

Appendix E



Paleontological Resources Records Search

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Matrix Environmental
6701 Center Drive West, Suite 900
Los Angeles, California 90045

Attn: Stephanie Eyestone-Jones, President

re: Paleontological resources for the proposed PCH & 2nd Project, in the City of Long Beach, Los Angeles County, project area

Dear Stephanie:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed PCH & 2nd Project, in the City of Long Beach, Los Angeles County, project area as outlined on the portion of the Los Alamitos quadrangle map that Allyson K. Dong sent to me via e-mail on 9 December 2014. We have no vertebrate fossil localities that lie directly within the outline boundaries of the proposed project area, but we do have localities nearby from sedimentary deposits similar to those that probably occur at depth in the proposed project area.

Surficial material in the proposed project area consists of artificial fill on top of deposits of younger Quaternary Alluvium derived from the San Gabriel River that currently flows just to the southeast. These deposits are unlikely to contain significant vertebrate fossils, at least in the uppermost layers. At depth, however, older Quaternary sediments that contain significant fossil vertebrate materials may be encountered. Our closest fossil vertebrate locality from older Quaternary deposits is locality LACM 3757, just west of north of the proposed project area south of 7th Street and east of the Pacific Coast Highway, that produced fossil specimens of eagle ray, *Myliobatis*, skate, Rhinobatoidea, white shark, *Carcharodon*, blue shark, *Prionace*, requiem shark, Carcharhinidae, surfperch, *Damalichthys* and *Rhacochilus*, croaker, *Genyonemus*, pond turtle, *Clemmys*, diving duck, *Chendytes*, loon, *Gavia*, dog, *Canis*, sea otter, *Enhydra*, horse, *Equus*, camel, *Hemiauchenia*, and pocket gopher, *Thomomys*. Northwest of the proposed project

area, along 7th Street west of the Pacific Coast Highway, we have locality LACM 6746 that produced fossil mammoth, *Mammuthus*, at shallow but unstated depth.

Just north of due west of the proposed project area we have vertebrate fossil localities near or on the beach. Near the intersection of Grand Avenue and East Livingston Drive, locality LACM 2031 produced specimens of fossil bison, *Bison antiquus*, at about 25 feet from the top of the bluff. Locality LACM 7739, between the parking lot and the beach at Bluff Park at a depth of about 55 feet below the surface, produced a diverse suite of marine vertebrate fossils including dusky shark, *Carcharhinus*, soupfin shark, *Galeorhinus galeus*, hammerhead shark, *Sphyrna*, leopard shark, *Triakis semifasciata*, horn shark, *Heterodontus francisci*, stingray, *Dasyatis*, eagle ray, *Myliobatis californica*, skate, *Raja*, guitarfish, *Rhinobatos productus*, dogfish, *Squalus acanthias*, angel shark, *Squatina californica*, midshipman, *Porichthys notatus*, cusk-eel, *Chilara taylori*, surfperches, *Cymatogaster aggregata*, *Damalichthyes*, *Embiotoca jacksoni*, *Hyperprosopon argenteum*, *Micrometrus aurora*, and *Phanerodon furcatus*, goby, Gobiidae, croaker, *Genyonemus lineatus*, queenfish, *Seriphus politus*, barracuda, *Sphyrna argentea*, sanddabs, *Citharichthys sordidus*, *Citharichthys stigmaeus*, sole, *Glyptocephalus zachirus*, *Lyopsetta exilis*, sculpin, Cottidae, rockfish, *Sebastes goodei*, herring, Clupeidae, and undetermined mammal, Mammalia. Just northwest of locality LACM 7739 we have another locality, LACM 1005, opposite Bixby Park at approximately 17th Place, that produced specimens of fossil mammoth, *Mammuthus columbi*, and ground sloth, *Nothrotheriops shastensis*, at a depth of approximately 60 feet from the surface.

Shallow excavations in the proposed project area that only extend down into the surficial younger Quaternary Alluvium are unlikely to produce significant fossil vertebrate remains. Any excavations in the proposed project area that extend down into older deposits, however, may well encounter significant vertebrate fossils. Any substantial and deep excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected from the older deposits in the proposed project area and processed to determine their small fossil potential. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice