Chapter 3

COMPLIANCE FACTORS

This Chapter sets out the requirements of those applicable laws and/or regulations singled out for special attention in the environmental assessment. The "compliance factors" included in this Chapter are those which: (a) have a high likelihood of occurrence for HUD projects; (b) are likely to be an issue based on past experience; (c) are site specific; and (d) have detailed compliance requirements. The exception is Compliance Factor 5, Hazards, which is included because of the prominence of the issue given by HUD Notice 79-33 and recently adopted hazards regulations (24 CFR Part 51C and Part 51D).

Other laws and regulations requiring findings of consistency or conformance with general or special areawide or state plans (air, water quality; coastal zone) are presented in Chapter 2 since these findings are made early in the local review and approval process including, where required, State review under Executive Order 12372.

Another set of requirements are more general in nature, usually covering broad or loosely defined geographic areas (e.g., habitats) and are not likely to be a major issue for most projects. For example, only a few sole source aquifers have been designated by EPA and for these, compliance requirements are described in interagency agreements negotiated between the HUD Regional Office and the EPA Regional Office.

For the following factors on Form HUD 4128, compliance or coordination determinations are made when required as part of the analysis of the relevant environmental assessment factors under Section G, Environmental Findings:

Environmental Factor 2.1: Water supply includes sole source aquifers

Environmental Factor 2.4: Solid waste includes solid waste disposal requirements

Environmental Factor 3.1: Water resources includes any requirement related to fish and wildlife and wild and scenic rivers.

Environmental Factor 3.3: Requirements of the Farmlands Protection Policy Act of 1981 and USDA regulations at 7 CFR Part 658 are covered in this factor.

Environmental Factor 3.4: Vegetative and animal life includes endangered species.

The following findings are to be used for factors included in this Chapter:

Is in compliance: the statute or regulation does not relate to the project or it pertains and the project complies.

Actions taken to achieve compliance: One or more of the following three items should be checked.

Consultation: indicates that the law or authority requires consultation and that it has taken place, or is required before compliance is achieved.

Requires mitigation and/or modification: this finding indicates that compliance involves making changes to the project.

Special study: indicates that a separate analysis or study is needed or was completed for the factor; the results of the study should indicate changes to the project (if needed), and whether or not the project will be in compliance if these are implemented.

Not in compliance: this finding indicates that the project as proposed does not comply with the specific requirements for the factor. The actions needed to bring the project in to compliance should be specified.

COMPLIANCE FACTOR 1: NOISE

1. Overview

The traditional definition of noise is that it is "unwanted sound." Sound becomes unwanted when it interferes with normal activities such as sleeping, conversation or recreation, when it causes actual physical harm such as hearing loss or has adverse effects on mental health.

There are basically two types of noise problems: occupational noise problems created by extremely loud machinery and community noise problems created primarily by transportation sources. The following pages are addressed only to the community noise problem.

The dynamics of a noise problem are based on the relationship between the noise source, the person or place exposed to the noise (hereafter called the receiver) and the path the noise will travel from source to receiver.

The source generates a given amount of noise which travels along a path. As a result of how long that path is or whether there are any barriers along the path, the noise that arrives at the receiver is reduced to some extent. The severity of the impact on the receiver depends on what type of activity is taking place, whether it is indoor or outdoor, and, if indoor what type of building it is in.

The most advanced method for describing noise is the day night average sound level system abbreviated as DNL and symbolized mathematically as L{Sub dn}. The day night average sound level is the 24 hour average sound level, expressed in decibels, obtained after the addition of a 10 decibel penalty for sound levels which occur at night between 10 PM and 7 AM. This nighttime penalty is based on the fact that many studies have shown that people are much more disturbed by noise at night than at any other time. Another important feature of the DNL system is that it can be used to describe noise from all sources.

2. Legislative and Regulatory Requirements

There are several Federal laws which address noise issues; these usually are of major concern primarily to noise producers and affect highways, airports and noise producing equipment and vehicles.

The HUD Noise Regulation (24 CFR Part 51B) was published on July 12, 1979. The regulation establishes Departmental standards for HUD assisted projects and actions, requirements, and guidelines on noise abatement and control, replacing and revising the noise policies, standards and procedures previously set forth in HUD Circular 1390.2, dated August 4, 1971.

HUD's regulations do not contain standards for interior noise levels. Rather a goal of 45 decibels is set forth and the attenuation requirements are geared towards achieving that goal. It is assumed that with standard construction any building will provide sufficient attenuation so that if

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the exterior level is 65 L{Sub dn} or less the interior level will be 45 L(Sub dn} or less. In addition there are special requirements for projects located in the Normally Unacceptable and Unacceptable Zones.

The HUD Regulations set forth the following exterior noise standards for new housing construction assisted or supported by the Department:

65 L(Sub dn} or less - Acceptable

Exceeding 65 L(Sub dn} but not exceeding 75 L(Sub dn} - Normally Unacceptable - appropriate sound attenuation measures must be provided: 5 decibels attenuation above attenuation provided by standard construction required in 65 L(Sub dn} to 70 L(Sub dn} zone; 10 decibels additional attenuation in 70 L(Sub dn} to 75 L(Sub dn} zone

Exceeding 75 L(Sub dn} - Unacceptable

3. Assessment Questions

The principal questions are:

a. Given the existing noise levels and estimated future noise levels at the site, will the project be exposed to noise levels which exceed HUD's noise standards?

b. If there is a potential noise problem, what kinds of mitigation measures are proposed for the project?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. FIELD OR EXPERIENCE: As a first step in the screening process, determine if the site is near a major noise source, i.e. - civil airports (within 5 miles) or military airfields (within 15 miles), major highways or busy roads (within 1000 feet), or railroads (within 3000 feet).

b. PRINTED OR CONTACT: Obtain comprehensive plan and transportation plans and maps from appropriate city officials and the State Highway Department to determine whether additional noise sources are expected to be located near the site.

