NRTR Format Guidance Revised 11/12

Title Page
If no FA number then leave off

1.0 Introduction

The NRTR will contain a brief description of the project and the study area. The PE will provide text describing the project, as well as a vicinity map (Figure 1) and mapping of the study area. Project length will be indicated for new location and widening projects (i.e. non-bridge replacement projects). The NRTR will not attempt to describe the proposed purpose and need for the project.

2.0 Methodology and Qualifications

There will be no detailed methodology section. A standardized statement will be included in all NRTR documents stating that work was performed according to approved NCDOT procedures, with reference to the most recent NRTR template and guidance.

The dates of all field work performed will be identified. Also, the dates of any field verification meetings which were held with regulatory agencies will be identified. If no field verification meetings have yet been held or are not necessary, a statement to that effect will be included, as well as a statement indicating the date of the JD package submission to the verification agencies.

All of the principal participants in the NRTR field work and document preparation will be identified, along with their educational background and specific responsibilities in preparing the NRTR. Supporting personnel who contributed to the project will be identified by name in the text, with qualifications provided in the Appendix. Administrative personnel or field support staff will not be identified. Only the principal and one other supporting personnel will be listed in the text of document, all others will be listed in the Appendix.

3.0 Physical Resources

There will be no separate section to define area terms used in the document. The study area will be identified in the Physical Resources section and shown on a figure (Figure 2). No separate definition of project vicinity or project region will be provided.

Regional characteristics of the study area will be described in text, identifying the physiographic region (mountains, piedmont, coastal plain, sandhills) as identified by the county soil survey, general topography, elevation, and land use in the study area vicinity.

3.1 Soils

Soils in the study area will be identified in a table (Table 1) with the following columns:

- Soil Series
- Mapping Unit
- Drainage Class
- Hydric Status

Hydric status will be identified as Hydric or Non-hydric. Soils which are primarily non-hydric, but which have hydric inclusions, will be identified in the table with an asterisk beside the Hydric. No soils mapping will be included in the NRTR.

3.2 Water Resources

The study area drainage basin and HUC will be identified in the text. No reference to Sub-basin will be included.

A table of streams occurring in the study area (Table 2) will include the following columns:

- Stream Name
- Map ID
- Figure Number (where stream is shown if 3 or more Figures are included)
- NCDWQ Index Number
- Best Usage Classification

Unnamed tributaries will be identified as "UT to …" in the table, indicating the named stream to which they drain. The Map ID code for unnamed tributaries will follow the format SA, SB, SC…, for all unnamed features (See Consultant GPS-CADD 2012 on website). Named streams will simply utilize the stream name as the Map ID. If any jurisdictional streams contain surface water ponds (i.e. impoundments), these will be identified in the table under the Stream Name column with their respective streams (for example: "Beaverdam Creek, including pond" or Overflow Creek (Lake Funtime)).

A table of stream physical characteristics (Table 3) will include the following columns:

- Map ID
- Figure Number (if 3 or more Figures)
- Bank Height (ft)
- Bankful Width (ft)
- Water Depth (in)
- Channel Substrate
- Velocity
- Clarity

Velocity will be categorized as Fast, Moderate, or Slow. Clarity will be categorized as Clear, Slightly Turbid, or Turbid. If unusual conditions exist, such as high flows resulting from recent heavy precipitation, a statement in the text should follow Table 3 that explains the observed results (i.e. water depth, velocity, clarity). Channel Substrate

may contain one or multiple entries from the list Clay, Silt, Sand, Gravel, Cobble, Bedrock.

Any isolated ponds (e.g. excavated pits) that occur in the study area will be identified in the text following Table 3, including their location in the study area. If the surface water is connected to a jurisdictional stream feature (e.g. an impounded jurisdictional channel), then this feature will be identified in Table 2 as described above. The area of each isolated surface water within the study area will be identified.

Any water classifications or designations which are not captured in Table 2 will be described in the text for each relevant stream. These include, but are not limited to, NCWRC trout waters, anadromous fish waters, or primary nursery areas. If no such designations exist, a definitive statement as such will be included. It is only necessary to address those designations which could potentially occur for a particular county. For example, it is not necessary to address trout waters in the Coastal Plain. If any streams in the study area are listed on the 303(d) list (due to sedimentation or turbidity only), these will be identified in the text. If there are any streams within 1.0 mile downstream of the study area which are designated as High Quality Waters (HQW), Outstanding Resource Waters (ORW), or water supply watersheds (WS-I or WS-II), or streams listed on the 303(d) list (due to sedimentation or turbidity), these will be identified in the text. If no such streams occur, a definitive statement to that effect will be included.

If benthic and/or fish monitoring data are available for any streams in the study area, these will be identified in the text, along with the most recent water quality designation. Benthic and fish monitoring data should only be identified if the sampling stations are within 1.0 miles of the study area and within the same watershed. If no benthic and/or fish monitoring data are available, a definitive statement to that effect will be included.

