not be considered significant if one or more of the following apply:

- The proposed grading plans clearly demonstrate, with both spot elevations and contours, that the proposed landforms would very closely imitate the existing onsite landform and/or the undisturbed, pre-existing surrounding neighborhood landforms. This may be achieved through “naturalized” variable slopes;
- The proposed grading plans clearly demonstrate, with both spot elevations and contours, that the proposed slopes follow the natural existing landform and at no point vary more than 1.5 feet from the natural landform elevations; and/or,
- The proposed excavation or fill is necessary to permit installation of alternative design features such as step-down or detached buildings, non-typical roadway or parking lot designs, and alternative retaining wall designs that reduce the Proposed Project’s overall grading requirements.

Methodology

Topographical data were collected, viewsheds were defined, and Key Observation Points (KOPs) and potential sensitive viewers were identified. Thirteen KOPs were identified as representing both critical locations that provide high visibility to relatively large numbers of viewers and also sensitive viewing locations such as residential areas, recreation areas, and vista points. The KOPs have visual simulation potential. These KOPs include a diverse range of viewer types within a close proximity of the Proposed Project site. Locations of these viewpoints are shown in Figure 10.

KOP 1 – Residential view from Steinbeck Avenue in University City

KOP 2 – Travelers’ view from Southbound I-805

KOP 3 – Recreational view from University Gardens Park

KOP 4 – Residential view from Wolfstar Court in University City

KOP 5 – Travelers’ view from Eastbound SR-52

KOP 6 – Residential view from Palmyra Avenue in Clairemont Mesa

KOP 7 – Travelers’ view from Westbound SR-52 (at closest point to the landfill)

KOP 8 – Travelers’ view from Northbound I-805

KOP 9 – Residential View from Kearny Lodge Trailer Park

KOP 10 – Travelers’ view from Westbound SR-52

KOP 11 – Recreational view from Hickman Field in Kearny Mesa

KOP 12 – Travelers’ view from Westbound SR-52 at SR-163 Interchange

KOP 13 – Hiker view from Marian Bear Natural Park

The visual impact for each KOP was analyzed by considering the severity of the change resulting from the Proposed Project, and the viewer response, or susceptibility, to the change. Severity ranking was based on three factors: visual contrast, project dominance, and view impairment. Viewer susceptibility ranking was based on existing visual quality, viewer sensitivity, and viewer exposure. Rankings of “low,” “moderate,” or “high” were given to the each KOP with regard to these two parameters, severity and susceptibility, and the matrix below (Table 4.1.13-1) was used to determine significance of impacts.

**TABLE 4.1.13-1
Visual Resources Impact Significance Chart**

Impact Susceptibility	Impact Severity		
	Low	Moderate	High
Low	Insignificant	Insignificant	Adverse but less than Significant
Moderate	Insignificant	Adverse but less than Significant	Significant but Feasibly Mitigated
High	Insignificant	Adverse but less than Significant	Significant and Unavoidable

Source: URS Corporation, 2005.

Figure 10- Key Observation Points (KOPs)



4.1.13-1 Would the Proposed Project substantially change the natural topography or other ground surface relief features?

A. Environmental Consequences

The Proposed Project would mimic the permitted, existing topography almost exactly, with the exception that it would raise the final grade by a maximum of 20 feet. The Closure Plan has been modified as required by regulatory agencies to address changes in drainage that would result from the 15 to 20 foot height increase; however the drainage structure changes would involve minor changes to down drains and catch basins, which would not be perceptible from offsite viewing areas.

The Proposed Project would occur on manufactured, or man-modified topography within the footprint of the existing landfill. Although the Proposed Project would grade 468 acres and move more than 13 million cubic yards of fill, which exceeds the City significance threshold of 2,000 cubic yards of earth per acre, the Proposed Project would only alter man-modified topography and would not change the natural topography or other ground surface relief features. The proposed grading plans demonstrate, with spot elevations and contours, that the proposed landforms would very closely imitate the existing onsite landform because the Proposed Project would raise the height of the landfill by a maximum of 20 feet, but not alter the landform in any other way.

The Proposed Project would potentially cause landfill activities to be visible for approximately four additional years. This would extend the existing impacts associated with the visibility of bare dirt and construction operations an additional four years. In reality, however, as filling activities move within the footprint of the phase I and II areas, over those four years, landfilling activities would only be prominent some of the time, as is currently the case.

B. Analysis of Significance

The existing, permitted landfill will provide an engineered final appearance. The engineered shape of the WML was found not to have significant visual impacts in the 1980 EIR. The proposed height increase would raise this contour by a maximum of 20 feet and would occur over manufactured topography. There would be no impacts to natural topography and other ground surface relief features.

The Proposed Project would extend the period of time landfill operations which would potentially be visible by approximately four additional years.

C. Mitigation Measures

Since no significant impact to natural topography in the area is expected, no mitigation measures are proposed.

4.1.13-2 *Would the Proposed Project result in the loss, covering, or modification of any unique physical feature such as a natural canyon or hillside slope in excess of 25 percent gradient?*

A. Environmental Consequences

The Proposed Project would only affect prior man-modified topography and would not result in the loss, covering, or modification of any unique physical feature such as a natural canyon or hillside slope in excess of 25 percent gradient. No natural or sensitive slopes would be affected by the Proposed Project. In some locations, the Proposed Project would create manufactured slopes higher than 10 feet. This would typically be deemed a significant visual impact according to City criteria. However, the proposed grading plans clearly demonstrate, with spot elevations and contours, that the proposed landforms would very closely imitate the existing onsite landform, because the Proposed Project proposes to raise the height of the landfill by 15 to 20 feet, but not alter the landform in any other way. Thus, no significant visual impact is identified under the City's criteria, and the Proposed Project would not result in the loss, covering, or modification of any unique physical feature.

B. Analysis of Significance

The proposed vertical expansion would not have a significant impact on any unique physical feature or steep slope, because the Proposed Project would only alter man-modified topography.

C. Mitigation Measures

Since no significant impact to a unique physical feature or steep slope in the area is expected, no mitigation measures are proposed.

4.1.13-3 *Would the Proposed Project affect the visual quality of the site and surrounding area, particularly with respect to views from any major roadways and public viewing areas?*

A. Environmental Consequences

Four private (residential) viewing areas and nine public (roadway and recreational) viewing areas were identified as representing KOPs. Although some KOPs were found to have high impact susceptibility potential, these KOPs had low impact severity rankings. Therefore, it was determined that the Proposed Project would not significantly affect the visual quality of the area viewed from those KOPs. Three of the KOPs, KOP 2, 7 and 13, had both a moderate susceptibility ranking and a moderate severity ranking. Therefore the impact of the Proposed Project on viewers from these points was considered adverse but less than significant impacts. Existing and anticipated views from KOPs 2, 4, 6, 7, 8, 10, 12, and 13 are provided in Figures 11 to 18. Descriptions of anticipated visual impacts from each of the KOPs are provided in the

Visual Impact Assessment, EIS/EIR Appendix G, pages 3-13 through 3-20. Table 4.1.13-2 summarizes anticipated visual impact levels at each KOP.

In addition, the Proposed Project would not have a substantial effect on a scenic vista, or substantially damage scenic resources, because no scenic vistas or resources exist in the vicinity of the Proposed Project.

B. Analysis of Significance

The Proposed Project's impacts on the visual quality of the area were found to be insignificant with respect to views from residences, roadways, and recreational areas.

C. Mitigation Measures

Since no significant impact to the visual quality of the area is expected, no mitigation measures are proposed.