Further Analysis

ALWAYS USE

a. STUDY: If the potential for a noise problem has been identified, a second step in the screening process is to perform the noise calculations described in the latest edition of the Noise Assessment Guidelines.

AND/OR

b. PRINTED: If the problem is airport noise and current DNL contour maps prepared by the Federal Aviation Administration or the military or civilian airport operator are available, and have been approved by HUD for staff use, use them instead of the tests in the Noise Assessment Guidelines. Studies on highway levels may also be available. The levels will be expressed in L{Sub eq} (design hour levels) which is equivalent to the L(Sub dn} value if the traffic mix and hours of operation meet specific criteria set out in 24 CFR 51.106.2 (the noise regulation).

5. Analysis

The procedure for determining the noise exposure levels for a site are spelled out in the Noise Assessment Guidelines. The process is a fairly simple one in which the noise level from each source affecting the site is calculated and then combined to derive the overall exposure. If some kind of barrier exists or is proposed the noise levels can be adjusted to reflect the mitigation provided by the barrier. The overall noise level is then compared to HUD's standards and the appropriate action as spelled out in the regulations is taken.

6. Mitigation Measures

There are three basic approaches for mitigating exposure to high noise levels. The first and best is to site noise sensitive uses out of the high noise area. The second is to prevent noise from reaching the noise sensitive use through some sort of barrier. And the third, and least desirable approach, is to provide attenuation for at least the

interiors of any building located in the high noise areas. The details of these methods are spelled out in some of the sources indicated below.

7. Information Resources

a. Publications

HUD Regulation: 24 CFR Part 51 Subpart B - Noise Abatement and Control, July 12, 1979.

Handbook 1390.4: A Guide to HUD Environmental Criteria and Standards contained in 24 CFR Part 51.

Noise Assessment Guidelines, HUD, 1980. Basic technical assessment resource for determining noise levels at sites exposed to aircraft, highway and railroad noise.

The Noise Guidebook, HUD, 1985. A reference document for implementing the HUD noise regulation.

Aircraft Noise Impact, HUD, 1972. Somewhat dated but a good overview of the problem.

The Audible Landscape, DOT (FHWA), 1974. An excellent discussion of mitigation measures including land use planning and building design and construction.

Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin on Safety, EPA, 1974. The "levels document" that explains basis for EPA criteria.

Noise Barrier Design Handbook, Federal Highway Administration 1976. Good discussion of barriers, technical but readable.

Handbook of Noise Control, 2nd edition, 1979, McGraw Hill. A basic technical handbook covering all aspects of noise for those who wish to go into the subject further.

Guidelines for Considering Noise in Land Use Planning and Control, Federal Interagency Committee on Urban Noise, May 1980.

b. Resource Persons

The HUD Regional and Field Office Environmental Officers have been trained in the use of the Noise Assessment Guidelines. HUD architects are trained in acoustics and can help in development of noise attenuation strategies. Many HUD engineers are also trained to assist in noise matters.

Noise Specialist, HUD Headquarters, Office of Environment and

COMPLIANCE FACTOR 2: HISTORIC PRESERVATION

1. Overview

The environmental evaluation of this factor entails a determination of whether a project contains and/or will affect historical and cultural properties that are included in or eligible for the National Register of Historic Places. If so, evaluation may be somewhat complex because there are a number of agencies which may have to be contacted and involved.

The identity of a community or neighborhood can be intimately tied to those structures or areas which have historic, cultural or architectural interest and significance. Such places both help define a community's past and provide a sense of place, character and image. The National Register of Historic Places is a Federal listing of properties and places which are of special historic, cultural or archeological value. The request for inclusion of a property on the National Register is usually made by the local community jointly with the State Historical Preservation Officer and forwarded to the Department of the Interior which reviews the application and decides on eligibility. Inclusion on the National Register helps protect the property from alteration or adverse impact by a Federally funded activity, which is achieved through consultation procedures issued by the Advisory Council on Historic Preservation. Inclusion on the Register also makes the property eligible for Federal matching funds for certain renovation activities. In addition to individual buildings and sites, entire districts can be placed on the National Register.

In addition to the National Register, most states have adopted their own inventories of historic places and many have established historic district enabling legislation which enables localities to establish historic districts under a type of zoning with additional structural and decor restrictions. Further, many counties, municipalities and metropolitan areas have their own inventories and districts.

2. Legislative and Regulatory Requirements

Significant historic, cultural and archaeological resources are protected under a number of legal authorities including the following:

a. National Historic Preservation Act of 1966 (P.L. 89-665 as amended) especially Section 106.

b. Executive Order 11593, Protection and Enhancement of the Cultural Environment, 1971.

c. Archeological and Historic Preservation Act of 1974 (P.L. 93-291).

d. Advisory Council on Historic Preservation, Protection of Properties and National Register: Procedures for Compliance (36 CFR Part

800).