No designation of High Quality Resources will be identified.

4.0 Biotic Resources

4.1 Terrestrial Communities

Terrestrial communities in the study area will be identified in the NRTR and given a descriptive community name, utilizing the NCNHP classification system where possible. If the entire community is a jurisdictional wetland, use the NCWAM classification as the community name. If the community contains a jurisdictional wetland, note the NCWAM classification in the text description. This will ensure consistency with Table 6. Community designations from the NatureServe classification system may be included as supplemental information. For each community, the dominant vegetation by each stratum will be identified. Common names only will be used in the text of the NRTR. Scientific names of all species identified in the NRTR will be included in a table in Appendix B. Other descriptive information (e.g. stand age, disturbance history, etc.) will be included as appropriate.

The terrestrial communities section will contain a table (Table 4) indicating the coverage or impacts (acreage) of each community in the study area. Table 4 will contain the following columns:

Community
Coverage (or Impacts)

Communities will be listed in the table in the same order as they occur in the preceding text. Acreage data will be provided to the nearest tenth of an acre (0.1 ac). Where various corridors or alternatives are proposed, the table will depict data for each of the alternatives separately for comparison. Discussion of potential impacts to natural communities can utilize either coverage in the study area (when design is not available) or actual impacts (when design is available), depending on the best available information at the time the NRTR is completed. Text in the NRTR should clarify whether data presented represent coverage or impacts.

4.2 Terrestrial Wildlife

Terrestrial wildlife observed or expected to occur in the study area will be described. Common names only will be used in the text of the NRTR. Scientific names of all species identified in the NRTR will be included in a table in Appendix B. Species actually observed during field investigations will be identified with an asterisk (*) in the text.

4.3 Aquatic Communities

Aquatic communities occurring the study area, both streams and surface waters, will be described in the text. Wildlife observed or expected to occur will be described. Species actually observed during field investigations will be identified with an asterisk (*) in the text.

4.4 Invasive Species

Invasive species observed in the study area, and listed on the NCDOT list of invasive species, will be identified in the text, along with the threat level designation (i.e. Threat, Moderate Threat, or Watch List) for each species. The presence of these species should also be identified in the relevant natural community description in which they occur (Section 4.1).

5.0 Jurisdictional Issues

5.1 Clean Water Act Waters of the U.S.

A table will be included which identifies all of the jurisdictional streams in the study area (Table 5). If multiple project corridors are proposed, data will be presented with a

separate column for each corridor. If the table is 4 or more pages long then put in Appendix. The table will have the following columns:

Map ID
Length (ft)
Classification
Compensatory Mitigation Required
River Basin Buffer

Map ID will be the same as that used in Table 2. Length data are the linear feet of each stream in the study area and may consist of multiple columns if there are multiple corridors proposed (one column for each alternative). Classification will be designated as either Perennial or Intermittent. Compensatory Mitigation Required will be described as Yes, No, or Undetermined. If a site visit by the agencies has determined a specific ratio of mitigation then include the ratio in parenthesis in the Compensatory Mitigation Required column. A "No" in this column indicates actual field verification by regulatory agencies. If no agency site visit has been conducted, then "Undetermined" will be used. A "Yes" may be used without field verification in cases where there is no need to contest the determination (i.e. a substantial perennial stream). Buffer data will be presented as Subject or Not Subject.

The jurisdictional designation of the streams – cold, cool, warm – will be identified in the text.

If no jurisdictional streams occur in the study area, a definitive statement to that effect will be included.

A table will be included which depicts the area of wetlands in the study area (Table 6). If multiple project corridors are proposed, data will be presented with a separate column for each corridor. If the table is 4 or more pages long then put in Appendix. The table will have the following columns:

Map ID
Figure Number (where wetland is shown if 3 or more Figures are included)
NCWAM Classification
Hydrologic Classification
NCDWQ Wetland Rating
Area (ac)

Each wetland will be identified on jurisdictional mapping (Figure 3) with a unique Map ID code in the form WA, WB, WC… where each wetland is coded sequentially from one terminus to the other. The Hydrologic Classification column will identify each wetland site as either Riparian, Non-riparian, or Tidal. Area data will represent the acreage of each wetland in the study area and may consist of multiple columns if there are multiple corridors proposed (one column for each alternative).

The river basin and HUC where the wetlands occur will be identified in the text.

If no jurisdictional wetlands occur in the study area, a definitive statement to that effect will be included.

Descriptions of the vegetation identified in the wetland communities will be included in the text as part of the Terrestrial Communities section. Reference will be made to these descriptions for each wetland type.

