U.S. Department of Housing and Urban Development
Washington, D.C 20410-7000

Special Attention of: TRANSMITTAL

Field Housing Division Directors
Field Multifamily Housing Division Directors
Field Public Housing Division Directors Handbook No: 1390.2 - CHG-1
Field CPD Division Directors Issued: October 23, 1996
Field Environmental Officers
Field Multifamily Housing Production Chiefs
Field Multifamily Housing Program Staff

1. This Transmits the new HUD Form-4128, "Environmental Assessment and Compliance Findings for the Related Laws." The final rule, 24 CFR Part 50, "Protection and Enhancement of Environmental Quality" requires HUD approving officials and their program staffs to use this form to document compliance with the National Environmental Policy Act and the related laws and authorities listed at ' 50.4 (61 FR 50914). If the form does not meet specific program needs, the Departmental Environmental Clearance Officer must approve any equivalent format that is to be used in lieu of HUD Form-4128.

2. Summary. The form replaces both HUD Form-4128, entitled "Environmental Assessments for Subdivision and Multifamily Projects" (last issued 07/93) and HUD Form-4128.1, entitled "Compliance and LAC Conditions Record" (last issued 07/93). Handbook 1390.2, entitled "Environmental Assessment Guide for Housing Projects" will be revised to conform with Part 50. The Sample Field Notes Checklist (SFNC) or its equivalent should be used to document and support the environmental assessment and compliance findings. A draft SFNC will be available pending revision of Handbook 1390.2. Suggestions for inclusion in Handbook 1390.2 may be addressed to Departmental Environmental Clearance Officer: Richard H. Broun, Director, Office of Community Viability, Room 7240.

3. For all HUD programs subject to Part 50, the HUD approving official authorized to make the approval decision for any project is responsible for complying with 24 CFR Part 50 prior to approval of a specific site, project, disposition program, financial assistance for projects or the issuance of Site Appraisal and Market Analysis (SAMA) Letter or initial equivalent indication of HUD approval. The form shall also be used to record compliance decisions for the related laws for projects that are categorically excluded from NEPA in accordance with ' 50.20.

4. Environmental officers should provide technical assistance in the implementation of this notice.

DPVR: Distribution: W-3-1, Special Distribution to Field Counsels, Area and State Coordinators, and Secretary's Representatives
ATTACHMENT IS FORM HUD-4128, ENVIRONMENTAL ASSESSMENT AND COMPLIANCE FINDINGS FOR THE RELATED LAWS.

U.S. Department of Housing and Urban Development
Office of Community Planning and
Development
Office of Housing

Special Attention of: Transmittal Handbook No.: 1390.2

Program Staff Issued: June 1985

1. This Transmits

Handbook 1390.2, Environmental Assessment Guide for Housing Projects.

2. Explanation of Materials

The Guide is not a HUD regulation. It is intended to be a comprehensive instructional manual to assist HUD staff in preparing environmental assessments for housing projects when required by Departmental environmental regulations at 24 CFR Part 50.

3. Filing Instructions

Insert: Handbook 1390.2

Handbook 1390.2

U.S. Department of Housing and Urban Development
Washington, D.C. 20410

Departmental
Staff

June 1985 Environmental
Assessment Guide for
Housing Projects

FOREWORD

The purpose of the Guide is to provide assistance to HUD staff preparing environmental assessments for housing projects when an assessment is required by HUD's environmental regulations. The objective is to simplify documentation and expedite the environmental review process.

The Guide is not a HUD regulation. The environmental requirements are

ENVIRONMENTAL ASSESSMENT GUIDE

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contained in 24 CFR Part 50, "Procedures for Protection and Enhancement of Environmental Quality."

The Guide is a comprehensive instructional manual for assessing environmental impacts. It defines the substantive issues, sets forth the critical assessment questions, indicates methods for analysis and determining impacts, suggests mitigation measures, and provides sources of information both in terms of written materials and resource individuals. The Guide covers the environmental factors that are on the new HUD environmental assessment forms (HUD-4128 and HUD 4128.1), which are included as appendices to 24 CFR Part 50.

The Guide was developed jointly by staff from CPD, Office of the Deputy Assistant Secretary for Program Development and Housing, Office of the Deputy Assistant Secretary of Policy, Financial Management and Administration. The work was coordinated with and reviewed by the Council on Environmental Quality, the Environmental Protection Agency, the Veterans Administration, the Farmers Home Administration and the National Association of Home Builders.

The Guide will be revised and supplemented as additional materials are prepared. Comments should be sent to Headquarters CPD, Office of Environment and Energy and to Housing, Environmental Clearance Officer.

Chapter 1

INTRODUCTION

1. Purpose and Scope

This Guide is intended to assist HUD meet its responsibilities under the National Environmental Policy Act, related Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and HUD's environmental policy and procedures (24 CFR Part 50). The Guide has a twofold purpose: (a) to provide technical assistance to HUD staff in assessing environmental impacts for housing projects; and (b) to inform applicants of the minimum requirements that HUD has for environmental assessments and conformity with related environmental laws.

If the environmental assessment process is to result in better projects, the process must be based m the best available information, consider all relevant issues and provide for a consistent evaluation methodology. Equally important, the process must avoid unnecessary, expensive and time consuming analysis so that worthy projects are not unduly delayed.

Development of this Guide has been coordinated with the preparation of an environmental review guide for CDBG activities. In the case of the Community Development Block Grant Program, the CDBG recipients have assumed the responsibility for conducting environmental review and decisionmaking by HUD regulations as permitted under Section 104(f) of the Housing and Community Development Act of 1974, as amended. Since many CDBG activities are intended to provide sites for housing, often with HUD subsidy or loan guarantee being contemplated, a consistent environmental review process can avoid duplication and speed the later HUD review. With that objective in mind, this Guide draws heavily on the CDBG Guide, only changing, where necessary, the assessment categories and emphasis to take into account the range of housing activities HUD is involved in and the different environments in which these housing developments may take place (e.g., urban, suburban or rural).

It is the intent of this Guide to simplify documentation and expedite the environmental review process for housing developments by providing the user with a brief presentation on major concerns, methods of analysis, and data resources. The Guide provides the approach to environmental assessments by defining the substantive issues, setting forth the critical assessment questions, providing methods for analysis and determining impacts, recommending mitigation measures, and providing sources of information both in terms of written materials and resource individuals.

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*Environmental Review Guide for Community Development Block Grant Programs, published by HUD, January 1985 (HUD-CPD-782).

It must be kept in mind that the importance of individual environmental factors may vary substantially with the type of housing

and its location. The Guide, therefore, attempts to accommodate analysis of all types of housing projects in various locations. (Appendix B is a chart which indicates likely relevance of each assessment factor to various HUD programs and locations.)

A finding of major impact or deficiency for any factor in the environmental assessment, by itself, does not automatically indicate that the project will "have a significant impact on the human environment" and, consequently, require an Environmental Impact Statement (EIS). There are no precise criteria to indicate which factor or number of factors will trigger an EIS. For each project, the reviewer must: (a) consider the importance of an individual factor to the type and location of the project and whether the impact is short-term or long-term; (b) determine if the factor is the subject of specific environmental law or requirement and the nature of the conditions imposed; and (c) the extent to which mitigation measures will reduce the severity of the impact.

It is important to recognize that the fulfillment of program goals and objectives cannot always be achieved without some adverse environmental impacts. Much of the strength of an effective environmental policy, therefore, comes in the recognition of the need to reduce those adverse impacts as much as possible. In extreme circumstances, this will require that projects are rejected; most often it will only require modifications to projects. In addition, it is generally desirable, from a policy standpoint, to encourage any changes or modifications that would enhance the environmental quality of a project above what is considered minimally acceptable. Measures specifically designed to reduce adverse environmental impacts and enhance environmental quality, therefore, should be given special attention in environmental assessments.

The Guide is NOT a regulation--the basic environmental assessment process is governed by 24 CFR Part 50. The Part 50 "Procedures for Protection and Enhancement of Environmental Quality" covers the environmental review requirements for all HUD programs.

2. The Environmental Assessment Process

The environmental assessment is a concise public document that:

a. contains the evidence and analysis used to determine whether to prepare an EIS or a Finding of No Significant Impact (FONSI);

b. provides documentation of HUD's compliance with NEPA when an EIS is not required; and

c. facilitates preparation of an EIS (when required) since it should contain the data necessary to determine the critical issues which the EIS must analyze.

There are some general rules to follow in preparing environmental assessments. The most important of these are:

a. use relevant sources of information--do not rely on "field observation" when it is clear that the environmental factor being considered cannot be observed (e.g., capacity of infrastructure);

b. document findings--the assessment should be sufficiently detailed to enable someone reviewing the document to arrive at the same general conclusion as the preparer;

c. maintain a resource file (documents, data and persons) that can be quickly called upon during the assessment process; and

d. group related housing projects so that repetitious assessments can be avoided.

3. Content of this Guide

The Guide is a tool to help HUD field staff implement the environmental assessment process for subdivisions, public housing and multifamily housing projects. As such, the environmental compliance factors, and the assessment terminology are the same as those found on the Environmental Assessment Format included as Appendix A to 24 CFR Part 50 (Form HUD-4128), and is also included as Appendix A to this Handbook.

The environmental review is expected to make two types of determinations: (1) does the project have an impact upon the environment as defined under the National Environmental Policy Act (NEPA) as implemented by HUD regulations (24 CFR Part 50), and (2) does the project comply with other environmental laws, regulations and Executive Orders referred to in 24 CFR Part 50. These compliance requirements may be as simple as ensuring that the applicants have the necessary permits or making a finding of consistency or conformity with adopted plans, on the other hand, they may dictate a complex review process which includes interagency and public involvement. Some of the requirements are much more specific than others, and some of the areas have created more problems for HUD reviewers than others. The Guide emphasizes certain factors for which there are specific laws, Executive Orders or regulations, which are site specific, have detailed compliance tests and have a high likelihood of occurrence for HUD projects. These are included in a separate section called Compliance Factors and cover noise, historic preservation, floodplain management, wetlands protection and hazards.

Thus, where there are legal or regulatory compliance requirements, the Guide divides them into three groups: (a) those where the requirements are for conformance or consistency findings with specific plans, (b) those that have specific compliance and coordination requirements and where the environmental factor is usually well defined; and (c) those where there are less specific coordination requirements covering broad and less defined areas. The latter are included as part of the general NEPA environmental review requirements (Chapter 5) since, in practice, the reviewer usually does not have to perform a separate analysis.

The five parts of the Guide cover the following:

Chapter 1--INTRODUCTION--covers the general criteria, terms and approaches for environmental assessments

Chapter 2--PLANNING CONSIDERATIONS AND REQUIREMENTS--discusses conformity with State and areawide plans

Chapter 3--COWLIANCE FACTORS--includes subjects covered by other laws, regulations and Executive Orders which are especially important to HUD projects

Chapter 4--UNDERWRITING/ENVIRONMENTAL FACTORS--includes factors of public and private services and social amenities for which review under NEPA is required but for which there are no specific laws, standards or requirements and, therefore, no additional laws apply

Chapter 5--ENVIRONMENTAL FACTORS--includes physical aspects of the site, water and waste aspects and natural features and areas some of which are to be reviewed for NEPA and others which also must be considered under various related laws or regulations.

4. Project Screening and Analysis

The key to conducting the environmental assessment efficiently is to know when an initial screening technique is sufficient to make an environmental finding or when further and more detailed analysis will be required. For each of the environmental factors, the user is provided with an indication of what resources are appropriate and what type of documentation is needed.

There are five general sources of information which can be used in the analysis. The Guide indicates when it is most appropriate to use each source and what types of supporting documentation should be provided. Appropriate sources and documentation will vary given the region of the country, the importance of the environmental factor, the size and potentially controversial nature of the project, and whether it is single or multifamily housing--assisted or insured. The sources of information are:

a. FIELD OBSERVATION (Abbreviated in the Guide as FIELD). A site visit that does not usually involve any testing or measurements. Supporting documentation, in the form of a worksheet, report or memo, or notes on plot or site plan must include the date of the site visit, conditions observed, and tests if any. Field is an important method for initial screening but for some of the categories it is inadequate for final evaluation.

b. PERSONAL CONTACT. (Abbreviated in the Guide as CONTACT). Personal contacts are useful only when the individual contacted is an accepted authority on the subject(s). Supporting documentation should include the name and title of the person contacted, the date of the

conversation and brief notes of key points. Whenever the contact cites reports, records, etc., the title, date and source of the report should be noted. Contacts can include other HUD staff, such as an engineer, who are experienced in a particular area. It also can include previous contacts on similar problems.

c. PRINTED MATERIALS. (Abbreviated in the Guide as PRINTED). Printed materials such as comprehensive land use plans, maps, statistical surveys, and studies are useful sources of detailed information. The material must be current and reflect accepted methodologies. Complete citations for all material must be included.

d. REVIEWER'S EXPERIENCE. (Abbreviated in the Guide as EXPERIENCE). The professional judgment of the HUD personnel making the review can be useful provided their expertise is relevant. For example, the reviewer may have knowledge from reviewing previous projects in the same area. Another type of relevant experience is the professional finding of the reviewer in subjects where he or she has the background to make judgments about a specific factor. Some reviewers have the expertise to evaluate soil conditions, while others will need to consult an engineer or other specialist.

e. SPECIAL STUDY. (Abbreviated in the Guide as STUDY). This is a study conducted for a particular project performed by qualified personnel using accepted methodologies. Some tests are relatively simple to perform but others may require elaborate equipment or personnel with additional expertise. The reviewer is responsible for obtaining assistance from others in order to have the appropriate tests or studies conducted.

For each factor to be reviewed, the Guide makes recommendations about sources which might be used and whether they should be used always, used sometimes and whether or not they can be relied upon as the sole basis of judgment. In some cases, such as Historic Preservation, procedures other than field observation are required by law or regulation although field observation may be a very useful initial indicator.

In the Guide, the term "Always Use" means that this source is either required or necessary in order to make a judgment. In some cases, the sources suggested are different for an initial screening than for a more detailed analysis. However, in most cases, the sources identified are for both initial screening and for further analysis. "Sometimes Use" means that the source may or may not be useful depending upon local conditions, whether it is available and up-to-date for an area or particular problem. In many instances, a number of State or local agencies are listed which might have relevant information.

An indication of FIELD, EXPERIENCE, etc. in the documentation column of the environmental assessment or compliance finding format (Form HUD 4128 and 4128.1 respectively) is not adequate documentation to support a finding (see page 1-4, Project Screening and Analysis).

5. Resources

There are several. areas where the use of the proper resources (people or data) can save considerable time in preparing environmental assessments. For example, use of other HUD staff with expertise in a given subject should expedite the process since the specialist will know how to deal with specific requirements more quickly than the preparer. Consequently, the preparer will not need to spend time to learn all of the detailed requirements imposed for the factor. Other areas of efficiency is the use of data resources in the assessment process. Some examples of the use of resources are:

a. HUD STAFF. Program staff can request environmental data, advice and assistance from the Environmental Officer and other technical staff as needed. For compliance with environmental laws, Executive Orders, and HUD standards, the Environmental Officers should be requested to complete the necessary procedures. Compliance with the historic preservation requirements is an example where the Environmental. Officer as a specialist can complete the procedures much more efficiently than the environmental assessment preparer.

b. FIELD NOTES CHECKLIST. Included as Appendix C is a "Sample Field Notes Checklist." The checklist is intended to indicate an easy method for documenting the results from a visit to the project site. The sample checklist is illustrative in that it can be modified as experience is gained in its use. It can also be tailored to different situations.

c. PROJECT SITE PLAN. One of the major resources that the reviewer has is the site plan for the project. Many of the conditions observed during the site visit should be recorded directly on this map. Distances to certain services, description of the surrounding built and natural resources, compatibility/incompatibility issues and many features can be located directly on the map. The site plan can then become "source/documentation" for many of the factors on the assessment form for which a determination is made on the basis of a field visit.

d. MAPPED DATA. There are specialized maps required for completion of the assessment. The use of some of these maps for compliance determination are required (e.g. airport runway clear zone maps or floodplain maps). The Environmental Officer has been assigned to provide some of this data and should be the principal staff resource in the development of a data base. There are several other kinds of general information maps prepared by Federal and local agencies which are very useful in preparing the environmental assessment. Probably the major mapped resource readily available is the topographic map, which is prepared by the U.S. Geological Survey (USGS). A USGS topographic map, at a scale of 1:24,000 (1 inch equals 2000 feet) and known as the "7.5 minute quadrangle series" show terrain and elevations using contour lines. The topographic map also shows freeways, primary and secondary highways, light duty roads, railroads, bridges, industrial sites, tank farms, power transmission lines, wooded areas,

streams, lakes, marshes, urban areas and cultural features, such as schools and parks. In addition, the USGS prepares many thematic maps covering geology, forestry and other resources. The USGS maps are probably the most useful map resource that the preparer of environmental assessments can use.

Chapter 2

PLANNING CONSIDERATIONS AND REQUIREMENTS

1. Overview

Traditionally, one of the major obstacles to successful planning at all levels has been the lack of coordination, both within and between levels of government. Of particular concern has always been the lack of coordination between local planning and Federal decisions. Because the Federal action was often a major one such as a highway, its impact on local plans could be significant.

The A-95 Intergovernmental Coordination procedure (replaced by Executive Order 12372 which became effective on September 30, 1983) was one of the first attempts to make sure that Federal agencies were aware of and took into account State and local plans when they were taking actions that might affect those plans. The National Environmental Policy Act also sets forth the requirement that Federal agencies consider "the possible conflict with...regional, State and local land use plans and policies when assessing the impact of a proposed action." As major environmental legislation has been passed requiring local and State governments to develop plans to solve various environmental problems, the legislation has almost always included a requirement that Federal actions be consistent with those plans.

The concern for coordination of Federal actions with State and local plans is primarily due to the fact that many Federal actions are generally outside of local control. In HUD's case, however, almost all projects are either proposed by local governments or must be approved by local governments. Therefore the need for an extensive coordination and consistency evaluation is reduced. In fact, in the case of State Implementation Plans (SIPs) for air quality and Areawide Water Quality Management Plans (208 plans) local approval of a project can be considered verification of consistency and no further review by HUD personnel is required. In the case of comprehensive plans, the concern of HUD staff should be mainly whether the project is consistent with plans of the jurisdiction in which it is located, plans of neighboring jurisdictions, and any regional or areawide plans that may be in existence.

2. Related Laws and Regulations

Executive Order 12372, "Intergovernmental Review of Federal Programs" became effective on September 30, 1983. The Executive Order revoked OMB Circular A-95 and, in general, allows States, after consultation with local officials, to establish their own process for review and comment on proposed applications for Federal assistance, and provide for increased Federal responsiveness to accommodate State and local views. There is now a "single point of contact" (SPOC) in each State through which the process works. Field staff, however, should not assume that the process is

applicable or applicable equally to HUD housing programs. Field staff should be guided by outstanding instructions relating to trigger points, threshold levels, comment periods and special exceptions for each HUD program.

3. Assessment Questions

The principal questions involving comprehensive planning considerations are:

a. Is the proposal consistent or compatible with completed components of the local or regional comprehensive plan?

b. Is there a state plan and is the proposal consistent?

c. Is the proposed project consistent with other plans including those prepared by areawide planning agencies, special districts and boards in various functional areas?

4. Analysis Methods

Conformance and consistency will need to be determined by HUD staff. To the extent possible, the E.O. 12372 intergovernmental review process should be used to provide an indication of project consistency. To assist in consistency determinations, it is suggested, if possible, that an inventory of relevant plans be assembled as part of the HUD office data file.

5. Conformance or Consistency Findings

The reviewer must not only be aware of the various types of plans, (Areawide 208 Water Quality Management Plans, State Implementation Plans, Coastal Zone Management Plans, Local Comprehensive Plans, Areawide Plans and any others); they should also understand the relationship between them and the necessary coordination required. At the areawide scale, in particular, it is likely that the planning agency is involved in all of these specialized planning efforts.

Following is a brief description of some of these special purpose plans and their consistency or compliance requirements.

a. State Implementation Plan (SIP)

Part A of the Clean Air Act, as amended, requires each State to prepare and submit to EPA a State Implementation Plan (SIP) which describes how the State will meet the primary and secondary national ambient air quality standards and generally provide for the implementation, maintenance and enforcement of the air quality standards.

