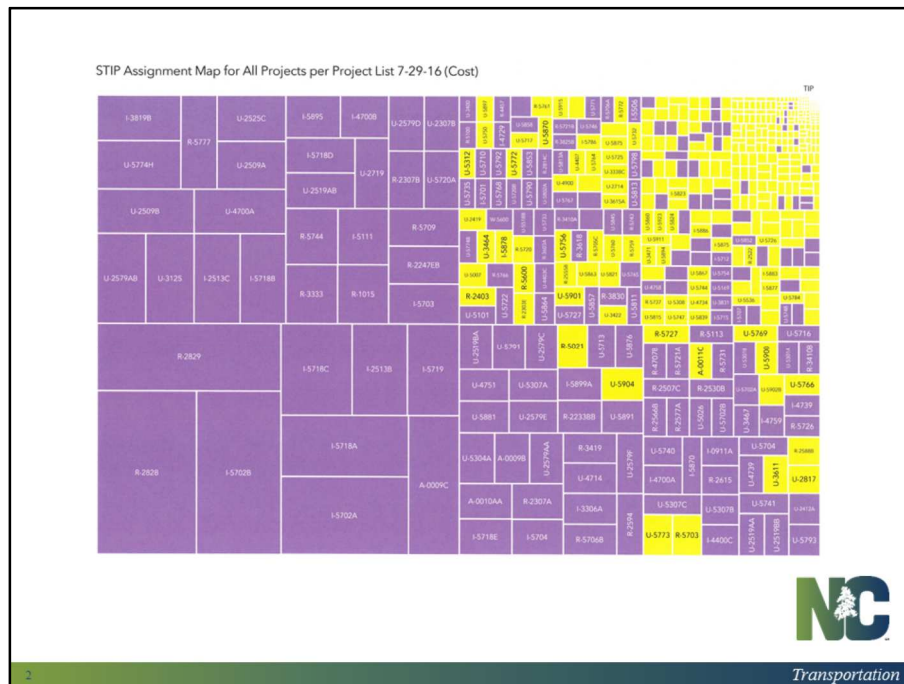
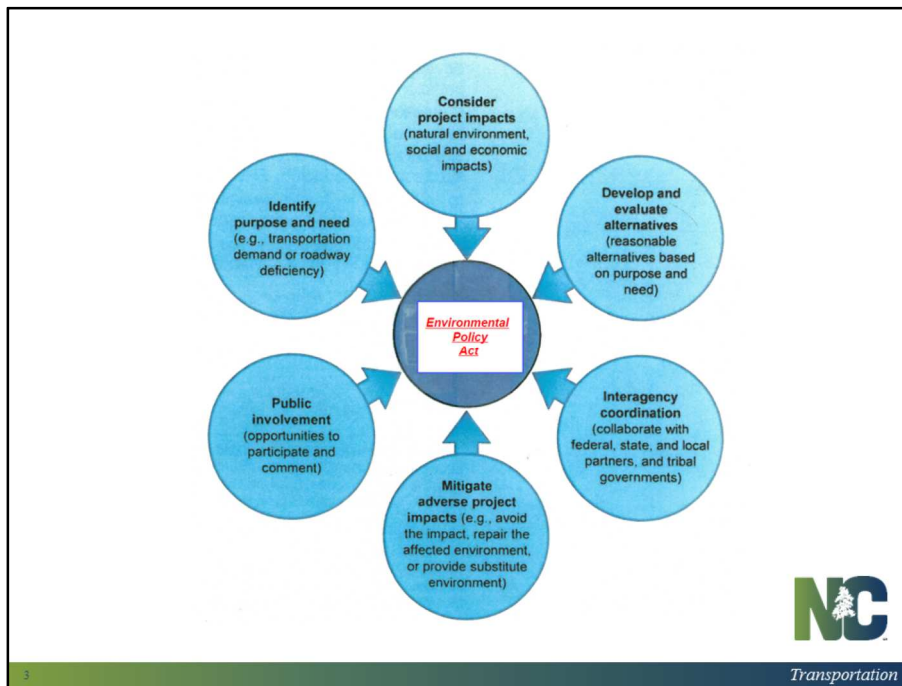