All relevant stream and wetland forms (USACE, DWQ) will be included in Appendix C, with the exception of USACE jurisdictional determination forms (i.e. Rapanos forms). Rapanos forms will be submitted to NCDOT as part of the separate wetland delineation verification package and not as part of the NRTR. If data forms were completed for drainage features which were later determined to be ephemeral, these forms will be submitted with field notes.

For streams and wetlands, if project is within more than 1 HUC then add a column in wetland and stream table labeled HUC Code.

5.2 Clean Water Act Permits

The Clean Water Act Permits section will contain a statement of the 404/401 permits that will likely be required for the project. If no 404/401 permits are anticipated, a definitive statement to that effect will be included.

5.3 Coastal Area Management Act Areas of Environmental Concern

If any CAMA wetlands or other Areas of Environmental Concern (AEC) occur in the study area, these will be identified, along with their AEC designation. CAMA wetlands will reference the Map ID code and the Jurisdictional Features figure (Figure 4). A statement regarding the probable CAMA permits which may be required from the N.C. Division of Coastal Management (NCDCM) will be included.

If the project county is not under the jurisdiction of CAMA, or if no AECs occur in the study area, then a definitive statement to that effect will be included.

5.4 Construction Moratoria

A section on Construction Moratoria will be included in the NRTR which identifies any relevant Trout, Anadromous Fish, or Primary Nursery Area moratoria which apply. Streams or other surface waters where these moratoria apply will be identified in the text, along with the start and end dates of the moratoria. If no construction moratoria apply to any waters in the study area, a definitive statement to that effect will be included. Include any correspondence from the North Carolina Wildlife Resources Commission or North Carolina Division of Marine Fisheries if available.

5.5 N.C. River Basin Buffer Rules

If N.C. River Basin Buffer Rules apply to any streams in the study area, these will be identified. Reference will be made to Table 5 to identify which specific streams are Subject or Not Subject to buffer rules. If no buffer rules apply to any streams in the study area, a definitive statement to that effect will be included.

5.6 Rivers and Harbors Act Section 10 Navigable Waters

Any surface waters which have been designated as Navigable Waters under Section 10 of the Rivers and Harbors Act will be identified in a separate section. If no surface waters have been designated as Navigable Waters, a definitive statement to that effect will be included.

5.7 Wetland and Stream Mitigation

A section on Avoidance and Minimization will detail any BMP requirements related to 303(d) streams and other sensitive watersheds (i.e. Design Standards for Sensitive Watersheds). Specific details of avoidance and minimization design features will be developed by the Planning Engineer to be included in the NEPA document, when appropriate. Standardized language will be developed to state that avoidance and minimization options will be investigated in the selection of the preferred alternative and during project design.

Standardized language will be developed to state that on-site compensatory mitigation will be addressed later in the design process, and that any off-site compensatory mitigation will be provided by EEP.

No bridge demolition information will be included in the NRTR.

5.8 Endangered Species Act Protected Species

For consultants, all aquatic surveys, bat surveys, and RCW surveys will be handled by the NES.

The Endangered Species Act Protected Species section of the NRTR will contain a table of the current listing of species (use USFWS website by county, use date from the website for opening paragraph of Section 5.8) for the counties where the study area occurs (Table 7). This table will contain the following columns:

- Scientific Name
- Common Name
- Federal Status
- Habitat Present
- Biological Conclusion

If project is within more than one county, add a column with County as heading or use symbols and put as a footer.

Habitat Present will be designated as Yes or No. The Biological Conclusion column will contain the conclusion rendered for each species based on habitat assessment and field surveys.

For each species listed, there will be a short description of its habitat requirements, followed by a biological conclusion. Standardized descriptions will be developed for each species to be used in all NRTRs. Descriptions of the appearance of the species or its life history traits will not be included. Relevant references for species habitat descriptions from the standardized T/E list will be included in the References section of the NRTR. Scientific names mentioned in the T&E project descriptions were left in our standard descriptions. In your documents, delete scientific name and include in Appendix B. The names are only left so that they are a reminder they are there and to put in appendix.

The biological conclusion for each species will contain: 1) a clear description of the suitability of observed habitats in the study area, including why they do or do not meet the requirements of the species, 2) a description of the survey methodology used if habitat is present (dates, personnel, visit to known occurrences, etc.), 3) a statement of the results of the field survey, if required (data on the exact location of a particular species, if found, will not be included in the NRTR but will be recorded for NCNHP and the project file), and 4) results of the database search of NCNHP records within 1.0 mile of the study area (including the publication date of the database used or if using the NHP workroom put date it was checked).

Potential impacts to populations of T/E species will be described in the Biological Conclusion if there are differences between proposed alternatives. The format can be either text or table.

If the study area occurs within any designated Critical Habitat for any species as described on the current USFWS county listing, then a description of the critical habitat will be included and a Biological Conclusion will be rendered as it relates to potential impacts to the Critical Habitat.