CF 2: Historic Preservation

3. Assessment Questions

a. Does the project area and its environs contain any properties listed on the National Register of Historic Places? Does the locality have an inventory of historic places?

b. What information on the project area does the State Historic Preservation Office (SHPO) have and has a survey of local historic properties been conducted? If the SHPO lacks information, is there a local historical society or commission that can provide historic information?

c. Are there other properties within the boundaries or in the vicinity of the project that appear to be historic and thus require consultation with the SHPO as to eligibility for the National Register?

d. If historic property in the project's environment have been identified, does the SHPO believe these will be affected by the project? Adversely affected?

e. Has the Department of the Interior been requested to make a determination of eligibility on properties the SHPO deems eligible and affected?

f. Does the Advisory Council on Historic Preservation need to be given opportunity to comment because properties that are on or have been found eligible for the National Register would be affected by the project?

g. Does the Advisory Council response indicate that a Memorandum of Agreement is needed to avoid or reduce affects?

h. If so, has the Advisory Council's "106 Process" been completed?

4. Analyses Methods

Initial Impact Screening

ALWAYS USE

a. PRINTED: National Register of Historic Places, including periodic updates in the Federal Register. Statewide or local historic resource inventories and preservation plans. Note whether the site is listed in any of these places.

b. CONTACT: Have the Field Office Environmental Officer obtain informal advice from the State Historic Preservation Officer (SHPO) as to whether there are historic structures, sites, objects or districts that will be affected and that are eligible for inclusion

on the National Register.

For cases that involve historic properties, always request the Environmental Officer to advise on compliance steps or request him or her to complete the compliance steps in the assessment process.

c. PRINTED: Official historic plans and surveys where available.

SOMETIMES USE

CONTACT: Local historic authorities, if available, especially if State-certified.

DO NOT RELY SOLELY ON

a. FIELD

b. EXPERIENCE

Further Analysis

ALWAYS USE

a. FIELD: Inspect and evaluate the site with reference to the criteria for eligibility to the National Register of Historic Places, documenting those properties that appear to meet the criteria.

b. CONTACT: State Historic Preservation Officer (SHPO): If, after consultation with the SHPO in applying the "criteria of effect," it is agreed that there is an "effect" and/or "adverse effect," allow the Advisory Council on Historic Preservation an opportunity to comment and simultaneously seek formal determination of eligibility from the Department of the Interior, unless the historic properties already are listed. If the SHPO agrees that there is no effect, continue program operations but record source of information. (Local bodies if certified by the SHPO and Department of the Interior may substitute for the SHPO in the assessment process.)

SOMETIMES USE

STUDIES: If construction will occur near an historic site, studies by appropriate experts such as architectual historians or archeologists may be necessary in some cases to determine the effect on the site including the impact of traffic or other activities. In some cases, special studies of historic resources may be necessary. Studies should be conducted only when there is adequate evidence that the resources may be eligible for the National Register.

5. Compliance Determination

When considering this factor, the initial determination must be made

whether a property or a project area is listed on the National Register of Historic Places, or considered eligible for listing. If so, a

determination must be made concerning whether the project will affect the property, and prescribed procedures have been followed. The procedures are described in The National Historic Preservation Act, 16 USC 470(f), Section 106 and implementing Regulations 36 CFR Part 60 (DOI's criteria of eligibility), and 36 CFR Part 800 (Advisory Council). The determinations thus ma involve coordination with the State Historic Preservation Officer (SHPO), DOI (Keeper of the Register) and the Advisory Council. If the project has met the criteria, mitigation measures may have to be instituted under 36 CFR Part 800.

6. Mitigation Measures

If it is determined that the project will result in an adverse effect on historic resources, it will be necessary to examine ways to modify the project by a variety of actions which might include:

a. Relocating the project away from historic or cultural resources

b. Modifying the project to avoid or minimize the adverse impact through actions such as incorporation of the historic property for use by the project rather than a proposed demolition and new construction, or by a reduced scale or height of development on immediately adjacent lots.

c. Establish design review standards or procedures to be followed during project implementation

d. Relocating the Register eligible property

e. Recovering artifacts or archeological data or recording factual information on the site if there is no feasible alternative to this loss or destruction.

The successful mitigation of a potentially adverse impact currently requires the preparation of a Memorandum of Agreement (MOA) to be signed by fill, the State Historic Preservation Officer and the Advisory Council on Historic Preservation. This may specify allowable action and safeguard measures, Such Agreement is usually prepared by the Advisory Council but HUD may initiate a draft and obtain the SHPO's comments before submitting it to the Council. When a MOA is needed and the SHPO fails to participate, it is executed by HUD and the Council.

7. Information Resources

a. Publications:

Known State, regional or local historic preservation plans, inventories or studies

b. Resource Persons:

State Historic Preservation Officer

State, regional or local planning agencies known to have prepared historic plans or surveys

Local Historical or Archeological Societies or Commissions

U.S. Department of the Interior

Advisory Council on Historic Preservation

HUD Regional and Field Office Environmental Officers

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COMPLIANCE FACTOR 3: FLOODPLAIN MANAGEMENT

1. Overview

Federal policy recognizes that floodplains have unique and significant public values and calls for protection of floodplains, and reduction of loss of life and property by not supporting projects located in floodplains, wherever there is a practicable alternative. Policy directives set forth in Executive Order 11988 are: (a) avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains; (b) avoid direct and indirect support of floodplain development; (c) reduce the risk of flood loss; (d) promote the use of nonstructural flood protection methods to reduce the risk of flood loss; (e) minimize the impact of floods on human health, safety and welfare; (f) restore and preserve the natural and beneficial values served by floodplains; and (g) involve the public throughout the floodplain management decision-making process.