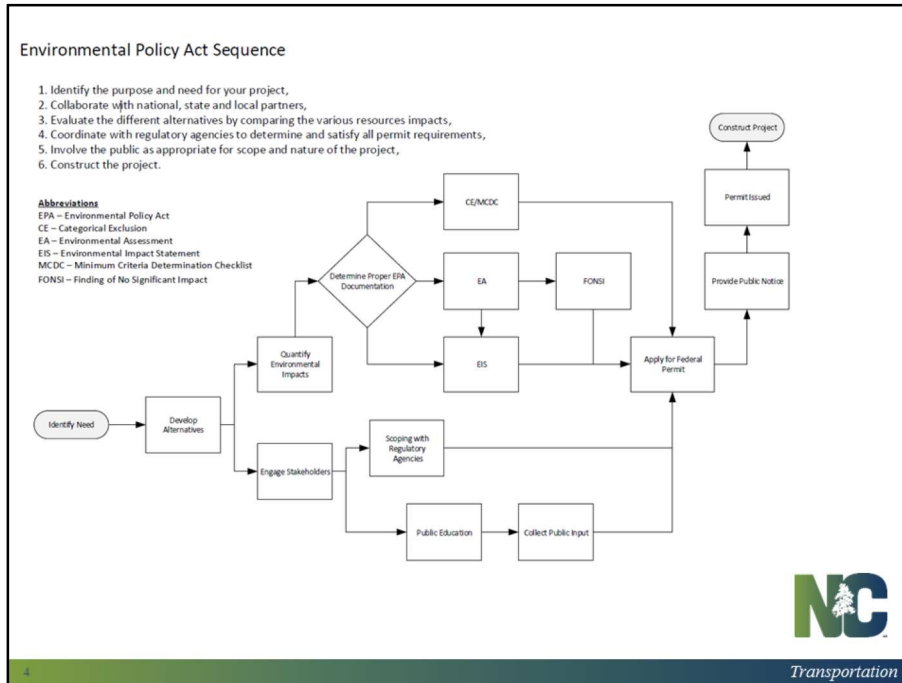
This training module has been set up in response to the answers received from the Divisions to a recent questionnaire as well as questions that my Group have been addressing as projects get distributed to the Divisions.



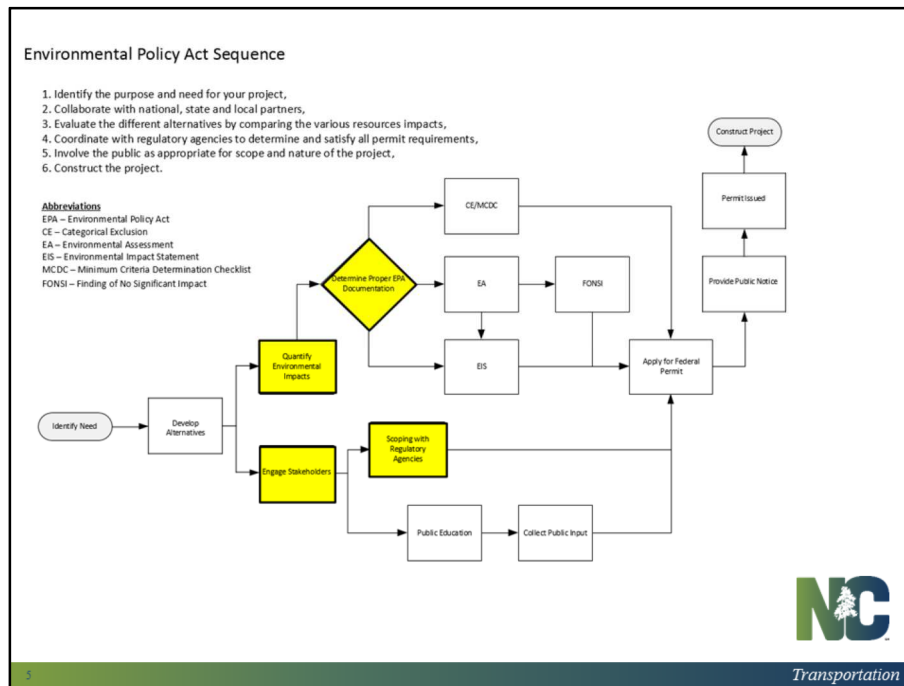
What are those projects? In number they are the majority of STIP. 439 of the total 669 STIP projects have been initially assigned to the Divisions to be managed. However, the remaining 230 projects constitute over 80% of the STIP budget. In this Treemap, the size of the rectangle is proportional to the project cost. Division managed projects in yellow, centrally managed projects in purple.



