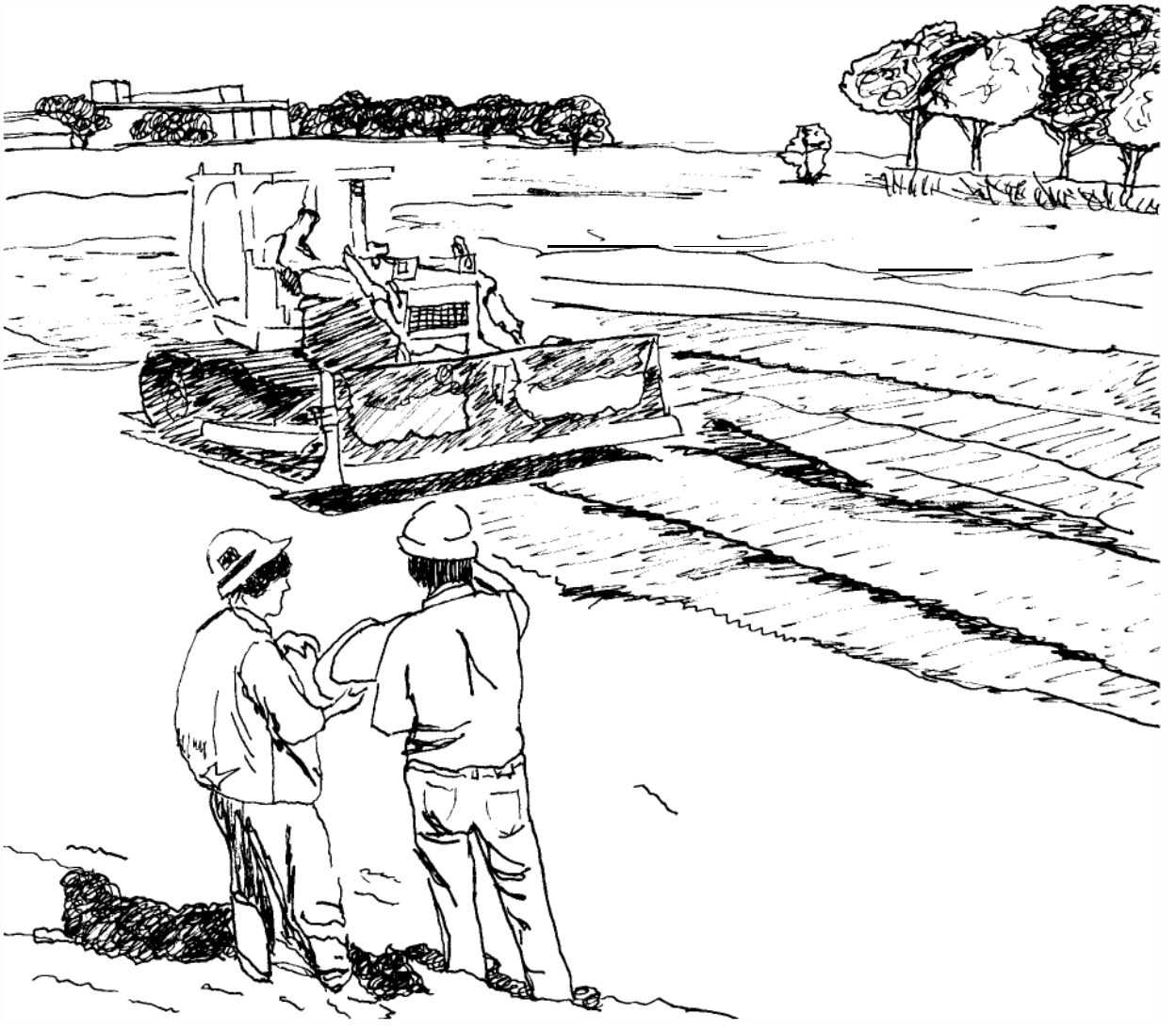
The Highway Methodology Workbook

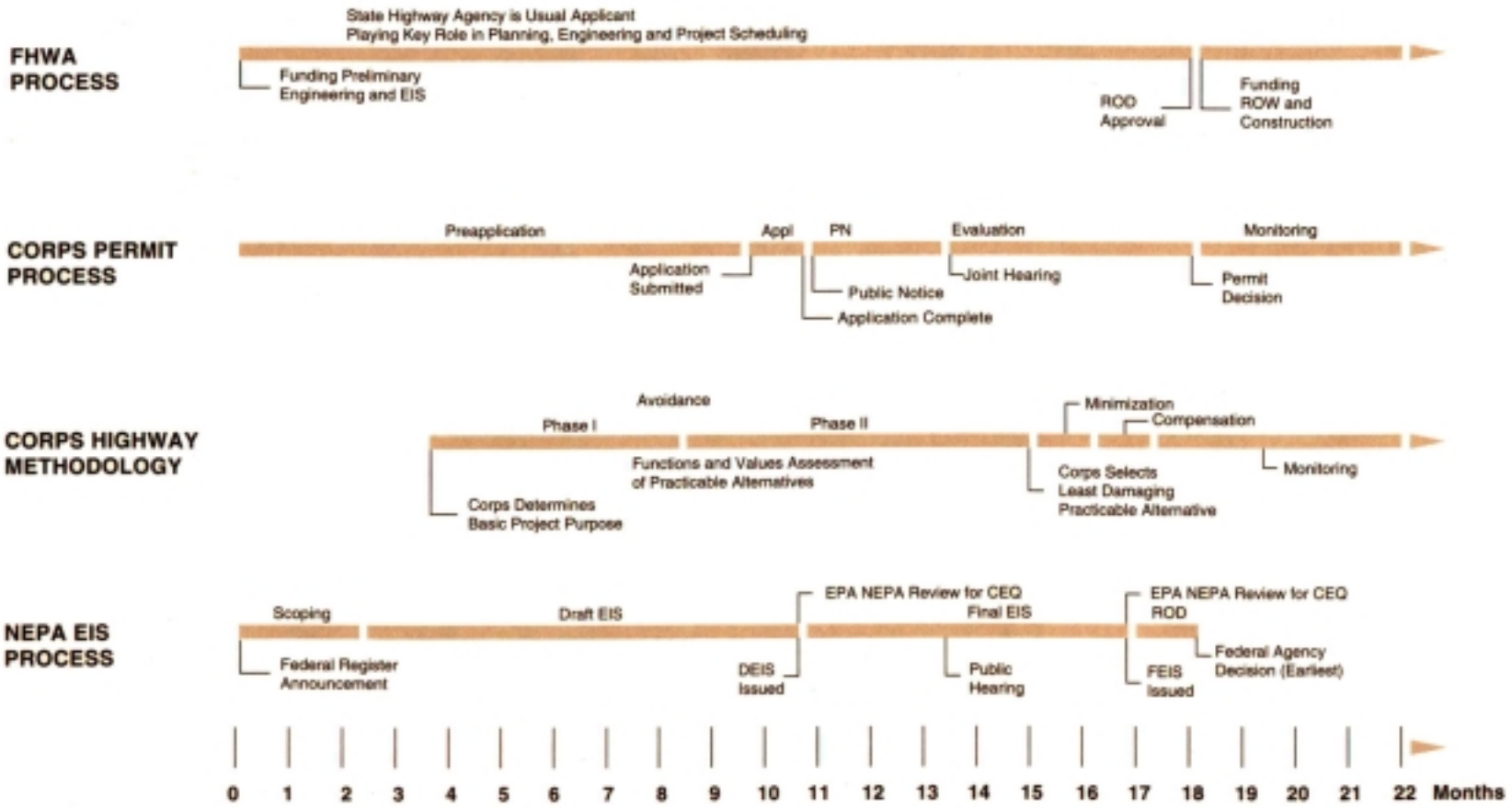


US Army Corps of Engineers
New England District

Integrating Corps Section 404 Permit Requirements with Highway Planning and Engineering and the NEPA EIS Process