Federal policy defines special flood hazard areas as those subject to a one percent or greater statistical chance of flooding in any given year. Typical floodplain areas include low land along rivers or the ocean, flat areas in which stormwater accumulates due to clay soils, and riverine areas subject to flash floods. Impacts of locating a project in a floodplain may range from property damage to loss of life when a flood occurs. Even if not located in a floodplain, project construction may increase flood hazards elsewhere. For example, extensive paving may result in faster runoff and substantially

increased water volumes being emptied into local rivers or lakes. Encroachment of development onto a floodplain or wetland often results from actions taken outside the floodplain or wetland. For example, construction of major roads and utilities adjacent to these areas will often encourage additional development within them.

2. Legislative and Regulatory Requirements

Use of Federal funds for development in floodplains is governed by:

a. Executive Order 11988, Floodplain Management (42 FR 26951) which requires all executive agencies to protect the values and benefits of floodplains and to reduce risks of flood losses by not conducting, supporting or approving an action located in floodplains unless it is the only practicable alternative.

b. HUD General Statement of Policy (44 FR 47623)

c. Flood Disaster Protection Act of 1973 (PL 93-234), as amended

d. National Flood Insurance Program (44 CFR Parts 59-75)

e. Floodplain Management Guidelines (43 FR 6030)

f. Coastal Barriers Resources Act of 1982 (P.L. 97-348). Sections 5 and 6 of the Act prohibit expenditures of Federal funds for any purpose within the Coastal Barriers Resources System, with limited exceptions permitted by the Act. Coastal barriers are undeveloped areas designated by Congress on the Atlantic and Gulf Coasts, and the Act's prohibition applies independent of an environmental review. Therefore, if a project is in an area identified as a coastal barrier resource under the Act, it should be rejected.

3. Assessment Questions

The most important questions to ask when conducting the initial flood hazard screening are:

a. Will the project be located in the 100-year floodplain?

b. Is the project in compliance with Executive Order 11988 and implementing HUD procedures?

c. Will the project change the 100-year floodplain or affect the floodway? (The floodway is the portion of the floodplain that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot at any point.)

d. Are there practicable alternatives to locating the project or activity in the floodplain?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

PRINTED: Flood Hazard Boundary Map and/or the Flood Insurance Rate Map, both published by the Federal Emergency Management Agency (FEMA). If the community has been identified as floodprone by FEMA, a copy of the community's most recently published map (including any letters of final map amendment) should be obtained. This map will identify the community's special flood hazard areas i.e. the 100-year floodplain. Those areas are marked "A," "V," "M," or "E" and are the darkest shaded areas.

(For the approximately 16,000 communities participating in the National Flood Insurance Program (NFIP) the determination of whether or not the project would be located in the floodplain can be made by consulting the Flood Hazard Boundary and/or Flood Insurance Rate Map. Determining floodway or floodplain effects of large projects may require computer modeling, or engineering assistance.)

SOMETIMES USE

a. PRINTED: If the FDA maps are not available, the determination as to whether the proposed project or activity is located in a floodplain may be made by consulting other sources, such as U.S. Army Corps of Engineers Floodplain Information Reports, USGS Flood-prone Area or Topographic Quadrangle Maps, or State and local maps, and records of flooding.

b. CONTACT: In areas not covered by FEMA maps, or for streams not studied by FEMA, contact the HUD Regional Engineer, Corps of Engineers, U.S. Geological Survey or request the developer to provide an evaluation by an engineer or a hydrologist.

DO NOT RELY SOLELY ON

FIELD OR EXPERIENCE

Further Analysis

ALWAYS USE

PRINTED: E.O. 11988 and the Floodplain Management Guidelines of the U.S. Water Resources Council which describes the required procedures.

SOMETIMES USE

CONTACT: Corps of Engineers, Local Planning Agency and Soil Conservation Service to determine what studies are underway to resolve flooding problems, HUD Regional Engineer to analyze extent of hazard

and potential mitigation.

5. Compliance Determinations

If the project is in or will affect a floodplain, E.O. 11988 requires a decision-making process. This process is outlined in eight steps in the Floodplain Management Guidelines of the Water Resources Council.

(1) Determine if the proposed action would occur on or support development in a floodplain. Direct support would be providing grants, insurance or loans for projects to be built on the floodplain. Indirect support would be building infrastructure, such as sewers, water mains or roads into, or that could be easily or extended into, a floodplain area.

(2) Notify the public that an action in the floodplain is being considered.

(3) Identify and evaluate practicable alternatives to locating on the floodplain. The exact interpretation of "practicable alternatives" will vary according to the project and locality. Practicable alternatives include: locating the proposed project on a flood-free site outside of the floodplain; using an alternative means to achieve the same goal; or the alternative of not participating in the project.

(4) Identify the full range of potential direct or indirect impacts associated with the occupancy and modification of floodplains. This includes an analysis of possible loss of property and lives and damage to the natural values.

(5) Determine what changes in any of the alternatives would be necessary to minimize potential flooding losses and to preserve and enhance floodplain values, where total avoidance of floodplains is impracticable.

(6) Reevaluate each of the alternatives identified in step three considering the financial and other costs involved to mitigate potential risks and adverse effects. A project which looked good to start with may prove to be undesirable when its effects and true costs are known.

(7) State the findings and make a public explanation of them.

(8) After the public notification under (7), the proposal can be implemented.

Note that public notice is required both at the outset when an agency considers an action in a floodplain and also after it has decided to approve such action. This is both to solicit information to be used in evaluating proposals and considering alternatives and to provide the public explanation when the Department's final decision is to proceed

to take actions in the floodplain. All notices shall inform the public where additional information maybe obtained. The time period for public response to the first notice shall be no less than 15 calendar days; the second notice has no minimum time period.