Figure 11 - Existing and Anticipated Views from KOP #2

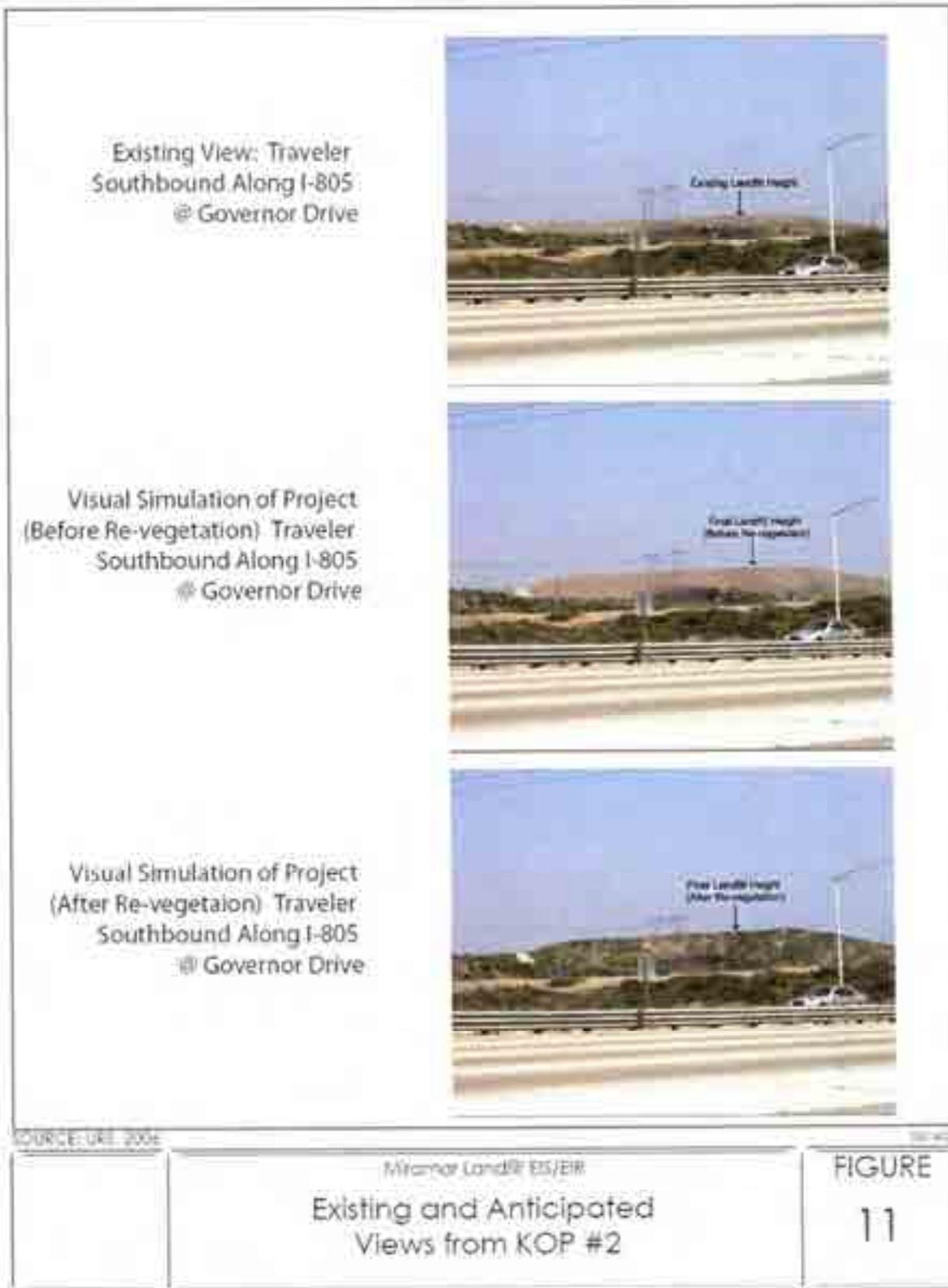


Figure 12 - Existing and Anticipated Views from KOP #4

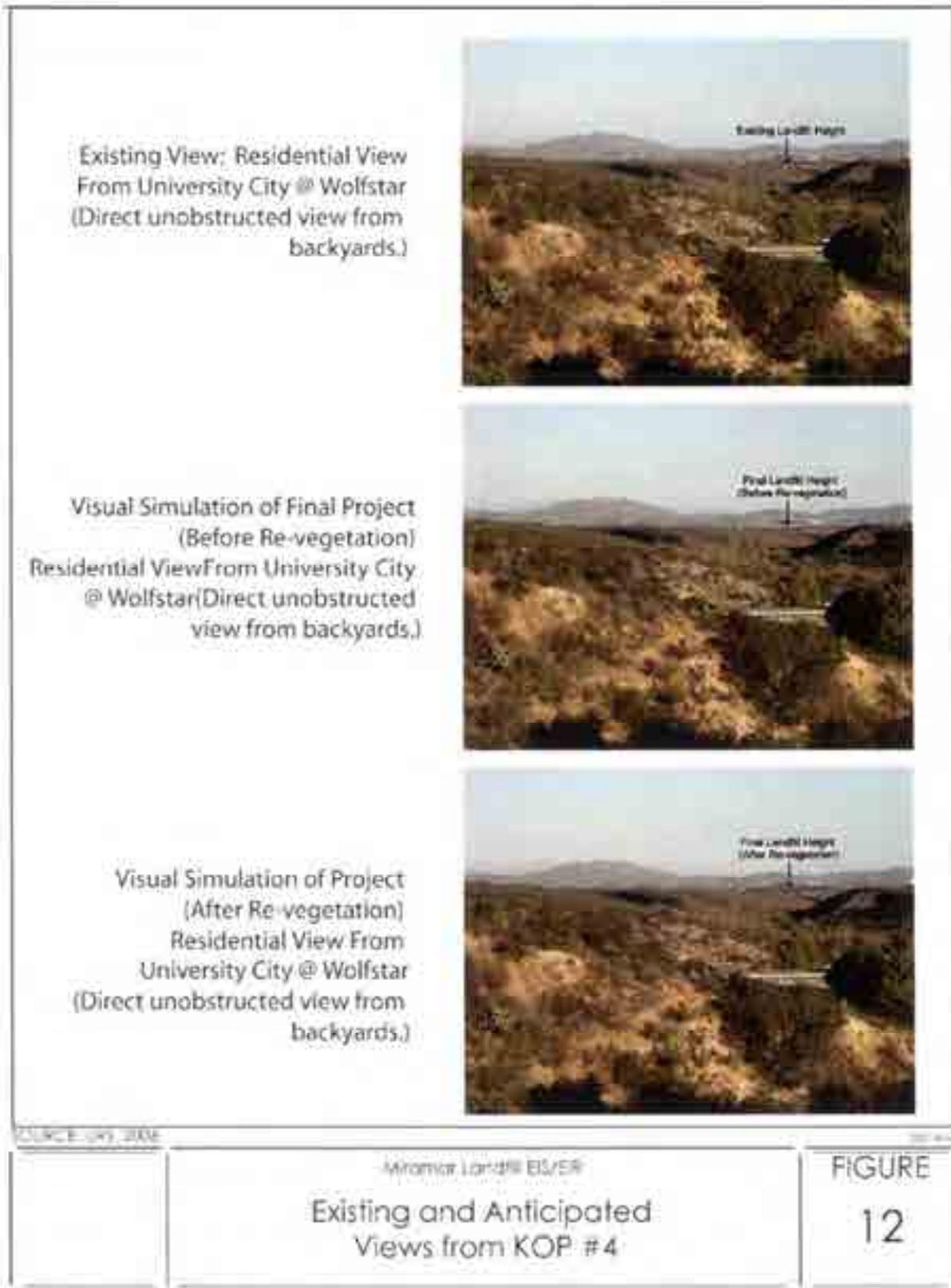


Figure 13 - Existing and Anticipated Views from KOP #6

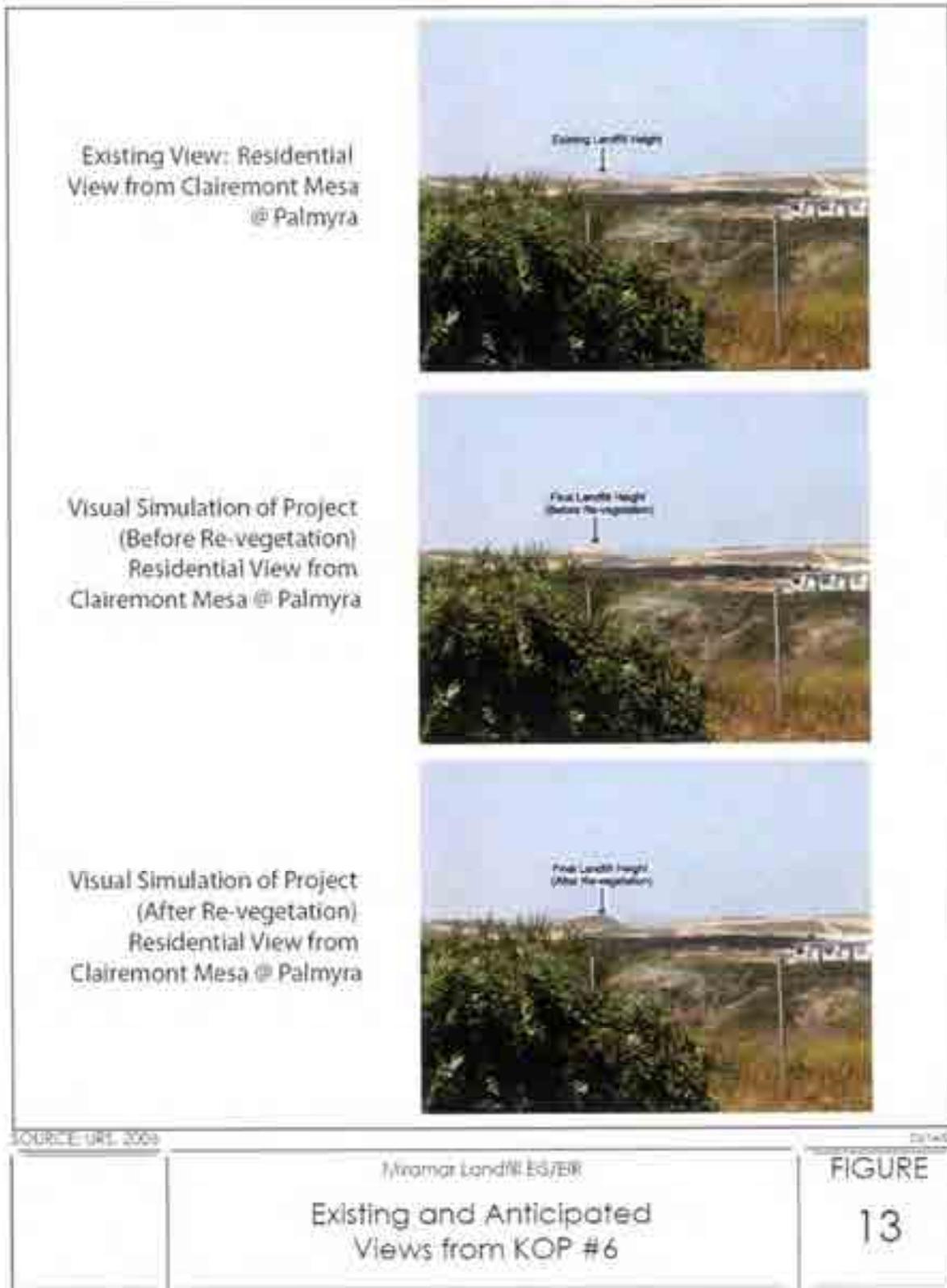


Figure 14 - Existing and Anticipated Views from KOP #7

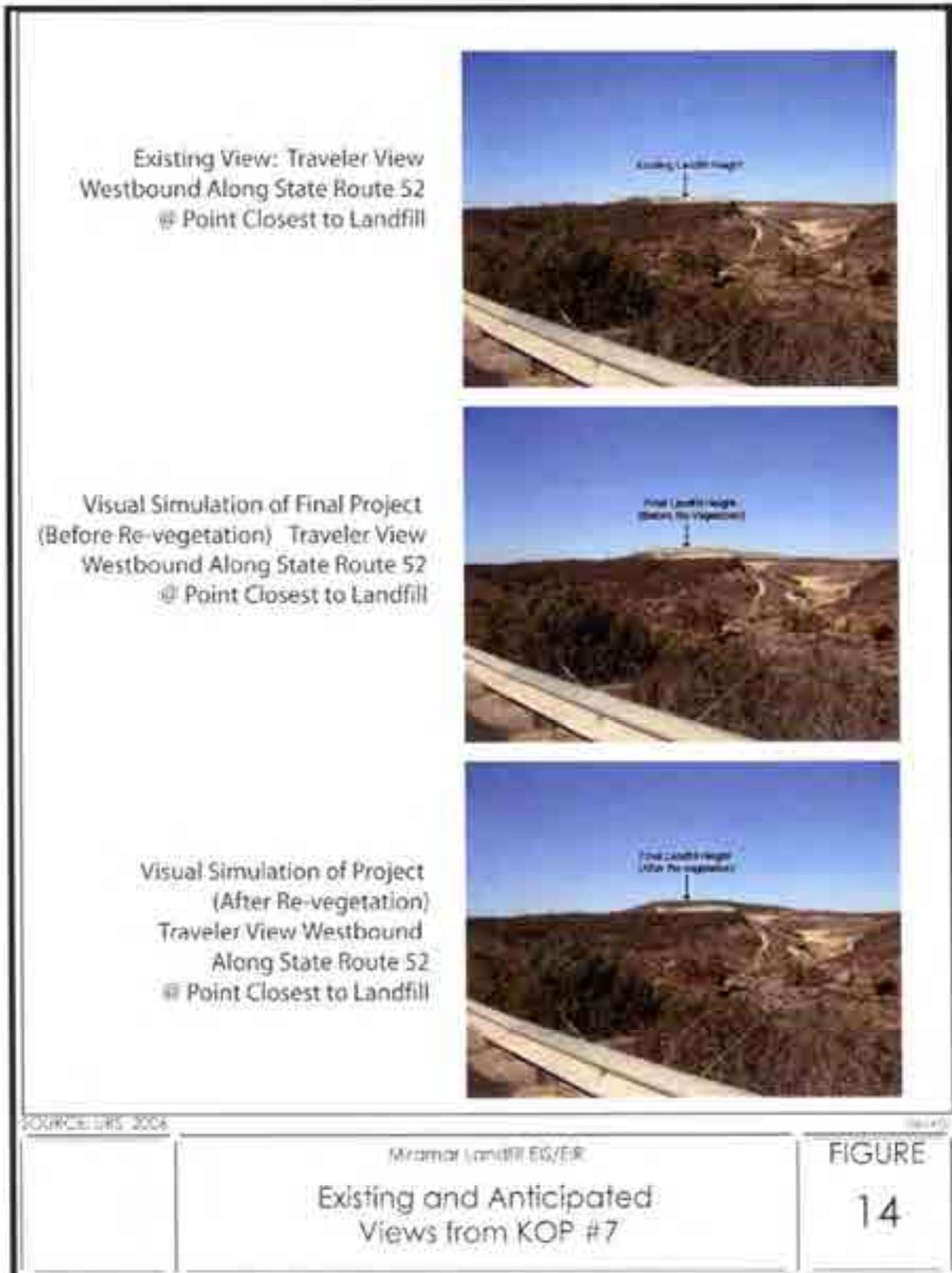
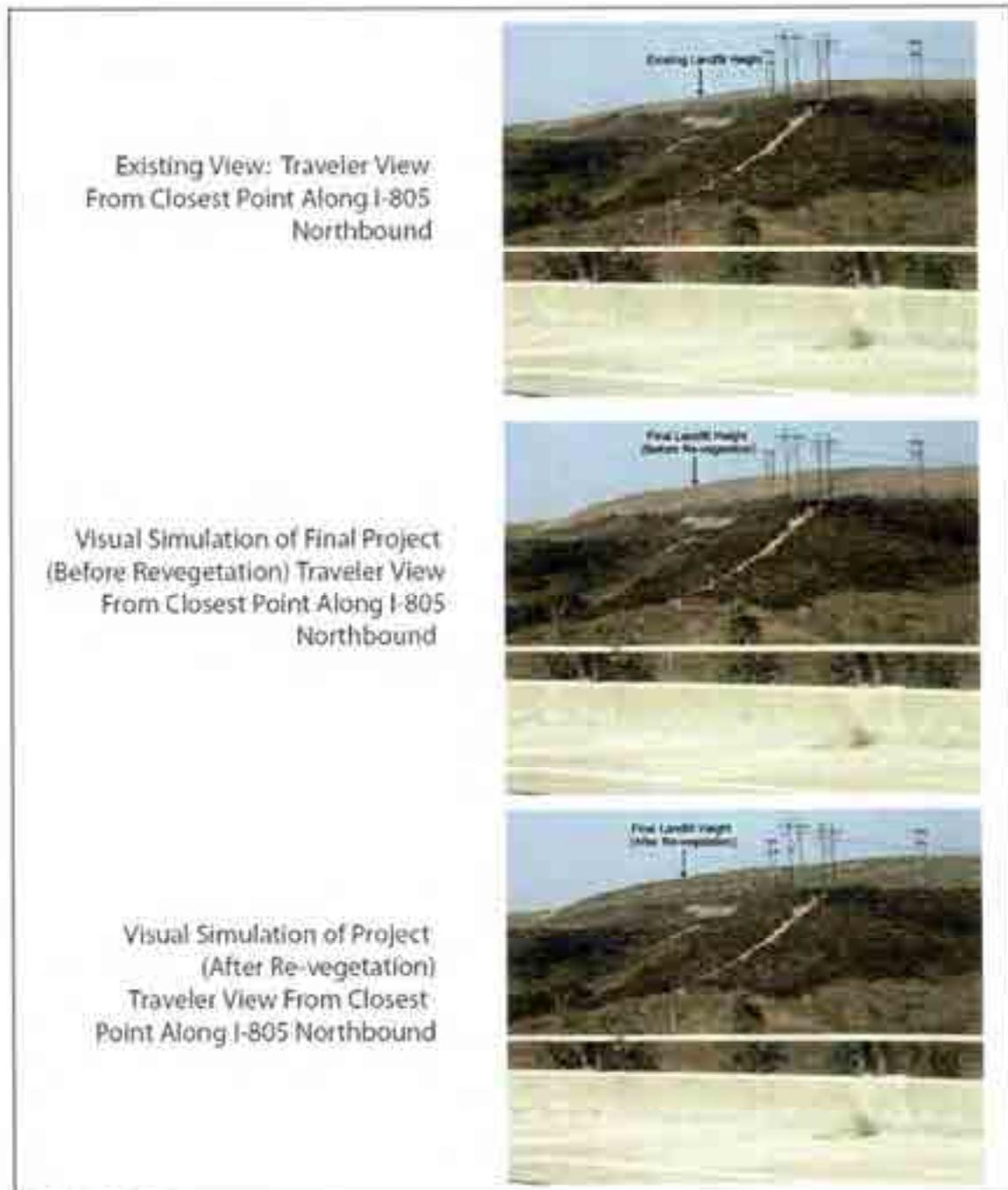


Figure 15 - Existing and Anticipated Views from KOP #8



SOURCE: URS, 2004

URS

	<p>Miramar Landfill EIS/EIR</p> <p>Existing and Anticipated Views from KOP #8</p>	<p>FIGURE 15</p>
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Figure 16 - Existing and Anticipated Views from KOP #10

Existing View: Traveler View
Westbound From State Route 52



Visual Simulation of Final Project
(Before Re-vegetation) Traveler View
Westbound From State Route 52



Visual Simulation of Project
(After Re-vegetation)
Traveler View Westbound
From State Route 52