5.9 Bald Eagle and Golden Eagle Protection Act

The Bald Eagle and Golden Eagle Protection Act will be addressed in a separate section following the Endangered Species Act. A standardized template for the bald eagle habitat description will be prepared to be included in all NRTRs. Habitat assessments and survey results will then be described, in similar fashion as T/E species. However, no "Biological Conclusion" will be rendered.

5.10 Endangered Species Act Candidate Species

Endangered Species Act Candidate Species listed for the counties where the study area occurs will be identified in a table (Table 8) with the following columns:

Scientific Name
Common Name
Habitat Present

Habitat Present will be designated as a Yes or No. The results of the NCNHP database search will be described in the text (including the publication date of the database used). Any known occurrences of Candidate Species within 1.0 mile of the study area will be identified. If no such occurrences are identified, then a definitive statement to that effect will be included.

5.11 Essential Fish Habitat

The occurrence of any National Marine Fisheries Service (NMFS) designated Essential Fish Habitat in the study area will be identified. A table (Table 9) will be included with the following columns:

Species
Life Stage

Species will be provided as common name only. Life stages which occur will be categorized as Egg, Larva, Juvenile, Adult. Data for Table 9 are provided by NMFS for each designated EFH.

Text following Table 9 will describe the potential impacts to the designated EFH which may occur as a result of project construction.

If no designated Essential Fish Habitat occurs in the study area, then a definitive statement to that effect will be included.

6.0 References

There will be no conclusion section in the NRTR. A references section will be included which lists relevant source material for the NRTR in standard citation format.

Appendices

The NRTR will contain at least two Appendices, and as many as six, if appropriate. The appendices are as follows:

Appendix A: Figures
Appendix B: Scientific Names of Species Identified in Report
Appendix C: Stream and Wetland Forms (Optional)
Appendix D: Qualifications of Contributors (Optional)
Appendix E: Mussel Survey Report (Optional)
Appendix F: Jurisdictional Determination Letter (Optional)
Appendix G: Jurisdictional Stream or Wetland Tables if more than 4 pages long (Optional)

Optional appendices are those which may not be relevant to the proposed project, or where information is not available at the time of final NRTR submission.

Four figure types will be included in all NRTRs: 1) a vicinity map (provided by the Planning Engineer); 2) a study area map (study area provided by the Planning Engineer) overlaid on a USGS quad sheet topographic map; 3) a jurisdictional features map (derived from GPS data) overlaid on an aerial photograph; and 4) a terrestrial communities map overlaid on an aerial photograph. The terrestrial communities map and jurisdictional areas map can be combined into a single figure if it is not too complex or illegible. The jurisdictional features map may also be excluded in cases where no such features occur in the study area. On larger projects, the terrestrial communities and jurisdictional areas figure types may consist of multiple figures to account for scale.

There will not be any Appendix with photographs of the study area in the NRTR.

Figures

- For Figure 1 Vicinity Map- Use the map provided by the Planning Engineers. Consultants should use the map provided to them by whoever scopes them, unless it is written in scope for them to prepare a Figure 1.
- Figure 2, topographic map- Make sure major streets/highways are labeled
    - Study area in red
- Figure 3 and 4, Terrestrial Communities and Jurisdictional Features Maps-
  1-Study area shall be in red
  2-Streams shall be depicted in a shade of blue. Distinguish perennial streams from intermittent streams by different shades of blue. If visibility is an issue with the blue colors see the Regional Manager, consultants talk with the PMG-Project Manager
  3-Ponds shall be depicted in a different shade of blue other than the streams
  4-Wetlands shall be depicted and filled in green, or if using ArcMap 10 the wetlands or swamp hatching may be used.

General Document Notes

1) A standardized cover page will be utilized on all NRTR documents.

2) Draft NRTR documents (i.e. prior to review and revision) will be identified as such on the cover page and in the header on each page of the NRTR.

3) If prepared by a private consulting firm, no identification of name or corporate logo will appear on the cover page of the NRTR.

4) A Table of Contents will follow the NRTR cover page, including a List of Tables in the document.

5) Each page of the NRTR will contain a header and footer. The header will identify the document as a Natural Resources Technical Report (left justified) and identify the TIP number and county where the project occurs (right justified). The footer will contain the date (month and year) of document submission (right justified).

6) Page numbers will be centered at the bottom of each page.

7) Figures may be printed on either 8.5 x 11 paper, or on 11 x 17 paper (folded).

8) Text formatting (i.e. font, size, bold, italics, etc.) will be used specifically as presented in the standard template.

9) Do not put ephemeral channels on a wex or wet file, include on field notes.

10) All forms must contain the first initial and full last name of each person. Also, all forms must have the TIP number on each page with the name of the wetland or stream listed on each page.