COMPOSITE TIME LINE SCHEDULE

INTEGRATING THE CORPS OF ENGINEERS SECTION 404 PERMIT PROCESS WITH HIGHWAY PROJECTS AND NEPA



US Army Corps of Engineers
New England Division
November 1993

If Corps is kept a team member from the earliest planning stages its permit requirements can be integrated into traditional highway planning, engineering and NEPA processes with little additional cost or time delays

Background

A Department of the Army permit is likely required for a proposed highway project. Discharges of dredged or fill material in waters of the United States, including wetlands, require permitting under Section 404 of the Clean Water Act. Coastal and certain inland projects may also require permitting under Section 10 of the Rivers and Harbors Act. These requirements are in addition to the need for State and local permits.

The Highway Methodology, originated by the New England District in 1987, provides a useful way to integrate highway planning and design with the requirements of the Corps permit regulations, the National Environmental Policy Act (NEPA) and the Federal Highway Administration (FHWA) funding approvals.

This Methodology integrates the timelines of the many agencies involved and provides useful tools for expediting decisionmaking. It builds upon the McHarg[1] overlay techniques of the 1960s familiar to most highway planners. In addition, it is consistent with the "Red Book" published jointly by the FHWA, Corps, U S Environmental Protection Agency (EPA), U S Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS). A Memorandum of the U S Department of Transportation, EPA and the Department of the Army of May 1, 1992 on the Intermodal Surface Transportation Efficiency Act of 1991 requires full implementation of the "Red Book".

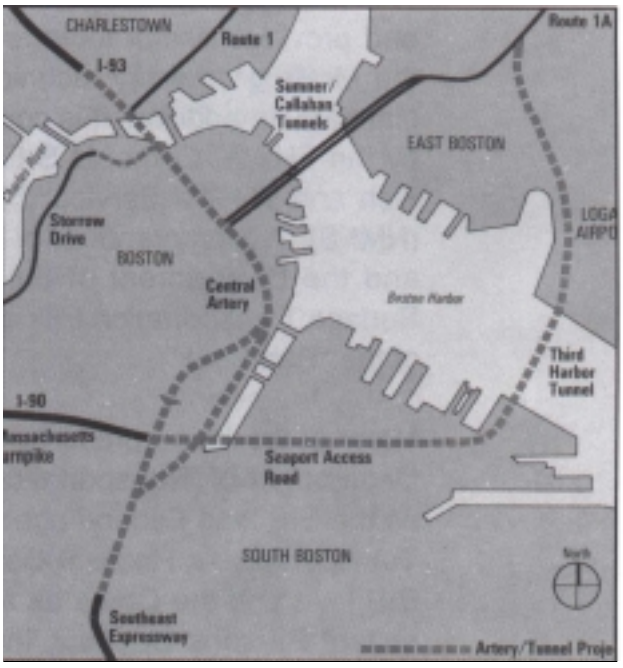
Many of the ideas presented here have come from the New Hampshire Department of Transportation's Nashua highway project with the Corps as the EIS lead Federal agency, and from the Connecticut Department of Transportation's Route 6 Bolton to Windham project with FHWA as the EIS lead and the Corps as a cooperating agency. On both projects consultant Parsons DeLeuw, Inc. provided support on process facilitation, concept development and field checking.

1 McHarg, Ian, Design with Nature, Natural History Press, 1969

Introduction

Participation by the Corps during the earliest planning stages of highway projects is a key provision of the Methodology. The Methodology details a way to systematically but quickly review and evaluate alternatives with participation by the Federal resource agencies (agencies), the applicant, and FHWA (where FHWA funding is involved). Alternatives analyses are based upon the determination of project "purpose and need" for NEPA and upon "overall/basic project purpose" for the EPA 404 (b) (1) Guidelines used by the Corps.

The Guidelines establish pass/fail environmental tests as a prerequisite to the overall balancing of project benefits versus detriments. In addition, an EPA/Army Memorandum of Agreement of February 7, 1990 recognizes a stepwise process of avoidance, minimization and compensation of adverse impacts to aquatic functions and values of wetlands.

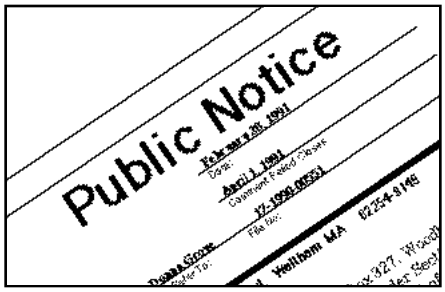


Planning Concept

The applicant and the Corps project manager should develop a composite timeline bar schedule for the project. It should depict agency milestones, anticipated and completed dates, and sign-off points by the Corps. Through its formation and monthly update, advanced planning is possible and issues needing resolution can be resolved. The applicant and participating agency staff will benefit from this roadmap through the regulatory process. A sample schedule is included on the inside flap of this workbook. Adjustments will likely be needed for specific project requirements.

Preapplication

Application



Public Notice

This workbook has been prepared to aid Corps of Engineers project managers in their evaluation of permit applications. It is also intended as a guide for applicants and their consultants to understand the Corps regulatory requirements. While addressed specifically to highway projects, it has applicability to all construction projects needing individual permits. It is divided into five sections. Each section corresponds to a major step of the Corps permit process. A checklist of items to be completed by the Corps project manager is provided along with the related NEPA steps for the Environmental Impact Statement (EIS) process. The reader is directed to NEPA and FHWA regulations for a complete discussion of those processes.

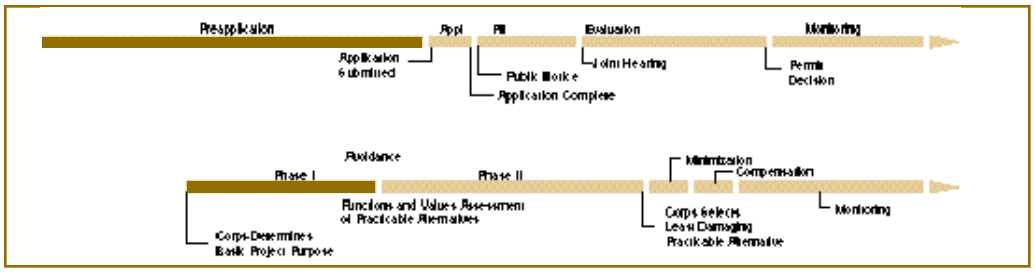
Depending on the project scope various pieces of the process may be combined or eliminated and the amount of analysis lessened. For example, when impacts will not significantly affect the quality of the human environment an Environmental Assessment (EA) will replace an EIS.