The Metropolitan Statistical Area (MSA) is usually the geographic bounds of most areawide planning and transportation planning agencies. This unit may not be identical to the Air Quality Control Region (AQCR) used in air quality planning.

States (and in some cases local agencies) have the major SIP responsibilities and can take enforcement actions to implement SIP requirements. Building permits and land use regulations as means of compliance with SIP's are necessarily the province of these local agencies. Housing activities assisted or insured by HUD must be approved locally and must meet all State and local regulations and requirements. Approval by local government should, therefore, constitute adequate verification that the proposed activities are consistent with measures to attain and maintain ambient air quality. In exceptional cases, where a large residential development (requiring an EIS) is being proposed and was not included in the SIP, further coordination with the local air quality agency may be necessary.

b. Coastal Zone Management Plans

The Coastal Zone Management Act of 1972 (CZMA) is considered the first national legislation to include a mandatory land development control element as part of a Federally-funded state planning process. By encouraging coastal States (including those bordering on the Great Lakes) to develop coastal zone management plans, the act provides a mechanism to States trying to balance the conflicting interests in coastal areas: those favoring public recreational use and environmental control, and those favoring increased development.

Under Section 307(c)(i) of the CZMA, projects which "directly affect" lands or water of the coastal zone must be carried out in a manner consistent with the approved state coastal zone management program. The "directly affecting" test which triggers operation of the Federal consistency provision applies to all Federal activities and determines the degree of State influence over these activities.

The consistency determination will be made by HUD staff with the opportunity for comment provided to the State CZM agency. Where problems related to consistency are identified, they will need to be resolved with the State CZM agency.

c. Water Quality Management Plans

The Federal Water Pollution Control Act, now called The Clean Water Act (1977), established a national goal to eliminate all pollutant discharges into waterways by 1985. Under this Act, Section 208 requires States and localities to develop areawide comprehensive plans for improving water quality in an area or State. The rationale for areawide planning is that water quality problems do not stop at municipal boundaries, consequently neither should planning their solutions. The States have the primary role in water quality management--they establish water quality standards, determine "201" sewage treatment work construction priorities and, in some cases, issue National Pollutant Discharge Elimination System Permits (NPDES).

Water Quality Management Plans or "Areawide 208 Plans" or "208 Plans" as they are sometimes called are prepared by the State Water Quality

Agency. In the case of urban areas, they are prepared by an areawide planning agency designated by the governor. All "208" plans must include procedures to control non-point sources of pollution, particularly storm water runoff in urban areas and runoff from construction sites.

Areawide 208 plans must identify all necessary sewage treatment facilities, any related land acquisition requirements, and the necessary wastewater collection systems to meet an area's needs for 20 years. It must establish priorities and a time schedule for the construction of treatment facilities. Sewage treatment facilities are critical to urban growth. They do not necessarily have the same immediate importance to suburban and rural growth, however. The manner in which 208 plans are developed and implemented will determine, to a great extent, the growth potential and direction of growth for a particular region, county, or locality.

In addition to non-point source pollution control, 208 plans must establish a program to regulate the location, modification, and construction of any point source water pollution. Treatment plants, homes, stores, offices and other buildings which discharge into a sewer system fall into this category. With this authority a city or county might deny construction and development permits or request the alteration of proposed projects if the potential discharge threatens to exceed existing treatment capacity.

As with SIPs, approval by local government should constitute verification that the proposed projects conform to the goals of the 208 plan. In some cases where a large scale development is being proposed that was not anticipated by 208 plan, further coordination with the 208 planning agency may be necessary.

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

Chapter 4

UNDERWRITING/ENVIRONMENTAL FACTORS

This Chapter addresses a group of important factors which contribute to the overall quality of a housing project. The extent to which any deficiencies contribute to an impact on the human environment depends largely on the nature of the project; that is the age, household composition and income level of the projected residents? Projects with low income elderly residents need grocery stores within walking distance or convenient public transportation while residents of middle income suburban subdivisions can be expected to drive to a supermarket. The importance of public recreation facilities depends partly upon the income of the project residents, the number of employed mothers, and the availability of private play space through the provision of large yards or common recreation area within the project.

In reviewing the project, the concern is more with "deficiencies" in the services to be provided to the project. Deficiencies in services are assessed in terns of their adequacy and location in reference to the project. In general if there are no problems with either the setting or the services, then there are "no deficiencies." If there are problems but they are easily remedied or the services will still be acceptable though reduced in quality, then there are "minor deficiencies." If the services will not be available or will be unacceptable in terms of quantity or quality, or if the problems with project setting can not be remedied, then there are "major deficiencies."

For convenience, all the basic community services (i.e. fire, police, education etc.) are grouped together with a general overview and discussion. Specific information on data sources, assessment questions, analysis methods, summary evaluation and mitigation measures is, however, provided for each individual factor.

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UNDERWRITING/ENVIRONMENTAL FACTOR 1: COMPATIBILITY WITH SURROUNDING DEVELOPMENT, VISUAL QUALITY

1. Overview

Compatibility with surrounding development is an important consideration. This means avoiding the harmful effects of industry and commercial operations such as heavy traffic, noise, air pollution and other hazards in residential areas. Desirable conditions would be suitable access, the presence of parks, schools, churches, recreational facilities, libraries, pleasant views, permanent open space as well as existing residential development which is properly maintained and not overcrowded. It is not necessary that density or housing types be uniform if the land planning is done with care.

Visual impact can be defined as the impact of the project on the visual quality of its surroundings. The visual quality of an area is made up of the way elements of the natural and built environment relate to each other to create a sense of harmony.

Elements that comprise the natural environment include the natural contours of the land, bodies of water, and trees and plants indigenous to the area. These elements together provide contrast to the built environment and create visual interest to the viewer. Elements of the built environment include the surrounding buildings and streets. The different styles and types of buildings and their materials, colors, shapes, sizes, facades, details and density all add to the character of the area.

2. Related Laws and Regulations

Local zoning ordinances and maps delineating the various land use districts offer some protection from the introduction of incompatible land uses. In many cases the segregation of land uses has been too rigid, producing mile after mile of single family detached housing to the point of monotony. More recently the planned unit development has offered some variety of housing type and better disposition of open space.

The major Federal legislation which would be involved in visual quality is the National Historic Preservation Act,, 16 U.S.C. 407(f), Section 106. While many historic buildings and places are treasured for aesthetic reasons, the critical element is the association of what is being preserved with events, epochs, or persons deemed to be of such importance that the nation should not be deprived of the values they represent. Therefore, it is quite possible that ungainly structures would be eligible.

3. Assessment Questions

a. What are the existing land uses adjacent to the proposed project and will the proposed project be compatible with the existing development?

b. Will the project introduce elements or induce development which is out of character or scale with existing physical environment?

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c. Will the project location, appearance, construction or activities which it will generate, detract from the aesthetic appeal of its natural or man-made surroundings?

d. Is the project protected from incompatible uses by proper zoning?

e. Are the approaches to the project convenient, adequate, safe, and

attractive?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: A site visit should be conducted to observe existing conditions. Notes should be taken of salient features of the surrounding landscape and neighborhood. Photographs taken will preserve information which might otherwise soon be forgotten or which is difficult to convey to others by written or oral description. A copy of the project plan should be studied before the field trip and taken along for orientation purposes. The General plan of the community together with detailed neighborhood plans, land use maps and zoning ordinances should be reviewed to see what proposals exist for the area.

SOMETIMES USE

a. PRINTED: Aerial photographs are a good resource and they have the advantage of recording many features which might not have been recorded in other surveys. Sanborn Maps or other similar maps prepared for fire insurance are useful since they show the outlines of most city buildings and the number of stories in height.

b. CONTACT: The planning director of the city of the county can provide additional information.

5. Evaluation of Impacts

For new developments (particularly subdivisions) overall compatibility will usually be addressed in the local review and approval process. Where existing commercial/industrial or institutional properties are being converted to residential use, compatibility and visual quality may be the major issue. Where the proposals are in incompatible surroundings and remedial actions are not proposed which would remove unacceptable conditions, the project should be rated as having "major" deficiencies.

6. Mitigation Measures

In most cases the measures available consist only of alterating of the project itself, such as:

a. Redesign site to separate or screen objectional neighborhood features

b. Use of berms, barriers and screens to reduce impacts of unsightly neighborhood features

7. Information Resources

a. Publications

Maps, reports, plans prepared and adopted by the local Planning Department or Commission.

Aerial photographs

b. Resource Persons

Local planning director, architect, HUD site planner

Local chapters of professional organizations such as American Institute of Architects (AIA); American Society and Landscape Architects (ASLA); American Planning Association (APA); American Society of Civil Engineers (ASCE)

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UNDERWRITING/ENVIRONMENTAL FACTOR 2: SITE ACCESSIBILITY

1. Overview

The success of a residential development depends upon its location, the position of major thoroughfares and the project's access to them. A project which would increase traffic on public roads and highways servicing the development, may cause traffic to rise to congestion levels and generate demands for new or improved streets and highways. With higher density development, expanded access may be required. Projects ranging upward from garden apartment densities generate significant amounts of traffic and require an array of support services; therefore, locations adjacent to collector streets and highways are commonly proposed for higher density uses.

2. Related Laws and Regulations

There is no Federal legislation which sets criteria or standards for transportation services to proposed residential developments. Criteria and standards are usually contained in local comprehensive plans, street plans and ordinances. Federal programs relating to accessibility generally deal with transportation planning; the major efforts include comprehensive transportation planning procedures established under Section 134 of the Federal Highway Act of 1964 and the transportation planning requirements under Section 174 of the Clean Air Act.

3. Assessment Questions

a. Is the site location readily accessible to employment, shopping and service areas?

b. Is access to the site free from impediments such as railroad crossings at grade, steep hills, prone to flash floods, etc.

c. Does the site plan make arrangements for necessary street and road improvements to serve the residents, and to decrease the possible hazards to pedestrians in the area?

d. Is the project an addition to already existing development or will it be completely new? Will the project be isolated from all services and have to provide its own access roads and streets?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: Field observation and the reviewers knowledge of the area may be sufficient for a determination on this factor.

U/EF 2: Site Accessibility

SOMETIMES USE

CONTACT: Highway engineer, and the local planner or public works department can provide information on planned improvements or changes to the transportation system.

5. Evaluation of Impacts

The evaluation of a proposed site for access depends upon the availability of suitable roads and streets to serve the project. Accessibility means more than egress and ingress. It means all-weather construction, with adequate capacity to serve the project and its residents.

A project designed to furnish accessibility to all areas of the development including safe streets and roads which provide passage for service vehicles and safety equipment, would be rated "no deficiencies." Where the passageways are clearly inadequate, the project can be evaluated as having "minor" or "major" deficiencies depending on severity of problem. In cases where mitigation is attainable and will be accomplished, a finding of "no deficiencies" can be made.

6. Mitigation Measures

Mitigation measures involve the proper construction of adequate streets and roads within the development. Providing for access to adjacent

streets may be accomplished by changes in the project layout. The residential environment should be protected from traffic, noise, and pedestrian hazards through mitigation wherever it is needed. Major changes to street patters and capacities for streets serving the project are the responsibility of State and local government and deficiencies should be called to their attention when local approvals are being considered.

7. Information Resources

a. Publications

HUD Minimum Property Standards

Project architectural plans and street layout, county and local master plans, highway plans and maintenance schedules.

b. Resource Persons

State and local highway engineers, county and municipal planning staff, project planner or architect

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UNDERWRITING/ENVIRONMENTAL FACTOR 3: DEMOGRAPHIC/NEIGHBORHOOD CHARACTER

1. Overview

The concept of the neighborhood is complex and "neighborhood" is a descriptor usually used to define specific geographic areas within a city. The physical characteristics include the quality and type of housing units, commercial, public and social services, its size, location and boundaries. The social dimension or demographic character of a neighborhood is determined by household and population size, density, age, ethnic and minority composition, as well as income, education, and employment profiles. Finally, there is the psychological and social interaction. This refers to the residents' sense of neighborhood, their perceived relationship with their surroundings and others within the neighborhood boundaries, and the strength of their various organizational ties and support systems (formal and informal).

Determining neighborhood boundaries is also complex. The boundaries can be natural or built. Natural boundaries might include one of more of the following, topography, streams or open space; whereas built boundaries can be railroads, freeways or major streets !thoroughfares). Demography, such as the type of housing, may also be a factor in defining the neighborhood.

2. Related Laws and Regulations

There are no Federal legislation or standards for measuring deficiency or impact for this factor.

3. Assessment Questions

When considering the project's impact on demography and neighborhood character, the focus of inquiry is on the following questions:

a. What is/are the identifiable neighborhoods within the sphere of likely impact of the proposed project? What are the factors which contribute to the character of the neighborhoods?

b. Will the proposed project significantly alter the demographic characteristics of the neighborhood?

c. Will the proposed project result in physical barriers or reduced access which will isolate a particular neighborhood or population group, making access to local services, facilities and institutions or other parts of the city more difficult or extremely inconvenient?

d. Will the proposed project substantially alter residential, commercial or industrial land uses?

U/EF 3: Demographic/Neighborhood Character

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. FIELD/EXPERIENCE: In most cases, the reviewer's observation, previous experience and knowledge of community will be sufficient. Once the physical, social and psychological boundaries of the neighborhood have been defined, significant changes resulting from the proposed project should be easier to determine.

b. PRINTED: Use recent local demographic data and planning or development plans (comprehensive, district or neighborhood plans)

SOMETIMES USE

a. CONTACT: City planners, social agencies, police and fire departments and community organizations

b. PRINTED: City comprehensive plans, Housing Assistance Plans or economic development plans, all may be helpful.

5. Evaluation of Impacts

The proposed project may change the income, racial, ethnic, or age distribution of the neighborhood. These "changes" should be noted and weighed as to the impact they will have on the demographic and neighborhood character. If the changes are perceived by the reviewer's judgment and the affected community as altering the physical boundaries

and subsequently altering the delivery of goods and services, and social interaction then this factor should be determined as "minor" or "major" deficiencies depending on the severity of the change.

6. Mitigation Measures

There are no required mitigation measures.

7. Information Resources

(See reference in 4. above)

COMMUNITY AND NEIGHBORHOOD SERVICES

For this group of factors the Overview discussion and the discussion of related laws and regulations are broad enough to encompass all of the following community services:

U/EF 4: Schools
U/EF 5: Parks and Recreation
U/EF 6: Social Services
U/EF 7: Emergency Health Care
U/EF 8: Public Safety - Fire
U/EF 9: Public Safety - Police
U/EF 10: Commercial/Retail
U/EF 11: Transportation

For each of the above sub-elements, the Assessment Questions, Analysis Methods, Evaluation of Impacts, Mitigation Measures and Information Resources are presented separately as they apply to the specific community and neighborhood service.

1. Overview

The development of community services by private and public agencies has been a necessary component of urban development. The basic factors which influence the demand for community services are human necessity, economic level, demography of the population, and availability of services. Each of these factors relates to the level and quality of the various services indicated above.

Human Necessity. In any neighborhood or community setting, certain services and facilities are necessary to permit community development to occur and continue without hazard to public health, safety and security. Police, fire, and health services are examples.

Economic Level. The demand for certain kinds of services will reflect the income characteristics of a particular neighborhood.

Demography. Areas with a large percentage of children have greater need for educational and recreational facilities, and such social services as day-care centers, than do other areas. A large number of elderly and retired persons generates a greater demand for accessible

or reasonably convenient public transportation, health and welfare services, and cultural facilities.

2. Availability of Services

If the community services are located at unreasonable distances from a neighborhood, they will be of little benefit to residents. Scattered centers for services, such as health care and education, increase the availability of services but do not necessarily improve the quality of service. The various community services are similar in that they provide

services necessary to the health, education, safety, and well-being of the population. Each of the factors considered is discussed briefly in general terms below:

U/EF 4 Schools includes the traditional elementary and high school systems and may include centers of higher education and adult education. Need for educational facilities is related to the age structure of the population, and may be influenced by the economic structure of the community.

U/EF 5 Parks and Recreation include active sports and passive areas, parks and gardens, trails and facilities for spectator and participatory sports.

U/EF 6 Social Services include transportation for handicapped and elderly, alcoholism and drug programs, and halfway houses. The need for such services will be a function of the age, income and educational level of potential project residents.

U/EF 7 Emergency Health Care consists of those emergency medical care and ambulance services. The latter are usually provided by local fire departments and area hospitals.

U/EF 8 Public Safety - Adequate access for fire equipment and vehicles to t e project area is critical, as is the consideration of water supply, water flow and the placement of fire hydrants for assuring good fire protection. Insurance industry standards often dictate the organization and location of facilities and equipment.

U/EF 9 Public Safety - Like fire protection services, access and response time are important planning considerations for assuring adequate policy protection. Organization and staff may vary widely among communities.

U/EF 10 Commercial/retail facilities, such as neighborhood shops, community shopping districts and regional shopping centers provide a source of goods and personal services to maintain the population. These facilities are established privately

and the number and quality of these facilities therefore depends upon the economic conditions and demand of the serviced population.

U/EF 11 Transportation should incorporate private and public transportation. It is recognized that some minimal number of users is required to make public transportation feasible, and without this, prospective residents will have to provide for their own transportation. In outlying areas, particularly with subdivisions, personally owned vehicles (POV) is the standard transportation mode.

3. Related Laws and Regulations

Generally, there is no legislation that addresses community services. The desired levels of community services may be identified by local governments in their general plan. For some community services there are various professional, technical or governmental organizations which have established minimum standards for some of the varied services and facilities. In addition, State laws or municipalities may mandate certain public services and facilities. These can be helpful in determining adequate levels of service.

Assessment Questions

1. Will an increase in population strain the capacity of existing services and facilities?

2. Are the existing community services and facilities located an inaccessible and/or "unreasonable" distance from the project site?

3. Will the project include particular groups, such as the low income families or elderly, requiring special services or facilities?

4. Where services and facilities must be extended to the project, does the community have the capacity to extend them in time to meet the need?

5. Are there actions which the developer could take to assist the provision of needed services?

4. Evaluation of Impacts

The match between the existing facilities and services and the projected population is likely not to be as important as the affected community's ability to respond to the increased demand. If a community has a good "track record" for responding to increased demands for facilities and services the deficiencies or impacts may not be of major proportions.

The availability of most services has to do largely with tax funds

available to support these functions and the degree to which building and growth are coordinated with the provision of the services. In areas where growth occurs rapidly, services frequently fall behind demand.

The services should be within reasonable access, that is capable of being delivered, received, or reached within a reasonable time limit and have adequate capacity for the projected population.

6. Mitigation Measures (Planning and Development Considerations)

Mitigation measures are limited to ameliorating those situations where a proposed development will have impacts on the community services available. More often, there are "planning" considerations and negotiations

which the developer can undertake to assure the overall success of a housing project. Invariably the planning considerations for most of the various community services involve; (a) improving the accessibility of the proposed residents to services or the delivery of services to the residents; (b) the capacity of the local government to provide the necessary services or expand at a future date so that the services which will be needed for an increased population will be available. The solutions to impacts must result from negotiations and planning alternatives between the local government and developer involved.

7. Information Resources

Publications

Burchell, Robert W. and David Listokin, The Fiscal Impact Handbook. New Brunswick, New Jersey: The Center for Urban Policy Research, 1978.

Gallion, Arthur and Simon Eisner, The Urban Pattern: City Planning and Design, New York: Van Nostrand, 1975.

Schaenman, Philip. Using an Impact Measurement System to Evaluate Land Development. Washington, DC Urban Land Institute, 1976.

Economic/Demographic Assessment Manual - Current Practices, Procedural Recommendations, and a Test Case. J.A. Chalmers and E.J. Anderson, Mountain West Research, Inc., Tempe, Arizona, 1977, 300 pp.

How Effective Are Your Community Services? Procedures for Monitoring the Effectiveness of Municipal Services. Harry P. Hatry, Louis H. Clair, Donald M. Fish, John M. Greiner, John R. Hall, Jr., and Philip S. Schaenman. The Urban Institute and the International City Management Association, Washington, DC, 1977, 320 pp.

The Costs of Sprawl, Council on Environmental Quality, HUD and EPA, Washington, DC, USGPO 1974 (Stock No. 041-011-00021-1).