SOURCE: URS, 2004

Miramar Landfill EIS/EIR

Existing and Anticipated
Views from KOP #10

FIGURE

16

Figure 17- Existing and Anticipated Views from KOP #12

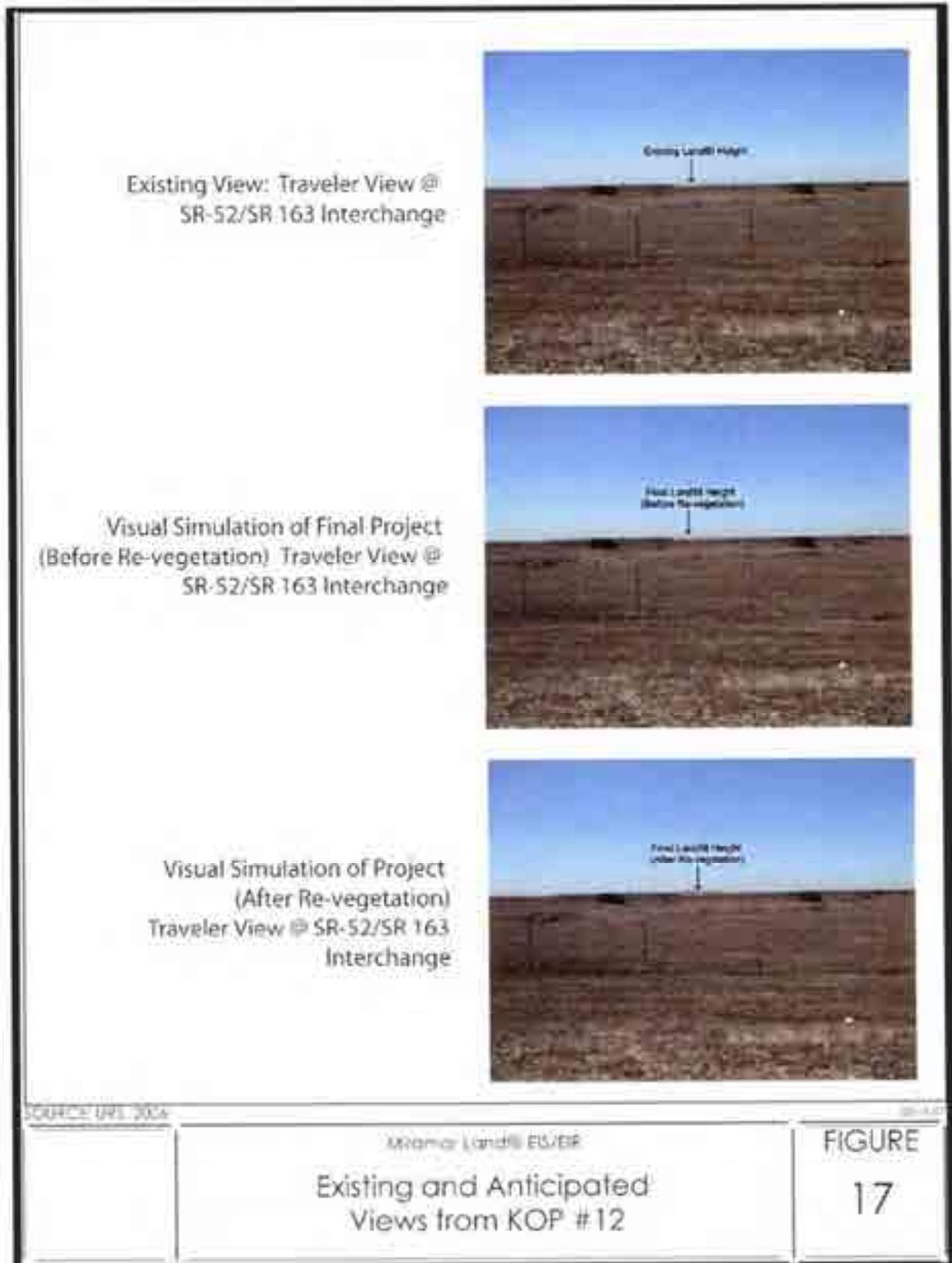
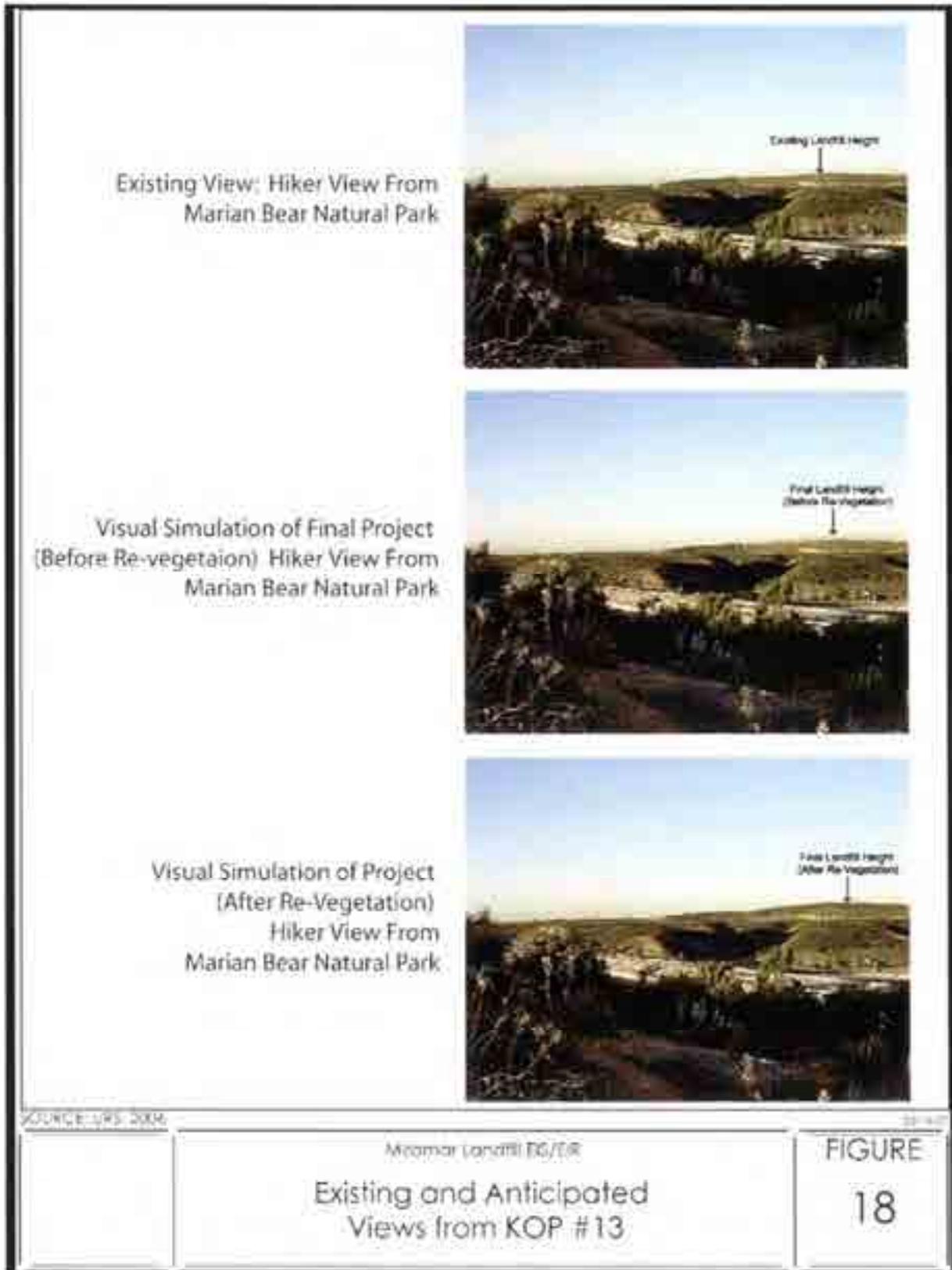


Figure 18 - Existing and Anticipated Views from KOP #13



**TABLE 4.1.13-2
Visual Impact Significance Summary by KOP**

KOP	Visual Impact		
	Impact Susceptibility Ranking	Impact Severity Ranking	Impact Classification
1	Low	Low	Insignificant ¹
2	Moderate	Moderate	Adverse but Less than Significant ²
3	High	Low	Insignificant ¹
4	High	Low	Insignificant ¹
5	High	Low	Insignificant ¹
6	High	Low	Insignificant ¹
7	Moderate	Moderate	Adverse but Less than Significant ²
8	Moderate	Low	Insignificant ¹
9	Low	Low	Insignificant ¹
10	High	Low	Insignificant ¹
11	High	Low	Insignificant ¹
12	High	Low	Insignificant ¹
13	Moderate	Moderate	Adverse but Less than Significant ²

- Notes: ⁽¹⁾ Insignificant impacts may or may not be perceptible but are considered minor in the context of existing landscape characteristics and view opportunity.
- ⁽²⁾ Adverse but less than significant impacts are perceived as negative but do not exceed environmental thresholds (Class III).
- ⁽³⁾ Significant impacts can be mitigated to a level that is not significant or can be avoided altogether with feasible mitigation. Without mitigation, the impact could exceed environmental thresholds (Class II).
- ⁽⁴⁾ Significant impacts cannot be feasibly mitigated (Class I).

4.1.13-4 Would the visual and landform elements be reclaimed in the final closure plans for the landfill?

A. Environmental Consequences

The proposed end-use for the landfill is a vegetated buffer zone for MCAS Miramar, although other uses, such as the existing composting operation, are permitted within this footprint. The Proposed Project makes no changes, although the 1997 Closure Plan has been updated, as required by the LEA and RWQCB, as part of the application for the height increase. The following guidelines are provided in the Closure Plan with regard to plant palette. Planting intensity will be determined by regulatory agencies as suitable for erosion control, and is in excess of the relatively incomplete cover of plants in natural Southern California upland habitat areas. Although slightly unnatural in the density of cover, it is intended that final cover will provide habitat value. The City’s standard for five years revegetation monitoring will be far exceeded. Current law requires that closed landfills be monitored for several factors, including integrity of vegetative cover, for 30 years. Because of slow decomposition rates in Southern California landfills, it is possible that this monitoring period could be extended even more.

Plants recommended include those that:

- are native plants; species that are typical of the general location;
- have low short-term and long-term maintenance requirements;
- are self-perpetuating;
- have root systems that will not penetrate beyond the proposed 12 inches of vegetative layer soil;
- integrate aesthetics with the existing open space buffer areas; and,
- are adaptable to poor soils and high compaction (Draft Preliminary Closure Plan and Post-Closure Maintenance Plan, 2005).

Based on these design objectives, a vegetative cover mix comprised of native annual grasses, legumes, and annual wildflowers would be selected as part of the final closure design. However, the Regional Water Quality Control Board and the Integrated Waste Management Board will require the re-submittal of the Closure Plan prior to implementation and may make changes. As anticipated, unless modified by these agencies, reclamation of the surrounding visual elements would be achieved when the vegetation is compatible with the existing vegetation and proposed end-use. No change to the basic design is proposed with the Proposed Project, the only changes to the existing Closure Plan address the drainage changes resulting from the new, taller slopes. Revegetation will be required, even if the existing and proposed Closure Plans are modified to comply with future laws. Revegetation will have to provide an erosion control function, and is likely to be required at a cover density in excess of the cover density found in natural habitats. However, this density will be useful in making the closed facility look vegetated. Additionally, landscaping can be used to break up monotonous landforms, such as the existing and proposed landfill slopes, by creating darker and lighter areas depending on the species used. In the GDP, this effect, together with the relative distance of the viewer, was found to result in no significant impact. For the Proposed Project the distance and vegetation are the same, and would also be considered to result in a less than significant impact, though greater than that of the GDP. The Closure Plan, however, can only provide a general description of the final design. At the time of closure, the City will be required to submit plans to regulatory agencies for review for compliance with all laws that will be applicable at that time. Changes in the design and development details will occur at that time.

B. Analysis of Significance

The final Closure Plan for the landfill calls for the landfill to be revegetated with native annual grasses, legumes, and annual wildflowers as part of the closure plan design. The Proposed Project would result in no change to the existing conditions regarding reclamation, and therefore would result in a less than significant impact on the visual and landform reclamation of the Proposed Project site.

C. Mitigation Measures

Since no significant impact to the visual and landform reclamation of the Proposed Project site is expected, no mitigation measures are proposed.

4.1.14 Water Quality/Hydrology

Criteria for Significance Determination

The City's Storm Water Standards Manual is intended to provide information on how to comply with all of the City's permanent and construction storm water BMP requirements, for private and public development projects in the City of San Diego. In general, adherence to the City's storm water standards is considered to preclude significant water quality impacts (City of San Diego Development Services Department's Significance Determination Thresholds, August 2006). Factors to consider include increasing impermeable surfaces, which can increase peak flow volumes, resulting in erosion, and other factors that can lead to sedimentation and other pollutants that affect water quality.

4.1.14-1 Would the Proposed Project result in an increase in impervious surfaces and associated increased runoff?

A. Environmental Consequences

Roofs and paving in urban developments increase peak runoff flows, but landfill operations do not introduce these types of surfaces. The cover in landfill working areas are a combination of tarpaulins and dirt at the end of each day, and finished sections are covered with dirt. The final surface includes dirt and mulch, and will, at closure, include vegetation. No paving or other impermeable surfaces are installed during landfill operations, although haul roads are treated with water and sometimes special treatments to minimize dust. Thus, no impervious surfaces are proposed as part of this project.

B. Analysis of Significance

There would be no increase in impervious surfaces and associated runoff.

C. Mitigation Measures

No mitigation measures are proposed.

4.1.14-2 Would the Proposed Project result in pollutant discharges to receiving waters? Would the proposal discharge identified pollutants to an already impaired water body? Would the Proposed Project result in discharges into surface or ground water, or in any alteration of surface or ground water quality, including, but not limited to temperature, dissolved oxygen, or turbidity?

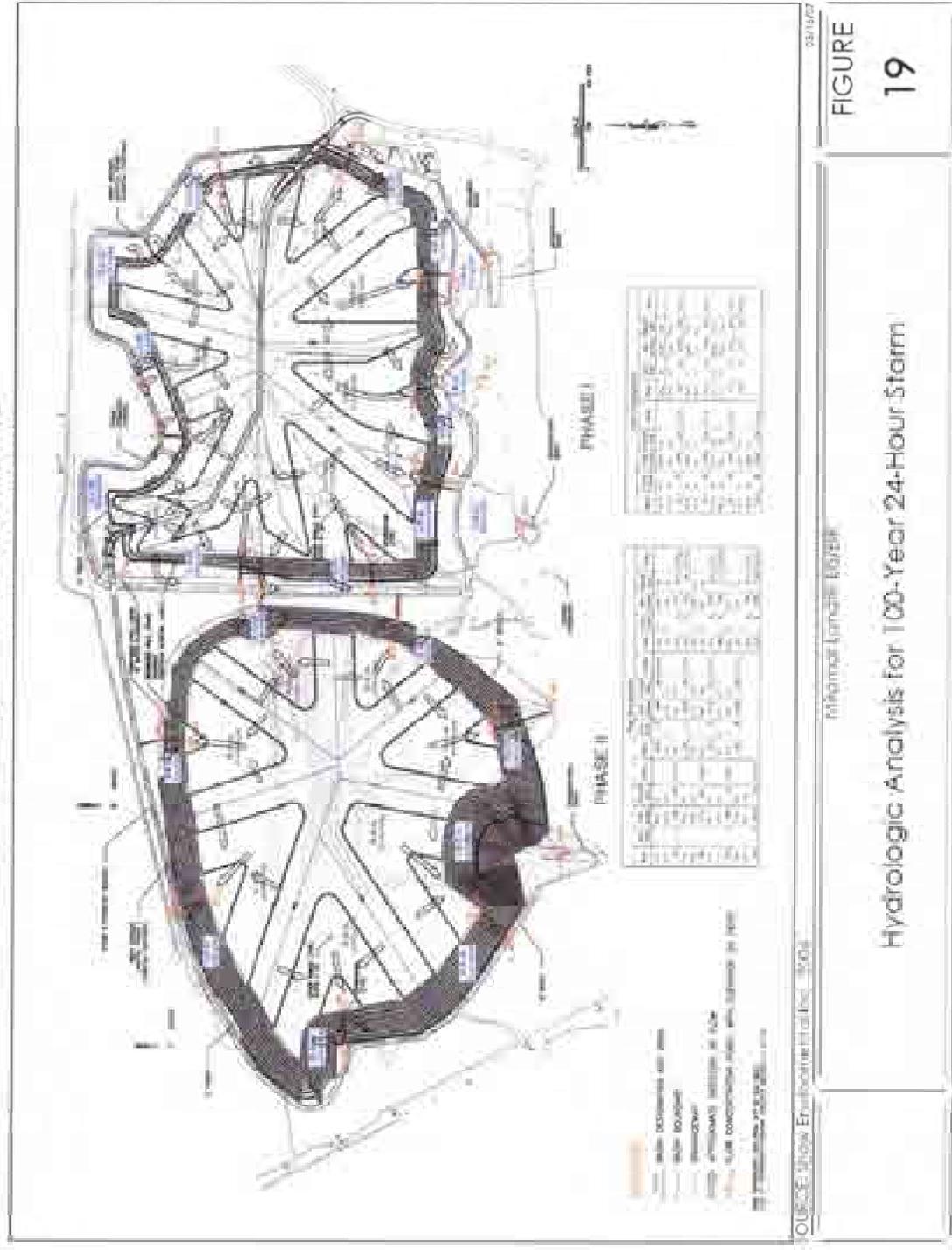
A. Environmental Consequences

The existing drainage control system for WML consists of drainage channels, berms, downdrains, energy dissipaters, and detention basins. Drainage berms along the perimeter of the landfill decks convey surface water to San Clemente Canyon after traveling through the downdrains or earthen drainage channels and then into detention basins, where suspended sediments settle out prior to discharge of the water to San Clemente Creek. Three surface water monitoring locations are located along San Clemente Canyon: one upstream of the landfill discharge point provides background readings, and two downstream monitor water quality changes associated with landfill discharges. These stations are monitored on a quarterly basis and results are reported to the Regional Water Quality Control Board.