The process described in this workbook has been used successfully, but not without diligence and acceptance by all parties. New alignment highway projects represent some of the most challenging permit applications in the New England region. A deliberate plan and a commitment to stick with it is essential and will pay off with shortened decision times and reduced costs.

Evaluation

Monitoring

Preapplication



As early as possible the Corps will arrange a preapplication meeting with the applicant, usually the State Department of Transportation for highway projects. The Corps project manager is the coordinator and is responsible for taking all appropriate actions through to a completed permit decision. All meetings with the Federal resource agencies should be arranged and chaired by the Corps to facilitate clear communication and expedite decisions. At this time the Corps project manager will explain the roles of the Corps project manager, agencies, applicant and consultants. The proposed project, permit application process, supporting documentation and schedule for decision in relation to the Methodology should be discussed. The project will be entered into the Corps regulatory data base to begin tracking as a pending permit application.

Following the preapplication meeting the Corps will determine the basic project purpose as required by the 404(b)(1) Guidelines. This is a necessary prerequisite to determining the study area and the scope of the alternatives analysis. The Guidelines, 40 CFR 230.10(a), discuss both “overall” and “basic” project purpose. The Corps will define this “overall/basic” project purpose broadly to insure that a reasonable range of alternatives will be examined. The Corps will then provide a letter stating its definition of project purpose. At the same time, if an EIS will be required, the lead Federal agency should determine the project purpose and need. This NEPA project purpose, as distinguished from the Guidelines, is discussed in the inset.

NEPA Project Purpose

The National Environmental Policy Act (NEPA) regulations 40CFR1500 of November 29, 1978 define at Sec1502.13 a “purpose and need” statement to be included in an EIS and in response to which alternatives are presented.

This “purpose and need” differs from the Corps Sec404b1 Guidelines statement of “overall/basic project purpose”. It is generally broader specified in greater detail and is defined by the lead federal agency.

NEPA Documentation
Every Corps permit decision is considered a major Federal action. Therefore, for each the Corps must make its own determination of whether the action may significantly affect the human environment. For most permit applications a finding of no significant impact is reached and the Environmental Assessement concludes the NEPA documentation. Where a finding of significance is reached, as is the case for most new alignment highway projects, an Environmental Impact Statement is required.
Typically, where FHWA is the lead Federal agency for a project, the Corps will seek to adopt the FHWA EIS.

If an EIS is required, the Corps permit process should be merged with the EIS process as indicated in the composite bar schedule. Similar merging should be considered for projects having an EA. Joint workshop sessions should be held with the Corps, the EIS lead agency and the Federal resource agencies at appropriate times to facilitate the subsequent steps. If the Corps finds that an EIS is required for its permit activities it will become a cooperating agency in the EIS preparation. This will allow adoption of the EIS by the Corps. It should also insure that the EIS contains information sufficient for the Corps to make both its 404(b)(1) Guidelines determinations and its public interest review determination in support of the permit decision.

In a workshop session with the Federal resource agencies and the State agencies, where possible, the Corps and the EIS lead agency will define the study areas and the scopes of analyses. The EIS requirements will typically be broader than the Corps permit requirements. The Corps will ask for additional information from the applicant only after it is assured of the need and understands the time and costs anticipated. Consultants under contract with the applicant or the applicant's staff will typically gather this data. Initial data in support of the required alternatives analysis will be discussed below as part of Phase I.
It is important to note throughout the Methodology that final design is not required. In general the schematic level of design will be sufficient, with the exception of compensatory wetland mitigation, where preliminary design is required.

Checklist

- ☐ meet with applicant
- ☐ consider if an EIS is likely
- ☐ initial database entries
- ☐ review applicant's scope of work for Corps Permit
- ☐ determine basic project purpose
- ☐ identify study area
- ☐ send letter (basic project purpose, study area, scope of work)

Permit Schedule

In addition to a composite time line bar schedule the Corps project manager will prepare a permit schedule. A sample is shown here. The purpose of the schedule is to plan ahead and anticipate problems before they occur. It allows the project manager to lay out a complete estimate of events identifying critical milestones and team member interaction. It also allows the supervisor and the Chief, Programs and Policy Section to quickly review the project manager's plan and make early adjustments before time and money are spent unnecessarily.

Permit schedules can be made using LOTUS FREELANCE, a computer software package which allows schedule changes and annotations to be readily made. At least monthly the Corps project manager should provide his or her supervisor with an updated copy of the permit schedule.

- dates to the left of the current date are actual dates
- dates to the right are estimates

Thus, revised schedules always show actual events to the left and planned events to the right.

Checklist

- ☐ compose project schedule
- ☐ staffing review
- ☐ update monthly

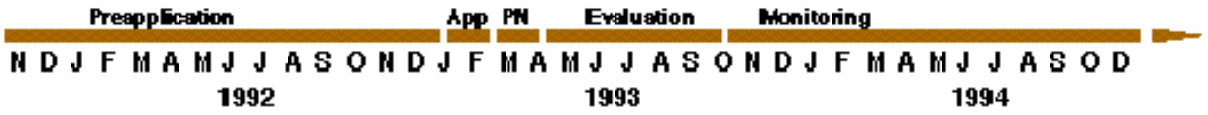
US Army Corps of Engineers
New England Division
Regulatory Program

Permit Schedule

Project CTDOT RT 6 BOLTON TO WINDHAM
Applicant CTDOT
Project Manager CHRIS GODFREY
Date Prepared 17 NOVEMBER 1992

SUMMARY SCHEDULE

Time Line



Technical Work Products and Milestones

- Phase I Workshop
- Phase II Workshop
- Review technical reports Dec/Jan/Feb
- Review DEIS early February 1993
- Submit application early march 1993
- Issue DEIS and public notice late march
- Public hearing jt w/FHWA and CTDOT
- Select LEDPA
- Wetland delin LEDPA
- FEIS issued
- Mitigation Site Selection & Design
- Mitigation approved

Records

- Enter computer data
- Study area and project purpose signoff
- Phase I signoff
- Phase II signoff
- Permit decision

Notes

At 18 Nov 1992 agency meeting EPA and FWS accepted wetland assessment presentation graphics with pictograms
EPA is still reviewing secondary and cummulative impact assessment

Red Flags

Endangered species present, consulatation needed
Section 106MOA needed

Feeder Report

If the project requires costs to be paid from the Regulatory budget, beyond Regulatory staff costs, the project manager should include with the project schedule a feeder report which tracks requests, approvals and expenditures of such funds. Such costs may be by Corps staff outside the Regulatory Division or by contractors. These feeder reports are to be submitted through channels to the Regulatory Branch Chief by the 15th of each month. They will be reviewed against the monthly Regulatory fiscal spreadsheet to determine availability of funds. These feeder reports become a critical part of planning and funding the expeditious process and final decision for the permit application. Early submission by the project manager of feeder reports requesting funds is essential. A sample feeder report is shown here. Project managers should coordinate with the Regulatory Branch budget analyst for a full understanding of fiscal procedures.