Neighborhood Planning Primer, U.S. Department of Housing and Urban Development, HUD-NVACP-612, GPO, October 1980 (Stock No. 023-000-00644-8).

Neighborhood Space. Randolph Hester. Dowden Hutchinson & Ross, 1978.

Manual of Housing, Planning and Design Criteria. DeChiara, Koppelman, Prentice Hall, 1975.

Brourne, Larry S. Internal Structure of the City. Toronto University Press, Toronto, Ontario, 1971.

Muller, T. Economic Impacts of Land Development, Washington, DC, 1976.

The Urban Planning Guide, William Clair (editor), American Society of Civil Engineers, New York, 1969.

UNDERWRITING/ENVIRONMENTAL FACTOR 4: SCHOOLS

1. Overview - (See Introduction to Community and Neighborhood Services)

2. Related Laws and Regulations (See Introduction to Community and Neighborhood Services)

3. Assessment Questions

   Schools are a difficult underwriting/environmental factor to assess. Generally, schools are built in response to need and not in anticipation of need. Capacity is influenced by changing household characteristics, shifting service area boundaries, curriculum revisions changing educational concepts, and busing strategies. Nevertheless, capacity and accessibility are the fundamental issues to address, and the following questions are the most pertinent:

   a. Will the additional school age children in the proposed development exceed the capacity of the school?

   b. Do the potentially affected schools have adequate existing facilities (i.e., classroom space, buses) for the projected population increase?

   c. Will additional or alternative facilities have to be provided to ensure adequate programs?

   d. What measures will be taken by the school agency or governing body to resolve potential problems?

4. Analysis Methods

   Initial Impact Screening

   ALWAYS USE

a. PRINTED: A school district plan and school maps will be helpful for analyzing capacity issues and determining the impact of potentially increased enrollment and for identifying distance and safety issues. (Use "approved" plans, e.g., those for which funding has been appropriated).

b. CONTACT: School Superintendent or Administrator

SOMETIMES USE

PRINTED: General development or comprehensive plans. However, proposals contained in these documents may be without funding even through they may have formal approval.

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5. Evaluation of Impacts

a. If school children will be required to walk or to ride longer than the following suggested distances, or more than the prevailing local standards, there are "minor" deficiencies.

	Walking	Bus Ride
Elementary	1/3 mile	1/2 hour
Junior High	1/2 mile	3/4 hour
Senior High	1 mile	3/4 hour

b. If it is determined that existing facilities are not adequate to accommodate school children and there are no plans to remedy the situation or if it is determined that safety to school children will be jeopardized, then there are "major" deficiencies.

6. Mitigation Measures (Planning and Development Considerations)

While inadequacies in the school system can not be corrected by a project sponsor, there are actions that can be taken to ameliorate adverse conditions, such as careful site planning to reduce hazards and improve accessibility, use of overpasses, sidewalks and, in some cases, by making sites available for future school construction.

7. Information Resources

a. Publications

School maps for identifying distances and safety issues, school district plans for analyzing capacity issues and determining the impact of potentially increased enrollment.

Burchell, Robert W. and David Listokin, The Fiscal Impact Handbook. New Brunswick, New Jersey: The Center for Urban Policy Research, 1978, pp. 276-288. (Useful for identifying the costs of increased/

decreased enrollment.)

b. Resource Persons

School administrator, planning and traffic personnel

UNDERWRITING/ENVIRONMENTAL FACTOR 5: PARKS AND RECREATION

1. Overview - (See Introduction to Community Services and Neighborhood Services

2. Related Laws and Regulations (See Introduction to Community and Neighborhood Services)

3. Assessment Questions

   a. Are open space, recreational and cultural facilities within reasonable walking distance to the project area? Or is adequate public transportation available from the project to these facilities?

   b. Will the proposed project overload existing facilities?

   c. If the project includes special groups such as small children, or the elderly and handicapped, are there convenient facilities to meet their particular needs? For example, are there tot lots for very small children, playgrounds for elementary school children, drop-in centers for senior citizens and ball fields for teenagers?

      (Note that privately owned vacant land cannot be considered to be park or playground space.)

4. Analysis Methods

   Initial Impact Screening

   ALWAYS USE

   a. PRINTED: Maps identifying the available open space, recreation and cultural facilities and the site of the proposed project. Determine how many of these sites are within walking distance and are geared to project residents/users. Determine if public transportation is available if needed.

   b. FIELD/EXPERIENCE: In some cases a site visit or the reviewer's knowledge of local conditions may be sufficient.

5. Evaluation of Impacts

   If there are not adequate facilities within a reasonable distance of the proposed project, or the project will overload existing facilities without providing additional resources, then the project will affect recreation resources. If preschool and elementary aged children do not

have play space near their homes, rate these factors as having "major deficiencies." If facilities for any age group are limited or access difficult, rate that factor "minor deficiencies."

U/EF 5: Parks and Recreation

6. Mitigation Measures (Planning and Development Considerations).

The developer in conjunction with local government may consider:

a. Expanding existing facilities to reduce the burden caused by new users

b. Reviewing design to mitigate project impacts on open space and cultural resources in the vicinity

c. Developing recreational resources for specific population groups, such as tot lots, playgrounds, and passive park areas

d. Making provisions for transportation services to various recreation facilities, if it is needed

e. Developing facilities or providing space on-site, especially for elderly

7. Information Resources

a. Publications

Information prepared by Urban Park and Recreation Recovery Program and/or

Land and Water Conservation Funded Heritage Conservation and Recreation Service Regional Offices

b. Resource Persons

Planner at local parks and recreation department, administrator of social services agencies, administrators of private non-private agencies, such as the YMCA or YWCA.

UNDERWRITING/ENVIRONMENTAL FACTOR 6: SOCIAL SERVICES

1. Overview: (See Introduction to Community and Neighborhood Services)

2. Related Laws and Regulations: See Introduction to Community and Neighborhood Services)

3. Assessment Questions

When considering the adequacy and accessibility of social services, the focus of inquiry is on the following questions:

a. Will residents have specific social service needs?

b. If so, are social services currently located within a "convenient" and a "reasonable" distance of residents?

c. Are the social services available "matched" to the potential users?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. FIELD/EXPERIENCE: Determine the location of existing social services and their distances from the proposed development. Determine whether public transportation is available between needed services and the project site.

b. CONTACT: Discuss with local social service offices, public welfare office, local youth services office, and agency on aging whether existing services will be adequate to meet the new and increased demand.

SOMETIME USE:

PRINTED: Examine relevant demographic data regarding the social service needs of the new users. Determine any specific types of services that will be required for any special user groups.

5. Evaluation of Impacts

If the appropriate and necessary services and facilities are not conveniently located for the new users, rate this factor as having "minor deficiencies." If the additional population will burden existing services or if there are no social services or prospects of services becoming available, rate this factor "major deficiencies."

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6. Mitigation Measures (Planning and Development Considerations)

If social service centers are not located within reasonable proximity to the proposed development or cannot accommodate new users in the project, the developer with the help of the local government may consider:

a. Providing special transportation services -- especially for elderly and children

b. Providing space for social service offices as part of a project -- elderly drop-in center, nutrition or youth center

c. Request local government to consider locating satellite offices in the project area

7. Information Resources

a. Publications

Local Social or Human Services Department (City or County) -- can provide information on local demand for social/human services and their availability/adequacy.

Area Agency on Aging -- can provide information on the special social and human service needs of the elderly population.

Local Health and Welfare Council or the United Fund -- may have data on social and human service needs.

b. Resource Persons

Local planners; administrators of the following agencies -- Social Services Department, Public Welfare Office, Area Agency on Aging, Social Security Office, Half-way House(s) in area, Drop-in Center(s) in area, Child Care or Day Care Center, Local Council on Voluntary Human Service Agencies.

UNDERWRITING/ENVIRONMENTAL FACTOR 7: EMERGENCY HEALTH CARE

1. Overview: (See Introduction to Community and Neighborhood Services)

2. Related Laws and Regulations: (See Introduction to Community and Neighborhood Services)

3. Assessment Questions

a. Are emergency health care providers located within reasonable proximity to the proposed project?

b. Can ambulance trips to a hospital or other health care center be made within a reasonable time?

c. Will project residents/users require special medical services or skills such as geriatric or pediatric clinics that will require very specialized skills and services? Cardiac pulmonary resuscitation (CPR), which is especially important for elderly is one example of an emergency medical skill which may be needed.

4. Analysis Methods

Initial impact Screening

ALWAYS USE

a. CONTACT: Local police and fire department and local hospitals can provide information on the ability of their emergency equipment and personnel to serve the project.

b. PRINTED: Review project street and traffic plans with local authorities to ascertain if site access is adequate and can accommodate emergency health care vehicles easily.

SOMETIMES USE

FIELD/EXPERIENCE: Reviewers knowledge of local conditions may be sufficient if there are no special user groups whose needs have to be considered.

5. Evaluation of Impacts

The factors related to emergency health care services are emergency equipment, emergency service personnel, response time, and access. If the emergency care vehicle response time is excessive or the increased population cannot be serviced adequately by available facilities, rate this factor "major deficiencies." If emergency vehicular access will be inhibited, also rate this factor as having "major deficiencies."

U/EF 7: Emergency Health Care

6. Mitigation Measures (Planning and Development Considerations)

Depending on the specific problems and local resources, the developer and local government may consider the following:

a. An increase in staff and vehicles to assure adequate service

b. Special shuttle and emergency transportation to medical services

c. Incorporate a small clinic or emergency medical service area into the project, keyed to the special needs of the resident population

d. Redesign streets and roadways and building arrangement, if necessary, to improve access

7. Information Resources

a. Publications

(See general references in Introduction)

b. Resource Persons

Administrators of the following agencies -- Area Health Systems Agency, Local Public Health Department, Local Red Cross

UNDERWRITING/ENVIRONMENTAL FACTOR 8: PUBLIC SAFETY - FIRE

1. Overview: (See Introduction to Community and Neighborhood Services)

2. Related Laws and Regulations: (See Introduction to Community and Neighborhood Services)

3. Assessment Questions

   a. Does the project location provide adequate access for fire vehicles? Does the project design provide easy and unrestricted access for fire emergency vehicles and individuals? Are there existing obstacles to access to the project such as one-way roads, narrow bridges, waterways, expressways, railroads which would limit access in an emergency situation? Will the project create such obstacles?

   b. Will the project create a burden on existing facilities in terms of manpower and/or equipment?

   c. If so, can services be expanded?

   d. Is the water supply and water pressure adequate for fighting fires?

4. Analysis Methods

   Initial Impact Screening

   ALWAYS USE

   a. PRINTED: Fire-Service District Maps: Obtained from the local fire department, these show the distance to the nearest fire station (and usually police station), which can be used to estimate response time.

   b. CONTACT: When the local fire department is provided the location and the size of the project, they can determine whether they will be able to serve the project adequately.

   c. FIELD/EXPERIENCE: A site visit by reviewer will determine the location of the nearest fire station, fire hydrants, etc.

5. Evaluation of Impacts

   The factors critical to proper emergency fire protection are access, response time, equipment, personnel, and water supply and pressure. If the project will overburden or strain existing fire service and there are no provisions to increase that service, or if fire equipment access will be difficult, or if the water supply and pressure needed for fire protection are determined inadequate, rate this factor "major deficiencies."

6. Mitigation Measures (Planning and Development Considerations)

The developer and local government may jointly or independently discuss and consider:

a. Changing population density and land use of the project to keep "demand" or "need" of existing fire services consistent with existing capacity

b. Redesigning streets, roadways and structures to assure proper access

c. Coordinating project planning and site design with input from the local fire department

d. Negotiating with locality and local fire department to establish a voluntary firefighters unit which would augment the regular fire department

e. Increasing fire department personnel and equipment to assure adequate service

7. Information Resources

a. Publications

The National Board of Fire Underwriters monitors the fire insurance risks and fire fighting capabilities of most cities in the U.S. and rates sections of cities for the purpose of establishing insurance rates and premiums, and if these are unsatisfactory will advise what improvements are needed to gain a better rating.

U.S. Fire Administration's Home and Public Building Safety Division, National Fire Data Center, P.O. Box 19518, Washington, DC 20036. Telephone 202/634-7195. They have several publications: (1) A Basic Guide for Fire Prevention and Control Master Planning; (2) An Urban Guide for Fire Prevention and Control Master Planning.

Fire-service maps: obtained from the local fire department. (These show the distance to the nearest fire station (and usually police station) which can be used to estimate response time.)

"Fire Department Standards - Distribution of Companies and Response to Alarms" in National Board of Fire Underwriters, Special Interest Bulletin, No. 315, N.Y. American Insurance Association, 1963. (This book provides standards approved by insurance companies with respect to response time in various urban settings.)

b. Resource Persons

Chief of local fire department

UNDERWRITING/ENVIRONMENTAL FACTOR 9: PUBLIC SAFETY - POLICE

1. Overview: (See Introduction to Community and Neighborhood Services)

2. Related Laws and Regulations: (See Introduction to Community and Neighborhood Services)

3. Assessment Questions

   a. Does the project location provide adequate access to police services? Does the project design provide easy access for emergency vehicles and individuals? Are there existing obstacles to project access such as one-way roads, narrow bridges, waterways, expressways, railroads which would prohibit access in an emergency situation? Does the design of the project create such obstacles or isolated areas?

   b. Are police protection services available to the project adequate to meet project needs?

   c. Does the area have a particularly high crime rate? Are there special plans for a security system which have been approved by the police department? Can the development be patrolled easily by the police from the street?

   d. Will the project create a burden on existing facilities in terms of personnel and/or equipment? Can services either be expanded or be provided by the project, such as an in-house security force?

4. Analysis Methods

   Initial Impact Screening

   ALWAYS USE

   a. CONTACT: Local Police Department: If provided with the location and size of the project, the police department can determine whether they will be able to service the project adequately without increasing their staffs. They can also help to estimate response time to the site.

   b. PRINTED: Review project site design plans to determine the size of the building and the number and type of users/residents, in order to estimate the need for protection services; and access routes for accessibility for emergency vehicles.

   c. FIELD/EXPERIENCE: Coordinate field observations and site visits with discussions with local police department officials.

5. Evaluation of Impacts

   If physical access by both emergency personnel and their equipment to the project site is limited, thereby increasing emergency response

time, rate

this factor "minor deficiencies." If police services are presently strained or operating at capacity and there are not plans to increase service, rate this factor "major deficiencies."

6. Mitigation Measures (Planning and Development Considerations)

The developer may want to consider:

a. Encouraging locality to hire more police and purchase equipment

b. Including security features in the project (e.g., fences, lighting) to decrease potential for crime

c. Hiring private guards to decrease potential for crime and response time

d. Changing density or land use mix of the project to charge need for services

e. Design project in a manner to encourage surveillance by neighbors

7. Information Resources

a. Publications

Oscar Newman. Design Guidelines for Creating Defensible Space. National Institute of Law Enforcement and Criminal Justice. 1976.

Richard Gardiner. Design for Safe Neighborhoods. Law Enforcement Assistance Administration (LEEA), HUD, USGPO No. 027-000-00751-1.

The Costs of Sprawl, Council on Environmental Quality, HUD and EPA, USGPO (Stock No. 041-011-00021-1). (Pages 116 through 120 contain data on community cost analysis of police and fire services. This publication provides an excellent analysis of the economic factors involved in providing emergency services.

b. Resource Persons:

Chief of local police department

UNDERWRITING/ENVIRONMENTAL FACTOR 10: COMMERCIAL/RETAIL

1. Overview (See Introduction to Community and Neighborhood Services)

2. Related Laws and Relations (See Introduction to Community and

neighborhood Services)

3. Assessment Questions

   a. Is there adequate and convenient access to retail services? In the case of the elderly, this means that shopping for such essential items as food and medicine and services such as banks and other convenience shopping should be within walking distance.

   b. Do local retail services meet the needs of project occupants/users?

   c. Will existing retail and commercial services be adversely impacted or displaced by the proposed project?

4. Analysis Methods

   Initial Impact Screening

   ALWAYS USE

   a. FIELD/EXPERIENCE: Past experience is often sufficient to make judgments concerning the quality of commercial services available, i.e., range of services available.

   b. CONTACT: Check the local planning agency to see what shopping services are planned for the area.

   SOMETIMES USE

   PRINTED: Consult project plans to determine the nature of the project, its size, location and the socioeconomic characteristics of probable users or occupants and determine the relationship between the project and existing commercial facilities.

5. Evaluation of Impacts

   If existing commercial facilities are inconvenient to meet the needs of the project users and/or residents, rate this factor "minor deficiencies." If however, the project users/residents are elderly and/or handicapped, special consideration needs to be given to transportation services and shopping areas which are accessible to the handicapped. If no such transportation services are available or will be made available, rate this factor "major deficiencies."

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6. Mitigation Measures (Planning and Development Considerations)

   When a development is poorly situated in relation to commercial/retail facilities and project users (particularly elderly or handicapped), the developer working with local government may be able to arrange transportation services or provide some convenience retail facilities on site.

7. Information Resources

a. Publications

(See Introduction)

b. Resource Persons

Staff from the local chamber of commerce, commercial development agency, or local planning agency

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UNDERWRITING/ENVIRONMENTAL FACTOR 11: TRANSPORTATION

1. Overview (See Introduction to Community and Neighborhood Services)

2. Related Laws and Regulations

The Federal Highway Administration and many State transportation agencies have specific capacity and level of service standards for primary and secondary roadways that must be met in order to qualify for Federal finds.

3. Assessment Questions

When considering transportation the inquiry should focus on these four elements:

a. Access - To be considered to have good access to services, shopping, jobs, etc. -- the user must be able to reach a destination within reasonable limits of time, cost and convenience.

b. Balance - A balanced transportation system is one which provides reasonable options for travel by private automobile or public transit or a combination of both.

c. Safety - System design plays a strong role in safety, particularly elements such as traffic signals, turning lanes, and railroad grade crossings.

d. Level of Service - This term measures a number of operational factors including speed, travel delay, freedom to maneuver, safety and frequency.

Access

a. Will transportation facilities and services be adequate to meet the needs of the project's users? Is off-street parking available and adequate? Is adequate public transportation available?

b. Are there special transportation needs (programs for the elderly and handicapped, bridge clearances for trucks, emergency vehicle access) which have not been adequately provided for?

c. Will the project serve to reduce the mobility of any group?

Balance

Will the project encourage additional private vehicle trips?

Safety

Will the project create any safety hazards? For example, have curbs been designed with wheelchair ramps, have pedestrian activated signal lights or

pedestrian overpasses been included in plans where needed? Is traffic light timing adequate for elderly pedestrians?

Level of Service

Will the project be provided with an adequate level of transportation service? Will it overload existing or proposed transportation services or conversely, create a situation whereby facilities are seriously underused?

4. Analysis Methods

Initial Impact Screening Techniques

ALWAYS USE

a. FIELD/EXPERIENCE: In some cases the reviewer's knowledge of local conditions may be sufficient.

b. PRINTED: Project plans should be reviewed to determine the location of the site with respect to transit services. Project data should be consulted to determine the type of transportation services that will be required. If the project will service an elderly population, their special transportation needs will require special consideration.

SOMETIMES USE

PRINTED: Review transit maps, schedules and time tables, available from the local Transit Authority; transportation improvement plans, available from local transportation planning agency (the metropolitan planning organization; and street maps and highway improvement plans, available from the State or local highway department or transportation planning agency.

5. Evaluation of Impacts

If a project is within one-quarter mile of a bus route and if headways are 15 minutes or less daily transit access is considered adequate.

However, if public transportation is warranted and if there is no public service to the project site (this may be especially true in a subdivision development), rate this factor "minor deficiencies." If there is no service and there are no plans to provide transportation services to a project site for users, e.g., elderly or handicapped, rate this factor "major deficiencies."