Drainage control systems for the Proposed Project would be similar to the existing drainage control system, but would differ slightly in contour, since the Proposed Project would have a higher ultimate elevation. No changes are required to the Phase I sedimentation basin, but the basin for Phase II would require either an enlargement within the existing Phase II footprint to accommodate the slightly increased amount of runoff, or an engineered design, such as inclusion of baffles, to increase the rate at which particles drop out. This design decision will be made in consultation with the RWQCB, which has approval authority over drainage design. Velocity dissipaters would continue to be used at the exit from the sedimentation basins to provide discharge rates that do not produce excessive scour.

Post-closure drainage design is shown in Figure 19. At landfill closure, the final drainage system would be designed, constructed, and maintained as a permanent system. The existing drainage facilities would be removed during placement of the final cover and re-established as the final drainage facilities after the final cover is in place. As is established in the existing Closure Plan and in the new Closure Plan, storm water on the landfill deck would drain by overland flow to drainage swales that radiate out from the deck interior to down drains at the deck perimeter. In addition, low berms along the perimeter of the deck would prevent local storm water flows from discharging over the side slopes. Instead, the deck berms would redirect flows to the down drain inlets. The down drains would discharge to drainage channels along the landfill perimeter, which, in turn, discharge to sedimentation basins. Storm water runoff from the ridges would collect in the valleys and flow from there outward toward the landfill perimeter. To avoid erosion of the cover by these concentrated flows, shallow swales protected with soil containing gravel- and cobble-sized stone would be located along the valleys. The stony soil used to construct these swales would support the same plant community used to vegetate the rest of the cover. With use of contour plowing on the final cover, a covering of crushed rock on the steeper side slopes, and revegetation of the final cover with native plants, average annual cover soil losses per acre of landfill have been calculated by Shaw at 1.46 tons per acre for Phase I, and 1.85 tons per acre for Phase II. Both of these values are less than the EPA guidance limit of 2.0 tons per acre per year (U.S. EPA, May 1991).

Figure 19 - Hydrologic Analysis for 100-Year 24-Hour Storm



With implementation of the proposed drainage control features there would be no increase in contamination of landfill surface runoff over existing conditions, and therefore no impacts to surface water quality. Landfill surface runoff would continue to flow into sedimentation basins before being discharged into San Clemente Canyon. San Clemente Canyon is not listed as an impaired water body on the 2002 Clean Water Act Section 303(d) list of impaired water bodies, though it discharges into Mission Bay, which is listed as an impaired water body. Therefore, the Proposed Project would not result in direct discharges to an already impaired water body.

Potential contamination of ground water is precluded by the management of surface runoff, by the existing liner system, continued use and development of a leachate collection system, and ultimate landfill closure and capping. The existing liner exceeds the strength of the federally mandated (RCRA, subtitle D) prescriptive liner design. The WML liner uses 80 millimeter high density polyethylene instead of the required 60 mil. Even with a 60 mil liner, no limits on the height of the landfill are typically imposed, and many landfills are built significantly higher than WML. The existing liner is considered adequate to accept the additional 20 feet of waste.

Groundwater protection and monitoring are proposed for the existing landfill operation, per the requirements of Title 27. Measurements of the depth to ground water are taken on a quarterly basis and ground water samples are taken on a semi-annual basis. The samples are analyzed for a modified list of constituents. Once every five years, samples are analyzed for the entire Title 27 suite of constituents. Groundwater reports are filed with the RWQCB twice a year. The annual report summarizes the years' sampling events and includes trend analysis with historical data. The Proposed Project would not change the landfill footprint, and would make no changes to the existing groundwater protection and monitoring program. The increased landfill height of the Proposed Project would not cause any additional potential contamination of ground water. Therefore, there would be no Project-related impacts to ground water quality.

B. Analysis of Significance

The Proposed Project would continue the existing drainage control features ground water protection measures, modifying them where appropriate to ensure that no changes to the existing conditions would occur. There would be no additional impacts to water quality from the Proposed Project.

C. Mitigation Measures

No additional mitigation measures are proposed, since no significant impacts to water quality have been identified.

4.1.14-3 Would the Proposed Project, when considered in combination with past, current, and future projects in San Clemente Canyon, result in cumulatively significant impacts on the hydrology and water quality of that watershed?

A. Environmental Consequences

Because the runoff from the slope would be controlled in the detention basin, no change in the eventual discharge would occur – the amount of rain hitting the area would be identical, and the increase in velocity caused by the taller slopes would be addressed by the basins. Thus, the Proposed Project would result in no change from the existing, or “No Project,” condition, and would therefore result in no direct impact.

B. Analysis of Significance

There would be no change in runoff effects from the current baseline condition; therefore there would be no significant impact.

C. Mitigation Measures

No mitigation measures are proposed, since no significant impacts to water quality have been identified.

4.1.14-4 What short-term and long-term effects would the Proposed Project have on local and regional water quality? What types of Best Management Practices (BMPs) would be incorporated into the Proposed Project to preclude impacts to local and regional water quality?

A. Environmental Consequences

The Proposed Project would include the modification of the existing drainage system to accommodate the runoff associated with the slightly higher slopes of the landfill. Velocity dissipaters would continue to be used at the exit from the sedimentation basin to provide discharge rates that do not produce excessive scour; however, modification to these facilities may be required at any point under the existing conditions and with the Proposed Project by the RWQCB. The RWQCB may require changes to ensure that the sedimentation basins continue to serve their purpose, and there is no increase in runoff rates. Post-closure, the final grades for Phase I and Phase II would be defined by radial ridge-and-valley surfaces on the top decks. Storm water runoff from the ridges would collect in the valleys and flow from there outward toward the landfill perimeter. To avoid erosion of the cover by these concentrated flows, shallow swales protected with soil containing gravel- and cobble-sized stone would be located along the valleys. BMPs would be slightly modified as described above to ensure the Proposed Project would not result in any change in the short- or long-term on regional water quality.

B. Analysis of Significance

The Proposed Project BMPs would result in the Proposed Project having no net effect on regional water quality and therefore would not have a significant impact.

C. Mitigation Measures

No mitigation measures are proposed, since no significant impacts to short-term or long-term water quality have been identified.

4.1.14-5 Would the Proposed Project result in direct or cumulative impacts related to increased flooding and erosion?

A. Environmental Consequences

As described above, runoff controls would be modified to accommodate the slightly increased runoff rates associated with the Proposed Project. The amount of precipitation falling on the area would obviously not change, and this precipitation would encounter the same permeability as in the No Project scenario. However, the slightly higher slopes would increase the velocity of this runoff during storm events. As described above, the sedimentation basins would be modified to ensure that there is no increase in offsite sediment contamination, and velocity dissipaters would continue to ensure that velocities would not produce scour. As a result, the Proposed Project would result in no change in the flooding or erosion potential as compared to the existing landfill.

B. Analysis of Significance

The Proposed Project would result in no change; therefore, it would have no direct or cumulative flooding or erosion impacts.

C. Mitigation Measures

No mitigation measures are proposed, since no significant impacts related to flooding and erosion have been identified.

4.1.15 Energy Consumption and Conservation

Criteria for Significance Determination

The same City department that operates the landfill also operates the City's sustainability and energy conservation programs. Energy conservation and energy generation are related issues, just as waste generation, waste reduction, and waste disposal are related issues. Planning done by the City shows that given the limited energy generation potential of the region and the impacts associated with energy generation, energy conservation is essential. On a related matter, failure to provide local power results in the need for impact-intensive long distance transmission lines, and failure to provide adequate percentages of green power results in unnecessary air emissions.

In evaluating energy impacts associated with discretionary projects, ESD looks at whether or not standard energy conservation programs, such as LEED (Leadership in Energy and Environmental Design) or ISO 14001 have been instituted. In evaluating energy generation, the Department considers whether green alternatives have been considered.

4.1.15-1 *Would the Proposed Project require the use of excessive amounts of fuel or energy (e.g., natural gas) or power?*

A. Environmental Consequences

The current energy consumption associated with landfill operations would not change. Energy use of the portable ancillary structures is reduced via the EMS program and is far less than the amount of green energy produced by collection of landfill gas.

B. Analysis of Significance

Because the landfill results in a net generation of energy and the proposed height increase only increases this potential, only beneficial impacts are associated with the Proposed Project.

C. Mitigation Measures

No mitigation measures are proposed, since no significant impacts have been identified.

4.2 Growth Inducement

Both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) require that environmental documents discuss whether a project would induce direct or indirect growth. In particular, both NEPA and CEQA guidance indicate that EISs and EIRs should address the ways in which a project could foster economic development or population growth, or the construction of additional housing, in the surrounding environment. CEQA Guidelines state that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. A growth inducing effect, if it occurred, would create significant new demands for supporting services and activities, which in turn would produce growth in excess of regional projections by SANDAG. Certain types of land uses, such as roads, can induce changes in adjacent land uses by their presence.

4.2-1 Would the Proposed Project increase the tonnage that can be accepted on a daily or annual basis at the Miramar Landfill and thereby indirectly foster increased growth?

The Proposed Project is to increase the height of the facility and would not change the operation. The Solid Waste Facility Permit will be modified to allow the greater height, but not to increase daily traffic or tonnages. The existing permit also has an annual limit on tonnage; however, consistent with how other permits for other landfills have been handled, this annual limit will be eliminated. It is the daily traffic that relates to the state minimum standards that the LEA monitors and regulates. It is the role of the LEA to prevent impacts associated with the operation that could result from too many tons/trips passing through the fee booth and/or tipping at the face. Therefore, although older permits did contain an annual limit, newer permits, including a permit issued in 2006 for the privately-operated Sycamore Landfill, located within the City of San Diego, do not.

The County Siting Element projects that even with increased diversion through source reduction, recycling, and composting, given the projected growth of the region, disposal rates would increase. The Proposed Project would not increase its daily acceptance rates, and therefore would not accommodate projected growth, and would not induce additional growth. Landfills in the region are currently accepting waste at or near the rates permitted in their SWFPs. The Proposed Project would do nothing to alleviate the existing shortfall. Providing sufficient, environmentally-oriented solid waste management services, including disposal, will continue to be a challenge, but it will not constrain growth in the region. That regional landfill capacity is not included in SANDAG population models was confirmed by a SANDAG population modeler (pers. comm. Terry Beckhelm, April 8, 2005).

4.3 Effects Found Not to be Significant

The City of San Diego's Environmental Impact Report Guidelines allow a lesser discussion of issue areas for which there will not be a significant impact. To streamline the analysis and focus on the most important issues, this approach was taken. No significant impacts were identified in the course of this analysis, but some issue areas required a greater degree of focus than others.

For air quality, since the operation at the facility would continue for approximately four more years, and since the total amount of landfill gas generated would be increased, a full analysis was provided to ensure that potential impacts were adequately considered. The results of this analysis found that there would be no net annual increase in emissions from the site as a result of the Proposed Project. In the case of biological resources, despite the fact that the operation would disturb no new soil, a careful look was taken at the current resources on and near the site. Existing slopes proposed to be retained resulted in contracting the footprint by approximately eight acres. This helped avoid disturbances to areas that have begun to reestablish native vegetation.

In considering geological safety, this issue is fully addressed by regulatory agencies that inspect the landfill design. The engineering techniques to be used are detailed in documents that have been included in this environmental document by reference. Therefore a second technical appendix on this topic was not created. Similarly, the LEA requires detailed submittals on the design and operation of the facility in order to protect health and safety, and these submittals have been incorporated by reference, therefore no additional appendix on this topic was included.

In the case of cultural resources and paleontology, because the Proposed Project would occur strictly within the footprint of the existing landfill, no additional maps or surveys of resources that may be present in the surrounding area were provided. With regard to mineral resources, the Proposed Project has complied with the intent of this analysis by preceding landfilling operations with aggregate extraction.

The Proposed Project site is well removed from receptors, because it is surrounded by freeways and overflown by military jet aircraft; therefore a previously done noise analysis indicating that the existing operations had no significant impact was referenced in this analysis. The effect of the greater height was considered in this analysis. This effect would be very minimal, and would be compensated for by the increased separation from noise receptors, as explained in the analysis.

Because the Proposed Project includes not changing the existing traffic limits, a draft traffic study that was prepared for another project was used to describe the area traffic. This information was supplemented with traffic trends at the landfill, and internal circulation. With regard to public services and utilities, because the Proposed Project would require no new

services, and in fact provides services including solid waste and energy services, a brief analysis was provided.

With regard to potential visual impacts, because the Proposed Project would make the existing landfill a maximum of 20 feet higher, a more in depth analysis was provided. The possibility that this increase in height could result in a significant impact was carefully considered. If found, such a potential impact could be compared with the relative benefit of approximately four years of landfill life. However, visual simulations showed the height increase to closely mimic what is currently permitted. The increase in height can be detected in the photographic simulations, but was too small for a three dimensional model, because a wafer thin enough could not be generated. The four additional years of operation were also considered in evaluating the severity of the impact. Given the existing conditions, the nature of and distance to receptors, and the relatively small change proposed by the Project, no significant impact was identified.

Water quality is always a major concern at landfills; however monitoring of the existing facility has been provided over the years, and no problems have been identified. The Proposed Project would continue to conform to regulations, and would ensure no net change in runoff or sedimentation rates. Therefore the technical studies that are incorporated by reference were considered adequate, and an additional technical report was not provided.

This landfill is equipped with a gas collection system, and an energy generation facility is provided at the Miramar Landfill. As a net generator of green power, no impacts to energy conservation were anticipated.

4.4 Alternatives

4.4.1 No Project

The Proposed Project is for vertical height increases of up to 20 feet for phases I and II of WML. This would allow a maximum height limit of 485 feet amsl for both phases I and II. Under the No Project Alternative, development of phases I and II would be completed under the existing lease agreement with the Department of Navy, and under existing permits with regulatory agencies.

Under the No Project Alternative, if the landfill were to continue to operate at its current rate (approximately 3,500 tons per day), the landfill would reach its maximum height by 2012. This would leave the County of San Diego with one less landfill, which would result in higher volumes of waste disposal at other in-county and, potentially, out-of-county landfills.

Impacts associated with the No Project Alternative would include existing air emissions from WML, which include more than 100 pounds per day of particulate matter, NO_x, SO₂, reactive organic gases, and more than 500 pounds per day of CO₂, hydrogen sulfide (H₂S), methane (CH₄), and particulates. These existing conditions have been described in previous environmental analyses as being significant, even after mitigation measures were implemented.