Checklist

- ☐ submit feeder reports, if needed
- ☐ update monthly

Project Management Feeder Report

NED Regulatory Program

Project Manager Joan Smith

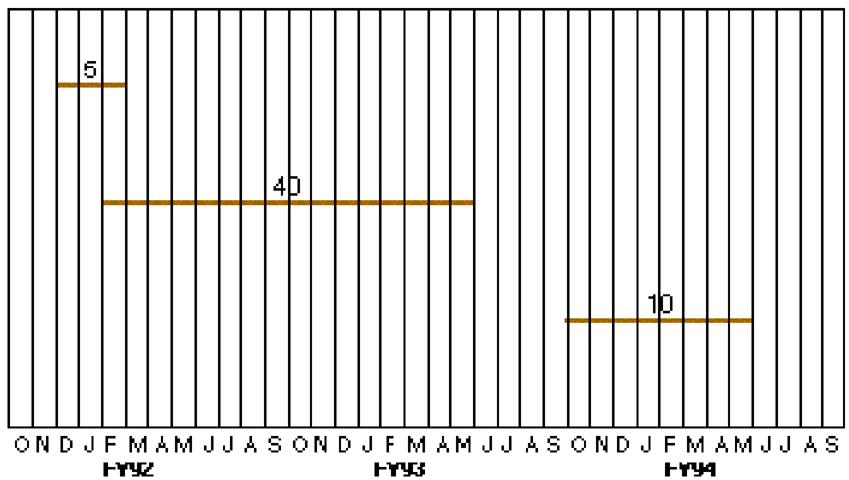
Project Name RIDOT RTS 21-89-676

Describe Project Type & Location Permit Application Highway Kingston, RI

Date Prepared 15 OCT 1992
(Costs in Thousands $)

Funding **Regulatory Cost Code** FE100501

Total FY Amount
$25K FY92 Approved
$20K FY93 Requested
$10K FY94 Requested



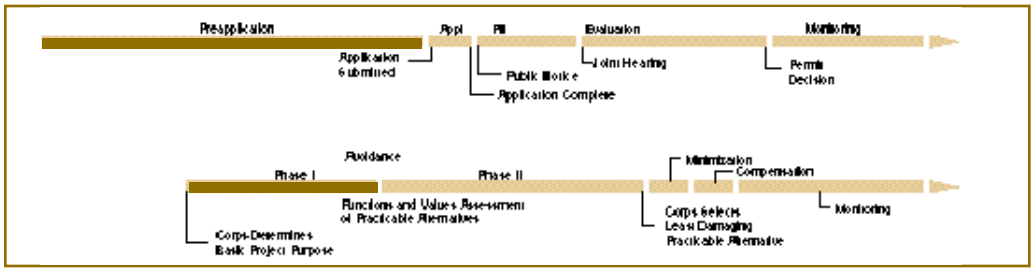
Remarks

Slipped 1 month due to bad weather

Month	Monthly Exp	Cum Exp
O (FY92)		
N		
D	2	
J	2	4
F	6	10
M	5	15
A	4	19
M	2	21
J	2	23
J	2	25
A	2	27
S	2	29
O (FY93)	2	31
N	2	33
D	2	35
J	2	37
F	2	39
M	2	41
A	2	43
M	2	45
J		
J		
A		
S		
O (FY94)	1	46
N	1	47
D	1	48
J	1	49
F	1	50
M	1	51
A	1	52
M	1	53
J	2	55
J		
A		
S		

Funding Status
Alternatives analysis will require more time as shown on this month's report
Request additional 10k
Increasing total costs from 45k to 55k

Staffing PM ______ Br Chf ______ Div Chf ______



Avoidance - Phase I

Phase I of the Methodology is the first iteration of viewing potential alternative alignments against a series of constraint map overlays and a test of practicability. This typical planning process is likely being utilized in some fashion by the applicant, the highway department. It is the Corps intent to integrate its permit requirements into the applicant's normal planning and design approach insofar as possible.

It is particularly important to the mandates of the Clean Water Act that waters and wetlands be included as a critical constraint map overlay in alternative alignment analysis. Filling of waters or wetlands needs to be avoided. Through this analysis the Corps may only permit the least environmentally damaging practicable alternative.

Basic planning information is provided by the permit applicant. This information should be provided before any commitments are made which would preclude the consideration of alternative alignments. Waters and wetlands information for Phase I is generally based on available literature and office data with limited field reconnaissance. Corps wetland limits are estimated using FWS National Wetland Inventory (NWI) maps, soil survey maps, quad sheets, and aerial photos. The Nashua New Hampshire project had two person weeks of field investigation for a proposed 13 mile suburban highway. The Connecticut Rt 6 project also had two person weeks of field work for a 12 mile rural highway.

Wetlands were easily located in the field, after noting their map coordinates, using a hand held Loran-C navigational device. This device, normally used on the water by boaters, has worked well on land. It allows wetlands to be found quickly in the field without requiring costly surveying, especially important when comparing several alternatives.

A waters and wetlands constraint map overlay at a scale of 1"=2000' (or other appropriate scale) is prepared on transparent material, from this source data,and then digitized into the CADD system typically in used by highway planners and engineers. Similar overlays are prepared to reflect other constraints of interest to the applicant, agencies and the public.

Other constraints relevant to Federal requirements include historic properties under the National Historic Preservation Act and protected species under the Endangered Species Act. A partial listing of overlays and their corresponding source material may include the following:

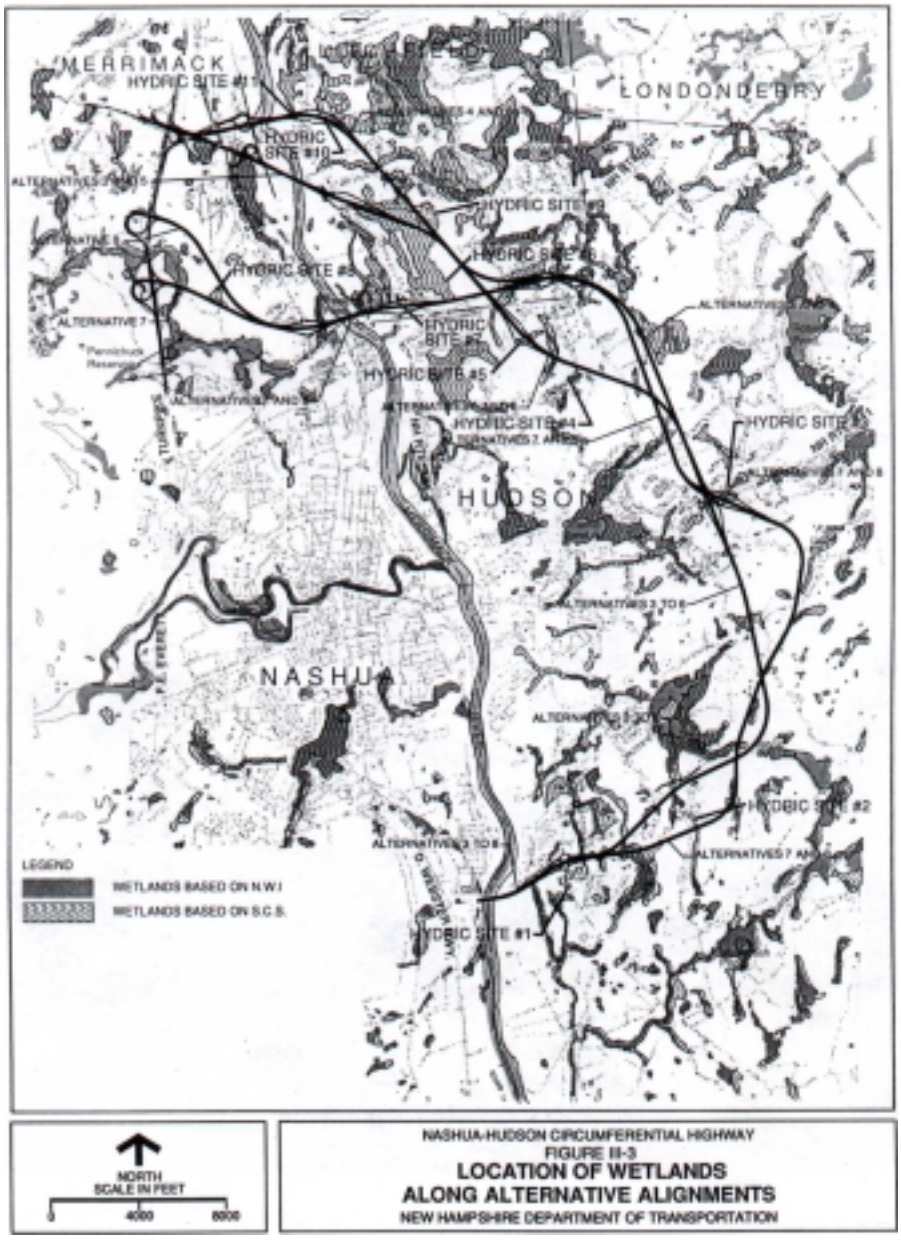
Overlay	Source Material
Wetlands	•FWS National Wetlands Inventory maps (corresponds roughly with the wettest portion of Corps wetland limits) •Soils maps, limits of hydric soils (corresponds more closely than NWI with Corps wetland limits) •Aerial Photography •State or local wetland limits •USGS quadrangle maps •SCS information •Field investigations
Aquifers	•USGS aquifer maps •Surficial geology maps
Developed areas	• USGS quadrangle maps •Aerial photography
Wildlife Habitat	•Aerial photography interpretation of cover type •Deer wintering area maps •Natural Heritage Program data
Archeo/historic	•Literature search •Federal register list of properties on National register •SHPO data •"windshield survey"
Hazardous waste sites	•EPA superfund sites •State and local data •Public Information
Watershed Areas	•Corps river basin maps •Watershed atlases •Self constructed plots
Unfragmented habitat	•USGS quad maps habitat •Aerial photography
Alternative alignments	•DOT preferred and alternative alignments •Corps and agencies' suggested alignments •Public suggested alignments

Checklist

- ☐ 2000' scale constraint map overlays
- ☐ agency meeting to determine Phase I alternatives
- ☐ limited field work

All reasonable major alternative alignments are drawn. These include alternatives suggested by the applicant, Corps, the public, and Agencies. Early public input typically comes from the applicant's public workshops. In Phase II additional public input will be incorporated. Any conflicts or disagreements need to be resolved. Before proceeding further there should be immediate elevation of the unresolved issues.

Digitizing overlays allows printed copies to be distributed to workshop team members in advance. Workshop sessions include viewing overlays in various combinations on top of quad maps and specially flown project aerial color photographs. (Special aerials were flown for the Nashua project and printed at 1"=1000' for approximately $8,000.) Corps and agencies' alignment suggestions are adjusted by DOT highway engineers to conform to design standards and sound engineering practices. A sample overlay is shown here.



Summary Comparison of Impacts for Build Alternatives

Alternatives	Wetlands			Wildlife		Aquifers		Floodplains	Community Wells Directly Impacted	Water Crossings Impacted	Active Farmland	Archeological		Historic Properties Directly Impacted	Env. Risk Sites Directly Impacted
	NWI & Hydric Soils (affected acres)	NWI / Hydric Soils (affected acres)	# Wetlands Impacted/ # Key Wetlands Impacted (each)	Undeveloped Wildlife Habitat (affected acres)	Notable Wildlife Habitat Impacted (each)	Surface Area Impacted (acres)	High Yield Aquifers (affected areas)	(affected areas)	(each)	(each)	(affected area)	Sensitive Areas Impacted (each)	Previously Recorded Sites Impacted (each)	(each)	(each)
Full Build															
3	78	34/71	28/4	511	2	180	10	6	1	16	15	8	2	0	5
4	67	28/59	28/5	527	2	186	16	7	1	17	23	8	2	0	4
5	66	28/60	34/4	513	2	176	13	6	0	17	37	8	2	1	5
6	54	21/48	34/5	529	2	182	19	7	0	18	45	8	2	1	4
7	94	55/70	45/6	641	4	201	14	13	3	19	17	11	2	0	2
8	88	51/68	43/4	641	3	197	14	12	3	19	17	11	2	0	2
Southern Section (Sagamore Br. north to NH Route 111)															
3	17	10/14	17/3	222	1	24	0	1	0	11	0	3	0	0	1
4	17	10/14	17/3	222	1	24	0	1	0	11	0	3	0	0	1
5	17	10/14	17/3	222	1	24	0	1	0	11	0	3	0	0	1
6	17	10/14	17/3	222	1	24	0	1	0	11	0	3	0	0	1
7	45	23/37	24/3	297	2	32	0	2.5	0	11	0	4	0	0	0
8	45	23/37	24/3	297	2	32	0	2.5	0	11	0	4	0	0	0
Central Section (NH Route 111 north to NH Route 102)															
3	16	10/12	4/0	125	0	34	10	0	1	3	3	1	0	0	2
4	16	10/12	4/0	125	0	34	10	0	1	3	3	1	0	0	2
5	10	3/8	10/0	127	0	22	3	0	0	4	7	0	0	1	2
6	10	3/8	10/0	127	0	22	3	0	0	4	7	0	0	1	2
7	17	12/10	8/0	160	0	36	10	0	1	3	3	1	0	0	2
8	17	12/10	8/0	160	0	36	10	0	1	3	3	1	0	0	2

Portion of Summary Matrix

A written assessment and summary matrix of the various alternatives being considered, with respect to resource impacts and other appropriate considerations should accompany the graphics. The matrix should not display weightings. Team members should be presented with unweighted data, each bringing his or her own concerns to the workshop. A partial sample matrix is shown here.

