

9.0 GLOSSARY AND ACRONYMS

“A” Weighted Sound Level - a method of representing the human ear’s interpretations of the loudness of an equal sound level throughout the audible frequency range. The scale is normally referenced to the loudness at 1 kHz.

ACHP - Acronym for Advisory Council on Historic Preservation.

Acoustic Recorder - activities that are affected by excessive noise levels.

Acoustic Reflection – the process by which the general direction of sound waves is reversed by barriers.

AHNT - Acronym for consulting engineering firm Ash, Howard, Needles, and Tammen.

Air Pollution - the general term alluding to the undesirable addition to the atmosphere of substance (gases and liquids and solid particles) that are either foreign to the “natural” atmosphere or in quantities exceeding their natural concentrations.

Air Quality Standards - maximum allowable contaminant concentrations set up by State and Federal agencies to protect public health and welfare. The standards were developed to protect those people who are especially susceptible to the effects of air pollutants. These susceptible individuals are primarily the very old and very young, those with cardiac insufficiencies, anemia, and respiratory cripples.

Air Quality - the composition of air with respect to quantities of pollutants therein; used most frequently in connection with “standards” of maximum acceptable pollutant concentrations.

APE - Acronym for Area of Potential Effects.

Background Level - The concentration of a pollutant that would exist in the absence of the particular source under study.

Barrier Island- Island generally separating the ocean from a bay or harbor, created by deposition of sand.

Building Attenuation - the reduction of energy of a sound field resulting from its passage through a building’s structural elements.

Carbon Monoxide (CO)- a colorless gas, odorless under atmospheric conditions, having molecular form CO.

CMS- Acronym for Congestion Management Strategies.

Cone of Depression- the depression, approximately conical in shape, that is formed in a water-table or potentiometric surface when water is removed from an aquifer.

Contamination- the introduction of any physical, chemical, biological, or radiological substance or matter which renders soil, air, and waters impure or unsuitable for their designated uses.

Contingency Plan- a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire or explosion or a release of hazardous waste or hazardous waste constituents from a treatment, storage, or disposal facility that could threaten human health or the environment.

Decibel (dB) - a unit of measure of sound pressure level used to describe the loudness of sound.

$$dB = 10 \log (P/P_0)^2$$

where: $P_0 = 0.00002$ microbar

$P =$ root mean square sound pressure

0.00002 microbar is the threshold of hearing for a normal, healthy human ear.

Developed Land - those tracts of land or portions thereof which contain improvements or activities devoted to frequent human use or habitation.

DHV - Design Hourly Volume - the 30th highest hourly volume of vehicles with its associated speed on a roadway. This relationship is generally used for highway design purposes and may also be the noisiest traffic condition.

Discharge- the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste onto any land or water.

Disposal- the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

Emission Factor- a pollutant discharge rate. For vehicles, an emission factor is the amount of a pollutant discharged over a distance traveled. Units are grams per mile.

Environmental Cleanup Responsibility Act (ECRA)- New Jersey law imposes pre-conditions on the sale or closure of Industrial Establishments involved in the generation, manufacture, refining, transportation, treatment, storage handling, or disposal of hazardous substances or hazardous wastes. Requires industrial establishments to clean up their facilities as a precondition to closure, sale, or transfer of operations.

Existing Air Quality- present day or base year air quality levels.

Existing Noise - that noise which is characteristic of an area before the construction of the proposed highway project.

Facility- all contiguous land, structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operation units, e.g., one or more landfills, surface impoundments, or a combination of them.

FHWA- Acronym for Federal Highway Administration.

Generator- any person who first creates a hazardous waste, or any person who first makes the waste subject to the Subtitle C regulation (e.g., imports a hazardous waste, initiates a shipment of a hazardous waste from a TSD or mixed hazardous wastes of different DOT shipping descriptions by placing them into a single container). In identifying a hazardous waste, DOT becomes the generator since they are now required to properly dispose of the substance.

Groundwater- water below the land surface in a zone of saturation.