6. Mitigation Measures

If locating a project in the floodplain cannot be avoided, the project must be designed or modified to minimize the potential adverse impacts affecting floodplains, restore and preserve the natural and beneficial values served by floodplains, and mitigate to reduce the risk of flood loss. While specific mitigation measures depend on local circumstances, some typical measures include:

a. Affect of Floodplain on the Proposed Project

- evaluate existing flood-free sites wherever available within a community; however, for a community that is predominately flood-prone, evaluate sites having the least risk and environmental impact

- ensure that building foundations are above 100-year flood elevation and/or can resist innundation

- consider grading of floodwalls to protect the proposed project from flooding, however, ensure that this does not create undesirable effects elsewhere

- provide for maintenance of at least one dry access and egress route

- provide for protection of vital utilities (for example: power lines in order to ensure the operability of utilities during flooding)

b. Affect of Proposed Project on Floodplain

- hold increased storm runoff on site through use of storage basins, vegetation, porous paving materials, and grading

- retard runoff through grading and other methods of water diversion

- design storm drainage to attenuate peak flow conditions

7. Information Resources

a. Publications

Free floodplain maps and studies on flood elevations for those localities participating in the National Flood Insurance Program may be obtained by calling the toll-free number 800-638-6620. The maps are indexed by locality and panel. Localities with large floodplain areas may require several panels. The index will be

sent on request.

"General Statement of Policy: Implementation of Executive Orders 11988 and 11990,11 published by HUD in the August 14, 1979 Federal Register (44 FR 47623).

Water Resources Council, Floodplain Management Guidelines, (43 FR 6030), 1978; The Unified National Program for Floodplain Management, 1979; Floodplain Management Handbook, 1981; State and Local Acquisition of Floodplains and Wetlands, 1981; Cooperative Flood Loss Reduction; A Technical Manual for Communities and Industry, 1981; and Regulation of Flood Hazard Area to Reduce Flood Losses (Volumes 1, 2 and 3), 1982. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

National Flood Insurance Program, How to Read Flood Hazard Boundary Maps, 1981; Community Assistance Series, 1979; Elevated Residential Structure: Reducing Flood Damage Through Building Design: A guide Manual, March 1984; Economic Feasibility of Floodproofing: Analysis of a all Commercial Building, June 1979; and Evaluation of the Economic, Social and Environmental Effects of Floodplain Regulations, March 1981; and Design and Construction Manual for Residential Buildings in Coastal High Hazard Areas, January 1981. Washington, DC, Federal Emergency Management Agency.

U.S. Department of the Interior, Guidelines for Determining Flood Flow Frequency (Geological Survey, Bulletin #17B, 1982); and A Process tor Community Floodplain Management (Water Research and Technology, 1980

Tourbier, Joachim and Richard Westmacott, Water Resources Protection Measures in Land Development - A Handbook, Final Report, 1974. Prepared for U.S. Department of Interior, Office of Water Resources Research. Newark, Delaware: Water Resources Center, University of Delaware. (This work is especially useful as a guide for the development of mitigation measures and nonstructural flood protection methods.)

Amy Gar, et. al., Water Quality Management Planning for Urban Runoff, 1974. Washington, DC: U.S. Environmental Protection Agency, (EPA Publication No. EPA 440/9-75-004).

Carstea, D., et al., Guidelines for the Analysis of Cumulative Environmental Effects of Small Projects in Navigable Waters, 1975. McLean, VA: Mitre Corporation, Mitre Technical Report NTR-6939.

U.S. Army Corps of Engineers, Implementation of Nonstructural Measures in Flood Plain Management (Policy Study 83-GS20, July 1983); Relocation of a Large, Slab On-Grade House from a Floodplain to a Flood Free Site (Case Study, Tulsa County, OK, 1984).

Urban Land Institute, American Society of Civil Engineers, and the National. Association of Home Builders, Residential Erosion and Sediment Control, 1978.

Association of State Floodplain Managers, Preventing Coastal Flood Disasters, 1983. Available from ASFM, P.O. Box 7921, Madison, WI.

b. Resource Persons:

HUD Regional or Field Office Environmental Officer

HUD Regional Engineer

Regional Director, Federal Emergency Management Agency (FEMA), Flood Insurance and Hazard Mitigation Division.

The staff of the State Coordinating Agency for flood insurance; and the staff of the agency issuing flood insurance policies.

U.S. Army Corps of Engineers District Office Director (for information on general floodplain management issues, mapping assistance and wetland protection). If field office address is not known, contact: Chief, Floodplain Management Services and Coastal Resources Branch, U.S. Army COE, Washington, DC 20314. Telephone: 202/272-0169.

U.S. Soil Conservation Service - Field Office Staff. If the State or field office address is not known, contact: Director, Basin and Area Planning Division, Soil Conservation Service, P.O. Box 2890, Washington, DC 20013. Telephone: 202/447-7697.

U.S. Geological Survey - Field Office, Hydrologist (for information on natural resources values and flood hazard evaluation).

State and local government agency engineers and planners working with flood control and mapping. For technical assistance, contact: Executive Director, Association of State Floodplain Managers, Inc., Department of Natural Resources, P.O. Box 7921; Madison, WI 53707. Telephone: 608/266-1926.

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COMPLIANCE FACTOR 4: WETLANDS PROTECTION

1. Overview

Federal policy recognizes that wetlands have unique and significant public values and calls for the protection of wetlands. Policy directives set forth in Executive Order 11990 are: (a) avoid long and short term adverse impacts associated with the destruction or modification of wetlands; (b) avoid direct or indirect support of new construction in wetlands; (c) minimize the destruction, loss or degradation of wetlands; (d) preserve and enhance the natural and beneficial values served by wetlands; and (e) involve the public throughout the wetlands protection decision-making process.

