

SELA

Southeast Louisiana Urban
Flood Control Project

SELA Purpose

The purpose of the Southeast Louisiana Urban Flood Control Project, SELA, project is to provide improved drainage and rainfall flood relief to Jefferson, Orleans and St. Tammany parishes.

Improvements in Orleans and Jefferson parishes support the parishes master drainage plans and generally provide flood protection on a level associated with a ten-year rainfall event, while also reducing damages for larger events.

St. Tammany Parish plans to provide flood protection for various rainfall events.

The proposed work is located on both the east and west banks of the Mississippi River in Orleans and Jefferson parishes. In Jefferson Parish, work is limited to the more densely populated northern portion of the parish. St. Tammany Parish work is located in and around the communities of Slidell, Mandeville Covington, Madisonville, Abita Springs, and Lacombe.



**US Army Corps
of Engineers®**
New Orleans District



CPRA
Coastal Protection and
Restoration Authority of Louisiana



Vibration Monitoring Program



SELA Hotline: 504-585-2450

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www.mvn.usace.army.mil
www.nolaenvironmental.com
www.swbno.org/work_drainageSELA.asp

Monitoring Construction

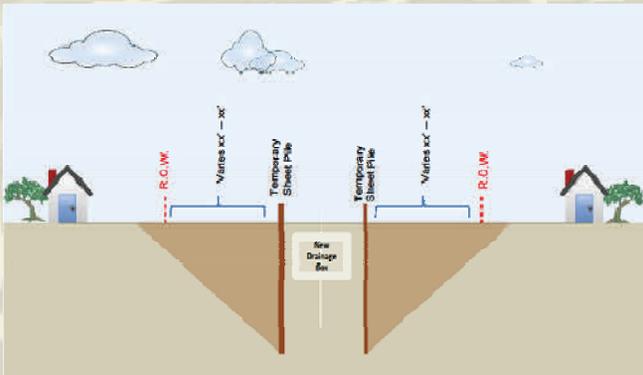
Pile Driving Zone of Impact

The Corps has determined that there will be impacts to the surrounding area due to construction of the SELA project.

Impacts include but are not limited to noise, vibratory impacts resulting from moving and operating heavy construction equipment, and the potential impact to structures located within a close proximity to construction activities, defined as a zone of impact (ZOI).

The construction ZOI is defined as the area in which it is more likely than not that damages will occur. Based on scientific data obtained to date, the ZOI's outer boundary is at the line formed upon the surface at a forty-five (45) degree angle from the bottom tip depth of driven sheet pile.

Each SELA project has its own defined ZOI, which can vary within a project depending on the depth of the driven sheet pile.



Vibration Limits

Vibration consists of oscillatory waves that propagate from the source through the ground to adjacent buildings.

Vibration from construction projects is caused by general equipment operations, and is usually highest during pile driving, soil compacting, and construction related demolition activities.

Various published scientific research has established that the most significant factor to best indicate the potential for damage is peak particle velocity (PPV), measured in inches per second (ips). For historic and sensitive buildings, threshold vibration levels published by ASCE in 1983 were based only on empirically established limits and not scientific study.

The most conservative limit recommend 0.25 ips PPV. The threshold vibration limits below 0.50 ips are very restrictive and do not reportedly have a scientific study based on observation of vibration damage. These very low vibration limits are mostly based upon annoyance to people that live or work near the vibration source.

Corps specifications for SELA projects require a vibration limit of 0.25 ips adjacent to the nearest building, which is very conservative.

Monitoring Protocol

Pile driving and sheet withdrawing, vibrations, construction equipment and vehicular traffic may affect and damage existing structures. SELA contracts require that the contractor shall perform the work in a manner which will limit vibrations at the structure nearest to the work being performed to a maximum of 0.25 inch per second.

Vibrations will be monitored by someone other than the contractor at all structures, including buildings and pools.

The contractor will be informed when the vibrations from his operations have exceeded the 0.25 inch per second limit and the contractor shall take immediate action to reduce the vibrations to the acceptable limits. The contractor at each project shall notify the Corps in advance of beginning vibration-inducing construction operations, and shall coordinate the daily location of these operations with the government personnel at least 48 hours prior.