With input from workshop members the Corps determines a limited number (usually 1-6) of practicable alternatives to carry forward to Phase II. (In a single workshop session the team members on the Nashua project were able to agree to carry 6 of the 30 Phase I alternatives forward to Phase II. In a three hour session on the Ct Rt 6 project 4 out of 52 alignments were agreed to be carried forward.)

Checklist

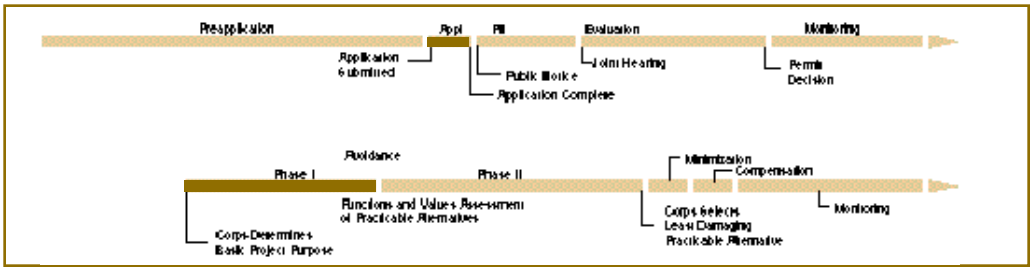
- written wetland assessment of Phase I alternatives
- matrix of Phase I alternatives
- resolve conflicts and/or disagreements
- Phase I screening meeting to narrow down to Phase II alternatives
- send sign-off letter

NEPA Alternative analysis

The alternatives analysis required by NEPA in the EA or EIS may be broader than that required by the 404 (b) (1) Guidlines. NEPA alternatives, for example, are not limited to those available to the applicant.

The rationale for dismissing alternatives in terms of the 404 (b) (1) Guidelines, i.e. not practicable or more environmentally damaging, should be documented. Alternatives that may cause or contribute to significant degradation should be flagged during the Phase I analysis.

Application



Avoidance-Phase II

At the onset of Phase II, the Corps permit application is generally submitted. An application will be determined to be complete when sufficient information is received to issue a public notice. Clear and concise plans on 8-1/2" x 11" sheets are required.

NEPA Draft EIS
The Draft Environmental Impact Statement shall be prepared in accordance with the NEPA process.

The lead agency is responsible for the DEIS and obtains comments from the cooperating agencies.

It is important that the Corps fully participates in scoping to ensure that information necessary for its permit decision is included. This will avoid duplication by the applicant in providing data to the separate EIS and Corps processes.

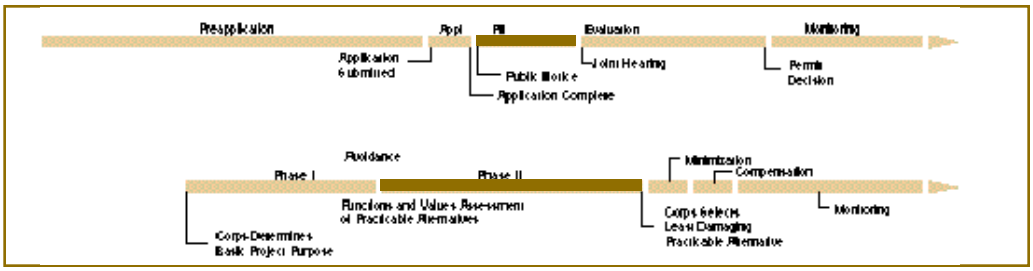
While the information necessary for Corps decisions should be in the EIS, the actual Sec404b1 Guidelines compliance determination and permit decision will be in the Corps record of decision and not in the EIS.

Checklist

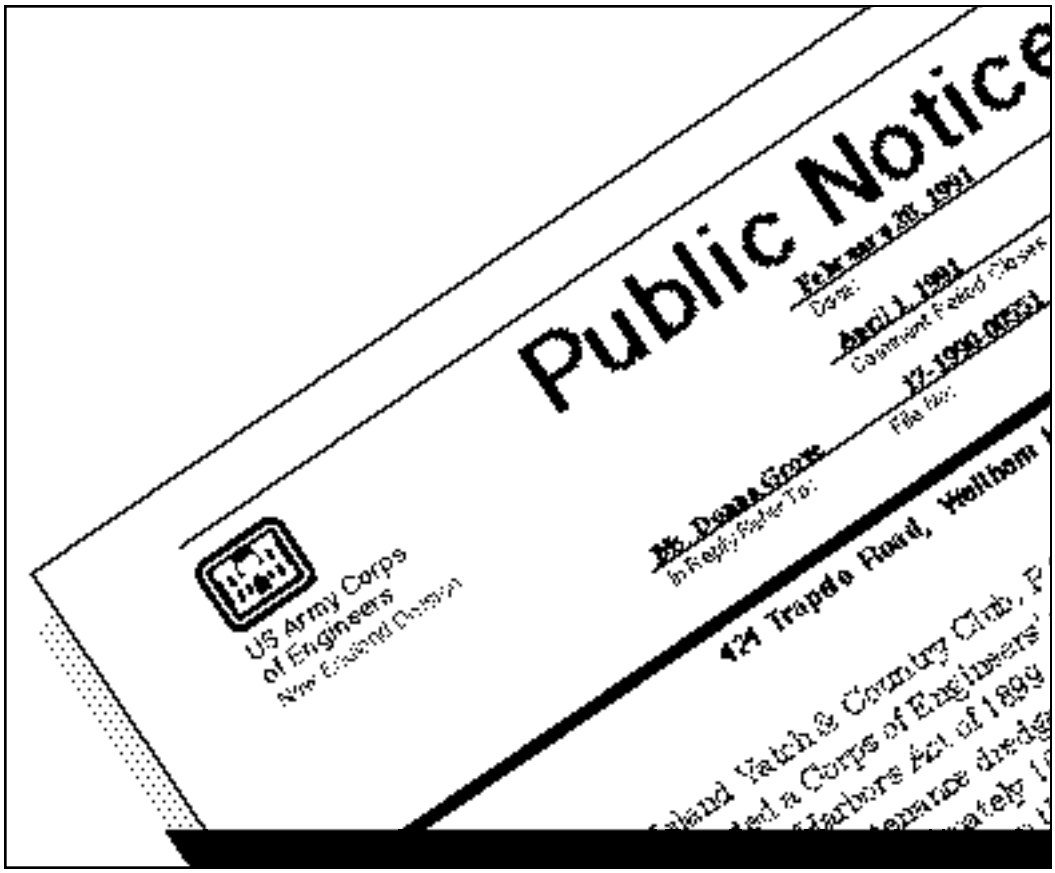
- ☐ review application for completeness
- ☐ request additional information
- ☐ complete application


LONDONDERRY
LITCHFIELD
MERRIMACK
HUDSON
NASHUA
SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7
SHEET 8
FIGURE III-4
KEY MAP
NASHUA-HUDSON CIRCUMFERENTIAL HIGHWAY
NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

Public Notice



When Phase II is partially complete, the Corps public notice is released together with the release of the draft EIS. At this juncture there is sufficient data available for meaningful public comment. It is necessary to solicit comments and evaluate the probable impact, including cumulative impacts, of the proposed activity on the public interest. The public notice is the primary way of notifying the public of the proposed activity. In addition a public information meeting or a public hearing may be held if either is warranted. These should coincide with the EIS process (ie.consider a joint public hearing).