Selection of sites outside wetlands is essential for projects for which Federal support may be requested, because E. O. 11990 discourages Federal agencies from initiating or participating in new construction within areas affecting wetlands. (See also Coastal Zone Management requirements, if applicable.)

As defined in E. O. 11990, the term "wetland" refers to those areas that are inundated by surface water or groundwater with a frequency sufficient to support vegetative or aquatic life that requires saturated or seasonally saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, wet meadows, river overflows, mud flats, and natural ponds.

Wetlands can assist humans through groundwater filtering, storage and recharge; flood control; nuturing and serving as the breeding ground for wildlife including food sources such as water fowl, fish and shellfish; water purification; oxygen production; and providing areas for recreation and of scenic beauty.

2. Legislative and Regulatory Requirements

Impacts on wetlands are governed by the following Federal legislation and regulations:

a. Executive Order 11990, Protection of Wetlands (42 FR 26853)

b. HUD General Statement of Policy (44 FR 47623)

c. Federal Water Pollution Control Act Section 404, requiring anyone discharging dredge or fill material into a wetland to obtain a permit from the U.S. Army Corps of Engineers (42 FR 37136)

d. EPA controls discharges of pollutants in all waters of the United States, including wetlands (40 FR 41296)

e. EPA has a program of grants to assist State and local governments in developing plans for comprehensive protection of water resources, including wetlands, under Section 208 of the Federal Water Pollution Control Act

f. Coastal Barrier Resources Act of 1982 (See CF 3: Floodplain

Management)

3. Assessment Questions

In considering a proposed project involving wetlands the following questions are appropriate:

a. Does the project have the potential to affect or be affected by a wetland?

b. Are there practicable alternatives to locating the project or activity in the wetland?

c. Is the proposed project or activity subject to compliance with conditions set forth by the U.S. Army Corps of Engineers, concerning permits for dredge and fill activity?

d. Is the project in compliance with Executive Order 11990 and implementing HUD procedures?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. EXPERIENCE/FIELD: In some areas, previous use of experts or printed materials have demonstrated that there are no wetlands. If this is the case no further investigation will be necessary.

b. PRINTED: Consult existing State and local wetlands surveys to find out if a survey has been done which includes the proposed site. If so, obtain and use it. Use the National Wetlands Inventory prepared by the U.S. Fish and Wildlife Service if it is available for your area.

SOMETIMES USE

a. CONTACT: Regional Wetlands Coordinator, U.S. Fish and Wildlife Service to obtain updated information on existing State and local wetland surveys and Federal inventories. The Corps of Engineers or the State Natural Resource Agency are other good sources for wetlands identification. Many States and localities have passed local wetland legislation, and will be able to provide maps and assistance.

b. PRINTED: A Method for Wetland Functional Assessment, published in March, 1983 by the Offices of Research and Development, Federal Highway Administration, Department of Transportation, presents a wealth of technical information and a rapid assessment procedure for environmental review of projects impacting wetlands. Copies of this report are available from Douglas L. Smith, FHWA (phone

FTS 285-2360).

Further Analysis

ALWAYS USE

PRINTED: E. O. 11990 and the Floodplain Management Guidelines of the U.S. Water Resources Council which describes the required procedures

5. Compliance Determinations

If the proposed project will affect a wetland, the E. O. 11990 procedure requires that an analysis to identify and evaluate practicable alternatives to locating in a wetland (including alternative sites outside the wetland, alternative actions which serve essentially the same purpose as the proposed project or activity, but which have less potential to affect the wetland adversely, and the alternative of taking "no action," e.g.) not carrying out the project or activity).

E. O. 11990 requires that the following factors relevant to a proposal's effects on the survival and quality of wetlands be analyzed: public health, safety, and welfare (including water supply, quality, recharge and discharge; pollution, flood and storm hazards; and sediment and erosion); maintenance of natural systems (including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, fish, wildlife, timber, and food and fiber resources); and other uses of wetlands in the public interest (including recreational, scientific, and cultural uses).

Public notice is required both at the outset when an agency proposes an action in a wetland and also after it has decided to approve such action. This is both to solicit information to be used in evaluating proposals and considering alternatives and to provide the public explanation when the Department's final decision is to proceed to take actions in the wetlands.

Since about 85 percent of the nation's wetlands are on or adjacent to floodplains, the procedures for fulfilling the requirements of E. O. 11990 should be combined with and performed at the same time as the floodplain analysis under E. O. 11988, if the proposed project will affect a wetland. See requirements for CF 3: Floodplain Management.

6. Mitigation

Where use of the wetlands cannot be avoided, the project or activity must be designed or modified so as to minimize the potential harm to wetlands

which may result from such use, restore, preserve and enhance the natural and beneficial values served by wetlands, and mitigate risk to public safety and health. The examples of mitigation measures outlined

in the Coastal Zone Management section are also appropriate for wetlands. For construction activities, the type of impacts for which mitigation measures are needed are discussed in detail by Rezneat M. Darnell, et. al., in Impacts of Construction Activities in Wetlands of the United States, 1976. (EPA-600/3-76-045, Corvallis, Oregon: U.S. EPA, Office of Research and Development.)

The Department of Interior published, "Mitigation Policy of the Fish and Wildlife Service," (46 FR 7644) on January 23, 1981 (and as corrected in the FR of February 4, 1981). This document establishes policy for Fish and Wildlife Service recommendations on mitigating the impact of land and water developments on fish, wildlife, and their habitats. It outlines policy on the levels of mitigation to be achieved and the various methods for accomplishing mitigation.