6. Mitigation Measures (Planning and Development Considerations)

The developer may consider:

a. Working with local transit authority to add and/or reroute buses to serve the new project or if necessary add services for the handicapped or elderly.

b. Redesigning project entry and exit to reduce or relocate traffic impacts on adjacent streets

c. Consider changing the mix of project uses and thus alter traffic generation patterns

d. Providing reserved parking spaces close to the housing for the exclusive use of the handicapped

e. Including curb cuts and sidewalk designs suitable for wheelchairs. (In some areas this is required by local code.)

f. Including pedestrian activated traffic light with timing intervals suitable for the elderly

7. Information Resources

a. Publications

Booz-Allen and Hamilton, Inc. Transportation Facility Proximity Impact Assessment. Prepared for California Department of Transportation. Philadelphia, Pennsylvania 1976. NTIS #PB-264 160.

b. Resource Persons

Planners at the regional transportation agency, regional transportation authority, or State highway department

Chapter 5

ENVIRONMENTAL FACTORS

This Chapter covers 15 environmental factors in three broad groupings. These environmental factors includes those which determine site suitability and those which may be affected by the development. When analyzing the availability of facilities, you must look at both at the availability of facilities to the site and at the affect of the development or the availability of those same facilities to others.

Measures of significance for a particular environmental factor should include a consideration of the intensity of the impact, the extent of the impact (e.g., numbers or values affected), and the time duration of the impact (short term vs. long term). In making a final determination on the significance of the environmental impact of the project, the reviewer must also consider the scarcity or uniqueness of the environmental factor affected and the importance or priority given to the factor.

The three broad groups of environmental factors are:

1. Land Use and Development Factors

   The factors included in this section enable the evaluator to make a judgment on the use of the selected project site and area, and arrive at a decision regarding the feasibility of using it for housing.

2. Infrastructure and Facilities

   The major necessities for the population of any urban community include an adequate water supply; provisions for sewage, waste water and storm water disposal, and a system of solid waste collection and disposal. The services may be provided by the public or private sector, but the local jurisdiction maintains some form of control.

   Project evaluation is based upon the adequacy of these facilities to serve the project and the impact of the project on the capacity of these facilities.

3. Natural Features and Resource Areas

   Undeveloped areas often represent valuable natural resources which must be conserved and protected. They are ecological reservations for animals, fish and wildlife. Water resources, including wild and scenic rivers, aquifers and any impounded supply represent sources of drinking water and recreational opportunities for large numbers of people, When evaluating a project involving natural features and resource areas the major consideration should be the impact the project will impose on them. Project modification or the use of mitigation measures should be used to minimize the impact where possible.

The assessment of the environmental factors should result in one of the following findings:

No Impact: Means the factor does not relate to the project or would not appreciably affect or be affected by the project.

Minor Impact Anticipated: Indicates the project could affect or be affected by the factor, but the impact is judged to be minimal.

Major Impact Anticipated: Means the impact of the factor is known and is rated as having a major impact on the project or that the project will have a major impact on the factor. This finding can result in an EIS being required or may be cause for rejection if the impact cannot be mitigated. The overall finding on the project must consider the severity and permanence of the impact as well as the importance of the factor.

Requires Mitigation or Modification: Some changes to mitigate impacts are recommended. This determination follows a finding of minor or major impact anticipated. The recommendations for mitigation or modification should be in sufficient detail so that they can be implemented by the responsible parties.

ENVIRONMENTAL FACTOR 1.1: PHYSICAL SITE SUITABILITY

1. Overview

The division of the environment into different subject areas (factors) is a convenient method for assessing and describing impacts. Care should be taken, however, not to isolate one factor from others which are related. Important impacts can be discovered by recognizing the relationship of a factor to those which are not the specific subject of the investigation. This relationship is particularly critical for the factor on Physical Site Suitability which deals with a composite assessment of the physical suitability of the site for the proposed project and which relates to many other assessment factors.

The major factors which are related to Physical Site Suitability are U/EF 1: Compatibility with Surrounding Development which assesses the relationship of the proposed project to the surrounding area; U/EF 2: Site Accessibility dealing with the ability to travel to the project and the extent to which project residents have access to jobs, shopping and services; EF 1-2 Soil Stability and Erodibility which is concerned with most of the soil aspects of the site; EF 1-3 Natural Hazards which assesses geologic hazards; EF 1-4 Hazards and Nuisances which cover mostly man-made site issues; and EF 3-2 Unique Natural Features and Areas which includes unique geological features and mineral resources. Additional issues covered by site suitability deal with geologic related concerns such as slope stability, subsidence and other physical conditions of the site.

2. Related Laws and Regulations

No Federal statute exists specifically concerned with the general topic "physical site suitability." Legal requirements are found primarily in State and local building codes, zoning requirements and subdivision

regulations. The legal principles of liability have been a motivating factor for controls and mitigation at the local level.

3. Assessment Questions

When considering site suitability, the following questions should be asked:

a. Will the proposed project be compatible with surrounding development?

b. Is the project site served with adequate roads and streets so that residents have acceptable access to employment, shopping, and services?

c. Will the site be affected by potential threats from natural or man-made hazards?

d. Does the proposed project create slopes by cut and fill?

e. Are subsurface minerals being extracted, such as coal, oil, gas or water?

f. Is there evidence that the site has been used as a sanitary landfill or mine waste disposal area?

g. Does the site have a high water table?

h. Are there potential hazards related to slope failure or falling rock?

i. Is there evidence of ground subsidence on the site or is there a history of ground subsidence in the area?

j. Are there other unusual conditions on the site?

(See also U/EF 1, U/EF 2, EF 1-2, EF 1-3, EF 1-4 and EF 3-2)

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: Field observation can reveal much basic information, particularly in developing or built-up areas. In redeveloped areas it is more difficult and it may be necessary to use experienced staff or specialists to identify potential problems.

SOMETIMES USE

PRINTED: Sources of printed information include: U.S. Geological

Survey Maps, soils maps from soil scientists, maps from the U.S. Corps of Engineers, State and local geologic survey information and local planning maps.

Further Analysis

CONTACT: If potential problems are indicated and further analyses indicated, several sources are usually available. Local authorities include building officials, city or county civil engineers, planning officials, Federal and State civil engineers and geologists.

5. Evaluation of Impacts

If there are no problems with conditions on or near the site, then there is "no impact." If there are problems, but they have been reduced by mitigation measures or modified design a "minor impact" may remain. If there are major problems that cannot be solved, then there is a "major impact."

Deficiencies or impacts, that may or may not have been rated as "minor" or "major" in assessing the related factors (e.g. U/EF 1, U/EF 2, EF 1-2, EF 1-3, EF 1-4 and EF 3-2), cumulatively will influence the site suitability impact determination.

6. Mitigation Measures

Site suitability issues covering the physical conditions of the site is a summary of related factors. Likewise, the specific mitigation measures affecting the design, construction and location of buildings are found in the individual factors, e.g. U/EF 1, U/EF 2, EF 1-2, EF 1-3, EF 1-4 and EF 3-2.

7. Information Resources

a. Publications

Geological Survey, 1978. Nature to be Commanded. Geological Survey Professional Paper 950, U.S. Government Printing Office, Washington, DC, 97 pp.

Geological Survey, 1981. Facing Geologic and Hydrologic Hazards, Geological Survey Professional Paper 1240-B, U.S. Government Printing Office, Washington, DC 109 pp.

United States Geological Survey Yearbook, published annually by the USGS, U.S. Government Printing Office, Washington, DC.

Geological Survey, 1979, Relative Slope Stability and Land-use Planning: Selected Examples from the San Francisco Bay Region, California, Geological Survey Professional Paper 944, U.S. Government Printing Office, Washington, DC 96 pp.

Environmental Protection Agency. 1973. Processes, Procedures and Methods to Control Pollution Resulting from all Construction Activity. EPA 43O/9-73-007, U. S. Government Printing Office, Washington, DC, 234 pp.

Environmental Planning and Geology, HUD and the U.S. Geological Survey, 1971, U.S. Government Printing Office (Stock 2300-1195).

State geological maps and reports

b. Resource Persons

Geologist--State Department of Geological Survey

Civil Engineer or Geologist -- State Highway Department, County Road Department, City Street and Highway Division

Earth Scientist -- local University

HUD Regional Engineer

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ENVIRONMENTAL FACTOR 1.2: SOIL STABILITY AND ERODIBILITY

1. Overview

To be suitable for a building, a soil must be capable of adequately supporting its foundation without settling or cracking. The soil should be well drained so that basements remain dry, and so that septic systems can be installed in localities not served by sewers. Soil depth is an important factor and must be adequate for the excavation of basements, sewers and underground utility trenches. How well a soil is able to support development is a function of several factors including its composition, texture, density, moisture content, depth, drainage and slope.

There are soils with poor drainage and poor permeability qualities. There are also soils with high shrink-swell potential, high frost action potential and with high side seepage potential. Each of these is a characteristic which may cause problems for development if appropriate mitigation measures are not included in the project design.

Erosion, transport and sedimentation are the processes by which the land surface is worn away (by the action of wind and water), moved to and deposited in another location. Erosion can cause structural damage in buildings by undermining foundation support. It can pollute surface waters with sediment and increase the possibility of flooding by filling river or stream channels and urban storm drains. Some soils

are less stable than others and are consequently more susceptible to erosion. Loosely consolidated soils (e.g., sands) and those of small particle size (e.g., fine silts) are more susceptible to erosion. By contrast, soils with high moisture and clay content are more resistant to erosion.

Since erosion, slope stability and drainage characteristics depend not only on the steepness of the slope but also on the materials of which it is composed, soils suitability is an important consideration in the assessment.

(Assessment of farmlands is covered under EF 3.3: Important and Productive Farmlands.)

2. Related Laws and Regulations

There is no Federal legislation specifically addressing soils suitability issues. Some States and localities have established slope construction regulations. These usually deal with a combination of factors: hillside management in relation to land use, lot size, drainage, foundation design, and sewage disposal.

3. Assessment Questions

The following questions are pertinent:

a. Does the project involve development of an erosion sensitive area (near water, on a steep slope, on a sandy or silty soil)? If so, is erosion control included as part of the plan?

b. Is there any visible evidence of soil problems--foundations cracking or settling, basements flooding, etc.--in the neighborhood of the project site?

c. Have soil studies or borings been made for the area? Do they indicate marginal or unsatisfactory soil conditions?

d. Is there evidence of slope erosion on or near the site?

e. Does site clearance require vegetation removal? How many acres will be cleared and for how long? Are temporary control facilities provided?

f. Is there evidence of previous erosion or sedimentation on the site?

g. Is there evidence of high water table or poor soil conditions where septic systems are to be installed?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: A site visit will enable an evaluator to determine existing conditions, particularly in an area already built upon. In undeveloped areas it is more difficult and experienced staff will be required to identify potential problems

SOMETIMES USE

PRINTED: Topographic quadrangle maps are available from the U.S. Geological Survey are available for most areas and present slope gradients and hydrologic features (ponds, streams, etc.)

U.S. Soil Conservation Service soil survey maps can be used to classify soil types on a project site. The "Unified Classifications" included on the map legend indicates soil erosion potential.

Further Analysis

STUDY: Have a soils engineer of scientist conduct a detailed site soils analysis.

5. Evaluation of Impacts

The evaluation of the impact consists of estimating the extent to which existing or potential soil problems are a hazard to the project, its users and others, and the extent to which those problems will increase or decrease on and off the site as a result of the project.

There is "no impact" if an existing soil problem is demonstrably corrected as part of the project proposal or if problems are not present. There is a "minor impact" if they are present only to a very small degree.

There is a "major" impact if the soil problems are present and severe, or if the proposed project will increase the potential for building failure, erosion and sedimentation problems, and inadequate mitigation measures are proposed to correct these conditions.

6. Mitigation Measures

Steps which can be taken to mitigate soil suitability and foundation support problems include:

a. Installation of drainage facilities in low areas to make the soil stable for construction

b. Altering foundation design, by using pilings, or increasing the bearing areas of spread footings

c. Replacement of problem soil with more satisfactory fill

d. Possible alternative site land use configurations

Soil erosion is often most critical during land development and construction, before earthwork is completed and mitigation measures are in place. Temporary mitigation measures may be necessary during this phase. The measures suggested below are usually used in combination:

a. Phase grading so that extent and exposure time of distributed soils is limited

b. Create flow patterns so that runoff is slowed, erosion decreased, and on-site deposition of eroded sediments is increased

c. Divert surface runoff from erodible soils

d. Create berms on steep slopes to break up slope lengths and slow runoff

e. Install storm water management systems to control excess runoff water and project downstream areas

f. Use grassed waterways to retard erosion

7. Information Resources

a. Publications

Johnson, Sydney M. and Thomas C. Cavanagh, The Design of Foundation for Buildings, New York: McGraw-Hill Book Company, 1968.

EF 1.2: Soil Stability and Erodibility

Mitchell, James K., Fundamentals of Soil Behavior, New York: John Wiley and Sons, Inc., 1976.

Sowers, George C. and George F. Sowers, Introductory Soil Mechanics and Foundations, Third Edition, New York. The MacMillan Company, 1970.

Soil Conservation Service. 1970. Controlling Erosion on Construction Sites. Agriculture Information Bulletin 347, U. S. Government Printing Office, Washington, DC, 32 pp.

Soil Conservation Service. 1975a. Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas. Prepared for Maryland Water Resources Administration, Annapolis, Maryland, 279 pp.

Soil Conservation Service. 1975b. Urban Hydrology for Small Watersheds. Soil Conservation Service Technical Release Washington, DC, 91 pp.

Soil Conservation Service. 1977. National Handbook of Conservation Practices. Soil Conservation Service, U. S. Government Printing

Office, Washington, DC

b. Resource Persons

Architect/Engineer -- Local Government, City or County Building Inspection Department

Soil Conservationist -- SCS County Office

Soils Engineer -- State Highway Department, County Road Department, City Street and Highway Division

Soil scientist from U.S. Geological Survey

HUD Regional Engineer

ASSESSMENT FACTOR 1.3: NATURAL HAZARDS

1. Overview

This factor is concerned with ensuring that a project is located and designed to reduce any potential risk to the public or project users from natural hazards such as landslides, earthquakes, bluffs, unprotected water bodies, forest fire prone areas.

2. Related Laws and Regulations

Specific laws dealing with natural hazards are usually found embodied in local codes. Local ordinances may establish requirements designed to minimize primary and secondary effects of natural hazards.

3. Assessment Questions

When considering the effects of natural hazards on a project the following questions should be asked:

a. Will the site be near a natural hazard involving a potential risk to project residents?

b. Can the project be protected by mitigation measures?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. FIELD/EXPERIENCE: Field observation may turn up evidence of past problems but may not be enough to determine potential for future problems.

b. PRINTED/CONTACT: Area soil maps, and consultation with local flood insurance personnel, local weather bureau and the Soil Conservation

Service will help to determine whether the site or adjacent area contains slopes with unconsolidated loose soils (i.e., a type of light wind-borne soil); the area is subject to extensive rainfall that could cause mudslides; or the site contains soil materials prone to liquefaction (i.e., quicksand)

Further Analysis

CONTACT: if it is uncertain that potential hazards exists through screening, the State Department of Natural Resources or Office of Geology can provide further information.

EF 1.3: Natural Hazards

5. Evaluation of Impacts

The evaluation of the impacts of natural hazards on the proposed project is usually based upon site examination or the history of the area where the project is to be located. Evidence of frequent disasters and previous destruction of properties and human life is sufficient to make a finding of "major impact." There are areas in the country where construction continues despite evidence of natural disasters, but in such cases mitigation makes structural safety a possibility.

In some cases, particularly those involving seismic faults, relocation or rejection may be the only possible final decision.

6. Mitigation Measures

Nearly all mitigation measures involve design and engineering, requiring a qualified expert to evaluate the extent of the problem, and suggest mitigation measures. High water tables and earthquake faults are examples of conditions which may render mitigation ineffective.

7. Information Resources

(see EF 1.4)

ENVIRONMENTAL FACTOR 1.4: HAZARDS AND NUISANCES

1. Overview

This factor is concerned with ensuring that a project is designed in a manner which reduces any potential risk to the public or project users from personal injury or property damage from man-made hazards.

Sources of hazards and potential nuisances are identified below: they include structural, physical and psychological sources, and some have been listed because they are potential irritations to project

residents:

a. Site hazards: inadequate street lighting, uncontrolled access to lakes and streams, improperly screened drains or catchment areas, drilling operations, pipelines, steep stairs or walks, overgrown brush, lack of access for emergency vehicles.

b. Traffic: circulation conflicts, heavy traffic, hazardous cargo transportation routes and road safety.

c. Neighborhood hazards/nuisances: vibration, glare from parking lots, odors and proximity of the project to aerial transmission lines, power plants, transformers, drainage canals, junk yards, and industrial activities.

Some hazards and nuisances are covered as separate compliance or environmental issues, such as: (a) noise; (b) air pollution; (c) toxic chemical disposal sites; (d) radioactive materials; (e) chemical and petrochemicals of an explosive or fire prone nature; (f) airport/ aircraft; and (g) natural hazards. Even though the project site may fall below the specific standards, there may be a residual nuisance value connected with the factor which should be indicated (e.g., a railroad line determined to be "acceptable" under the HUD noise policy).

2. Related Laws and Regulations

Local codes and ordinances, health and building codes apply to many of these categories. Local zoning ordinances are used to prevent incompatible uses from impacting on a residential areas. In addition, every community has a system for handling nuisances when complaints are registered by citizens.

3. Assessment questions

When considering the hazards and potential nuisances in relation to the project, the reviewer should focus on existing installations and the location of the project in relation to them. Answers to the following questions will aid in making an evaluation:

a. Does the project involve any potential hazards such as those listed in 1 above?

b. Are there project users or neighboring populations whose special health and safety needs are not anticipated in the project design? Have actions been taken to protect children from "attractive" nuisances? Have measures been taken to reduce the potential risk to the elderly from dust, and to provide temporary walkways and traffic around construction sites?

c. Can the problems which may generate nuisances be alleviated by designs or plan changes?

d. Will the project need special design or engineering criteria which bring into question its feasibility?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: Field observation will usually give all the necessary information on existing hazards and an opportunity to estimate potential nuisances. Experience with other projects in the vicinity is also a good indicator of some types of potential problems.

SOMETIMES USE

CONTACT: Meetings with utility company engineers and field personnel will enable the reviewer to obtain information on plans for the project. County and municipal engineers and planners can also give valuable information on rights of way, traffic plans and programs which could cause hazardous situations and become nuisances. Useful maps include the USGS topographic series.

5. Evaluation of Impacts

A finding of "no impact" can be made when no hazards and nuisances are present. A finding of "minor" impact is made when impacts are not serious. When the safety and health of the residents will be jeopardized, a finding of "major impact" should be made.

6. Mitigation Measures

The most basic mitigation measure is proper location of the project in relation to the potential problems. Appropriate site planning and structural design can also make the project acceptable.

7. Information Resources

a. Publications

Plans from State and local planning departments, utility company plans and layouts

b. Resource Persons

Local engineers and planners, engineers from utility companies, Regional EPA staff

Local police, fire and emergency personnel

HUD Regional Engineer

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ENVIRONMENTAL FACTOR 1.5: AIR QUALITY

1. Overview

Air quality refers to the amount of pollutants in the atmosphere. It is the combined result of natural background and emissions from many individual pollution sources.

Air pollutants vary in their characteristics. Primary pollutants such as carbon monoxide (CO) are most dangerous in peak concentrations near their source. Others undergo chemical reactions to form harmful substances, known as secondary pollutants once in the atmosphere. An example of this is the creation of photochemical oxidants, known commonly as "smog."

There are three types of air quality problems:

a. Cumulative urban area effects resulting from both primary and secondary pollutants that can create large scale problems for a region.

b. A major source such as a power station or industry including the sources of "toxic" pollutants that may be subject to specific emission controls.

c. A local source such as an industrial operation, refinery, cement or asphalt plant, quarry highway, busy street, etc., directly affecting project livability.

The effect of air pollution on human health can vary from irritating the eyes and throat to contributing to three often fatal diseases--heart disease, lung disease and cancer. Air pollution can also damage plant growth, reduce visibility, dirty outdoor equipment, and erode buildings and monuments.

Some groups--the sick, the elderly, pregnant women, and children--are more susceptible to air pollution than are others. They suffer adverse effects at lower pollution levels than the general public. This fact should be remembered in considering the location and/or design of schools and parks, hospitals and housing.

2. Related Laws and Regulations

Air quality is an environmental factor for which specific Federal and, in some instances, State and local standards exist. The legal authority stems principally from the Clean Air Act, as amended, 1970

and 1977; Executive Order 11738; and implementing regulations.