Similarly, previous environmental documents addressing the existing landfill's visual impacts found significant impacts. Significant landform alteration impacts were associated with WML due to the scale of filling proposed, even though the proposed revegetation in the Closure Plan would reduce visual contrast and help to blend the native landforms with the modified landforms.

4.4.2 Other Alternatives

Reduced Expansion (10-Foot Height Increase)

Reducing the height increase even farther, down to 10 feet, would in fact reduce the impacts associated with the one issue area in which the Proposed Project has a net increase in effect as compared with the No Project Alternative. The reduction in visual scale would be half that of the Proposed Project. The surrounding landscape as described in the cumulative impact analysis would not change. The nature of the change to the landscape caused by this alternative would be the same as the Proposed Project; i.e., an adverse, but less than significant, visual impact. However, the incremental effect of a ten-foot increase, as compared to a 20-foot increase, would be less than the Proposed Project.

The ten foot increase alternative would provide less capacity. This alternative would require reengineering of cells that are normally engineered in 20 lifts. The Proposed Project does

include a minor modification to this technique, and includes an area of only 15 foot lift. Further reduction would pose problems including more cost per ton of waste disposed, and less efficient waste placement. It is possible that, as a result of difficulties associated with this modification, that somewhat less than the expected two or so years of additional capacity could be achieved. Even if a full two years of additional capacity could be achieved, it would sacrifice two years of capacity for a marginal reduction in visual impact that is not considered significant in the Proposed Project.

4.5 Comparison of Environmental Consequences

The following matrix provides a comparison of the direct, indirect, and cumulative impacts and mitigation for each alternative.

**TABLE 4.5-1
Comparison of Project Alternatives**

	No Project	Proposed Project	Reduced Expansion
Land Use			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Air Quality ¹			
Direct Impacts	None	None	None
Indirect Impacts	Closure would result in waste going to a more distant location with possible increases in vehicular emissions.	Project would delay the need for longer trip distances.	Project would have a lesser delay in the need for longer trip distances.
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Biological Resources ²			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Geology ³			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Health and Safety ⁴			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Cultural Resources			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Paleontological Resources			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None

**TABLE 4.5-1
Comparison of Project Alternatives (cont'd)**

	No Project	Proposed Project	Reduced Expansion
Mineral Resources ⁵			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Noise			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Traffic			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None ⁶	None	None
Mitigation Measures	None	None	None
Public Services and Facilities			
Direct Impacts	None	None	None
Indirect Impacts	Closure would result in the waste going to an alternative location.	Would delay impacts associated with alternative destination.	Would have a lesser delay of impacts associated with alternative destination.
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Public Utilities			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Landform Alteration / Visual Quality ⁷			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None

**TABLE 4.5-1
Comparison of Project Alternatives (cont'd)**

	No Project	Proposed Project	Reduced Expansion
Water Quality / Hydrology⁸			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None
Energy Consumption and Conservation			
Direct Impacts	None	None	None
Indirect Impacts	None	None	None
Cumulative Impacts	None	None	None
Mitigation Measures	None	None	None

Notes: ⁽¹⁾ Prior environmental documents found air emissions from the landfill to be significant, even with mitigation. Mitigation required included watering, use of soil stabilizers, exhaust emission controls. These measures are also required and application of them is enforced by regulatory agencies, and they are included in the project design of the Proposed Project, and the Reduced Expansion Project. The measures ensure that there is no net difference in emissions between the alternatives.

⁽²⁾ Prior mitigation has been provided, and no alternative would increase the existing footprint of the development.

⁽³⁾ All alternatives assume proper engineering, as required by regulatory agencies.

⁽⁴⁾ All alternatives assume operation according to Solid Waste Facility Permit conditions.

⁽⁵⁾ Impacts that were not identified, but may have been associated with the original landfill have been avoided by a separate project exploiting the resources prior to filling operations.

⁽⁶⁾ At the time the landfill originally opened, State Route 52 had not been constructed. The trips were never considered to have a cumulative significant impact. Kearny Mesa has now developed to the point where cumulatively significant impacts are always an issue, but for the No Project, the Proposed Project, and the Reduced Expansion Project there is no change, and no cumulatively significant impact.

⁽⁷⁾ Previous analysis found the WML to have visual impacts that would be mitigated upon implementation of the Closure Plan. The Proposed Project and Reduced Expansion Alternatives include implementation of the Closure Plan, which is required and enforced by regulatory agencies, in the project description.

⁽⁸⁾ All alternatives assume operation according to all required permit conditions, with no difference in impacts between the alternatives.

4.6 Cumulative Impacts

Both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) require the analysis of cumulative impacts. Cumulative impacts refer to two or more individual effects that, when considered together, are considerable, or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects (CEQA Guidelines, Section 15355). Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time. Cumulative impacts must be discussed when they are significant. The level of detail in the discussion of cumulative impacts should reflect the severity of the impacts, and their likelihood of occurrence, but the discussion need not provide as much detail as for the direct effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness.

CEQA (CEQA Guidelines, Section 15130 (b)) allows cumulative impacts to be analyzed on either of two ways 1) a summary of projections contained in an adopted general plan or related planning document, or 2) a list of past, present and probable future projects producing related or cumulative impacts. This document has been prepared using both approaches.

The Proposed Project site and the adjacent areas of San Clemente Canyon are located within MCAS Miramar. As such, any approved or proposed projects in this area would be included in the 1999 MCAS Miramar Master Plan, and the Integrated Natural Resources Management Plan for MCAS Miramar. According to these documents, projects that could result in cumulative impacts with the Proposed Project are not anticipated.

An additional planning document that should be considered is the General Development Plan GDP prepared by the City for the Miramar Landfill. Furthermore, two other proposals, projects that are not included in any of the Miramar planning documents, which should be considered include the proposed C&D facility and the proposed expansion of the privately-owned and operated Sycamore Landfill.

In total, the most likely projects to contribute to cumulatively significant impacts include: 1) implementation of additional GDP components, 2) implementation of the proposed expansion of the Sycamore Landfill, and 3) implementation of the construction and demolition debris recycling facility.

The GDP described five “existing” facilities: the WML, Field Operations Office, Aggregate Processing, and Hazardous Waste Inspection Facility. Of these, aggregate processing operations have been concluded. In addition, the GDP addressed the relocation of five facilities, the Recycling Center, Greenery, Fee Booth, Vehicle Maintenance, and Fuel Pipeline. Thirteen new facilities were proposed:

- Biosolids Center (completed)
- Household Hazardous Waste Transfer Station (completed)
- Landfill Siltation Basin (completed)
- Earth Mounding (proposal dropped due to less excess soil than anticipated)
- Access Road (completed)
- Pipelines and Utilities (completed)
- Nursery (completed)
- Materials Recovery Facility (plan in development stage)
- Environmental Complex (no current plans)
- Cogeneration Plant (completed)
- Public Transfer Station (not currently proposed)
- Paper Pulp Processing (not currently proposed)

The facility proposed in the Miramar Landfill GDP that is most likely to be developed in the foreseeable future and result in cumulative impacts is the Materials Recovery Facility (MRF). A MRF can vary in design to be more of a transfer station, processing a mixed municipal waste stream (dirty MRF), to more of a recycling facility processing clean loads of source-separated recyclable materials (clean MRF), and even to change between these types of facilities, as the need arises. A MRF can focus on construction debris, but in the case of the facilities envisioned at Miramar, a new place and new concept for a C&D facility is being developed, as discussed below. Although this MRF has not been submitted for any early review, a project manager has been assigned to evaluate the project. Presently, the concept for this project is a small recycling facility that would transition into a large capacity MRF upon closure of Miramar Landfill. As currently envisioned, however, it would not bring in any additional trips until closure of the landfill, at which time the traffic would be redirected from the landfill face to the MRF. Thus the impacts associated with this facility would be largely sequential, rather than cumulative.

MCAS Miramar staff has discussed with the City the possibility of using part of the MRF site for military purposes. The City specifically included a separate payment for this site for development of the MRF; however, specific arrangements could be possible that would allow for joint use of the site. The military purpose would be the construction of fuel storage tanks to provide convenient access to jet fuel for military aircraft. Kinder Morgan would be the private sector partner developing the tanks. This project would have different impacts than the MRF, but mitigation would likely be similar, for example construction of a visual berm along State Route 52.

An additional related facility that should be considered in this analysis is the existing privately-operated Sycamore Landfill. The proposed Sycamore Landfill expansion is being addressed by the City of San Diego in an EIR that is still in preparation. Anticipated significant environmental impacts of that project include impacts to air quality, biological resources, landform alteration/visual quality, noise, odor, paleontological resources, soils, and traffic/circulation, with potentially unmitigable air quality, odor, landform alteration/visual, and traffic impacts.

A final facility that should be considered is the proposed C&D recycling facility at the Miramar Landfill. A project has been submitted to the City's Development Services Department for consideration. However, the project definition has not been clearly identified. At this point, a traffic study has not been submitted to accompany the project. One possible approach to traffic would be to reduce the trips going to the landfill allowed in the SWFP by an equal amount to what would be allowed at the C&D facility. This approach could result in impacts associated with re-direction of waste from Miramar to more distant disposal facilities.

Issue – What are the cumulative impacts of the Proposed Project in conjunction with other approved or proposed projects on the base or within the immediate area?

4.6.1 Land Use

The C&D facility is a solid waste facility located within the landfill footprint and is not expected to result in any land use impacts. The MRF has already been considered in the GDP and found to be a consistent land use. Any inconsistencies with land use associated with the Sycamore Landfill would be a localized issue that would not have a cumulative effect with the Proposed Project. The Proposed Project does not change the existing, consistent land use. Therefore the Proposed Project would not combine with any other potential future projects to result in cumulatively significant land use impacts.

4.6.2 Air Quality

As described in EIS/EIR Sections 4.2.5 and 5.1.1.4, all projected additional LFG resulting from the proposed additional MSW associated with the Proposed Project would be collected in the improved gas collection system, and sent to either the already-permitted cogeneration facilities or the flares. As described in Section 5.1.1.4, as a result of the Proposed Project the projected amount of gas to be burned in those facilities would total 1,360+219+4,345 scfm, or 5,924 scfm, an amount that is less than the 6,000 scfm limits of existing Permits to Operate # 96387A and 96387B. Since no modifications to either the permit or the facilities themselves are proposed or required, there would be no substantive change to LFG combustion or its emission products over the existing permit approvals. As discussed in Section 5.1.1.4, the Proposed Project would result in no change in the number of vehicular trips to the landfill, and thus no change to vehicular emissions associated with the landfill. The Proposed Project would result in no net increase in emissions, and therefore there would be no significant cumulative air quality impacts associated with the Proposed Project. Although all three of the foreseeable projects considered for the cumulative impact analysis are likely to have air quality impacts, because the Proposed Project would result in no net increase in emissions levels, it would have no cumulative air quality impacts when considered with the effects associated with other foreseeable projects.

4.6.3 Biological Resources

The Proposed Project would be located completely within the footprint of the existing WML, and would result in no loss of additional habitat. There would be no direct impact to biological resources associated with the Proposed Project. Thus the Proposed Project would not contribute to any cumulatively significant losses of habitat in the region. Biological impacts associated with development of a MRF were identified and mitigated in the GDP EIS/EIR. Biological impacts associated with the C&D facility would also occur within the footprint of the existing WML, and therefore would not contribute to any cumulatively significant loss of habitat in the region. The proposed expansion of the Sycamore Landfill would result in biological impacts, however, the Proposed Project would result in no impacts, and therefore would not contribute to this impact.

4.6.4 Geology

Geological impacts of the projects are site-specific, and are mitigated through proper engineering. Of the planned projects for the area, the greatest geological challenges will be faced by the C&D facility, which is intended to be completely located within the footprint of WML. The landfill provides an unstable substrate that will be expected to subside as decomposition of the underlying material progresses. For this reason, no permanent structures or inflexible foundations will be proposed, and the facility will be designed to withstand any type of earthquake or subsidence. The MRF is planned to be located partially on stable substrate, and partially over old landfilled areas of South Miramar. Any structure that is part of the final design of this facility will be located on the stable substrate, although parking, storage, and other uses are likely to be proposed over old landfill. These and other projects could result in cumulative effects if heavy rains, seismic events, or other occurrences cause failure of multiple structures, resulting in increased demand on support services. However, not only has WML been designed to withstand such events, in an emergency situation it could continue to operate under a modified structure, and could support emergency services, for example by accepting debris caused by an earthquake. Thus, no cumulative geologic impacts would be associated with the Proposed Project.

4.6.5 Health and Safety

Health and safety issues are also typically addressed and mitigated on an individual basis. The Proposed Project proposes no modifications to the existing operations, which are currently conducted not only under law and inspected by various regulatory agencies, but also under a voluntary Environmental Management System, intended to provide standards above and beyond existing laws. Because the Proposed Project proposes no change in operations, it would have no health and safety impact, and would not contribute cumulatively to any foreseeable cumulative impacts. The planned MRF, C&D facility would all also be required to comply with health and safety regulations. These types of facilities can be operated without impacts, and can provide health and safety benefits in the event of an emergency, for example by providing debris processing and disposal. Thus none of them are expected to contribute to cumulatively significant health and safety impacts.

4.6.6 Cultural Resources

The Proposed Project would stay completely within the footprint of the existing landfill and would disturb no historical or archeological resources, and therefore would not contribute to any regionally significant loss of these resources. Similarly, the C&D facility would be collocated on the landfill and would not result in any significant loss of resources. This issue area was addressed at a project-specific level for the MRF, and no significant impacts were identified, and no contribution to regionally-significant cumulative losses of resources. Thus the Proposed Project would not result in any cumulatively significant impacts to these resources.

4.6.7 Paleontological Resources

The Proposed Project would stay completely within the footprint of the existing landfill and would disturb no paleontological resources, and therefore would not contribute to any regionally significant loss of these resources. Similarly, the C&D facility would be collocated on the landfill and would not result in any significant loss of resources. This issue area was addressed at a project-specific level for the MRF, and no significant impacts were identified, and no contribution to regionally-significant cumulative losses of resources. Thus the Proposed Project would not result in any cumulatively significant impacts to these resources.

4.6.8 Mineral Resources

Landfill operations previously exploited resources underneath the landfill, therefore the Proposed Project would not contribute to any potentially cumulatively significant loss of such resources. The C&D project would be co-located at WML, and therefore would also have no impacts on mineral resources. The MRF would only be partially located over landfill, so excavation opportunities may need to be addressed for portions of the facility over natural substrate to avoid impact in this area. The Sycamore Landfill is currently providing aggregate extraction operations similar to those provided at WML. In combination, the reasonably foreseeable projects have adequately exploited underlying minerals and would not result in cumulatively significant impacts.