HABS- Acronym for Historic American Building Survey

HAER- Acronym for Historic American Engineering Record

Hazardous Substance- the regulations define hazardous substances as those elements and compounds, including petroleum products, defined by NJDEP after a public hearing, included on the “List of Hazardous Substances” found in Appendix A of N.J.A.C. 7:1E. Appendix A includes a list of hazardous substances adopted by the Environmental Protection Agency pursuant to Section 311 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. & 1321, and a list of toxic pollutants designated by Congress or the Environmental Protection Agency pursuant to Section 307 of the Act, 33 U.S.C. & 1317. Sewage and septage are not considered hazardous substances.

Hazardous Waste- as defined in RCRA, the term “hazardous waste” means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

- A. cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
- B. pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.

As defined in the regulations, a solid waste is hazardous if it meets one of four conditions:

1. Exhibits a characteristic of a hazardous waste (40 CFR Sections 261.33).
2. Has been listed as hazardous (40 CFR Sections 261.31 through 261.33).
3. Is a mixture containing a listed hazardous waste and a non-hazardous solid waste (unless the mixture is specifically excluded or no longer exhibits any of the characteristics of hazardous waste).
4. Is not excluded from regulation as a hazardous waste.

Hertz (Hz) - frequency in cycles per second.

HPO- Historic Preservation Office

Hydrocarbons (HC)- a collective term used to describe a long list of organic air contaminants. A major component in total hydrocarbons is methane which is considered unreactive. Hydrocarbons other than methane are considered capable of entering into photochemical reaction, and therefore are referred to as being reactive.

ICWW- Acronym for Intracoastal Waterway.

Instability- a state in which the vertical distribution of temperature is such that an air particle, if given either an upward or a downward impulse, will tend to move away with increasing speed from its original level.

KPH- Acronym for Kilometers Per Hour.

L10 Noise Level - that level of noise where the A-weighted sound pressure level in decibels is exceeded ten percent of the time.

L90 Noise Level - that level of noise where the A-weighted sound pressure level in decibels is exceeded 90 percent of the time.

Landfill- a disposal facility or part of a facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

Leq Noise Level - that level of constant noise which contains the same amount of acoustic energy as time varying noise levels (eg. Traffic noise) during a given time interval.

Listed- hazardous wastes that have been placed on one of three lists developed by EPA: Non-specific source wastes; Specific source wastes; Commercial chemical products. These lists were developed by examining the different types of waste and chemical products to see if they exhibit one of the four characteristics, meet the statutory definition of hazardous waste, are acutely toxic or acutely hazardous, or are otherwise toxic.

LUST - Acronym for Leaking Underground Storage Tank.

Microscale- a term used to describe relative size. Used in this report, microscale refers to a relatively small area on and near the roadway within which pollutant concentrations are above background levels.

MOE- Acronym for Measures of Effectiveness.

Monitoring (Observation) Well- a well used to measure groundwater levels, and in some cases, to obtain water samples for water quality analysis.

MOU- Acronym for Memorandum of Understanding.

MPH- Acronym for Miles Per Hour.

National Priorities List (NPL)- EPA's list of the most serious, uncontrolled, or abandoned hazardous waste sites identified for possible long-term remedial response using money from the trust fund. The list is based primarily on the score a site receives on the Hazard Ranking System. EPA is required to update the NPL at least once a year.

Nitrogen Dioxide (NO₂)- a red-brown, toxic gas under atmospheric conditions.

NJDEP- Acronym for New Jersey Department of Environmental Protection.

NJDOT- Acronym for New Jersey Department of Transportation.

NJSHPO- Acronym for New Jersey State Historic Preservation Office.

Noise Abatement Criteria (NAC) - noise levels established by FHWA in 23 CFR 772 for various activities. When the predicted noise level approaches or exceeds the NAC as given in Table 1 of 23 CFR 772, an impact exists and mitigation must be considered.

Noise Contours - areas along a roadway within which noise levels will exceed a specified noise level. (Not to be interpreted as any single line.)

Noise Reduction Coefficient (NRC) - the ratio of the sound energy absorbed by the barrier surface and the sound energy striking the barrier surface.

Noise Sensitive Areas or Locations - general areas of land or specific locations having Activities that are affected by excessive noise levels.