The EPA Administrator is directed to adopt national primary and secondary ambient air quality standards (Title I, Sec. 110 of the Clean Air Act as amended). Primary standards are those required to protect public health and secondary standards are those required to protect human welfare.

State Implementation Plan (SIP) requirements (Title I, Sec. 109 of the Clean Air Act as amended) include a Non-Attainment Strategy Plan and a

Transportation Control Plan. The SIP's indicate how the State plans to attain and maintain ambient air quality standards. The SIP is administered either by a State or a regional air quality control agency.

3. Assessment Questions

For purposes of the environmental assessment, a set of simple questions will help to indicate if there is a potential problem and if expert advice should be sought. In many metropolitan areas this advice can be provided by the appropriate air quality control agency.

a. Is the project located in the vicinity of heavy industry, incinerators, power generating plants, oil refineries, parking facilities for 1,000 cars (inside an SMSA) or 2,000 cars (outside an SMSA), or near a highway with six or more traffic lanes?

b. Are the project users particularly sensitive to existing or projected air pollution levels? Has the project been designed to mitigate possible adverse effects?

c. Is the project located in the vicinity of a monitoring station where air quality violations have been registered?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: As with noise, this is useful to determine if the site is near a major source of pollution.

Further Analysis

SOMETIMES USE

a. CONTACT: The State and/or local air pollution control agency can provide data on existing air quality. The local planning department and local highway department should have data on future traffic patterns or industrial locations which will locate major

air pollution sources near the site.

b. STUDY: If field observation or review of plans has identified a potential problem, particularly for a project which will accommodate persons particularly susceptible to air pollutants, a special study may be required to determined the extent of the pollution problem and potential mitigating measures.

5. Evaluation of Impacts

The pollutant which is most likely to affect housing projects is carbon monoxide (CO) resulting from vehicular traffic. Sulfur Dioxide (SO {Sub 2}) may have an effect on projects located in the vicinity of power generating plants or heavy air polluting industries.

For sites exposed to major pollutants discussed above, the assessment methodology is to compare the estimated air pollution at a site with the National Primary Ambient Air Quality Standards. Since data from various analysis techniques, when compared to data from field monitoring stations, show considerable variation, a margin of error of up to 50 percent is likely. Therefore, sites where estimates indicate pollution levels from 50 to 150 percent of the national standard may or may not exceed the standards. Where estimates indicate the site pollution levels are less than 50 percent of the national standard it can be assumed that standards probably are not exceeded. Where estimates indicate the site pollution levels are between 50 and 150 percent, it can be assumed that the standards are possibly exceeded. If standards are exceeded by 150 percent, standards are probably exceeded frequently or by substantial amounts.

A finding of "no impact" can be made where site estimates are 50 percent or less of the national standard; "minor impact" can be made where site estimates are 50 to 150 percent of the national standard (if the population in the proposed project area is considered a susceptable one, e.g., the elderly or young children, upgrade the rating to "major impact"); and "major impact" can be made where site estimates are over 150 percent of the national standard and/or there is a susceptible population.

6. Mitigation Measures

In developing the design for a project there are recommended building and construction design practices, location criteria, and site plan design that can be followed to reduce air quality impacts at the project site. Briefly some practices which reduce or minimize air quality problems include: (a) separating, as far as possible, human activity from pollution sources; (b) arrangement of structure; (c) landscaping; (d) grading to eliminate low pit areas; and (e) building construction technology which reduces indoor air pollution from outdoor sources.

7. Information Resources

a. Publications

"Air Quality Considerations in Residential Planning," SRI HUD 1980. Volume 1, A Guide for Rapid Assessment of Air Quality at Housing Sites, HUD-PDR-524-1, Vol. 2, Manual for Air Quality Considerations in Residential Location, Design and Construction, HUD-PDR-524-2.

State Implementation Plans (SIPS) required to meet the Federal Ambient Air Quality Standards.

Metropolitan-wide Air Quality Maintenance Area (AQMA) Plans.

b. Resource Persons

Local and/or State Air Pollution Agency

Traffic Department or Engineer

Universities, usually Departments of Meterology or Chemical Engineering

Air Pollution Consultant, Meterologist or Engineer

EPA, Regional Office Staff

HUD, Regional and Field Office Environmental Officers

ENVIRONMENTAL FACTOR 1.6: DISPLACEMENT

1. Overview

Displacement refers to the dislocation of people, businesses, institutions or community facilities as a result of a project action. Direct displacement is the dislocation of a person, business or other activity occupying property that is acquired for a project or that must be vacated to comply with code or zoning enforcement. People and businesses directly displaced usually have no alternatives to that action.

2. Related Laws and Regulations

Only displacement by acquisition through condemnation is covered by the Uniform Relocation Act. Specific information concerning these requirements can be found in the following sources:

Uniform Relocation Assistance and Real Property Acquisition, 44 FR 30

946; Effective Sept. 26, 1979, 24 CFR Part 42.

HUD Handbook 1376.1, Revised, "Relocation and Real Property Acquisition," September 1979.

3. Assessment Questions

In many instances, such as subdivision development or single family housing development in rural areas, the likelihood of displacement is limited. The following questions will assist in determining whether there is any potential for displacement, particularly in urban and metropolitan areas.

a. Will the project require the demolition of existing occupied structures?

b. Will the project require current occupants of structures to leave?

c. Will the project displace business or other private, quasi-public or public uses?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: The reviewer's knowledge of the proposed project and a site visit should be sufficient for a determination for this factor.

5. Evaluation of Impacts

If there are no displacees, the proposed project can be rated as having "no impact anticipated" for this factor. If there are displacees, the

factor should be evaluated and rated in terms of the severity of the displacement, e.g., number of persons, businesses, and institutions and the hardships and costs involved. The Relocation Specialist should be requested to determine whether there is a "major" or "minor" impact anticipated.

6. Mitigation Measures

The Uniform Relocation Act provides for assistance to individuals displaced by public acquisition. The developer and/or jurisdiction may be able to also provide assistance to those not covered by the Act. Assistance can range from help with moving expenses to helping people find new homes.

7. Information Resources

a. Publications

HUD Handbook 1376.1, Revised, "Relocation and Real Property Acquisition," September 1979.

Uniform Relocation Assistance and Real Property Acquisition, 44 FR 30 946; Effective September 26, 1979, 24 CFR Part 42.

b. Resource Persons

Relocation Specialist or Community Planners at the local community development agency

HUD Field Office Relocation Specialist

ENVIRONMENTAL FACTOR 1.7: ENERGY CONSUMPTION

1. Overview

Energy is a scarce resource. It has become increasingly important to design and locate new facilities which minimize energy usage. Energy consumption should be viewed in a two-fold manner; energy consumed directly by the project for heating, cooling, and for hot water systems, and indirectly by the transportation of people and goods to and from the project.

Energy efficiency can be incorporated in nearly all phases of project planning: site selection, site planning, building design and density. The location of new facilities in central areas with close proximity to mass transportation, shops, schools, and services can reduce the energy consumed for transportation, the largest non-industrial use of energy in the U.S. This is also the most likely area to be served by a district heating system. Site planning should take into account the role which trees can play in sheltering a structure from climatic extremes (wind, heat and cold). Southward facing sites receive maximum solar exposure, an important consideration in northern climates during the colder months. The final consideration is the incorporation of energy saving measures in building design, such as the use of extra insulation; use of efficient heating, cooling and hot water systems, possibly solar; use of double-glazed windows which open and close, and the use of fluorescent rather than incandescent lights.

Electric service and gas lines to the site are normally supplied by public or private utility companies. Electricity must be available at the site for light and power, and for cooking and heating if gas is not available. At the beginning of residential development, it is common practice for the private utility company to charge a developer for the construction cost of main extensions and then to issue refunds as customers are added.

2. Related Laws and Regulations

The National Energy Policy and Conservation Act of 1975 (PL 94-162) outlines national policy and provides assistance to the States in

developing State plans. Many States and localities have revised building codes, subdivision requirements and zoning ordinances to include minimum energy efficiency standards.

3. Assessment Questions

The following are the major questions regarding this factor:

a. Does the location of the site have any special energy related advantages or disadvantages and can these be maximized or overcome?

b. Have the plans taken full advantage of potential energy saving measures, such as proper orientation, insulation, window design and

placement, lighting, heating, cooling and hot water systems? If district heating and cooling is available will it be used? Is the project in conformance with other applicable energy saving codes?

c. Are utilities already installed, and will they be available for use by the project? If district heating and cooling is a good future possibility can the building be adapted to use it without expensive retrofit costs?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: A site visit will usually determine the availability of the various utilities and forms of energy to the proposed site. Experience with other projects in the vicinity is also useful for initial screening.

SOMETIMES USE

a. CONTACT: Contact the utilities to determine plans for providing and improving service when necessary.

b. PRINTED: Building plans and specifications will indicate energy saving features.

FURTHER ANALYSIS

To determine if a site is adequately serviced with utilities (gas and electric), utility representatives may need to be consulted. Where a choice of utilities can be made, the reviewer should check to ascertain whether the developer has planned to use the most efficient and economical power services. Local street and transit maps can be used to determine whether the site has good access to schools, shopping, and public transportation.

5. Evaluation of Impacts

Analyzing impacts of energy are related to the cost of energy to the project and maximizing energy efficiency. In a situation where utilities are available and site plans and building designs incorporate energy considerations, a rating of "no impact anticipated" can be made.

6. Mitigation Measures

Mitigation measures involve avoiding inefficient energy supply and securing the most efficient energy saving practices.

7. Information Resources

a. Publications

Energy Conservation Program Planning Materials. U.S. Department of Interior, National Recreation and Park Association, Washington, DC, 1978 (Vol. IV Facilitation Manual)

Passive Solar Design Handbook. U. S. Department of Energy (2 Vols.) January, 1980

Landscape Planning for Energy conservation. Environmental Design Press, 1977.

b. Resource Persons

HUD Regional and Field Office Environmental Officers

HUD Regional Engineer

Engineer from local utility companies

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ENVIRONMENTAL FACTOR 2.1: WATER SUPPLY

1. Overview

Adequate water supply refers to the delivery to a housing project site of a sufficient amount of potable water at all times, with adequate pressure for fire protection and at affordable rates. In terms of quantity, a rule of thumb estimates 100 gallons per person per day for domestic consumption. Most places where HUD does business are urban

areas with water distribution systems already in place. The water system is usually owned and operated by governmental agencies although there are some privately owned water companies. Many proposed housing sites, however, are located at the edge of the urban or service area and it is often necessary to extend mains to serve them. These extensions will ultimately become part of the municipal water system and consequently will be required to be Constructed not just to serve the project, but to meet local and fire underwriters standards. Depending on local policy and requirements, the project may have to pay all or part of the costs.

2. Related Laws and Regulations

The relevant Federal laws are the Federal Water Pollution Control Act (P.L. 92-500) and the Safe Drinking Water Act (P.L. 93-523).

The Federal Water Pollution Control Act provides for two types of standards: effluent standards and water quality standards. Water quality standards describe the quality that will be required for particular bodies of water. An effluent standard is the amount of a pollutant that is allowed to be discharged in a time period or a maximum permissible concentration in the effluent.

Under the Safe Drinking Water Act, Federal assistance cannot be approved for any project that could contaminate an aquifer that has been designated by EPA as the sole drinking water source for an area. If it were to be contaminated, a significant hazard to public health would be created.

3. Assessment Questions

a. Will either the municipal water utility or on-site water supply system be adequate to serve the proposed project?

b. If a public system is not available, will individual wells meet HUD's standards?

c. Will the project affect a sole source or other aquifer?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

EF 2.1: Water Supply

CONTACT: If the project will be connected to a public system, and local approval has been obtained, no further analysis may be necessary. If the water service is by a private or individual system, proceed to further analysis.

Further Analysis

a. STUDY: If, on the basis of the initial screening, a determination cannot be made, a study by a civil or environmental engineer may be required to determine that the system and its water quantity and quality will be adequate and safe.

b. CONTACT: If the project affects a sole source aquifer designated by EPA, further coordination with EPA will be required.

Special Requirements for Projects Affecting Sole Source Aquifers

Section 1424(e) of the Safe Drinking Water Act of 1974 authorizes the EPA Administrator to designate an aquifer for special protection if it is the sole or principal drinking water resource for an area, and if its contamination would create a significant hazard to public health. The Administrator may make this designation on the basis of a citizen petition or upon EPA's own initiative. No commitment for Federal financial assistance, through a grant, contract, loan guarantee or otherwise, may be entered into for any project that the Administrator determines may contaminate such a designated aquifer so as to create a significant hazard to public health.

For aquifers designated under Section 1424(e), EPA negotiates an agreement with the HUD Regional Office setting forth the specific EPA review requirements.

Sole source aquifer designations (as of January, 1982) include: Edwards - San Antonio, Texas; Spokane - Washington; Nassau/Suffolk Counties - New York; Biscayne - Florida; Buried Valley - New Jersey; Ten Mile Creek - Maryland; Fresno County - California; and Northern Island of Guam, Where the project affects a sole source aquifer or aquifer recharge area, the Interagency Agreement between EPA and HUD Regional Offices will determine the procedure to be followed.

5. Evaluation of Impacts

If the existing public water supply system is not adequate to meet the project's demand, a determination will need to be made whether existing sources of supply can be expanded to meet project needs. When the existing system is not adequate and there are no improvements contemplated or alternatives which would provide adequate water supply meeting public health standards, this factor should be rated as "major" impact.

6. Mitigation Measures

Generally, the developer should consider those mitigation measures which encourage water conservation through the design and construction. Measures worth considering include using low flow fixtures and pressure reduction devices. For aquifer recharge areas, mitigation measures should focus on maintaining infiltration so as not to deplete groundwater supplies. Groundwater recharge techniques include on-site retention to delay runoff and engineering techniques that promote

infiltration by controlling runoff, and site design to minimize impermeable surfaces.

7. Information Resources

a. Publications

Keyes, Dale L. Land Development and the Natural Environment The Urban Institute, 1976. Washington, DC

Dunne, Thomas and Luna Leopold, Water in Environmental Planning, W. H. Freeman, San Francisco, 1978.

Sargent, Frederick and Blaine Sargent Rural Water Planning F.O. Sargent. 330 Spear Street, South Burlington, Vermont 05401

National Association of Homebuilders, Home Builders and Water Quality, NAHB, Washington, DC, 1979.

Memorandum to Heads of Federal agencies, Environmental Review Pursuant to Section 1424(e) of the Safe Drinking Water Act of 1974 and its Relationship to the National Environmental Policy Act of 1969, CEQ November 19, 1976.

b. Resource Persons

City Engineer or Superintendent of water department

HUD Regional Engineer

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ENVIRONMENTAL FACTOR 2.2: WASTE WATER

1. Overview

All new development must have a wastewater disposal system. Most new projects will be connected to an existing system. If, however, the existing system is at capacity or if the project is located too far away for connections to be feasible, some form of on-site disposal system will have to be employed. If the soil and other conditions are suitable, individual septic systems could be built. Or a developer may build same form of package treatment plant. Whatever system is used, it must be built and operated so that the effluent (treated water) does not cause pollution problems.

2. Related Laws and Regulations

The principal law related to this factor is the Federal Water Pollution

Control Act Amendments of 1972 as amended in 1977 (33 U.S.C. 1251-1376) and EPA implementing regulations (33 CFR Part 320-325 and Part 230). At the state and local levels, the State Water Control Board, various regional and local health and building codes may regulate waste disposal. EPA offers both financial assistance and technical advice in the construction of disposal plants. EPA also issues National Pollutant Discharge Elimination System (NPDES) permits limiting the place, kind, and amount of discharge of pollutants that will be allowed.

3. Assessment Questions

a. Will the existing or planned waste water disposal systems provide satisfactory service to the proposed development?

b. Will the design capacity of the treatment plant be exceeded by the project as proposed?

c. Will the proposed project be adversely affected by the proximity of sewage disposal facilities?

d. In areas remote from existing sewer systems are the soil conditions suitable for on-site septic systems?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: In some cases the reviewer's knowledge of local sewage treatment capacity may be sufficient to determine if the project will be able to hook up to existing system. There are indicators which will alert reviewers on field visits to conditions which may cause other problems and need further investigation. Indicators include, but are not limited to, the following:

EF 2: Waste Water

Visible rock outcrop--excavation for sewer lines expensive.

Site remote from any existing sewer system.

Heavy soils with low percolation rates.

SOMETIMES USE

a. CONTACT: Municipal engineer, county agency, planning director can usually provide information on this factor.

b. PRINTED: Sewer maps, soil maps and USGS maps are useful resources.

Further Analysis

STUDY: If, on the basis of the initial screening, a determination cannot be made, a study by a civil engineer or environmental engineer may be required.

5. Evaluation of Impacts

Analyze to determine the location of the site in relation to services and infrastructure including: its location and design of waste water removal facilities, if any, and any on-site disposal plans to determine the potential for groundwater or surface water contamination. Determine the type and density of development in order to determine water use and the volume of waste water to be generated.

If the estimated sewage generation will exceed greatly the capacity of sewers or treatment facilities and no remedial actions are contemplated, or if the project will utilize on-site liquid waste disposal system in an area not suited for its use, or if waste water effluent may affect environmentally sensitive areas, a finding of "major impact" should be made.

If a public system will be used, local authorities (public works or sewage treatment authority) can determine whether the additional waste will exceed the capacity of the local system without degrading the receiving waters. If capacity will not be exceeded, a finding of "no impact" can be made.

6. Mitigation Measures

Developer should consider using water saving fixtures to reduce the amount of waste water. The developer (and local community whenever appropriate) should consider expanding waste water facilities. Proper construction of on-site facilities helps mitigate potential adverse effects. The 208 Water Quality Management Planning Agency or the local sewage authority will be able to provide guidance on other measures to reduce water pollution.

7. Information Resources

a. Publications

National Association of Homebuilders, Homebuilding and Water Quality, NAHB, Washington, DC, 1979.

Local infrastructure maps give the location and capacity of sewer and storm water drains. These are available from either the local planning or engineering departments.

The Soil Conservation Service Soils Maes indicate areas of impermeable soils and areas of highly permeable soils. The S.C.S. can also provide data on the depth of the water table which is useful in planning on-site waste water treatment facilities.

Areawide Wastewater Management Plans. Areawide 208 Agency.

Local Building and Health Codes, Local Building Department.

Soils Survey Ratings for On-Site Waste Disposal, U.S. Soil reservation Service.

b. Resource Persons

Engineer--local sanitary district/agency, city or county engineering department, 208 planning agency

HUD Regional Engineer

U.S. Soil Conservation Service soils scientist

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ENVIRONMENTAL FACTOR 2.3: STORM WATER

1. Overview

Storm water disposal is an essential service in urban areas, and the complexity of the system design is in direct proportion to the intensity of land use. A central business district where maximum land coverage is allowed will need a storm sewer system designed to remove most of the rainfall within a short time after the end of the storm and mostly in a closed system. At the other extreme, a low density area where homes are built on very large lots, will carry nearly all its surface run-off in its natural waterways. The only drainage structures needed will be bridges and culverts to carry water under roads. It is also important, and in many cases critical, that adequate provision be made to allow as much rainfall as possible to enter the soil to recharge the water table which supplies well water for domestic and other uses. Sending too much storm water into natural drainage channels can cause the start of erosion where the streambed formerly was stabilized. Storm water in cities washes over streets and picks up considerable amounts of surface pollution which is not biologically degradable, e.g. grease, rubber, metal, glass and dangerous metals such as lead and cadmuim which pollute ground and surface waters.

2. Related Laws and Regulations

Except for navigable waterways, which are under Federal control, lakes and streams are under State jurisdiction, and the laws adopted to meet conditions vary from State to State.

3. Assessment Questions

a. Will existing or planned system adequately service the proposed development?

b. Can storm water be disposed of on-site?

c. Will surface water be channeled directly into a closed storm drainage system rather than to recharge aquifers?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: Field observation should reveal any unusual drainage problems such as standing water, rills, gullies, or other indicators of water erosion.

EF 2.3: Storm Water

SOMETIMES USE

CONTACT: Civil engineer and local officials to insure that the local system has the capacity to accommodate the additional runoff.