4.6.9 Noise

The combination of high ambient noise levels and great distance between the WML and potential receptors results in no individual noise impacts resulting from ongoing landfill operations as measured from the property boundary. The proposed C&D facility may produce noise that can be heard at the property boundary, depending on the type of equipment proposed; however the C&D facility would be co-located with WML, which is at a great distance from the nearest receptors, and separated from them by a busy highway, and is not expected to contribute to any audible difference in the ambient noise levels. The MRF would be located closer to receptors. If not enclosed, this facility could generate noise that could be audible; however, the proposed visual berms would not only reduce visual impacts, they would also reduce noise impacts to the same, or less than, current conditions. Therefore the Proposed Project would not contribute to any cumulatively significant noise impacts.

4.6.10 Traffic

Proposed uses in the GDP, such as the MRF, plus the proposed C&D Recycling facility could produce additional traffic that would further deteriorate already poor levels of service. Trips per day associated with the MRF were only analyzed in the GDP at a programmatic level. It is expected that subsequent environmental review for project-specific impacts will be required when that project is proposed. Likewise, the traffic impacts associated with the C&D facility will need to be evaluated, unless a way can be found to keep the net traffic levels constant. Although a C&D Recycling facility project has been submitted for review, it is unclear what the trips per day will be. Modifying the Solid Waste Facility Permit for the WML to REDUCE the allowable throughput of waste is one option that has been considered; however, this alternative could have other impacts affecting regional traffic. Because a draft environmental document for the C&D facility has not been released, it is not known how traffic will be addressed for this facility. The MRF is likely to be designed to come online as the Miramar Landfill reaches closure, thus resulting in sequential, rather than cumulative trips.

Sycamore Landfill is proposing a large increase in throughput that could have significant effects on local streets, especially Mast Boulevard. The Miramar Landfill has no impacts on Mast Boulevard traffic, and therefore results in no cumulative effect. However, the Sycamore Landfill's large proposed throughput rate could impact State Route 52 as far west as the Miramar Landfill, and could have an impact on access to the Miramar Landfill. The Proposed Project that is the subject of this analysis would not modify traffic conditions. Throughput fluctuates seasonally and annually, as the waste generation rate varies, however growth in the waste generation rate is expected to be accommodated by proposed expansions of other, private facilities. The SWFP is not being modified to allow increased trips into the facility, and no change is expected as a result of the Proposed Project. Thus the Proposed Project would have no direct or indirect impact on traffic in the area. Therefore it would not contribute to any cumulative impact.

4.6.11 Public Services and Facilities

In addition to bringing in more residents with increased demands on services such as parks and schools, some projects also could result in cumulatively significant demands on emergency services. The facility currently can augment emergency services in the event of a disaster, and no change to this service is proposed. Other existing materials recovery facilities and recycling operations often provide their own emergency equipment and personnel, because specialized equipment, such as bulldozers and self-contained breathing apparatus may be required. Typically, therefore, the types of facilities that may be developed in the future at the Miramar Landfill, such as the C&D facility and the MRF, do not result in increased demands on emergency services. Road maintenance in the Mast Boulevard area, which is proposed for very large traffic volumes and heavy trucks will also be addressed. However, the Miramar Landfill is in the centroid of the City and poses no challenge to emergency service providers. The Miramar Landfill also has no effect at all on Mast Boulevard and does not contribute to this impact. Thus, no cumulative public service impacts would be associated with the Proposed Project.

4.6.12 Public Utilities

The existing landfill is served by reclaimed water, and no change to this service is proposed. The types of facilities that may be developed in the future at the Miramar Landfill, such as the C&D facility and the MRF, would be expected to meet water and energy demands with existing infrastructure, and would be expected to continue the existing emphasis on water and energy conservation, and use of reclaimed water. Thus, no cumulative public utility impacts would be associated with the Proposed Project.

4.6.13 Landform Alteration/Visual Quality

The only past, present or foreseeable future landform changes visible from outside MCAS Miramar include landfilling areas in WML, Phase II (maximum permitted elevation 465 feet amsl), and Phase I (maximum elevation 470 feet amsl); North Miramar Landfill (approximate maximum elevation 465 feet amsl); and South Miramar Landfill (approximate maximum elevation 415 feet amsl). Other past, present or future ancillary facilities that are completed, or that are included in the Miramar GDP, are all buildings or structures of two stories or less, visually comparable to the existing industrial buildings and facilities located south of SR52.

Some of the Phase I facilities described in the GDP, notably the Household Hazardous Waste collection facility, have already been developed. The Materials Recovery Facility has not yet been developed and may be developed in the future, but as anticipated in the GDP, this facility will be adequately screened from public view. Since the current view is of the biosolids facility, which was developed subsequent to the EIS/EIR for the GDP, adequate screening of the area would reduce an existing impact and would not contribute to any cumulatively significant deterioration in the viewshed quality. Most GDP Phase II projects, such as the paper pulping plant, are no longer proposed.

The potential Kinder Morgan fuel storage tanks would be located at the same site as the MRF that was analyzed in the GDP. Whether the MRF is developed, or the tanks, or both, these facilities will not be cumulative so much as they will partially or completely block views to landfill operations, obscuring the current line of site from the freeway.

No substantial changes to MCAS Miramar facilities or landforms are planned or anticipated, based on review of the 1999 MCAS Miramar Master Plan (1999) and the Integrated Natural Resources Management Plan, MCAS Miramar (2000).

URS personnel compared the current County of San Diego General Plan 2020 to existing land use patterns outside MCAS Miramar but within four miles of the identified KOP locations. That distance falls within foreground (0 to one-half mile) and middleground (one-half mile to four miles). The area is virtually completely built out. Any future development would require removal of similar land uses already present.

Since little additional land development or landform alteration is anticipated under either Miramar or City of San Diego plans for the Proposed Project area, no substantive development is anticipated that would result in cumulative visual impacts to the identified KOPs, although the potential Materials Recovery Facility and Kinder Morgan storage tanks, and visual berming associated with these facilities, would be located in the foreground. While direct visual impacts have been identified as adverse, but less than significant, these impacts would not combine with visual impacts of other development to result in cumulative visual impacts. Thus, potential cumulative visual impacts of the Proposed Project would be less than significant.

4.6.14 Water Quality/Hydrology

As a result of the proposed drainage control features, any increase in velocity of runoff resulting from the increased slope walls within the existing footprint would be captured in sedimentation basins so that the sediment load would be controlled. No changes to run-off exit velocity or quality would occur. No changes in ground water quality would occur. Because there would be no change, there would be no direct and therefore no cumulatively significant impact.

The C&D facility and MRF would be subject to stormwater controls, and would be expected to mitigate any impacts to below a level of significance. The development of the Kearny Mesa area has increased peak flow velocities, thus increasing erosion in San Clemente Canyon, however the Proposed Project, the C&D facility and the MRF would be expected to prevent any associated impacts to assure no change to peak flows.

4.6.15 Energy

Gas from the landfill produces more energy than is consumed by the Proposed Project. Because of its central location, this facility is superior to any alternative in terms of reducing fossil fuel consumption associated with MSW deliveries. The MRF and the C&D facility would be expected to be net consumers of energy, but are likely to provide energy conservation measures. The Sycamore Landfill gas is used to generate electricity under an arrangement similar to that for the Miramar Landfill, thus the proposed Sycamore Landfill expansion and the Proposed Project do not contribute to any regionally significant shortfalls in local energy generation.

4.7 Economic and Social Effects

Economic and social factors are listed in the CEQ NEPA Regulations (40 CFR 1508.08(b)) as among the effects that should be analyzed when preparing an EIS. In addition, Executive Order 12898 requires that adverse effects to minorities or people with limited income be evaluated (environmental justice). To determine whether a proposed action is likely to have disproportionately high and adverse human health or environmental effects on low-income populations or minority populations, the potential impact area must be identified. A three-mile radius around the landfill was studied. The potential impact area is the area that may be affected in some way by the Proposed Project; for example, the potential impact area near a landfill could have air quality or aesthetic impacts. All or portions of 44 census tracts lie within the three-mile radius of the Proposed Project site; however, due to existing topography and the fact that the site is not visible from most of these census tracts, all but 14 of the census tracts were eliminated from further analysis. The demographics of the 14 census tracts, lying within the communities of University City, Mira Mesa, Tierrasanta, Kearny Mesa, and Clairemont, were examined to determine the existing socioeconomics of the potential impact area.

To analyze the social and economic effects for the potential impact area, the demographics for each census tract have been compared to the countywide demographics to determine if a minority or low-income group may be disproportionately affected by the Proposed Project. The countywide demographics, as well as the demographics of the 14 census tracts, are provided in Table 4.7-1. According to Executive Order 12898, individuals in the following population groups are considered minorities: American Indian, Asian or Pacific Islander, Black, or Hispanic.

All census tracts evaluated, with the exception of 94 (MCAS Miramar) and 95.04 (MCAS Miramar) have a larger Asian population than the County as a whole. This high minority concentration can be attributed to the proximity to the University of California, San Diego (UCSD). UCSD, located approximately five miles northwest of the Proposed Project site, has a high percentage of Asian students (39 percent in 2006) (UCSD Student Profile, Fall 2006). A large percentage of UCSD students live in the communities near the university, including communities that surround the Proposed Project site. This is also the reason for the high percentage of low-income (below poverty) persons in three of the University City census tracts: 83.75, 83.4, and 83.44 (Personal Communication, E. Schaffer, 2005). Non-family households under the age of 25 account for most of the “poverty” cases in these three census tracts.

In addition, census tracts 83.6 (Mira Mesa) and 94.0 (MCAS Miramar) have larger Black populations than the County as a whole. This can be attributed to the close proximity to the military base, which has a particularly high percentage of Black personnel (13.26% versus the county-wide average of 5.34%). Census tract 83.6 is located immediately north of MCAS Miramar and this census tract contains housing for military families.

Overall, the Proposed Project would benefit human health for the surrounding communities and the entire County because waste disposal can still occur near the center of the Countywide population. This would result in less air pollution because trash trucks would not have to travel to more distant landfills to dispose of solid waste. For environmental justice to be achieved, minority and/low-income populations must not be adversely affected by the Proposed Project. As concluded in this EIS/EIR, the Proposed Project would not result in any significant direct or indirect adverse effects to the environment. Therefore, the Proposed Project would not result in adverse social or economic effects to minority or low-income populations.

**TABLE 4.7-1
Countywide and Project Area Demographics, 2006* Estimates**

	Countywide	Tract					
		83.39	83.4	83.44	83.45	83.5	83.6
Hispanic	29.07%	9.27%	8.19%	8.59%	5.56%	9.38%	16.69%
White	51.42%	54.33%	66.71%	74.51%	78.67%	29.91%	34.53%
Black	5.34%	1.32%	2.08%	1.83%	0.73%	3.69%	6.10%
American Indian	0.52%	0.06%	0.34%	0.15%	0.15%	0.12%	0.22%
Asian	9.74%	29.96%	19.02%	11.67%	12.22%	50.40%	36.77%
Hawaiian	0.43%	0.12%	0.19%	0.23%	0.21%	0.51%	0.43%
Other	0.26%	0.06%	0.27%	0.17%	0.27%	0.43%	0.56%
2+ races (mixed)	3.23%	4.87%	3.20%	2.85%	2.17%	5.56%	4.69%
% Below Poverty	11.18%	33.81%	12.49%	14.93%	8.22%	5.28%	6.91%

	Tract							
	85.05	85.06	85.07	85.11	94.00	95.02	95.04	95.05
Hispanic	19.84%	17.48%	22.57%	20.20%	18.72%	9.38%	7.67%	8.14%
White	58.87%	57.88%	50.34%	59.49%	60.66%	71.25%	78.48%	65.69%
Black	1.83%	2.08%	3.97%	4.25%	13.26%	3.86%	2.45%	3.27%
American Indian	0.56%	0.46%	0.22%	1.27%	0.63%	0.22%	0.17%	0.25%
Asian	14.60%	18.16%	15.42%	10.78%	4.91%	11.27%	8.17%	17.67%
Hawaiian	0.73%	0.43%	1.02%	1.22%	0.19%	0.74%	0.09%	0.47%
Other	0.17%	0.20%	0.33%	0.25%	0.09%	0.14%	0.28%	0.21%
2+ races (mixed)	3.41%	3.32%	6.12%	2.53%	1.53%	3.15%	2.68%	4.30%
% Below Poverty	8.40%	7.37%	11.28%	4.35%	1.82%	3.09%	1.85%	1.93%

Note: Most recent poverty data are from 2000 Census.

Source: SANDAG Data Warehouse, 2007 and BRG Consulting, Inc., 2007.

4.8 Irreversible and Irretrievable Changes and Commitment of Resources

Implementation of the Proposed Project would be essentially irreversible and irretrievable. Once the vertical expansion begins, it is unlikely that the landfill would be removed at the end of the Proposed Project life span. The Proposed Project would add additional material over the liner, including geotextile material and specific soil layers. The waste materials themselves are not intended to be retrieved, nor are any the materials used as sacrificial cover.

Construction and operation of the landfill expansion would involve the consumption of energy derived from nonrenewable resources. The vertical expansion would result in the landfill operating for approximately four more years, five to consider possible “worst case,” which would also extend the number of years the trucks and heavy equipment used to operate the facility would be in use. However, the energy produced by the long-term generation of methane gas from the additional landfill capacity would serve to offset fossil fuels used to operate the landfill equipment. The degree of energy production offset would be greater for the Proposed Project than that of any offsite alternative, due to increased energy use required to transport the MSW to distant landfill sites, and to develop new sites.

Other technologies could be more efficient than the WML gas utilization program; however, given the longer planning horizon required for development of facilities that make better use of the energy in waste, no such facility would be online during the approximately four years of additional life the Proposed Project would provide.

Implementation of the Proposed Project would also cause less than significant irreversible and irretrievable changes to the visual character of the area. The landform created by the proposed expansion would be expected to remain in perpetuity, and the land underneath would not be available for other potential uses, though the surface of the landfill could support non-structural activities after closure. The maximum 20 extra feet of height of the landfill would be visible from some viewpoints offsite; however, once completed, the landfill would be landscaped with native vegetation to minimize visual contrast. This would help to reduce long-term visual impacts from the Proposed Project.

4.9 The Relationship Between Local Short-Term Use of Environment and the Maintenance and Enhancement of Long-Term Productivity

Short-Term Impacts

The short-term effects of the Proposed Project are those associated with construction. Construction would affect the immediate area in the form of landform alternation, and generation of traffic and airborne particles (dust). Phase I has not been accepting waste for more than a decade, and so there is vegetation in unused areas, as discussed in the biology section. However, with or without the Proposed Project, during ongoing operations and/or at the time of closure, when the entire landfill will be regraded and revegetated, these plants will be impacted. It is anticipated that closure activities will follow the outline provided in the Closure Plan; however, the Closure Plan will have to be re-submitted to regulatory agencies to ensure compliance with any laws that may be in force at that time. Regulatory agencies may make changes to the proposed Closure Plan. This is true with or without the Proposed Project. Therefore there is no change in potential short term impacts associated with the Proposed Project.