A more detailed investigation of the Phase II alternatives is done in order for the Corps to select the Least Environmentally Damaging Practicable Alternative (LEDPA). Phase I source material is re-examined and augmented with any additional available office data and some additional limited field data. The Nashua and the Rt 6 projects each had 9 person weeks of additional field work. This figure is flexible and will vary depending on the project specifics.

NEPA Public Hearing

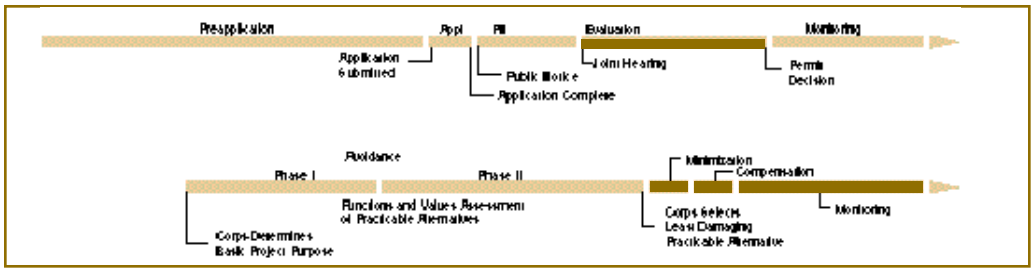
Whenever a public hearing is to be held by the lead Federal agency upon release of the draft EIS, the Corps should consider holding a joint hearing for its permit action. Release of the public notice by the Corps would be made when the DEIS is released. The notice would request comments on the permit application and announce participation by the Corps in a joint hearing.

The constraint map overlay process is repeated, this time at a larger scale, such as 1"=400'. The alternatives are plotted to include centerlines, curb lines, and toes of slopes of fills in waters and wetlands. Minor shifts in alignment are considered.

Checklist

- ☐ issue public notice
- ☐ hold joint processing meeting if needed
- ☐ negative public hearing determination
- ☐ or joint public hearing
- ☐ 400' scale constraint map overlays

Evaluation



A written analysis of the alternatives, including the additional field data and graphics, are provided to team members in advance of workshop use. Wetland impacts (acreages and functions and values) of the alternatives are updated and disclosed. With workshop participation by FHWA, the agencies and the applicant, and with input from the public, the Corps selects the LEDPA. Critical to the selection of the LEDPA is the recognition of the full range of NEPA alternatives and impacts in determining first which alternatives are practicable (in terms of logistics, technical aspects and cost) and second which are environmentally less damaging.

The wetland limits of the LEDPA must be field delineated and formally accepted by the Corps in accordance with the current Corps methodology. The delineation is typically performed by the applicant's consultant with initial guidance and final approval from the Corps.

A field assessment of the functions and values of the affected waters and wetlands of the LEPDA is performed using the New England Division assessment methodology and field worksheets. These same worksheets can be used in the limited field evaluations of Phase I and Phase II, prior to selecting the LEDPA.

It is vital to coordinate with the state permitting agencies prior to selecting the LEDPA, as this becomes the only alternative the Corps may permit. Ideally the state would have been a participant in the above process, although this is not always possible.

At the culmination of Phase II the Corps will provide a sign-off letter to the applicant.

NEPA Final EIS

The Corps should participate in the final EIS response to applicable concerns raised to date. The Corps permit decision must await close of the public comment

Minimization

The minimization step in the process addresses itself to on-site project modification, whereas the avoidance step looked at off-site alternatives. Refinements to schematic design are considered to further minimize resource impacts, including waters and wetlands. Minor shifts in alignment may be looked at as well as side slope steepness and median widths. Project elements may be shifted or changed in size and configuration. If all Phase II alternatives would cause impacts requiring compensation then development of a compensatory mitigation plan should proceed during this step.

Compensation

Finally, the LEDPA for a highway project will usually result in unavoidable losses to waters and wetlands and a package of compensatory mitigation will need to be developed. The EPA/Army Memorandum of February 7, 1990 requires the Corps to strive for an in-kind replacement of the wetland functions and values affected when an individual permit is involved. Site analysis and a three parameter preliminary, (30%), design of replacement wetlands will be required before a permit is issued.

Although this step sequentially comes late in the permit process it is strongly recommended to anticipate needs and begin planning early, particularly where off-site properties will be involved. Otherwise, the project schedule may be significantly delayed. Early commitment to mitigation banking by the state highway department appears to be the most effective way to address wetland losses. Both the Corps and EPA must approve all mitigation banking used for Corps permits.

All parties must recognize the difficulties inherent in attempting to create new wetlands and even to enhance existing wetlands. Freshwater wetland systems, in particular, are complex, variable ecosystems usually occurring in response to environmental conditions over very long periods of time. A very deliberate approach to site selection, data monitoring, functions and values assessment, design, construction and compliance monitoring is required to attempt to mitigate for wetlands impacted by the project.

Checklist

- ☐ additional field work
- ☐ written wetland assessment of Phase II alternatives
- ☐ matrix of Phase II alternatives
- ☐ resolve conflicts and/or disagreements
- ☐ Phase II meeting determine LEDPA
- ☐ send sign-off letter
- ☐ wetland delineation of LEDPA

The Corps will determine the functions and values to be obtained and will include special conditions to the permit necessary for compliance. The Corps project manager should review all aspects of intended compensatory mitigation with the Section supervisor and obtain signoffs from the Chief, Programs and Policy Section. The following issues will be particularly reviewed before asking the applicant to begin spending time and money:

• The general scope/magnitude of functions and values of waters and wetlands likely to be impacted should be assessed early. Often at the beginning of Phase II the few alignments being studied will show this, regardless of which alternative becomes the LEDPA.

• Potential sites for compensatory mitigation should be assessed, particularly viewed from the three parameters of hydrology, soils and vegetation. The Corps strives for in-kind replacement of functions and values impacted, where feasible. On-site replacement is preferred to off-site, where feasible.

• Existing site conditions need to be analyzed. Hydrology will often be the most difficult factor to determine. A history of the range of saturated soil limits and duration is desirable but not always available. Collecting a single year's worth of groundwater data will not provide that history. Such limited data, however, combined with rainfall history, topography and other factors may be the best available practical approach. The Corps should understand the time, costs and reliability of data gathering before approving.

• A preliminary design of compensatory mitigation will be required before the Corps can reach a permit decision and condition a permit. Experienced design professionals, applicant's staff or consultants, need to prepare the compensation plan. The design must show existing and proposed grades, soils, hydrology and vegetation. The predicted range of groundwater fluctuation and resulting saturated soil conditions need to be clearly drawn and all assumptions clearly stated.