Further Analysis

STUDY: A civil engineer should perform the analysis to determine if the system for storm water disposal is adequate.

5. Evaluation of Impacts

As stated previously, Factors 2.1, 2.2, 2.3 and 2.4 which deal with water and wastes are so interrelated that the reviewer is advised to become familiar with all of these before making a finding on any of them separately. Sole source aquifers require special care in any development over their points of water entry to assure their continuing use as water sources. If the capacity of storm sewers is overloaded to the extent that run-off for the project can not be accommodated, this factor should be rated as "major impact."

6. Mitigation Measures

There are three basic mitigation methods.

a. Control of runoff at the source through grading, retaining vegetation, reducing amount of paved or impermeable surfaces.

b. Treatment of runoff at the source. Temporary storage of runoff to allow suspended solids to settle out is one example. Diversion of runoff to land treatment areas for spraying or controlled overland flow is another. The fact that most runoff pollution results from the "first flush" of runoff should be considered when planning

source treatment facilities.

c. Treatment of runoff at a centralized plant downstream (probably the most costly method because of the vast volume of water requiring treatment). Consequently, consideration should be given to storage facilities that enable storm water to be released to treatment plants at a gradual rate after the runoff peak has passed.

7. Information Resources

a. Publications

U.S. Geological Survey maps and reports--the 7-1/2 and 15 minute quadrangle sheets are available for all urban areas.

Local infrastructure maps give the location and capacity of storm water drains.

Residential Erosion and Sediment Control. Urban Land Institute, American Society of Consulting Engineers, and National Association of Home Builders, 1978. 63 pages.

Residential Storm Water Management, Urban Land Institute, American Society of Consulting Engineers and Department, Publication Orders, 15th & M Streets, N. W., Washington, DC 20005.

b. Resource Persons

Engineer--city or county engineering department, local or district storm water treatment/disposal agency or local planning department

HUD Regional Engineer

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ASSESSMENT FACTOR 2.4: SOLID WASTE

1. Overview

Solid waste disposal is an essential service in urban areas. Solid wastes are usually managed by local government which, or through their contractor, collects and disposes of waste. States now exercise authority over disposal of municipal solid wastes. Solid waste materials are generally transported by trucks to a common, usually

remote site for either recycling (rarely), incineration (where allowed), or disposal in a sanitary landfill.

2. Related Laws and Regulations

Under the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901-6987) as amended, several regulatory programs with significant land development implications have been established. In particular, the Act sets out site selection criteria for hazardous waste disposal facilities. State or regional solid waste management is mandated for the siting of sanitary landfills and the closing of open dumps.

EPA regulations, 40 CFR 257.3-1, prohibit hazardous waste disposal sites in a number of sensitive ecological areas (e.g., floodplains, sole source aquifers). Also, under EPA guidelines for state solid waste management plans, State environmental management agencies are developing procedures for the closing or upgrading of open dumps and for the siting and maintenance of sanitary landfills. Included among the criteria for the development of sanitary landfills are criteria on leachate control, gas control, surface water runoff control, operation, and monitoring.

3. Assessment Questions

a. Will the existing or planned solid waste disposal system adequately service the proposed development?

b. Will the proposed development overload these facilities?

c. Will the proposed project be adversely affected by proximity to these facilities?

d. Does the community provide collection service either directly or by contract?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

EF 2.4: Solid Waste

EXPERIENCE: The evaluator may be familiar with the municipality's disposal program through experience with other projects in the vicinity.

Further Analysis

CONTACT: Information can be obtained from the Department of Public Works or other local agency responsible for solid waste disposal. (In some areas, this service is provided by private contractors operating under municipal license.)

5. Evaluation of Impacts

Where the project will not substantially affect the quality of solid waste service or where the project will affect the capability of the existing services but plans have been developed to expand the system, a finding of "no impact" can be made. Where the estimated solid waste generation will overtax the landfill or existing collection system, a finding of "impact anticipated" should be made. The severity of the problem will indicate whether it should be rated as "minor" or "major."

6. Mitigation Measures

Mitigation measures will vary according to the specific problem. They may include: expansion of existing land fill sites, better compaction methods, incineration, recycling, or provide for contract collection, increase collection capacity.

7. Information Resources

a. Publications

Clark and Toftner, Land Use Planning and Solid Waste Management, Public Works Magazine, March-1972 pp. 79-80

b. Resource Persons

Engineer--local solid waste disposal agency, or city or county engineering department

HUD Regional Engineer

ENVIRONMENTAL FACTOR 3.1: WATER RESOURCES

1. Overview

There are two principal aspects of water resources: the quantity of water that is available, and its quality. Previous discussions have dealt with the distribution of water through the supply system, and the disposal of solid and water borne wastes (see also Factors 2.1. 2.2, 2.3 and 2.4).

Water resources can be divided into two subcategories: (a) groundwater and (b) surface water.

(a) Groundwater refers to all of the water found below the ground's surface. While most groundwater comes directly from rainwater, some results from seepage from the sides and bottoms of lakes and streams. The area in which the groundwater is stored is called an aquifer. The supply of groundwater depends upon a balance between the amount of water entering the ground and the amount being withdrawn. Excessive well pumping can induce infiltration from streams and ponds, causing surface water levels to drop. If these

surface waters are polluted, groundwater quality will be degraded.

(b) Surface waters range from very large rivers and lakes to small ponds and streams. Urban development can have a serious negative impact on water quality, specifically from the effects of pollution generated by factories, urban sewerage systems, power plants and runoff from paved areas. Degraded surface water quality can have short-term and long-term human health implications, can affect aquatic habitats and species and can have aesthetic and other consequences.

2. Related Laws and Regulations

There are many laws and regulations governing the appropriation of surface and underground water. Every state has a water control board by that or a similar name. Public and private utilities supplying water for domestic use are regulated by State Public Utility Commissions which control service areas, rates, extensions and other matters. At the Federal level there are the Clean Water Act of 1977, the Safe Drinking Water Act (P.L. 93-523), and the Federal Water Pollution Control Act (P.L. 92-500). (See Assessment Factor 2.1.) In addition, HUD-assisted housing projects are required to comply with HUD Handbook 4940.2 Minimum Design Standards for Community Water Systems. EPA has regulations governing Sole Source Aquifer Agreements. The Federal Government also issues discharge permits (NPDES) - National Pollution Discharge Elimination Systems - to local sewage treatment agencies into waters under Federal control. Compliance with 208 Wastewater Plans is required. Local building, plumbing, and health codes must be observed.

Two related laws concerned with water resources, not addressed in the other assessment factors are: (a) the Fish and Wildlife Coordination Act (16 U.S.C. 662) and (b) the Wild and Scenic River Act (16 U.S.C. 1271-12S7); these are included as part of the water resource analysis.

EF 3.1: Water Resources

3. Assessment Questions

a. If the project is to use groundwater from the site is there evidence that supplies are adequate and free from pollution?

b. Are there visual or other indications of water quality problems on or near the site?

c. Will the project involve discharge of sewage effluent into surface water bodies? If so, will the effluent meet state, Federal and other applicable standards?

d. Will the project involve a substantial increase in impervious surface area, and, if so, have runoff control measures been included in the design?

e. Will the project affect surface water flows or water levels in ponds as a result of groundwater well pumping?

f. Will the project involve the impoundment of over 10 acres or divert or change a stream or lake?

g. Will the project affect a Wild and Scenic River or a river in the Nationwide Rivers inventory?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

FIELD/EXPERIENCE: If the reviewer is familiar with local conditions, this knowledge coupled with a site visit may be sufficient.

SOMETIMES USE

a. CONTACT: The county engineer, 208 agency staff or other local officials who are familiar with the area.

b. PRINTED: USGS maps, storm drainage maps. The above information sources will alert the reviewer with potential problems and conflicts or indicate there are none.

Further Analysis

Requirements for compliance with the Wild and Scenic Rivers Act (16 U.S.C. 1271-1257

Detailed instructions are contained in a Memorandum to Heads of Agencies from the Council on Environmental Quality, dated August 10, 1980 entitled "Interagency Consultation to Avoid or Mitigate Adverse Effects in Rivers in the Nationwide Inventory."

Essentially these requirements are as follows:

Wild and Scenic River System

Determine if proposal could be defined as a "water resource project" (check with HCRS if necessary). If so, determine if proposal could affect a listed river and, if it does, provide HCRS with project information and request cements.

Rivers Inventory

Determine if proposal could affect listed river. If so, notify HCRS and request any comments/information HCRS may have at this time.

Determine the nature of the effect on the river and, if it is not adverse, document and provide HCRS with a copy of the analysis. Identify alternatives that would avoid or mitigate the adverse effects and provide HCRS with a copy of the analysis and request comments. (A Federal agency is not prohibited from taking action that would result in an adverse impact on a river in the Nationwide Rivers Inventory--but consultation is required first.)

Requirements for Compliance with the Fish and Wildlife Coordination Act (16 U.S.C. 662)

If the project involves impounding more than 10 acre feet of water or diverts or deepens a body of water, coordination with the Fish and Wildlife Service and the State wildlife agency will be required.

5. Evaluation of Impacts

If the project will have no significant effect on either the quantity or quality of water entering the groundwater stratum, and there are no serious site problems which would adversely affect the construction or use of the project rate this factor "no impact." If problems are identified as serious the project design should be altered to solve or avoid them.

If the project does not impound 10 acres of water area or divert a river or stream or impact on a river in the DOI "rivers inventory" rate this factor "no impact." A finding of "minor impact" or "major impact" will be based on results of the required interagency coordination procedures.

6. Mitigation Measures

Groundwater

In areas where pumping poses a problem, the amount of pumping should be limited to safe annual yields. In locations with high water problems, underground spaces need to be designed to withstand pressure of ground water and provision made to pump out seepage. Also, special design may be required of wastewater disposal systems to fraction properly in high water table conditions.

EF 3: Water Resources

Surface Water

The objective of impact mitigation on surface water is twofold: to reduce the hazards of the project posed by polluted water and to reduce contamination of local surface waters by the project. In many cases the overloading of public wastewater treatment facilities can only be remedied by expanding those facilities. Proper construction of on-site facilities helps mitigate potential adverse effects. Runoff control measures--such as on-site storage or routing to settling basins prior to discharge into surface waters--can be induced in site design.

7. Information Resources

a. Publications

American Public Health Association, American Water Works Association, and Water Pollution Control Federation. Standard Methods for the Examination of Water and Wastewater, 13th ed., New York, APHA, 1971.

U.S. Federal Water Quality Administration (FWPCA). Water Quality Criteria: Report of the National Technical Advisory Committee to the Secretary of the Interior. Washington, DC, GPO, 1968.

Dunne, Thomas and Luna Leopold, Water in Environmental Planning, W.H. Freeman, San Francisco, California, 1978.

Keyes, D.L. Land Development and the Natural Environment. The Urban Institute, Washington, DC, 1976.

National Association of Homebuilders, Home Builders and Water Quality, NAHB, Washington, DC, 1979

b. Resource persons

Planner and/or engineer--208 water quality planning

Hydrologist--USGS Geological Survey or State Geological Survey

Soil Scientist--U.S. Soil Conservation Service

Engineer--Local water supply agency or city and/or county engineering department

HUD Regional Engineer

ENVIRONMENTAL FACTOR 3.2: UNIQUE NATURAL FEATURES AND AREAS

1. Overview

This factor includes two separate but related natural environmental conditions--unique geological features and mineral resources.

Unique natural features are produced by normal geological processes. Their uniqueness stems from their infrequent occurrence, their aesthetic value, or their information content. Examples of such features include exposures of fossil-bearing or mineralogically interesting rock formations, special formations such as glacial drumlines and eskers, and such aesthetically pleasing features as coastal dunes and bluffs.

Mineral resources are usually divided into three categories: fossil fuels, metals, and non-metals. The categories reflect more how they are used rather than how they were formed. Mineral resources are

extracted from the earth by various methods. Each technique has certain kinds of effects on the ground above and around it which sometime affect nearby development; thus, there may be a potential conflict between mineral resource production and the well-being of nearby communities. Conversely, the presence of these communities can prevent the development of some valuable mineral resources.

2. Related Laws and Regulations

There is no Federal legislation which protects unique natural features other than features which might qualify for historic preservation or endangered species protection. Some unique features may be protected by State and local legislation.

The National Surface Mining Control and Reclamation Act of 1977 includes specific restrictions on surface mining around or near certain urban features. State laws and local codes which address this factor should be considered. These varied laws may have a bearing on land use conflicts, past extraction, and mineral rights, all which should be observed.

3. Assessment Questions

a. Will the project location, construction, or activities affect unique natural features or resource extraction on or near the site?

b. Will the project either destroy or isolate the unique natural feature from public or scientific access?

c. Will the unique feature or resource extraction activity pose safety hazards for a proposed development?

4. Analysis Methods

Initial Impact Screening

EF 3.2: Unique Natural Features and Areas

ALWAYS USE

FIELD/EXPERIENCE: In some cases the reviewer's knowledge of local conditions may be sufficient.

Often unique natural features or areas can be observed during a field inspection.

Indicators of these features include, but are not limited to, the following:

-- Coastal bluffs, cliffs, waterfalls, gorges, earthquake faults

-- Unusual rock form or colors, fossils

-- Public or private scenic parks or areas

-- Obvious active or inactive mine pits or mine entrances

-- Mine refuse piles or tailings. These make unusual mounds and are sometimes grown over

-- Ore bearing trucks or railcars near the site

Subsidence on or near the site as indicated by irregular land surface; unusual surface depressions; leaning fences, power poles, houses and barns and cracks across roads or open areas where the gradient of the land changes

SOMETIMES USE

a. CONTACT: Contact the county engineer or city manager, local planning director, or other local official likely to be knowledgeable.

b. PRINTED: Mineral maps, USGS maps or other natural resource maps may be helpful.

Further Analysis

a. CONTACT: Contact the county engineer or city manager, local planning director, or other local official likely to be knowledgeable.

b. PRINTED: Mineral maps, USGS maps or other natural resource maps may be helpful.

Further Analysis

CONTACT: More detailed information may be obtained from the State Department of Natural Resources or the Office of Geology if required to complete the analysis.

5. Evaluation of Impacts

The conditions listed below are indicative of potential adverse influences on unique natural features and areas.

a. Structures or roadways located adjacent to or atop unique natural features

b. Grading, cutting or filling on unique natural features

c. Construction of tall or massive buildings near or around unique natural features which will alter visual quality and access

d. Restricted physical access to a unique area or mining site

If no unique features or past or present mining activities exist on or

near the site, if a proposed project will not restrict access to unique natural features or resources that do exist, or if a proposed project will not destroy or alter existing natural features or resources, rate this factor "no impact." At the other extreme, if any important natural feature or area will be destroyed or altered, or if access (physical and visual) to it will be restricted, rate this factor "major impact."

If hazards posed by existing mining features exist or if the proposed project will limit future extraction of valuable mineral resources, and if inadequate mitigation measures are proposed to correct these mineral resources impacts, rate this factor "major impact."

6. Mitigation Measures

Mitigation measures oriented to minimizing impacts on the feature necessarily focus on modification of the project plans rather than alteration of the natural feature itself. They include:

a. Alter project plans to preserve feature or resources

b. Provide visual and physical access to unique features

c. Set unique feature aside as park or natural area

d. Allow scientific excavation of fossil bed or other features before destruction of feature is allowed

e. Fence off areas which may create a site hazard

7. Information Resources

a. Publications

Geologic Reports and Maps, U.S. Geological Survey and State Geological Surveys (specific titles and dates of publication vary)

EF 3.2: Unique Natural Features and Areas

General Plans, local planning departments

Topographic Quadrangle Maps, U.S. Geological Survey (7.5 and 15 minute series)

Aerial Photos are also helpful in identifying unique natural features and resources

b. Resource Persons

State and Federal Park Service, naturalists and/or geologists, U.S. Bureau of Mines

Local university natural scientists, geologists, mining engineers

HUD Regional Engineer

Engineer or planner from local agencies

ENVIRONMENTAL FACTOR 3.3: IMPORTANT AND PRODUCTIVE FARMLANDS (AGRICULTURAL LANDS)

1. Overview

U.S. farmland is a unique natural resource which provides food and fiber. These agricultural lands include lands currently used to produce agricultural commodities or lands that have the potential for such production. These lands have the favorable combination of soil quality, growing season, moisture supply and accessibility.

Highly productive or potentially productive agricultural lands are important due to their relatively limited occurrence and their long-term value for efficient production of food and fiber. Each year large amounts of farmland are converted from actual or potential agricultural use to non-agricultural use. As urban expansion moves outward from cities into surrounding agricultural regions, highly productive lands are often converted to or adversely affected by urban development.

Farmlands are limited. Due to the importance of agriculture to the national economy and the importance to agricultural of maintaining the very best farmlands in production, many local and State governments are adopting policies and regulations to preserve farmlands in the face of urban development pressures. The term farmlands or agricultural lands for this assessment factor refers to three specific categories: prime farmland., unique farmland, and farmland of statewide or local importance.

2. Related Laws and Regulations

The Farmland Protection Policy Act (FPPA) of 1981 (Subtitle I of the Agriculture and Food Act of 1981) requires Federal agencies to minimize the extent to which their programs contribute to the unnecessary and irreversible commitment of farmland to nonagricultural uses. It further requires that where practical, Federal programs will be administered in such a manner that they will be compatible with State, local and private programs and policies to protect farmland.

USDA Regulations (7 CFR Part 658) implementing the FPPA requires Federal agencies to conduct a farmland conversion impact rating (using USDA Form AD-1006) when a proposed project may convert farmlands to non-agricultural uses. This impact rating should be done when the impacts of a proposed project will affect farmlands in the following categories:

- prime farmland - the highest quality land for food and fiber production having the best chemical and physical characteristics for producing;

- o unique farmland - land capable of yielding high value crops such as citrus fruits, olives, etc., and;

- o farmlands designated as important by State and local governments, with the approval of the Secretary of Agriculture.

EF 3.3: Important and Productive Farmlands

Neither the Act nor the regulations apply if:

- o the proposed project site does not contain farmland in categories identified above.

- o the proposed project is on prime farmland that is already "committed" to urban development or water storage (applies to prime farmland only -- see 7 CFR 658.2(a)).

- o projects were beyond the planning stage prior to August 6, 1984.

- o projects involving grants, loans or mortgage insurance for purchase or rehabilitation of existing structures.

In some States and localities agricultural lands are protected from development activity through State legislation, local codes, zoning or taxing policies.

3. Assessment Questions

a. Will the proposed project be located on or directly adjacent to land that is categorized as prime, unique, or of State or local importance?

b. Will the project location, construction, or activities of project users adversely affect farmland on or near the site by conversion?

c. Will drainage from the project adversely affect farmland?

d. Will the project create problems by introducing nuisance species of vegetation which may spread to adjacent farmland?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. PRINTED: USDA, Soil Conservation Service (SCS) Natural Resource Inventory or Countywide inventory maps, Form AD-1006, and the Site Assessment Criteria (7 CFR 658.5(b)).

(1) These maps are the primary resource for determining whether or not the proposed project site will be located on prime unique, or statewide or locally important farmlands.

(2) Maps and forms are available for the entire United States from the SCS District conservationist.

(3) Site Assessment Criteria is contained in 7 CFR 658.

(4) The comprehensive land use or development plan.

b. CONTACT: The District Conservationist at the USDA Soil Conservation Service Office (SCS). State and local authorities and County Planners can also be contacted.

5. Evaluation of Impacts

a. A determination that the Act (and Regulations) does not apply must be documented.

b. Rate the "Impact Anticipated" as "None" when a proposed project site falls into one or more of the four cases where the Act does not apply. Note the appropriate circumstance in the supporting documentation column.

c. Rate the "Impact Anticipated" as "major" or "minor" when a proposed project site converts "farmlands" subject to the Act to nonagricultural use. Note that we have not set the number of points for determining "major" or "minor" impact. The 160 point threshold recommended by USDA can be used as the lower threshold to indicate "minor" impact. The point threshold of "major" impact depends to a large extent on your judgment of the importance of the farmland in the area. Other factors which could be considered in making a "major" impact finding may involve the following situations: (1) a developer may have received special zoning consideration for a project (2) the project is not consistent with the local comprehensive land use plan or represents sprawl or leapfrog development. Document the supporting information in the appropriate column.