7. Information Resources

a. Publications:

U.S. Fish and Wildlife Service, Department of the Interior, Classification of Wetlands and Deepwater Habitats of the United States, December, 1979. (U.S. Government Printing Office, Washington, D.C. 20240--Stock Number 024-010-00524-6); and the National Wetlands Inventory Maps, or if not available, Existing State and Local Wetland Surveys; User's Handbook for the Wetland Values Database, 1984 available from Database Administrator, F&WS, 2617 Redwing Road, Fort Collings, CO 80526-2899); and Wetlands of the United States: Current Status and Recent Trends, 1984.

Horwitz, Elinor Lander. Our Nation's Wetlands: An Interagency Task Force Report, Coordinated by the Council on Environmental Quality, 1978. U.S. Government Printing Office, Washington, DC 20402 (Stock Number 041-011-00045-9).

Galloway, G.E., Assessing Man's Impact on Wetlands, December, 1978. This publication was co-sponsored by the University of North Carolina and the office of Sea Grant, NOAA, U.S. Department of Commerce, under Grant No. 04-8-M01-66.

U.S. Army Corps of Engineers, Institute for Water Resources, Wetlands Values: Concepts and Methods for Wetlands Evaluation, February, 1979. Fort Belvoir, VA 22060.

U.S. Congress, Office of Technology Assessment, Wetlands: Their Use and Regulation, March 1984. (U.S. Government Printing Office, Washington, DC 20240--Stock Number 052-003-00944-7).

U.S. Department of Transportation, Federal Highway Administration, A Method for Wetland Functional Assessment (Volumes 1 & 2), March 1983 (Offices of Research and Development); and Fair Market Value Appraisal of Wetlands: A Manual for Highway Department Appraisers, August 1982. Washington, DC 20590.

U.S. Water Resources Council, Analysis of Methodologies for Assessment of Wetlands Values, September, 1981. Washington, DC

Environmental Law Institute, Our National Wetland Heritage: A Protection Guidebook, 1983. 1346 Connecticut Avenue, N.W., Washington, DC 20196.

b. Resource Persons:

HUD Regional and Field Office Environmental Officer

HUD Regional Engineer

Regional Wetland Coordinator, U. S. Fish and Wildlife Service, Department of the Interior, for obtaining wetland maps and information on local material completed as part of the National Wetlands Inventory. The National Wetlands Coordinator is Dr. Bill Wilen, who can be phoned at FTS 343-2618 for the Directory of the Regional Wetland Coordinators and for F&WS publications on wetlands protection.

EPA Section 208 Coordinator, Regional Office, Environmental Protection Agency.

State and/or Local Wetland Officer. For technical assistance, contact: The Association of State Wetland Managers, Inc., COM (802) 875-3897, P.O. Box 528, Chester, VT 05143.

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COMPLIANCE FACTOR 5: HAZARDS

1. Overview

As our urban and suburban areas have grown the amount of vacant land has obviously decreased. The best areas for housing have, in general, been built up and developers now find themselves going back to more marginal lands or lands that had been previously bypassed. Public housing authorities which must always try to conserve costs may also find themselves taking a second look at these passed over areas. Unfortunately, in many cases this land has also been considered marginal because it was located on or near hazardous activities.

Some of the typical hazards that may be encountered are quite visible, such as storage or processing facilities handling explosive or flammable chemicals or petroleum products. Other hazards may be quite literally buried out of sight such as old toxic chemical dumps, reclaimed phosphate lands or land where uranium mill tailings were used as fill.

It clearly can be very dangerous for housing to be located near such areas, and it is much cheaper to avoid the problem at the outset that it is to try to cane in after the houses have been built and try to make them livable. In the famous Love Canal situation, over $61.5 million have already been spent on remedial actions. And in Grand Junction, Colorado, it is expected to cost several million dollars to make over 1,000 homes safe that were constructed on or with materials containing radioactive uranium mill tailings.

In 1984, HUD issued two new environmental hazards regulations concerned with two specific kinds of hazards which can result in significant risk to HUD-assisted or insured projects and their occupants. The first involves sites located near operations handling conventional fuels or chemicals of an explosive or flammable nature and the other involves sites located in Runway Clear Zones at civil airports and Clear Zones and Accident Potential Zones at military airfields. For both types of hazards, HUD has established standards for reducing the risk to persons and property.

In the case of explosive or flammable hazards, the National Fire Protection Association reports an average of approximately 3,000 incidents per year, nationwide, of fires and/or explosions involving stationary chemical and petrochemical facilities. The United State Fire Administration, an adjunct of the Federal Emergency Management Administration, reported 3,197 fire/explosion incidents in 1980; in 1981, they reported 3,358 incidents. All of these incidents involved either injuries, deaths or property losses both on and off the facilities.

The problem of accidents around airports has been recognized for some time, and there have been a variety of efforts to define the most hazardous areas. In the early 1970's, the Air Force conducted a study of all the non-combat related accidents that had occurred within 10 nautical miles of an installation over the 5 years from 1968-1972. They found that a very high percentage of all aircraft accidents took place in the

immediate area beyond the runway. Of the 369 accidents studied, over 74 percent occurred either on the runway or within 15,000 feet of the end of the runway. The remaining 25 percent were scattered throughout the 10 nautical mile radius area. Similar data for civilian aircraft crashes show that over 80 percent of all air carrier accidents over the past 20 plus years have occurred within 3,000 feet of the end of the runway.