• Corps permit conditions will typically incorporate the applicant's mitigation plan. All steps in the plan will require the Corps to seek appropriate interdisciplinary input before approval. In addition to its own staff experts, the Corps will actively involve the Federal resource agencies in this.

• Monitoring reports will be required from the permittee at appropriate times following permit issuance. Corps compliance inspections will be necessary and should be outlined in the permit schedule and tracked for followup.

• There must be a plan to insure long term ownership and protection of the mitigation site.

Checklist

- ☐ project modification (minimization of LEDPA impacts)
- ☐ compensatory mitigation (site analysis, preliminary design,
- ☐ ownership/management)
- ☐ address substantive issues
- ☐ WQC and/or CZM issued or waived
- ☐ 404b1 compliance determination
- ☐ public interest determination draft EA/SOF or ROD

Permit Decision

The Corps permit decision follows its preparation of NEPA documentation, which is either an Environmental Assessment or an EIS. For projects authorized by nationwide, regional, or state program general permit the NEPA documentation was prepared for the general permit and project authorizations include the Memoranda for the Record. For other permit decisions (letters of permission, individual permits, and denials), where an Environmental Assessment is prepared the decision is a Statement of Findings. Where an EIS is prepared the decision is a Record of Decision (ROD). Preparation of a ROD must await the close of the comment period for the final EIS.

For permit decisions subject to Section 404 of the Clean Water Act the Corps must first make a determination of compliance with then 404 (b) (1) guidelines. The guidelines prohibit discharges:

- where a less environmentally damaging, practicable alternative exists;
- which result in violations of State or Federal Water Quality Standards, the Endangered Species Act, and the Marine Sanctuaries Act;
- which cause or contribute to significant degradation of water and wetlands; or
- if all appropriate and practical mitigation has not been taken

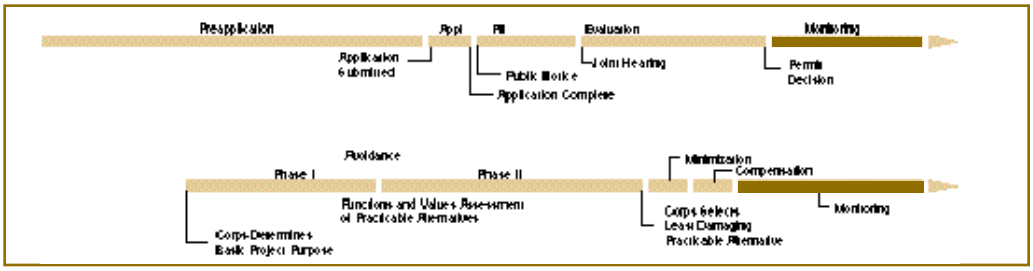
A permit cannot be issued unless the project complies with each of these tests. If insufficient information exists to determine compliance, then the permit must be denied.

The Corps then makes its public interest review weighing and balancing all relevant public interest factors. The permit decision may be issuance or denial. Permit issuance may include reasonably enforceable special conditions. State water quality certification, including conditions thereto, must be part of a Corps permit. A permit cannot be issued where a required State or local permit has been denied or where the State has denied water quality certification or given coastal zone management non-concurrence.

Checklist

- ☐ draft permit and special conditions
- ☐ conclude all sec 404q elevations
- ☐ staff permit for signature

Monitoring



After a contractor has been selected and hired the applicant should arrange a preconstruction meeting with the Corps. The plans will be reviewed at this time along with any special conditions and monitoring schedules. It is important to discuss dates and times when the Corps can go to the site for compliance inspections at the different stages of construction of the project (grading, placement of hydric soil, planting). The performance standards required by the permit conditions should also be discussed for inclusion in the monitoring reports.

Monitoring may include determination of survival of plantings and natural colonization by plants, documentation of wildlife usage, further study of hydrology and documentation of other components to determine if the predicted functions and values are actually being provided. Adverse impacts to watch for include but are not limited to wildlife eating the plantings,pesticide runoff, all-terrain and off-road vehicles, and invasion by unwanted species.

Compensatory Wetland Mitigation

The project manager should make it clear that the Corps permit with the conditions and monitoring plan should always be available on site while the project is under construction.

The Corps project manager remains the responsible professional during the monitoring phase of the project even though the permit has already been issued. Before actually going to a site inspection the project manager will coordinate a meeting involving the supervisor, the branch's compliance inspector and the mitigation specialist to identify the important aspects of the project that must be checked. It is important for the project manager to continue through the monitoring stage and write the compliance inspection to learn from actual experience and to be able to make suggestions on future projects.

Mitigation sites generally will need to be monitored for a period of three to five years, depending on the type of project. For more complicated projects, such as the replacement of forested wetlands, this period might be longer.

Checklist

- ☐ final approval of mitigation plans
- ☐ preconstruction meeting
- ☐ compliance inspection(s)
- ☐ monitoring reports
- ☐ remedial action, if needed

Checklist

PREAPPLICATION

- [ ] meet with applicant
- [ ] consider if an EIS is likely
- [ ] initial database entries
- [ ] review applicant's scope of work
- [ ] determine basic project purpose
- [ ] identify study area
- [ ] send letter (basic project purpose, study area, scope of work)
- [ ] compose project schedule
- [ ] staffing review
- [ ] update monthly
- [ ] submit feeder reports, if needed
- [ ] update monthly

Phase I

- [ ] 2000' scale constraint map overlays
- [ ] agency meeting to determine Phase I alternatives
- [ ] limited field work
- [ ] written wetland assessment of Phase I alternatives
- [ ] matrix of Phase I alternatives
- [ ] resolve conflicts and/or disagreements
- [ ] Phase I screening meeting to narrow down to Phase II alternatives
- [ ] send sign-off letter

APPLICATION

- [ ] review application for completeness
- [ ] request additional information
- [ ] complete application submitted

PUBLIC NOTICE

- [ ] issue public notice
- [ ] hold joint processing meeting if needed

negative public hearing determination or joint public hearing

Phase II (Extends from Preapplication through Evaluation

- [ ] Phase)
- [ ] 400’ scale constraint maps (overlays)
- [ ] additional field work
- [ ] written wetland assessment of Phase II alternatives
- [ ] matrix of Phase II alternatives
- [ ] resolve conflicts and/or disagreements
- [ ] Phase II meeting determine LEDPA
- [ ] send sign-off letter

wetland delineation of LEDPA

EVALUATION

- [ ] project modification (minimization of LEDPA impacts)
- [ ] compensatory mitigation (site analysis, preliminary design,
- [ ] ownership/management)
- [ ] address substantive issues
- [ ] WQC and/or CZM issued or waived
- [ ] 404b1 compliance determination
- [ ] public interest determination
- [ ] draft EA/SOF or ROD
- [ ] draft permit and special conditions
- [ ] conclude all Sec 404q elevations

staff permit for signature

MONITORING

- [ ] final approval of mitigation plans
- [ ] preconstruction meeting
- [ ] compliance inspection(s)
- [ ] monitoring reports

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