Findings should always be documented; in those instances when the Farmland Conversion Impact Rating (Form AD-1006) is used it should be attached to HUD Form 4128.

6. Mitigation Measures

Protecting special cropland through agricultural districting provisions, special zoning provisions or tax abatements is the responsibility of local or State governments.

Actions which a developer can take to minimize some of the adverse effects of projects adjacent to agricultural lands include:

a. Minimizing impervious surfaces and design the drainage system so that site runoff will be led to storm sewers or existing drainage

ways rather that spread out on agricultural land adjacent to the project

b. Limiting human and pet access from project to adjacent agricultural lands with fencing, road patterns, and general site design

c. Avoiding the use of species in landscaping that are invasive and likely to establish themselves in adjacent croplands

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EF 3.3: Important and Productive Farmlands

7. Information Resources

a. Publications

National Agricultural Land Evaluation and Site Assessment Handbook (LESA). U.S. Department of Agriculture, Soil Conservation Service. February 3, 1983.

Natural Resource Inventory or County-wide Inventory Maps

b. Contacts

SCS, State Conservationist, USDA

SCS, District Conservationist, USDA

County Planning Department

State Departments of Natural Resources, of Planning and Development, or of Agriculture

HUD Regional or Field Office Environmental Officer

ENVIRONMENTAL FACTOR 3.4: VEGETATIVE AND ANIMAL LIFE

1. Overview

The dying out of plant and animal species is certainly not a new or even an unnatural phenomenon. It is however a phenomenon that occurs with much greater frequency today than in the past. As man's influence and activities cover more and more of the globe, the natural habitats of thousands of species are destroyed or irrevocably altered. It has been estimated that half the species of plants and animals (including birds, fish and insects) alive today could be extinct by the year 2000. One of the scientists' major concerns is that there is so much we don't know about most of the world's plants and animals. Through ignorance alone, we may be causing or allowing the extinction of species that could have enormous value to us.

Most of the projects HUD is involved with probably do not pose any threat to existing species since most projects are located in urbanized areas where development will have already had its effect. If, however, a project is located in a less developed area where there are lands that are still mostly in their natural state, endangered species or their habitats may be encountered.

2. Related Laws and Regulations

As a result of concern over the loss of many species, Congress passed the Endangered Species Act of 1966, 1969 and 1973. Many States have also passed endangered species legislation. This legislation may protect specific species but not their habitat, unless in designated wildlife sanctuaries. Thus the key factor is the effect which a proposed development will have on the habitat of endangered species.

3. Assessment Question

a. Will the project damage or destroy existing plant communities, listed as rare or endangered species?

b. Will it damage or destroy trees without replacement and landscaping?

c. Will the project create environmental conditions which might threaten the survival of existing vegetation, particularly changes in the native plant community habitats?

d. Will it create conditions favorable to nuisance species.

The assessment question on animal life encompasses the following five topics: disruption, habitat alteration or removal, endangered species, pest species and game species.

a. Will the project create special hazards for animal life? What types of animal will be affected and how?

EF 3.4: Vegetative and Animal Life

b. Will the project damage or destroy existing Wildlife habitats?

c. Will the project threaten any animal species listed by either state or Federal agencies as rare or endangered?

d. Will the project damage game fish habitats or spawning grounds?

e. Will the project create conditions favorable to the proliferation of pest species?

f. Will excessive grading alter the groundwater level and thus cause the destruction of trees and ground cover which serves as animal habitats?

4. Analysis Methods

Initial Impact Screening

ALWAYS USE

a. FIELD/EXPERIENCE: Observation may indicate whether the site is likely to contain any important plant or animal species. For example, a cleared inner-city tract is not likely to while an undeveloped area may contain such life.

b. PRINTED: Check the existing lists of endangered species from the Bureau of Fish and Wildlife, Department of Interior, to determine whether any endangered species live in the area.

Further Analysis

CONTACT: If an endangered species or habitat may be affected, further coordination with the Fish and Wildlife Service is required.

According to procedures mandated by the Endangered Species Act of 1973 (PL 93-205) as amended in 1978 and 1979, Federal agencies must determine whether projects affect endangered species designated and listed periodically under Section 4 of the Act. If such finding is made, the agency must consult with the Department of Interior (DOI-terrestrial) or the Department of Commerce (DOC-marine life) in compliance with the procedure of Section 7 of the Act to ensure that a proposed project will neither jeopardize the continued existence of an endangered or threatened species nor result in the destruction or adverse modification of critical habitats of plants and animal life. Designation of such areas must be based on cost benefit analyses by DOI and on a determination that failure to designate would result in the extinction of the species.

5. Evaluation of Impacts

An initial determination can be made by analyzing the project proposal, the site and its environs, applicable documentation, and field data.

Rate this factor "major impact anticipated" if:

a. Structures or roadways are located adjacent to or atop known locations of protected species or critical habitats.

b. Grading, cutting or filling will take place on locations of protected species of critical habitats.

c. There is a wetland area which supports a population of protected species.

d. Drainage is to be redirected toward a population of protected species.

e. There is potential for intense noise, vibration or activity at or near the location of a protected wildlife species or its critical habitat.

f. The proposed project will directly destroy a species or vegetation population dependent on the site or preempt a critical habitat.

6. Mitigation Measures

Mitigation measures will require modification of the project plans. The exception would be transplanting a particular species of plant or animal life to a new suitable location.

Mitigation measures include:

a. Altering project plans to avoid impact on critical habitat area

b. Planting native vegetation to feed or shelter protected wildlife species

c. Setting aside the critical habitat area as a park or natural area

d. Avoiding (a) construction in wetland areas; (2) terracing downhill slopes; and (3) planting native vegetation in landscaped and open space areas of project site

7. Information Resources

a. Publications

Biotic Surveys, Local Universities/Colleges (specific title and dates of publication vary).

Biotic Surveys, State Fish and Game Departments (specific titles and dates of publication vary).

EF 3.4: Vegetative and Animal Life

Biological Field Guides, Local Universities/Colleges (specific titles and dates of publication vary).

Threatened and Endangered Species Lists, U.S. Fish and Wildlife Service

Threatened and Endangered Species Lists, State Fish and Game Department (availability varies)

Vegetation Maps, State Forestry Department (availability varies)

General Plans, Local Planning Department (availability varies)

U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife, Threatened Wildlife of the United States. USDI Resource

No. 114, Washington, DC, US GPO, 1973. (Provides a list of game species in danger of extinction which sportsmen are urged to protect)

Endangered Species Technical Bulletin, USDA publication

Federal Endangered Species Act of 1973 (amended 1978 and 1979): Defines and extends Federal jurisdiction over all federally designated endangered and threatened species.

b. Resource Persons

Biologist/Ecologist - State Fish and Game Departments, Universities

Technical staff - Staff and Local Departments of Natural Resources or Environment

Endangered Species Specialist - U.S. Fish and Wildlife Service

Environmental Assessment and Compliance Findings for the Related Laws

U.S. Department of Housing and Urban Development

1. Project Number
HUD Program
2. Date Received

RMS: HI-00487R

Findings and Recommendations are to be prepared **after** the environmental analysis is completed. Complete items 1 through 15 as appropriate for all projects. For projects requiring an environmental assessment, also complete Parts A and B. For projects categorically excluded under 24 CFR 50.20, complete Part A. Attach notes and source documentation that support the findings.

3. Project Name and Location (Street, City, County, State)

4. Applicant Name and Address (Street, City, State, Zip Code), and Phone

5. ☐ Multifamily ☐ Elderly ☐ Other
If Other, explain.

6. Number of
_____ Dwelling Units _____ Buildings
_____ Stories _____ Acres

7. Displacement ☐ No ☐ Yes
If Yes, explain.

8. ☐ New Construction ☐ Rehabilitation ☐ Other
(if Other, explain)

9. Has an environmental report (Federal, State, or local) been used in completing this form? ☐ No ☐ Yes

If Yes, identify:_____

10. Planning Findings. Is the project in compliance or conformance with the following plans?

Local Zoning	☐ Yes	☐ No	☐ Not Applicable
Coastal Zone	☐ Yes	☐ No	☐ Not Applicable
Air Quality (SIP)	☐ Yes	☐ No	☐ Not Applicable

Explain any "No" answer:_____

11. Environmental Finding (check one)
- ☐ Categorical exclusion is made in accordance with § 50.20 or
- ☐ Environmental Assessment and a **Finding of No Significant Impact** (FONSI) is made in accordance with § 50.33 or
- ☐ Environmental Assessment and a **Finding of Significant Impact** is made, and an Environmental Impact Statement is required in accordance with §§ 50.33(d) and 50.41.

Are there any unresolved conflicts concerning the use of the site?

☐ No ☐ Yes (explain):_____

☐ Project is recommended for approval (List any conditions and requirements) ☐ Project is recommended for rejection (State reasons)

12. Preparer (signature)	Date	13. Supervisor (signature)	Date

14. Comments by Environmental Clearance Officer (ECO) (required for projects over 200 lots/units)

ECO (signature)	Date
X	

15. Comments (if any) by HUD Approving Official

HUD Approving Official (signature)	Date
X	

Part A. Compliance Findings for §50.4 Related Laws and Authorities

§ 50.4 Laws and Authorities	Project is in Compliance Yes	No	Source Documentation and Requirements for Approval
16. Coastal Barrier Resources			
17. Floodplain Management (24 CFR Part 55)			
18. Historic Preservation (36 CFR Part 800)			
19. Noise Abatement (24 CFR Part 51 Subpart B)			
20. Hazardous Operations (24 CFR Part 51 Subpart C)			
21. Airport Hazards (24 CFR Part 51 Subpart D)			
22. Protection of Wetlands (E. O. 11990)			
23. Toxic Chemicals & Radioactive Materials(§ 50.3(i))			
24. Other § 50.4 authorities (e.g., endangered species, sole source aquifers, farmlands protection, flood, insurance, environmental justice)			

Part B. Environmental/Program Factors

Factors	Anticipated Impact/Deficiencies None	Minor	Major	Source Documentation and Requirements for Approval
25 Unique Natural Features and Areas				
26. Site Suitability, Access, and Compatibility with Surrounding Development				
27. Soil Stability, Erosion, and Drainage				
28. Nuisances and Hazards (natural and built)				
29. Water Supply / Sanitary Sewers				
30. Solid Waste Disposal				
31. Schools, Parks, Recreation, and Social Services				
32. Emergency Health Care, Fire and Police Services				
33. Commercial / Retail and Transportation				
34. Other				

Sample Field Notes Checklist

Project Number	HUD Program

Project Name:

Location (street, city, county/State, & zip code)

Number of Dwelling Units	Project site is in a location described as
	☐ Central city ☐ Suburban ☐ Infill urban development
☐ New construction ☐ Rehabilitation	☐ In developing rural area ☐ In undeveloped area

Note to Reader: An Environmental Assessment (EA) is a concise public document that a Federal agency must prepare in order to comply with the National Environmental Policy Act (NEPA) and the related Federal environmental laws and authorities. The EA must support decision making process and provide a clear rationale, justification, and documentation for ratings assigned.

Instructions

It is recommended that this checklist be used by HUD staff who prepare the Environmental Assessment (EA; form HUD-4128). It will constitute full documentation for many factors on the EA, and partial documentation for others. It will avoid narrative reports and expedite the environmental review process. This checklist, which is a slightly revised version of Appendix C of Handbook 1390.2, should be used pending revision of Handbook 1390.2.

The number for each checksheet topic is the number that appears on form HUD-4128. Also, each checklist title/heading is followed by a reference to where the topic appears in the current Handbook 1390.2.

Before the site visit, review the Phase I and all background information submitted with the application (if applicable). During the site visit, the preparers of form HUD-4128 are to: (i) answer all relevant questions on this checklist; (ii) use the spaces provided for comments to include supplemental information as well as to record any recommended mitigation measures or requirements for project approval; (iii) key your answers to the relevant questions (using additional sheets of paper to provide more detailed information); and (iv) use the spaces provided for source documentation to cite the information source used (e.g., title of a technical report, map, or special study; site inspection/field observation; name and location of the qualified data source(s) that provided the information, for example, the local planning agency, the local housing and/or community development agency, the State environmental protection agency, the State Historic Preservation Officer, or other qualified data source.)

Preparers are to obtain and use, as appropriate, any environmental report (Federal, State, or local) that may have already been prepared for the property or area in which the property is located.

Several different types of maps will be useful in completing the review, such as the project plan or plot map, a location map showing major features and facilities in the vicinity, the USGS topographic map and FEMA flood map for the site area, and zoning/land use maps. ***Many of the conditions can and should be recorded directly on the project plan.*** Distances to major features and facilities (e.g., schools and fire stations) and a description of the surrounding area are examples. The plan can then be referenced as "source documentation" on form HUD-4128.

9. Environmental Report

List the Federal, State, or local agencies contacted to obtain their existing environmental reports and other data for the HUD environmental review for the proposed project.

List the major reports obtained. (attach the report(s) or otherwise list the title, author, publication date)

10. Planning Findings

Is the project in compliance or conformance with the local zoning?

☐ Yes ☐ No ☐ Not Applicable If No or Not Applicable, explain.

Is the project located within a coastal management zone (CZM)?

☐ Yes ☐ No ☐ Not Applicable

If your answer is Yes, the State Coastal Zone Management (CZM) Agency must make a finding that the project is consistent with the approved State CZM program.

Is the State's finding attached to this checksheet?

☐ Yes ☐ No

Is the project in compliance with the air quality State Implementation Plan (SIP)?

☐ Yes ☐ No ☐ Not Applicable

Comments:

Source documentation:

Are there any unresolved conflicts concerning the use of the site?
☐ Yes ☐ No If your answer is Yes, briefly explain:

16. Coastal Barrier Resources
Is the project located within a coastal barrier designated on a current FEMA flood map or Department of Interior coastal barrier resources map?
☐ Yes ☐ No If your answer is Yes, the law prohibits Federal funding of projects in designated coastal barriers.

17. Flood Management (24 CFR Part 55) (see CF 3 and 4 of Handbook 1390.2)
Is the project located within a floodplain designated on a current FEMA flood map?
☐ Yes ☐ No Identify FEMA flood map used to make this finding:
Community Name and Number: _____
Map Panel Number and Date of Map Panel: _____
If your answer is Yes, use § 55.12 and the floodplain management decisionmaking process (§ 55.20) to comply with 24 CFR Part 55.
Comments:

Source documentation: (attach § 55.20 analysis)

18. Historic Preservation (see CF 2 of Handbook 1390.2)
Has the SHPO been notified of the project and requested to provide comments?
☐ Yes ☐ No
Is the property listed on or eligible for listing on the National Register of Historic Places?
☐ Yes ☐ No
Is the property located within or directly adjacent to an historic district?
☐ Yes ☐ No
Does the property's area of potential effects include an historic district or property?
☐ Yes ☐ No
If your answer is Yes to any of the above questions, consult with the State Historic Preservation Officer (SHPO) and comply with 36 CFR part 800.
Has the SHPO been or is being advised of HUD's finding?
☐ Yes ☐ No
Comments:

Source documentation:

19. Noise Abatement (see CF 1 of Handbook 1390.2)
Is the project located near a major noise source, i.e., civil airports (within 5 miles), military airfields (15 miles), major highways or busy roads (within 1000 feet), or railroads (within 3000 feet)?
☐ Yes ☐ No If your answer is Yes, comply with 24 CFR 51, Subpart B which requires a noise assessment for proposed new construction. Use adopted DNL contours if the noise source is an airport.
Comments:

Source documentation: (attach NAG worksheets)

20. Hazardous Industrial Operations (see CF 5 of Handbook 1390.2)

Are industrial facilities handling explosive or fire-prone materials such as liquid propane, gasoline or other storage tanks adjacent to or visible from the project site?

☐ Yes ☐ No If your answer is Yes, use HUD Hazards Guide and comply with 24 CFR Part 51, Subpart C.

Comments:

Source documentation: (attach ASD worksheets)

21. Airport Hazards (see CF 5 of Handbook 1390.2)

Is the project within 3,000 feet from the end of a runway at a civil airport?

☐ Yes ☐ No

Is the project within 2-1/2 miles from the end of a runway at a military airfield?

☐ Yes ☐ No If your answer is Yes to either of the above questions, comply with 24 CFR Part 51, Subpart D.

Comments:

Source documentation:

22. Protection of Wetlands (E.O. 11990) (see CF 3 and 4 of Handbook 1390.2)

Are there drainage ways, streams, rivers, or coastlines on or near the site?

☐ Yes ☐ No

Are there ponds, marshes, bogs, swamps or other wetlands on or near the site?

☐ Yes ☐ No

For projects proposing new construction and/or filling, the following applies:

Is the project located within a wetland designated on a National Wetlands Inventory map of the Department of the Interior (DOI)?

☐ Yes ☐ No If your answer is Yes, E.O. 11990, Protection of Wetlands, discourages Federal funding of new construction or filling in wetlands and compliance is required with the wetlands decisionmaking process (§ 55.20 of 24 CFR Part 55. Use proposed Part 55 published in the Federal Register on January 1, 1990 for wetland procedures).

Comments:

Source documentation: (attach § 55.20 analysis for new construction and/or filling)

23. Toxic Chemicals and Radioactive Materials (see CF 5 of Handbook 1390.2)

Has a Phase I (ASTM) Report been submitted and reviewed?

☐ Yes ☐ No If your answer is No, is a Phase I (ASTM) report needed?

☐ Yes ☐ No

Are there issues that require a special/specific Phase II report before completing the environmental assessment?

☐ Yes ☐ No

Is the project site near an industry disposing of chemicals or hazardous wastes?

☐ Yes ☐ No

Is the site listed on an EPA Superfund National Priorities or CERCLA, or equivalent State list?

☐ Yes ☐ No

Is the site located within 3,000 feet of a toxic or solid waste landfill site?

☐ Yes ☐ No

Does the site have an underground storage tank?

☐ Yes ☐ No

If your answer is Yes to any of the above questions, use current techniques by qualified professionals to undertake investigations determined necessary and comply with § 50.3(i).

Are there any unresolved concerns that could lead to HUD being determined to be a Potential Responsible Party (PRP)?

☐ Yes ☐ No

Comments:

Source documentation: (attach Phase I (ASTM) Report)

24. Other

a. Endangered Species (see EF 3.4 of Handbook 1390.2)

Has the Department of Interior list of Endangered Species and Critical Habitats been reviewed?

☐ Yes ☐ No

Is the project likely to affect any listed or proposed endangered or threatened species or critical habitats?

☐ Yes ☐ No If your answer is Yes, compliance is required with Section 7 of the Endangered Species Act, which mandates consultation with the Fish and Wildlife Service in order to preserve the species.

Comments:

Source documentation

b. Sole Source aquifers

Will the proposed project affect a sole source or other aquifer?

☐ Yes ☐ No

Comments

Source documentation

c. Farmlands Protection (see EF 3.3 of Handbook 1390.2)

If the site or area is presently being farmed, does the project conform with the Farmland Protection Policy Act and HUD policy memo?

☐ Yes ☐ No If your answer is Yes, compliance is required with 7 CFR Part 658, Department of Agriculture regulations implementing the Act.

Comments:

Source documentation:

d. Flood Insurance

Is the building located or to be located within a Special Flood Hazard Area identified on a current Flood Insurance Rate Map (FIRM)?

☐ Yes ☐ No If your answer is Yes, flood insurance protection is required for buildings located or to be located within a Special Flood Hazard Area as a condition of approval of the project. In addition, compliance with § 55.12 and the floodplain management decisionmaking process (§ 55.20) is required (refer to item #17 above). Document the map used to determine Special Flood Hazard Area in above item #17 pertaining to community name and number, map panel number and date of map panel.

e. Environmental Justice

Is the project located in a predominantly minority and low-income neighborhood?

☐ Yes ☐ No

Does the project site or neighborhood suffer from disproportionately adverse environmental effects on minority and low-income populations relative to the community-at-large?

☐ Yes ☐ No If your answer is Yes, compliance is required with E.O. 12898, Federal Actions to Address Environmental Justice.

Comments:

Source documentation:

25. Unique Natural Features and Areas (see EF 3.2 of Handbook 1390.2)

Is the site near natural features (i.e., bluffs or cliffs) or near public or private scenic areas?