Long-Term Productivity

The Proposed Project would enhance the long-term productivity of City and USMC resources by extending the service life of Miramar Landfill. The public would benefit because haulers from the City would not having to commit additional resources to hauling waste an additional seven miles to Sycamore Landfill, or to other, more distant landfills. The DoD would conserve resources by not having to pay for disposal of military solid waste for the additional service life of the landfill. After closure of Miramar Landfill, the military would need to expend resources in order to dispose of solid waste. The financial and other resources conserved by implementation of the Proposed Project would be available to address other public service needs. Finally, the proposed vertical expansion would benefit all of San Diego County by providing additional in-county landfill capacity, and delaying the need for commitment of resources to develop additional landfill sites.

4.10 Unavoidable Adverse Impacts

As discussed above, implementation of the Proposed Project would cause less than significant changes to the visual character of the area. The maximum 20-foot higher landform created by the proposed expansion would be expected to remain in perpetuity, and the land underneath would not be available for other potential structures, though the surface of the landfill could support non-structural activities after closure. The additional height of the landfill would be visible from some viewpoints offsite; however, once completed, the landfill would be landscaped with native vegetation to minimize visual contrast. No other unavoidable adverse impacts are anticipated.

5.0 CONSULTATION AND COORDINATION

In addition to compliance with NEPA and CEQA, other laws, regulations, and executive orders designed to protect environmental resources need to be satisfied prior to implementation of the Proposed Project. These laws, regulations, and executive orders, and their applicability to the Proposed Project, are described below.

5.1 National Natural Landmarks

The Secretary of the Interior is authorized to designate areas as National Natural Landmarks for listing on the National Registry of Natural Landmarks pursuant to the Historic Act of 1935, 16 U.S. Code (USC) 461 *et. seq.* Agencies that must take actions to allow the Proposed Project, including the DoD and City of San Diego, must consider the existence and location of natural landmarks, using information provided by the National Park Service pursuant to 36 CFR 62.6(d). The Miramar Mounds National Natural Landmark, a collection of vernal pools, is located near the southern boundary of MCAS Miramar, approximately one-quarter mile southeast of the Proposed Project area (National Park Service (a), 2004). The Proposed Project would occur within the existing WML and no runoff from this area comes near the Landmark. Thus, the Proposed Project would not affect the Miramar Mounds National Natural Landmark, or other National Natural Landmarks.

5.2 Cultural Resources

The *National Historic Preservation Act* (NHPA), as amended, 16 USC 470, directs federal agencies to integrate historic preservation into all activities that either directly or indirectly involve land use decisions. The NHPA is administered by the National Park Service, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and each federal agency. Implementing regulations include 36 CFR Part 800: *Regulations of the Advisory Council on Historic Preservation Governing the NHPA Section 106 Review Process*. Section 106 of the NHPA requires federal agencies to take into consideration the impact that an action may have on historic properties that are included on, or are eligible for inclusion on, the National Register of Historic Places. In addition, the *Archaeological and Historic Preservation Act* (AHPA) of 1974, 16 USC 469 *et seq.* provides for the preservation of cultural resources if an EPA activity may cause irreparable loss of destruction of significant scientific, prehistoric, or archaeological data. In accordance with the *Archaeological and Historic Preservation Act*, the responsible official or the Secretary of the Interior is authorized to undertake data recovery and preservation activities. The Proposed Project would occur within the existing footprint of the WML. Thus, the Proposed Project site has previously been disturbed, and does not contain significant cultural resources.

5.3 Flora and Fauna

Fish and Wildlife Protection – The Fish and Wildlife Coordination Act, 16 USC 661 *et seq.*, requires federal agencies involved in actions that would result in the control or structural modification of any natural stream or body of water for any purpose, to take action to protect the fish and wildlife resources that may be affected by the action. No U.S. streams or water bodies would be modified as a result of the Proposed Project. Potential hydrologic and water quality impacts are evaluated in Section 5.1.2 of this document. No significant hydrologic or water quality impact was identified as a result of the Proposed Project. Additional protection for wildlife is provided in California Fish and Game Code Sections 355 *et seq.*, which addresses migratory birds where it applies. Migratory birds are also addressed by the Migratory Bird Treaty Act, which implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under these laws it is important to avoid nesting sites of protected birds, for example those listed in Fish and Game Code Section 3511. No such nesting sites have been detected or are likely to occur within the existing landfill footprint; however, existing operations include onsite, staff biologists, who can alter landfill activities if any protected wildlife is detected at any time. The Proposed Project would not change this existing situation.

Endangered Species Protection – The Endangered Species Act, 16 USC 1536 *et seq.*, prohibits agencies from jeopardizing threatened or endangered species or adversely modifying habitats essential to their survival. No impacts on endangered species or to critical habitats are anticipated from the Proposed Project, which would be within the footprint of an existing, operating landfill.

5.4 Air Quality

The Clean Air Act requires federal actions to conform to any state implementation plan approved or promulgated under Section 110 of the Act. For EPA actions, the applicable conformity requirements specified in 40 CFR Part 51, Subpart W; 40 CFR Part 93, Subpart B; and the applicable state implementation plan must be met. Under the Federal Rule on General Conformity, 40 CFR Part 93, a conformity determination is required only when emissions occur in a non-attainment area. Impacts to air quality from the Proposed Project are discussed in Section 5.1.1. No air quality impacts were identified.

5.5 Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” and the accompanying presidential memorandum, advise federal agencies to identify and address, whenever feasible, disproportionately high and adverse human health or environmental effects to minority communities and/or low-income communities.

Environmental justice became part of California's laws through legislation enacted in 1999 and 2001. It was formally defined in 1999 by Senate Bill 115, which designated the Office of Planning and Research (OPR) as the agency charged with coordinating the state's efforts for environmental justice programs. In 2000, Senate Bill 89 established a procedural framework for pursuing environmental justice. In 2001 Senate Bill 828 required Cal/EPA to identify and address gaps in its programs that may impede the achievement of environmental justice, and also, Assembly Bill 1553 required the Office of Planning and Research to establish guidelines for incorporating environmental justice into the general plans adopted by cities and counties. Finally, in 2002, Senate Bill 1542 required the California Integrated Waste Management Board to provide local jurisdictions and private businesses with information and models to assist with consideration of environmental justice concerns in the development and revision of countywide siting elements for solid waste disposal facilities.

The CIWMB is responsible for certifying, overseeing, and evaluating the 55 local enforcement agencies (LEAs) in the state. In turn, LEAs are responsible for inspecting and issuing permits for solid waste facilities. The CIWMB also must decide whether to concur in the issuance of any solid waste facilities permit by a LEA, pursuant to specific requirements in statute. Although the statutory criteria do not include environmental justice concerns, the CIWMB incorporates this consideration as much as possible. In part because of this emphasis, in 2006 the CIWMB adopted revised regulations expanding public noticing and hearing requirements to both revised and new solid waste facilities permits, with which the Proposed Project must comply.

The CIWMB encourages the provision of information to the public via workshops and websites about proposed and existing facilities and permits, and this is something that has been provided for the WML. The CIWMB also encourages local governments to address illegal dumping, which often occurs disproportionately in lower income neighborhoods. As previously discussed, the City provides community cleanups and also litter enforcement to help address this environmental justice concern.

Environmental justice considerations also are discussed in Section 8.0. No significant direct or indirect environmental impacts to any persons or groups were identified in this EIS/EIR. Therefore, no significant environmental justice impacts would occur.

5.6 Other Issues

Wetlands Protection – Executive Order 11990, “Protection of Wetlands” of 1977, requires federal agencies conducting certain activities to avoid, to the extent possible, adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands, if a practicable alternative exists. In 1989, then President Bush announced a policy of “no net loss” of wetlands, a policy which has been repeated by subsequent administrations, and is reflected in the City's General Plan. Discharge of dredge or fill material into wetlands and other waters of the U.S. are also regulated under Section 404 of the Clean Water Act.

Additionally, both the State of California and the City of San Diego have policies and regulations to protect wetlands, with a goal of achieving “no net loss” of such lands, and retaining “in-kind functions and values.” The state policy is detailed in Executive Order W-59-93, signed by Governor Wilson in 1993. That order establishes a state wetlands conservation policy, and designates the Resources Agency and CalEPA as co-lead agencies in the effort. Additionally, Fish and Game Code Section 1602 provide restrictions on alterations to streambeds. The City of San Diego Municipal Code Section 143.0141, provides regulations regarding sensitive biological resources, including wetlands (subsection (b)). It was enacted in 1997, and amended in 1999.

The proposed height increase would take place within the area of an existing, operating landfill. Therefore, the Proposed Project would avoid drainages, and no wetlands would be filled or otherwise adversely affected by the Proposed Project.

Floodplain Management – EO 11988, “Floodplain Management” of 1977, requires federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid, to the extent possible, any adverse effects associated with the direct and indirect development of a floodplain. The Proposed Project would take place within an existing, operating landfill, and none of the components of the Proposed Project occurs within a U.S. floodplain (FEMA, FIRM# 0602951607F, June 1997).

Important Farmlands – The Farmland Protection Policy Act, 7 USC 4201 *et seq.*, and the U.S. Department of Agriculture’s implementing procedures require federal agencies to evaluate the adverse effects of their actions on prime and unique farmland, including farmland of statewide and local importance. The Proposed Project would occur within an existing landfill. The Proposed Project site is already disturbed by the prior deposition of solid waste, and, as such, does not constitute important farmlands.

Greenhouse Gases – In California, Executive Order (EO) S-3-05 specifies that by 2010 greenhouse gases must be reduced to year 2000 emission levels, and by 2020 to 1990 emission levels. The legislature supported the Governor’s EO with passage of Assembly Bill 32, *The California Climate Solutions Act of 2006*, which specifies a similar reduction: 1990 levels by 2020.

According to CEQA Guidelines §15002(a)(1), one of the basic purposes of CEQA is to, “Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.” Although a discussion of global warming impacts is not currently required by the CEQA Statutes or Guidelines, it is the view of the State Legislature (as expressed in its adoption of *The California Climate Solutions Act of 2006*) that global warming poses significant adverse effects to the environment of the state of California and the entire world. In addition, the global scientific community has expressed very high confidence (i.e., at least 90 percent) that global warming is anthropogenic, i.e., caused by humans, and that global warming will lead to adverse climate change effects around the globe (IPCC 2007).

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

If Greenhouse Gas (GHG) emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. The current water distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

On January 29, 2002, the San Diego City Council unanimously approved the San Diego Sustainable Community Program. Included in this program are: the City's GHG Emission Reduction Program, which sets a reduction target of 15 percent by 2010, using 1990 as a baseline; establishment of a scientific *Ad Hoc* Advisory Committee to expand the GHG Emission Reduction Action Plan for the City organization and broaden the scope to include community actions; membership in the International Council for Local Environmental Initiatives (ICLEI) City for Climate Protection (CCP) Campaign to reduce GHG emissions; and charter membership in the California Climate Action Registry.

The City of San Diego's Climate Protection Action Plan (2005) calls for the City to achieve a 15 percent reduction in GHG emissions by 2010. This action plan projects that global warming would result in impacts to the City associated with water and energy shortages, loss of beaches and coastal property, higher average temperatures, and decreases in revenue from tourism and agriculture. According to the action plan in the City (including all residential, business, and commercial sectors within the City limits) the transportation sector (i.e., vehicle miles traveled) is responsible for approximately one-half (51 percent) of GHG emissions, followed by energy (electricity and natural gas) consumption (29 percent), and solid waste/landfills (20 percent). For the City's municipal operations, solid waste landfills represents a plurality (25 percent) of GHG emissions, followed by employee commutes (23 percent), water and sewage operations and facilities (18 percent), City buildings (17 percent), the City's vehicle fleet (12 percent), and streetlights (five percent). Overall, City residents and businesses are responsible for approximately 98 percent of GHG emissions (15.3 million tons) within the City, while municipal government operations are responsible for the remaining two percent (0.2 million tons) (City of San Diego 2005).

In recognition of the fact that local action is needed to reduce the impacts of global warming, the action plan provides a series of recommendations to be implemented by the City in order to achieve the 15 percent reduction in GHG emissions (using 1990 as a baseline) by 2010. Baseline (1990) GHG emissions for the City were estimated at 15.5 million tons of carbon-dioxide equivalent (carbon-dioxide equivalent is a calculation that enables all GHG emissions to be considered as a group in order to measure the impact of all GHG emissions). If no action were taken to address GHG emissions before 2010, the City is forecasted to emit 22.5 million tons of carbon dioxide equivalent in 2010. The goal of a 15 percent reduction in GHG emissions equals a total of 13.2 million tons of carbon dioxide equivalent in 2010. Therefore, achievement of the 15 percent reduction would require the City to reduce total GHG emissions by 9.3 million tons of carbon dioxide equivalent. In order to achieve this goal, the GHG emission reduction measures of the action plan target emissions from the transportation, energy and waste sectors through a two-phase strategy.

During Phase One (1994-2003) of the emission reduction strategy, the City reduced total GHG emissions by 3.8 million tons of carbon dioxide equivalent through a combination of increasing energy efficiency, retrofitting transit infrastructure, recycling, and recovering landfill gas. Approximately 3.6 million tons (95 percent) of the emissions reductions were associated with the capture of methane gas from solid waste landfills and sewage treatment plants, as well as recycling programs. The City needs to reduce GHG emissions by an additional 5.5 million tons of carbon dioxide equivalent by 2010 to meet its goal for a 15 percent reduction. In order to meet this goal, the Climate Protection Action Plan calls for the City to reduce GHG emissions through the several reduction measures; the solid waste reduction measures are listed below:

- Continue to implement the Construction and Demolition Debris (C&D) Diversion Deposit Ordinance to reduce the amount of GHG emissions associated with the disposal of solid waste into landfills;
- Consider bolder incentives to expand waste minimization efforts:
 - Develop and adopt a construction and demolition recycling ordinance;
 - Develop and adopt a commercial paper recycling ordinance; and
 - Develop and adopt a multifamily recycling ordinance.

The City has already reduced a sizeable portion of solid waste-related GHG emissions through existing waste diversion measures and landfill gas control and use.

The City's strategy includes continuing to implement waste diversion programs and ordinances that reduce the amount of emissions associated with landfills, with a special emphasis on diverting from disposal construction and demolition debris, waste paper generated by the commercial sector, and waste originating from multifamily housing. The Proposed Project is complementary with these diversion strategies and is consistent with the Executive Order, *The California Climate Solutions Act of 2006*, and the City's policy in that the emission rates would not increase. The Proposed Project captures gases and uses them to generate electricity. It

maintains emission rates at no more than 1990 levels. Furthermore, the facility is centrally-located, keeping emissions associated with transportation of wastes to a minimum.

The California Air Resource Board has been directed to develop regulations and a reporting system to track and monitor emissions levels; however, these regulations have not yet been developed, and no guidance for thresholds or significance has been developed at the state or local level.

Coastal Zone Management Act – The Coastal Zone Management Act, 16 USC 1451 *et seq.*, requires that federal agencies in coastal areas be consistent with approved State Coastal Zone Management Programs, to the maximum extent possible. If a federal action may affect a coastal zone area, the responsible official is required to assess the impact of the action on the coastal zone. The Proposed Project would not affect a coastal zone area. The nearest coastal zone (Pacific Ocean) is more than seven miles west of the Proposed Project.