2. Legislative and Regulatory Requirements

   a. 24 CFR Part 51C, "Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature," effective April 2, 1984.

b. 24 CFR Part 51D, "Siting of HUD-Assisted Projects in Runway Clear Zones at Civil Airports and Clear Zones and Accident Potential Zones at Military Airfields," effective March 5, 1984.

c. Handbook 1390.4, A Guide to HUD Environmental Criteria and Standards Contained in 24 CFR Part 51, dated August 1984.

d. HUD Notice 79-33 provides guidelines for the specific problems associated with toxic chemicals and radioactive materials.

e. State and local requirements.

3. Assessment Questions

The analysis and compliance determination is based on the following questions.

A. 51C - EXPLOSIVE AND FIRE HAZARDS

1. Is the project site located near or in an area where conventional petroleum fuels (such as gasoline), hazardous gases (e.g., propane), or chemicals (e.g., benzene or hexane) of a flammable nature are stored?

If yes, will the project be located at an acceptable distance from the hazardous situation or activity? If it cannot, will appropriate mitigating measures be taken?

2. Will the project need special structural or design considerations to make it acceptable?

B. 51D - RUNWAY CLEAR ZONES, CLEAR ZONES AND ACCIDENT POTENTIAL ZONES

1. Is there a military airfield or commercial service airport near (in the vicinity of) the proposed project site?

If yes, is the project site located in the Runway Clear Zone (civil airports only) or in the case of military airfields, is it located in the Clear Zone or Accident Potential Zone?

2. If the project is located in a Runway Clear Zone or Clear Zone, will the project be frequently used or occupied by people?

3. If the project is located in the Accident Potential Zone at a military airfield, is the project type generally consistent with the Department of Defense's land use compatibility guidelines?

C. NOTICE 79-33: TOXIC CHEMICALS AND RADIOACTIVE MATERIALS

1. Will the proposed project be placed on filled land and what materials were used for the fill?

2. Is the project on or near a site suspected of posing a potential environmental hazard? Particular attention should be given to any proposed site in the general proximity of dumps, land fills, or industrial locations that might contain hazardous wastes.

4. Analysis Methods

A. 51C: EXPLOSIVE AND FIRE HAZARDS

Initial Impact Screening

ALWAYS USE

1. FIELD: Use field observation to identify industrial or commercial storage facilities (e.g., tanks). Aerial photos and land use maps can supplement observations.

2. CONTACT: Contact owners/operators of storage facilities to find out what is being stored there.

Further Analysis

ALWAYS USE

STUDY: If there are storage of explosive or flammable materials, use procedure in the HUD Guidebook, Urban Development Siting with Respect to Hazardous Commercial/Industrial Facilities to determine the acceptable separation distance (AM) between the hazard and where the project building (and activities) should be located.

B. 51D: RUNWAY CLEAR ZONES, CLEAR ZONES AND ACCIDENT POTENTIAL ZONES

Initial Impact Screening

CF 5: Hazards

ALWAYS USE

PRINTED: If the airport is a civil airport, check the list of affected civil airports to determine if it is covered. Then, for both civil and military airfields, check the appropriate maps to determine location of Runway Clear Zones, Clear Zones and Accident Potential Zones. If project is in an Accident Potential Zone, check Department of Defense land use compability guidelines to determine if project is acceptable.

C. Notice 79-33: TOXIC CHEMICALS AND RADIOACTIVE MATERIALS

Initial Impact Screening

ALWAYS USE

1. FIELD: Check site to see if there are any obvious signs of

materials being or having been stored on or near the site.

2. PRINTED: Check EPA's list of chemical storage sites.

3. CONTACT: Check with local officials and appropriate State agencies to find out previous uses of or owners of site. Obtain information from officials of companies operating near the proposed site.

SOMETIMES USE

EXPERIENCE: A knowledge of previous mining activity in the area may be useful to flag potential for problems such as uranium mill tailings or reclaimed phosphate lands.

Further Analysis

ALWAYS USE

CONTACT: EPA if area is on their list. Previous owners or users of site to determine what activities went on at site and if any hazardous materials were used or stored on site.

5. Compliance Determination

If the location of the project cannot meet HUD requirements or the hazard cannot be mitigated, the project shall be determined to be "Not in Compliance."

6. Mitigation Measures

51C: EXPLOSIVE AND FIRE HAZARDS

Application of the criteria for determining an Acceptable Separation Distance (ASD) for a HUD-assisted project from a potential hazard of an

explosion or fire prone nature is predicated on level topography with no intervening object(s) between the hazard and the project. Therefore a project can be considered acceptable even if it is not located an adequate distance away if:

a. The topography shields the proposed project from the hazard

b. A permanent structure of substantial design and construction is located in a position to shield the proposed project from the hazard

c. A barrier is constructed between the potential hazard and the proposed project

d. The project is designed to withstand blast overpressure and thermal radiation anticipated from the potential hazard

The circumstances under which mitigating measures can be applied are clearly stated in the regulation. Because of the variables involved assistance should be obtained from an expert before proceeding with mitigation measures.

7. Information Resources

a. Publications

HUD Guidebook, Urban Development Siting with Respect to Hazardous Commercial/Industrial Facilities, April 1984.

HUD Notice 79-33, Policy Guidance to Address the Problems Posed by Toxic Chemicals and Radioactive Materials, September 10, 1979.

HUD Handbook 1390.4, Guide to HUD Environmental Criteria and Standards, August 1984.

b. Resource Persons

Regional EPA solid waste and radiation staff

Local engineer or member of planning staff, safety engineer from industrial firms in the area

Headquarters Environmental Engineer (OEE)

HUD Regional or Field Office Environmental Officers

HUD Regional Engineers

Airport Operators

Military Installation Civil Engineers