☐ Yes ☐ No

Are other natural resources visible on site or in vicinity? Will any such resources be adversely affected or will they adversely affect the project?

☐ Yes ☐ No

Comments:

26. Site Suitability, Access, and Compatibility with Surrounding Development (see EF 1.1 and 1.3 of Handbook 1390.2)

Has the site has been used as a dump, sanitary landfill or mine waste disposal area? ☐ Yes ☐ No

Is there paved access to the site? ☐ Yes ☐ No

Are there other unusual conditions on site? ☐ Yes ☐ No

Is there indication of:	Yes	No		Yes	No
distressed vegetation	☐	☐	oil/chemical spills	☐	☐
waste material/containers	☐	☐	abandoned machinery, cars, refrigerators, etc.	☐	☐
soil staining, pools of liquid	☐	☐	transformers, fill/vent pipes, pipelines, drainage structures	☐	☐
loose/empty drums, barrels	☐	☐			

Is the project compatible with surrounding area in terms of:

	Yes	No		Yes	No
Land use	☐	☐	Building type (low/high-rise)	☐	☐
Height, bulk, mass	☐	☐	Building density	☐	☐

Will the project be unduly influenced by:

	Yes	No		Yes	No
Building deterioration	☐	☐	Transition of land uses	☐	☐
Postponed maintenance	☐	☐	Incompatible land uses	☐	☐
Obsolete public facilities	☐	☐	Inadequate off-street parking	☐	☐

Are there air pollution generators nearby which would adversely affect the site:

	Yes	No		Yes	No
Heavy industry	☐	☐	Large parking facilities (1000 or more cars)	☐	☐
Incinerators	☐	☐	Heavy travelled highway (6 or more lanes)	☐	☐
Power generating plants	☐	☐	Oil refineries	☐	☐
Cement plants	☐	☐	Other(specify)	☐	☐

Comments:

Source documentation:

27. Soil Stability, Erosion, and Drainage (see EF 1.2 of Handbook 1390.2)

Slopes: ☐ Not Applicable ☐ Steep ☐ Moderate ☐ Slight

	Yes	No	
Is there evidence of slope erosion or unstable slope conditions on or near the site?	☐	☐	
Is there evidence of ground subsidence, high water table, or other unusual conditions on the site?	☐	☐	
Is there any visible evidence of soil problems (foundations cracking or settling, basement flooding, etc.) in the neighborhood of the site?	☐	☐	
Have soil studies or borings been made for the project site or the area?	☐	☐	☐ Unknown
Do the soil studies or borings indicate marginal or unsatisfactory soil conditions?	☐	☐	
Is there indication of cross-lot runoff, swales, drainage flows on the property?	☐	☐	
Are there visual indications of filled ground?	☐	☐	
If your answer is Yes, was a 79(g) report/analysis submitted?	☐	☐	
Are there active rills and gullies on site?	☐	☐	
If the site is not to be served by a municipal waste water disposal system, has a report of the soil conditions suitable for on-site septic systems been submitted?	☐	☐	☐ N.A.
Is a soils report (other than structural) needed?	☐	☐	
Are structural borings or a dynamic soil analysis/geological study needed?	☐	☐	

Comments:

Source documentation:

28. Nuisances and Hazards (see EF 1.3 and 1.4 of Handbook 1390.2)

Will the project be affected by natural hazards:

	Yes	No		Yes	No
Faults, fracture	☐	☐	Fire hazard materials	☐	☐
Cliffs, bluffs, crevices	☐	☐	Wind/sand storm concerns	☐	☐
Slope-failures from rains	☐	☐	Poisonous plants, insects, animals	☐	☐
Unprotected water bodies	☐	☐	Hazardous terrain features	☐	☐

Will the project be affected by built hazards and nuisances:

	Yes	No		Yes	No
Hazardous street	☐	☐	Inadequate screened drainage catchments	☐	☐
Dangerous intersection	☐	☐	Hazards in vacant lots	☐	☐
Through traffic	☐	☐	Chemical tank-car terminals	☐	☐
Inadequate separation of pedestrian/vehicle traffic	☐	☐	Other hazardous chemical storage	☐	☐
Children's play areas located next to freeway or other high traffic way	☐	☐	High-pressure gas or liquid petroleum transmission lines on site	☐	☐
Inadequate street lighting	☐	☐	Overhead transmission lines	☐	☐
Quarries or other excavations	☐	☐	Hazardous cargo transportation routes	☐	☐
Dumps/sanitary landfills or mining	☐	☐	Oil or gas wells	☐	☐
Railroad crossing	☐	☐	Industrial operations	☐	☐

Will the project be affected by nuisances:

	Yes	No	Yes	No
Gas, smoke, fumes	☐	☐	Unsightly land uses	☐	☐
Odors	☐	☐	Front-lawn parking	☐	☐
Vibration	☐	☐	Abandoned vehicle	☐	☐
Glare from parking area	☐	☐	Vermin infestation	☐	☐
Vacant/boarded-up buildings	☐	☐	Industrial nuisances	☐	☐
	☐	☐	Other (specify)	☐	☐

Comments:

Source documentation:

29. Water, Supply, Sanitary Sewers, and Solid Waste Disposal (see EF 2.1, 2.2, and 2.4 of Handbook 1390.2)

Is the site served by an adequate and acceptable:

water supply

☐ Yes ☐ No ☐ Municipal ☐ Private

sanitary sewers and waste water disposal systems

☐ Yes ☐ No ☐ Municipal ☐ Private

trash collection and solid waste disposal

☐ Yes ☐ No ☐ Municipal ☐ Private

If the water supply is non-municipal, has an acceptable "system" been approved by appropriate authorities and agencies?

☐ Yes ☐ No

If the sanitary sewers and waste water disposal systems are non-municipal, has an acceptable "system" been approved by appropriate authorities and agencies?

☐ Yes ☐ No

Comments:

Source documentation:

31. Schools, Parks, Recreation, and Social Services (see U/EF 4, 5, and 6 of Handbook 1390.2)

Will the local school system have the capability to service the potential school age children from the project?

☐ Yes ☐ No

Are parks and play spaces available on site or nearby?

☐ Yes ☐ No

Will social services be available on site or nearby for residents of the proposed project?

☐ Yes ☐ No

Comments:

Source documentation:

32. Emergency Health Care, Fire and Police Services (see U/EF 7, 8, and 9 of Handbook 1390.2)

Are emergency health care providers located within reasonable proximity to the proposed project?

☐ Yes ☐ No Approximate response time: _____

Are police services located within reasonable proximity to the proposed project?

☐ Yes ☐ No Approximate response time: _____

Is fire fighting protection ☐ municipal ☐ volunteer adequate and equipped to service the project?

☐ Yes ☐ No Approximate/estimated response time:_____

Comments:

Source documentation:

33. Commercial/Retail and Transportation (see U/EF 10 and 11 of Handbook 1390.2)

Are commercial/retail shopping services nearby?

☐ Yes ☐ No

Is the project accessible to employment, shopping and services by

☐ public transportation or ☐ private vehicle?

Is adequate public transportation available from the project to these facilities?

☐ Yes ☐ No

Are the approaches to the project convenient, safe and attractive?

☐ Yes ☐ No

11. Conditions and Requirements for Approval

Are mitigation measures required?

☐ Yes ☐ No

If your answer is Yes, list and describe:

Brief Description of the Project:

Field Inspection on (date) _____ By (signature) _____

Appendix B

RELEVANCE OF ASSESSMENT FACTORS TO HUD PROGRAMS

	SUBDIVISIONS NEW CONSTRUCTION			SUBSIDIZED NEW CONSTRUCTION		ELDERLY NEW CONSTRUCTION		REHABILITATION/ MODERNIZATION	
	Rural Area	Urban/ Urbanized	Other SMSA Area	Rural Area	Urban/ Urbanized	Rural Area	Urban/ Urbanized	Rural Area	Urban/ Urbanized
UNDERWRITING/ENVIRONMENTAL FACTORS									
U/EF 1: Compatibility with surrounding development	○	◔	◔	◔	◕	◔	◕	◕	◕
U/EF 2: Site accessability	◔	◔	◔	◕	◕	◔	◕	◔	◔
U/EF 3: Demographic/neighborhood character	◔	◔	◔	◔	◕	◔	◕	◕	◕
U/EF 4: Schools	◔	◕	◔	◕	◕	○	○	◕	◕
U/EF 5: Parks and recreation	○	◔	○	◔	◕	◔	◕	◕	◕
U/EF 6: Social services	○	○	○	◔	◔	◕	◕	◔	◔
U/EF 7: Emergency health care	○	◔	○	◕	◕	◕	◕	◔	◕
U/EF 8: Public safety-fire	◔	◔	◔	◕	◕	◕	◕	◔	◕
U/EF 9: Public safety-police	◔	◔	◔	◕	◕	◕	◕	◔	◕
U/EF 10: Commercial/retail	○	○	○	◔	◔	◕	◕	◔	◔
U/EF 11: Transportation	○	○	○	◔	◕	◕	◕	◔	◕
ENVIRONMENTAL FACTORS									
EF 1.1: Physical site suitability	◕	◕	◕	◕	◕	◕	◕	◔	◕
EF 1.2: Soil stability and erodability	●	◕	◕	◕	◕	◕	◕	○	○
EF 1.3: Natural hazards	◕	◕	◕	◕	◕	◕	◕	○	○
EF 1.4: Hazards and nuisances	◕	◕	◕	◕	◕	◕	◕	◕	◕
EF 1.5: Air quality	○	○	○	○	◔	◕	◕	○	◔
EF 1.6: Displacement	○	○	○	○	◔	○	◔	◔	◔
EF 1.7: Energy consumption	◕	◕	◕	◔	◔	◔	◔	◕	◕

(continued on next page)

KEY: ○ Negligible ◔ Minor importance ◕ Likely to be important ● Important

RELEVANCE OF ASSESSMENT FACTORS TO HUD PROGRAMS

	SUBDIVISIONS NEW CONSTRUCTION			SUBSIDIZED NEW CONSTRUCTION		ELDERLY NEW CONSTRUCTION		REHABILITATION/ MODERNIZATION	
	Rural Area	Urban/ Urbanized	Other SMSA Area	Rural Area	Urban/ Urbanized	Rural Area	Urban/ Urbanized	Rural Area	Urban/ Urbanized
ENVIRONMENTAL FACTORS (CONTINUED)									
EF 2.1: Water supply	◕	◑	◕	◕	◕	◕	◕	◕	◕
EF 2.2: Waste water	◕	◑	◕	◕	◕	◕	◕	◕	◕
EF 2.3: Storm water	◑	◑	◑	◑	◕	◑	◕	◑	◑
EF 2.4: Solid waste	◑	◑	◑	◑	◑	◑	◑	◑	◑
EF 3.1: Water resources	●	◑	◕	◑	○	◑	○	○	○
EF 3.2: Unique natural features and areas	●	◑	◕	◑	○	◑	○	○	○
EF 3.3: Important and productive farmlands	●	○	◕	◑	○	◑	○	○	○
EF 3.4: Vegetative and animal life	●	○	◑	◑	○	◑	○	○	○

KEY: ○ Negligible ◑ Minor importance ◕ Likely to be important ● Important

Appendix C

SAMPLE FIELD NOTES CHECKLIST

INSTRUCTIONS

This checklist is to be completed by the Appraiser during the field visit and attached to the Environmental Assessment (Form HUD-4128). It will constitute full documentation for many factors on the EA, and partial documentation for others. Some factors on Form 4128 require other kinds of documentation (e.g. contact with the SHPO, adequacy of services); so those factors are not included on this checklist.

Provide answers to all questions that can be observed during the field visit. Use spaces provided for any supplemental information and/or for recording any recommended mitigation measures. Use back or additional sheets if necessary but key answers to the relevant questions.

Several different types of maps will be useful on the field visit, such as project plan or plot map, location map showing major features and facilities in the vicinity, USGS topographic map, zoning map, and land use map. Many of the conditions observed can and should be recorded directly on the project plan. Distances to major features and facilities (e.g., schools and fire stations) and a description of the surrounding area are examples. The plan can then be referenced as "source/documentation" on the assessment form.

Project Number _____ Project Name _____

Location _____
(street) (city) (county)

Field inspection on _____ by _____
(date) (signature)

Brief Description of project _____

_____

_____

General Project Information

Project is in a location described as: ( ) Central city ( ) Suburban
( ) Infill
urban development ( ) In developing rural area ( ) In undeveloped area

Project is served by: ( ) Paved access ( ) Public water system
( ) Public
sanitary sewer system ( ) Other utilities, such as gas, electric, telephone

Is the project an addition to existing development? ( ) Yes ( ) No
Are there existing buildings on the site? ( ) Yes ( ) No

Is the site covered with trees and non-agricultural vegetation? ( ) Yes ( ) No
Is the site presently being farmed? ( ) Yes ( ) No

Section E. Compliance Factors

CF 1. Noise

Is the project within 1000 feet of a major road/highway/freeway? ( ) Yes ( ) No
Is the project within 3000 feet of a railroad? ( ) Yes ( ) No
Is the project within 15 miles of a military airfield? ( ) Yes ( ) No
Is the project within 5 miles of a civil airport? ( ) Yes ( ) No

If "yes" to any of above, do NAG assessment or, for airports, use adopted DNL contours

Comments: _____

_____

_____

CF 3/4. Floodplains/Wetlands

Are there drainageways, streams, rivers, or coastlines on or near the site? ( ) Yes ( ) No

Are there ponds, marshes, bogs, swamps or other wetlands on or near the site? ( ) Yes ( ) No

Are there soils or vegetation characteristic of wetlands on or near the site? ( ) Yes ( ) No

(Observations are useful only when the site is not identified on a floodplain map as being in a floodplain; if it is, compliance will also require the WRC 8-step process)

Comments: _____

_____

_____

CF 5. Hazards

Are industrial facilities handling explosive or fire-prone materials such as liquid propane, gasoline or other storage tanks visible from the project site? ( ) Yes ( ) No

If "Yes," check for compliance with 24 CFR Part 51C, using the HUD Hazards Guidebook.

_____

Is the project within 3000 feet from the end of a runway at a civil airport? ( ) Yes ( ) No

Is the project within 2 1/2 miles from the end of a runway at a military airfield? ( ) Yes ( ) No

If "Yes" to either of the above, check for compliance with 24 CFR Part 51D.

Is the project near dump or landfill site? ( ) Yes ( ) No

Is the project near an industry disposing of chemicals or hazardous wastes? ( ) Yes ( ) No

If "Yes" to either of the above, contact the EPA per instructions contained in Notice 79-33.

Comments: _____

_____

_____

Section F. Underwriting/Environmental Factors.

U/EF 1. Compatibility with surrounding development

Is the project compatible with surrounding area in terms of:

	Yes	No		Yes	No
Land use	( )	( )	Texture, materials	( )	( )
Height, bulk, mass	( )	( )	Building type (lo/hi rises)	( )	( )
Building density	( )	( )	Building arrangement	( )	( )
Population density	( )	( )	Light/shadow and ventilation	( )	( )
Setback	( )	( )	Landscaping	( )	( )

Comments: _____

_____

_____

U/EF 3. Demographic/neighborhood character

Will the project be unduly influenced by:

	Yes	No		Yes	No
Building obsolescence	( )	( )	Transition of land uses	( )	( )
Vacant buildings	( )	( )	Transition in density	( )	( )
Building deterioration	( )	( )	Non-conforming conversions	( )	( )
Postponed maintenance	( )	( )	Incompatible land uses	( )	( )
Obsolete public facilities	( )	( )	Inadequate off-street parking	( )	( )
Buildings crowding land	( )	( )			

Comments: _____

_____

U/EF 2. Site accessibility - U/EF 5. Parks and recreation
U/EF 10. Commercial/Retail - U/EF 11. Transportation

Are the approaches to the project convenient, safe and attractive? ( ) Yes ( ) No

Is the project accessible to employment, shopping and services? ( ) Yes ( ) No
Are parks and play spaces available on site or nearby? ( ) Yes ( ) No
Are commercial/retail shopping center nearby? ( ) Yes ( ) No
Is public transportation service available? ( ) Yes ( ) No

Comments: _____

Section G. Environmental Factors.

EF 1.1 Physical site suitability

Slopes: ( ) Not Applicable ( ) Steep ( ) Moderate ( ) Slight

Is there evidence of slope erosion? ( ) Yes ( ) No
(Such as; Extensive gullies/small ravines? Bowed-retaining walls? Washing away of top-soil and grasses? Tree movement? Fire scars?)

Is there evidence of unstable slope conditions? ( ) Yes ( ) No
(Such as; Trees perpendicular to slope? Vertical cracks at top of slope? Tilted utility poles? Hummocky-undulations on mid to lower slopes?)

Is there evidence of ground subsidence on the site? ( ) Yes ( ) No

Is there evidence of other unusual conditions on site? ( ) Yes ( ) No

Comments: _____

EF 1.2. Soil Stability and Erodibility

Soils: ( ) Loose, fine rained silts ( ) Gravel/Sands
( ) Clay (Hard/Dry)
( ) Non-expansive ( ) Moderately expansive ( ) Highly expansive

( ) Mix-of-each (check appropriate box if finding can be made by the reviewer)

Are there visual indications of filled ground? ( ) Yes ( ) No
(Materials loosely piled on ground? Loose vegetation? Earth has graded appearance or topography appears unnatural in grade as related to vicinity?)

Are there active rills and gullies on site? ( ) Yes ( ) No

Is there off-site drainage to site? ( ) Yes ( ) No

Comments: _____

_____

_____

(Is a soils report needed? ( ) Yes ( ) No;
geological study needed? ( ) Yes ( ) No)

EF 1.3 Natural hazards

Will the project be affected by:

	Yes	No		Yes	No
Faults, fractures	( )	( )	Fire hazard materials	( )	( )
Cliffs, bluffs, crevices	( )	( )	Wind/sand storm concerns	( )	( )
Slope-failures from rains	( )	( )	Poisonous plants, insects, animals	( )	( )
Unprotected water bodies	( )	( )			
Hazardous terrain features	( )	( )			

Comments: _____

_____

_____

EF 1.3 Man-made hazards and nuisances

Hazards

Will the project be affected by:

	Yes	No		Yes	No
Hazardous street conditions	( )	( )	Railroad-crossing hazards	( )	( )
Dangerous intersections	( )	( )	Inadequate screened drainage catchment structures	( )	( )
Through traffic problems	( )	( )			
Inadequate separation of pedestrian/vehicle traffic	( )	( )	Hazards in vacant lots	( )	( )
			Chemical tank-car terminals	( )	( )

Children's play areas located next to freeways or other high volume traffic ways	( )	( )	Trucking terminals	( )	( )
			Other hazardous chemical storage	( )	( )
Inadequate street lighting	( )	( )	High-pressure gas transmission lines on site	( )	( )
Unscreened quarries or other excavations	( )	( )	Overhead transmission lines	( )	( )
Sanitary landfills or mining operations	( )	( )	Hazardous cargo transportation routes	( )	( )
Industrial operations	( )	( )	Oil or gas wells	( )	( )

Comments: _____

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Nuisances

Will the project be affected by:

	Yes	No		Yes	No
Gas, smoke, fumes	( )	( )	Unsightly land uses	( )	( )
Odors	( )	( )	Front-lawn parking	( )	( )
Vibration	( )	( )	Abandoned vehicles	( )	( )
Glare from parking areas	( )	( )	Rodent or vermin problems	( )	( )
Billboard encroachment	( )	( )	Industrial nuisances	( )	( )
Vacant/boarded-up buildings	( )	( )	Other	( )	( )

Comments: _____

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EF 1.5 Air quality

Are there air pollution generators nearby which would adversely affect the site?

	Yes	No		Yes	No
Heavy industry	( )	( )	Large parking facilities (1000 or more cars)	( )	( )
Incinerators	( )	( )			
Power generating plants	( )	( )	Heavy travelled highway (6 or more lanes)	( )	( )
Oil refineries	( )	( )			

Comments: _____

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EF 3.1. Unique natural features and areas

Is the project near natural features such as bluffs or cliffs? ( ) Yes ( ) No
Is the project near public or private scenic areas? ( ) Yes ( ) No
Are other natural resources visible on site or in vicinity? ( ) Yes ( ) No

Comments: _____

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