Coastal Barrier Resources Act – The Coastal Barrier Resources Act, 16 USC 3501 *et seq.*, generally prohibits new federal expenditures and financial assistance for development within the Coastal Barrier Resources System and therefore protects ecologically sensitive U.S. coastal barriers. The Proposed Project does not affect any coastal barrier resources, since it is more than seven miles from the coastline.

Wild and Scenic Rivers – The Wild and Scenic Rivers Act, 16 USC 271 *et seq.*, establishes requirements applicable to water resource projects affecting wild, scenic, or recreational rivers within the National Wild and Scenic Rivers System, and rivers designated on the National Rivers Inventory. No designated wild and scenic rivers occur within the County of San Diego (National Park Service (b), 2004).

Wilderness Protection – The Wilderness Act, 16 USC 1131 *et seq.*, establishes a system of National Wilderness Areas. The Wilderness Act establishes a policy for protecting this system by generally prohibiting motorized equipment, structures, installations, roads, commercial enterprises, aircraft landings, and mechanical transport. No wilderness areas occur near the Proposed Project site. The nearest wilderness areas are located in Cleveland National Forest, more than 30 miles away.

6.0 REFERENCES

6.1 Certification Page

The EIR information contained in this document was prepared by the Environmental Analysis Section of the City of San Diego's Development Services Department. It represents the independent analysis of the City of San Diego as lead agency under CEQA, and the United States Marine Corps as the lead agency under NEPA. The following professional staff participated in its preparation:

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7.0 DISTRIBUTION

Draft EIR Distribution:

Federal Government

U.S. Marine Corps (3)
 Commanding General, MCAS Miramar Air Station (13)
 U.S. EPA
 U.S. Fish and Wildlife Service (23)
 U.S.D.A. Natural Resources Conservation SRVS (25)
 Dept. of Interior, Environmental Policy and Compliance

State Government

Caltrans (31)
 CA Department of Fish and Game (32)
 CA Department of Fish and Game (Sacramento office)
 California Integrated Waste Management Board (35)
 California EPA (37A)
 Resources Agency (43)
 CA Regional Water Quality Control Board (44)
 State Clearinghouse (46)
 California Air Resources Board (49)
 Water Resources Control Board
 California Transportation Commission, Quality Advisory Committee

County Government

Air Pollution Control District (65)
 Department of Public Works (70)
 Dept. of Environmental Health (75)

City of San Diego

Mayor Sanders, MS 11A
 Council President Peters, MS 10A
 Councilmember Faulconer, MS 10A
 Council Atkins, MS 10A
 Council President Pro Tem Young, MS 10A
 Councilmember Maienschein, MS 10A
 Councilmember Frye, MS 10A
 Councilmember Madaffer, MS 10A
 Councilmember Hueso, MS 10A
 Environmental Services, Lisa Wood (MS 1102A)
 LDR EAS, Marilyn Mirrasoul
 LDR Planning, Ismael Lopez
 LDR Landscaping, Craig Hooker
 LDR Transportation, Jim Lundquist
 Transportation Development (78)

San Diego Fire Department, Sam Oates (MS 603)
San Diego Police Department, Jerry Hara (MS 711)
Geology, Pat Thomas (MS 401)
Long Range Planning, Maxx Stalheim (MS 4A)
Water Department, Chris Gascon (MS 910D)
LEA, Bill Prinz (MS 606L)
MWWD, Alejandro Ruiz (MS 22)
Bob Ferrier (80)
University Community Branch Library (81JJ)
Balboa Branch Library (81B)
Mira Mesa Library (81P)
Scripps-Miramar Library (81FF)
Tierrasanta Library (81II)
Central Library (81)
Police Research and Analysis (84)
Real Estate Assets Dept. (85)
General Services (92)
Clairemont Community Service Center (MS 97)
City Attorney, Shirley Edwards (MS 59)

Others

City of Chula Vista (94)
City of Coronado (95)
City of Del Mar (96)
City of El Cajon (97)
City of Escondido (98)
City of Imperial Beach (99)
City of La Mesa (100)
City of Lemon Grove (101)
City of National City (102)
City of Poway (103)
Poway Library
City of Santee (104)
City of Solana Beach (105)
SANDAG (108)
San Diego County Regional Airport Authority (110)
SDGE (114)
Back Country Against Dumps (162)
Sierra Club (165)
San Diego Audubon Society (167)
Mr. Jim Peugh (167A)
Environmental Health Coalition (169)
California Native Plant Society (170)
Center for Biological Diversity (176)
Endangered Habitats League (182)
League of Women Voters (192)

Community Planner Committee (194)
Town Council Presidents Association (197)
Clairemont Mesa Planning Committee (248)
Clairemont Chamber of Commerce (249)
Clairemont Town Council (257)
Kearny Mesa Town Council (263)
Kearny Mesa Community Planning Group (265)
Marian Bear Recreation Council (267A)
Mira Mesa Community Planning Group (310)
Tierrasanta Community Council (462)
University City Community Planning Group (480)
University City Community Association (486)
BRG Consultants
San Diego Landfill Systems, Neil Mohr
United Veterans Council, Chairman Joe Brunner

Native Americans

Campo Band of Mission Indians
Cuyapaipe Band of Mission Indians
Inaja and Cosmit Band of Mission Indians
Jamul Band of Mission Indians
La Posta Band of Mission Indians
General Council, Chairperson
Mesa Grande Band of Mission Indians
San Pasqual Band of Mission Indians
Santa Ysabel Band of Mission Indians
Sycuan Band of Dieguena Mission Indians
Viejas Band of Mission Indians

8.0 CORRESPONDENCE

See Appendix B.

APPENDICES

Draft Environmental Impact Report (EIR)

Miramar Landfill Service Life Extension/Height Increase

At MCAS Miramar, County of San Diego, California

Project No. 122833

SCH No. 2006051004

City of San Diego: Lead Agency

MCAS Miramar: Cooperating Agency

MCAS Miramar
Lieutenant Colonel Russell J. Pharris
Environmental Management Officer
P.O. Box 452001, Building 6317
San Diego, California 92145-2001
(858) 577-1108

May 2007



THE CITY OF SAN DIEGO

Department of Environmental Services
Solid Waste Local Enforcement Agency (LEA)
Date of Notice: March 23, 2006

NOTICE OF PUBLIC INFORMATION MEETING

DATE OF MEETING: Thursday, April 5, 2007

TIME OF MEETING: 7:00 pm

LOCATION OF MEETING: 9601 Ridgehaven Court
San Diego, CA 92123-1636
(858) 492-5077

PROJECT TYPE/NUMBER: Revision to Solid Waste Facility Permit # 37-AA-0020

PROJECT NAME: WEST MIRAMAR SANITARY LANDFILL – REVISION
TO SOLID WASTE FACILITY PERMIT

PROJECT LOCATION: 5180 Convoy Street
San Diego, CA 92111

FACILITY CONTACT: City of San Diego
(858) 492-5077

APPLICANT: West Miramar Sanitary Landfill

COMMUNITY PLAN AREA: Kearny Mesa, Mira Mesa, Clairemont Mesa, University
Community, Tierrasanta

COUNCIL DISTRICT: All Districts

CITY LEA CONTACT: William E. Prinz, Acting Program Manager

PHONE NUMBER: (619) 533-3696

As a property owner, tenant or person who has requested notice, please be advised that the City of San Diego Solid Waste Local Enforcement Agency (LEA) will be holding an informational public hearing in compliance with AB1497 regarding a proposed revision to the Solid Waste Facility Permit for the West Miramar Sanitary Landfill. The LEA is certified by the California Integrated Waste Management Board to enforce state laws and regulations at solid waste sites within the City of San Diego, including all active and closed landfills.



THE CITY OF SAN DIEGO

DEVELOPMENT SERVICES DEPARTMENT

Date of Notice: April 28, 2006



PUBLIC NOTICE OF THE PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND
PUBLIC NOTICE OF A SCOPING MEETING
JO: 372540

PUBLIC NOTICE: The City of San Diego will prepare an EIR in compliance with the California Environmental Quality Act (CEQA) for the project listed below. This Notice of Preparation of a draft Environmental Impact Report and Scoping Meeting was publicly noticed and distributed on April 28, 2006.

SCOPING MEETING: A scoping meeting will be held by the City of San Diego Environmental Analysis Section on Wednesday, May 10, 2006, from 6:00 to 8:00 in the training room of the City of San Diego's Environmental Services Department Green Building, 9601 Ridgehaven Court, San Diego, CA 92123. Verbal and written comments regarding the scope and alternatives of the proposed Environmental Impact Report (EIR) will be accepted at the meeting. Written comments may also be sent to the City of San Diego's Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101 or e-mailed to mmirrasoul@sandiego.gov referencing Project Number 72422 in the subject line within 30 days of the receipt of this notice. A draft EIR incorporating public input will then be prepared and distributed for public review and comment.

SUBJECT: Miramar Landfill Height Increase: Solid Waste Facility Permit modification to allow a 20-foot increase in the height of the 239-acre Phase I and the 238-acre Phase II of the existing West Miramar Landfill. The landfill is located at 5180 Convoy Street, north of Highway 52, east of Interstate 805, and west of Interstate 15 on Marine Corps Air Station Miramar land. No other changes to existing landfill operations are proposed. The project would also require modifications to the lease with the Department of Defense to allow the increased elevation.

Applicant: City of San Diego Environmental Services Department

PROJECT No.: 72422 **COMMUNITY PLAN AREA:** MCAS Miramar **COUNCIL DISTRICT:** 7

Recommended Finding: Based on an Initial Study, it appears that the proposed project may result in significant environmental impacts in the following areas: Air Quality, Biological Resources, Hydrology, Water Quality, Visual Effects and Neighborhood Character.

Availability in Alternative Format: To request the letter to the applicant detailing the required scope of work (EIR Scoping Letter) in an alternative format, call the Development Services Department at (619) 446-5460 immediately to ensure availability. This information is ALSO available in alternative formats for persons with disabilities. To request this notice in an alternative format, call (619) 446-5446 or (800) 735-2929 (TEXT TELEPHONE).

Additional Information: For environmental review information, contact Marilyn Mirrasoul at (619)446-5380. For information regarding public meetings/hearings on this project, contact the Development Project Manager Vena Lewis at (619)446-5197. This notice was published in the San Diego Union Tribune and the San Diego Transcript, and placed on the City of San Diego website (<http://clerkdoc.sannet.gov/Website/publicnotice/pubnotceqa.html>) and distributed on April 28, 2006.

Robert J. Manis, Acting Assistant Deputy Director
Development Services Department

Distribution:

Federal Government

Commanding General, MCAS Miramar Air Station (13)
USDA Natural Resources Conservation SRVS (25)

State Government

California Integrated Waste Management Board (35)
California EPA (37A)
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CA Regional Water Quality Control Board (44)
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Marian Bear Recreation Council (267A)
University City Community Planning Group (480)
University City Community Association (486)
Friends of Rose Canyon (487)
BRG Consultants



THE CITY OF SAN DIEGO

April 28, 2006

Lisa Wood, Project Manager
Environmental Services Department
City of San Diego
9601 Ridgehaven Court
San Diego, California 92123

Dear Ms Wood:

**Subject: Scope of Work for a Draft Environmental Impact Report (EIR) for the
Miramar Landfill Height Increase (Project No. 72422)**

The Environmental Analysis Section of the City of San Diego Development Services Department has conducted an Initial Study for the above-referenced project. Based on the results of the Initial Study pursuant to the California Environmental Quality Act (CEQA) of 1970, Section 15063(a) and 15081, as amended, it has been determined that the proposed project may have a significant effect on the environment. The preparation of a draft Environmental Impact Report (EIR) is therefore required. The City of San Diego is the Lead Agency under CEQA in the preparation of the EIR; and a minimum 45-day public review period will be provided for the draft EIR.

The purpose of this letter is to identify the specific issues to be addressed in the EIR. A public Notice of Preparation is enclosed with this letter, and will be distributed to Responsible Agencies and others who may have an interest in the project. Changes or additions to this scope of work may be required as a result of input received in response to the Notice of Preparation.

The Notice of Preparation will also include an announcement of the date of the scoping meeting which will be held to allow interested parties to help define the scope of the EIR or, in other words, comment on the issues they believe should be included within the EIR and suggest environmentally preferred alternatives. Scoping meetings are required by CEQA Section § 21083.9 (a) (2) for projects that may have statewide, regional or area-wide environmental impacts. The City's environmental review staff has determined that this project meets this threshold. A scoping meeting has been scheduled for Wednesday, May 10, 2006, from 6:00 pm to 8:00 pm in the training room at the City of San Diego's Environmental Services Department Green Building, 9601 Ridgehaven Court, San Diego, CA 92123.



The project that will be the subject of the EIR is briefly described as follows:

Project Location: The proposed project is located at 5180 Convoy Street, north of Highway 52, east of Interstate 805, and west of Interstate 15 on Marine Corps Air Station Miramar within the City and County of San Diego. Please see attached Figures 1 and 2.

Proposed Project: The proposed project would allow a 20-foot increase in the height of the 239-acre Phase I and the 238-acre Phase II areas of the existing West Miramar Landfill.

Approvals Required: The project would require a new Solid Waste Facility Permit from the Local Enforcement Agency and a modification of the City's lease with the Department of Defense which regulates the landfill operation on Federal land.

I. EIR Requirements

Each section and discussion area of the EIR must provide a descriptive analysis of the project followed by an objective and comprehensive evaluation. The Draft EIR must also include sufficient graphics and tables to provide a complete description of all major project features. Please refer to the "Environmental Impact Report Guidelines" (Revised May 2005) for additional details regarding the required information.

A. Introduction:

Introduce the purpose of the project with a brief discussion of the intended use and purpose of the EIR. Briefly describe the project and the necessity for discretionary City actions and/or permits (e.g., Solid Waste Facility Permit, Waste Discharge Requirements, etc.) and any federal approvals (e.g., lease amendment) required to complete the project. Include a discussion of any other agencies that may need to be involved in the project review and/or grant approvals. Discuss whether or not amendments to the existing Conditional Use Permit No. 10-632 are required. Provide projected time lines for the start and completion of the project.

B. Environmental Setting:

Describe the project location with an emphasis on the physical features of the site, and the surrounding area, and accompany the description with sufficient topographic, regional and vicinity maps. Describe any upcoming changes to the area and any cumulative changes that may relate to the project site. Include the existing and planned land uses in the vicinity, on-and off-site resources, the community plan area designations, the zoning, all utility easements and any required maintenance access, the location within the Multi-Habitat Planning Area (MHPA), and any overlay zones within this section of the document (e.g., Integrated Natural Resources Management Plan for Marine Corps Air Station Miramar (MCAS)).

C. Project Description:

Discuss the project's characteristics and the goals and objectives of the project. Explain how the public would benefit from the project. Describe all