On-Site- means on the same or geographically contiguous property which may be divided by public or private right(s) of ways, provided the entrance and exit between the properties is at a crossroads, intersection, and access is by crossing as opposed to going along the right(s)-of-way. Noncontiguous properties owned by the same person but

connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property.

Operator- the person responsible for the overall operation of a facility.

Owner- the person who owns a facility or part of a facility.

Peak Eight Hour Traffic- the traffic expected to occur over the peak eight consecutive hour period in a designated year.

Peak Hour Traffic- the highest number of vehicles found to be passing over a section of a lane or roadway during 60 consecutive minutes of a designated year.

Plume- a body of contaminated groundwater originating from a specific source and influenced by such factors as the local groundwater flow pattern, density of contaminant, and character of the aquifer.

PPM- Acronym for Parts Per Million.

Primary Pollutants- airborne contaminants which are emitted directly into the atmosphere.

Priority Pollutants- a group of approximately 130 chemicals (about 110 are organics) that appear on a USEPA list because they are toxic and relatively common in industrial discharge.

RCRA- the Resource Conservation and Recovery Act of 1976- PL 94-580 (RCRA) provided for the development of Federal and State programs for the regulation of land disposal of waste materials and the recovery of materials and energy resources. The Act regulates not only the generation, transportation, treatment, storage, and disposal of hazardous wastes, but also solid waste disposal facilities. Since 1976 there have been six amendments to RCRA imposing a series of more stringent requirements than the original law.

Receiver - a location at which noise levels are predicted and analyzed.

Remedial Action- measures incorporated into project design to minimize impact.

SDWA- Acronym for Safe Water Drinking Act.

Secondary Pollutants- airborne contaminants which have undergone transformation (largely via photochemical processes) in the atmosphere.

Sensitivity- referring to a laboratory: the smallest increment of concentration that can be distinguished. For example, being able to distinguish 1.1 ppm from 1.0 ppm implies greater sensitivity than being able to distinguish only 1.5 ppm from 1.0 ppm.

Site- the land or water area where any facility or activity is physically located.

Solid Waste- as defined in RCRA the term “solid waste” means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under the Clean Water Act, or special nuclear or by-product material as defined by the Atomic Energy Act of 1954.

Stability- a state in which the vertical distribution of temperature is such that an air particle will resist displacement from its level.

Storage- the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

STP Excavations- Acronym for Shovel Test Pit.

Sulfuric Dioxide (SO₂)-a colorless, pungent gas formed by burning sulfur in air and dissolving it in water.

Surface Impoundment- a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank- a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) that provides structural support.

Traffic Mix - ratio of cars to medium trucks (vehicles with two axles and six wheels) to heavy trucks (vehicles with three or more axles and more than six wheels).

Transmission Loss - is the difference between the sound energy striking a barrier surface and sound energy transmitted through a barrier.

Treatment- any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize it, or render it non-hazardous or less hazardous, or to recover it, make it safer to transport, store or dispose of, or amenable for recovery, storage, or volume reduction.

TSD- Acronym for treatment, storage, or disposal facility.

TSM- Acronym for Traffic Safety Management.

Type I project – a proposed project for the construction of a highway on a new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes.

Type II project - a proposed highway project for noise abatement on an existing highway.

Undeveloped Land - those tracts of land or portions thereof which contain no improvements or activities devoted to frequent human use or habitation.

USFWS- Acronym for the United States Fish and Wildlife Service.

USEPA- Acronym for United States Environmental Protection Agency.

UST - Acronym for Underground Storage Tank.

Volatile- the characteristic of a pure chemical or solute that results in easy vaporization from the liquid phase into the gas phase. If the chemical is an organic compound, it is called a volatile organic compound (VOC).

Well- an artificial excavation that derives fluid from the interstices of the rocks or soils which it penetrates, except that the term is not applied to ditches or tunnels that lead groundwater to the surface by gravity. With respect to the method of construction, wells may be divided into dug wells, bored wells, drilled wells, and driven wells.

Well Capacity- the rate at which a well will yield water.