Every project, regardless of size or funding source needs to be analyzed for its environmental impacts. This analysis sees the need and cost of the project weighed against the project's impacts to the environment (both human and natural). The process through which a project is analyzed is government regulated and outlined in an environmental policy act – NEPA at the national level and SEPA or NC EPA at the state level.



This generalized project delivery flowchart shows the project development process with the major questions/tasks/decision points that need to be addressed for the environmental and permitting aspects of a project – note this is not a comprehensive project delivery flowchart. There are a couple of minor elements excluded like Design and ROW acquisition. Also notice though that there are a few steps before you determine the appropriate level or type of environmental documentation.



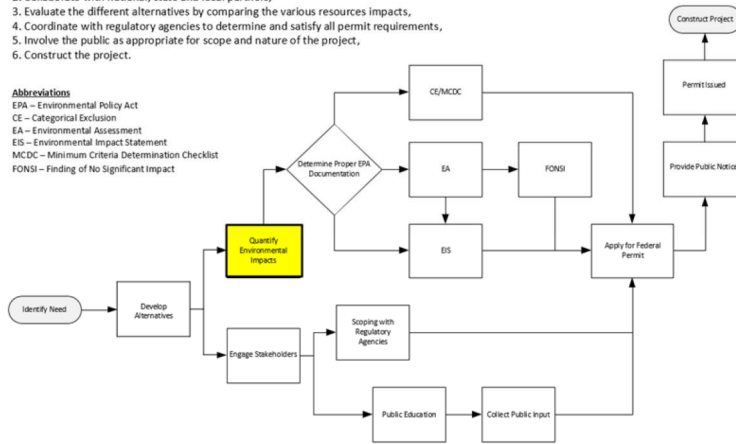
The scope of work suggested here covers these four decision points by identifying early your potential environmental impacts. This will lead to decisions on what (if any) other stakeholders need to be engaged, and will also help you determine the correct (i.e. legally sufficient) environmental documentation (or document) to pursue. Early engagement with USACE with this information will also ensure smooth permitting.

Environmental Policy Act Sequence

1. Identify the purpose and need for your project,
2. Collaborate with national, state and local partners,
3. Evaluate the different alternatives by comparing the various resources impacts,
4. Coordinate with regulatory agencies to determine and satisfy all permit requirements,
5. Involve the public as appropriate for scope and nature of the project,
6. Construct the project.

Abbreviations

EPA – Environmental Policy Act
 CE – Categorical Exclusion
 EA – Environmental Assessment
 EIS – Environmental Impact Statement
 MCDC – Minimum Criteria Determination Checklist
 FONSI – Finding of No Significant Impact



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Environmental Analysis Work Scheduling

- Project Initiation - determine the scope, study area, and scheduling for the project
- Scope out the environmental resource work – use guidelines prepared in the PCN scoping template
- Cost estimate for the work – include what is required for PCN



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Because projects vary in scope and the project development process varies from Division to Division, the PCN makes a familiar tool on which to base preliminary environmental analysis particularly for projects that may be of larger scale than some Divisions have worked with in the past.

PCN Scoping Template

NCDOT
Division Project

Project Number: _____

Scope of Work for Natural Resource, Human Environment, Impact Calculations.

ABC Firm will prepare a PCN to assist in project screening for (description- include size or length of road and county) in Division ____ of the NCDOT. Unless otherwise specified in this scope, the Firm will follow the PCN guidance presented on this link:
<http://www.ncdot.state.nc.us/ncdot/Portals/59/docs/regulatory/readocs/Permits/PCN-help-complete-2013-03.pdf>

Data Collection and Documentation
 Data collection will follow the PCN Guidelines on the website referred to above. Reference will be made to:

- Jurisdictional Survey Protocols: See attached Consultant GPS CADD guideline
- This will also satisfy the PLS survey requirement
- T&E Survey Protocols:
<https://connect.ncdot.gov/resources/Environmental/PDEAs%20Procedures%20Manual%20Documents/Protect%20Species%20Survey%20Protocol.pdf>

Tasks 1 - 8 includes the information gathered for Natural Resource Investigations

- 1. Land Owner Letter Delivery**
 The land owner letter and list of property owners will be provided by NCDOT. Letters will be mailed to land-owners one week prior to the field visit.
- 2. Natural Resources Field Work**
 Field work will include data collection for streams, wetlands, and county appropriate T&E species surveys
- 3. Travel**
 This account for the travel time required to perform all field work, agency site visits (if needed), and project related meetings (if needed).
- 4. Creation of WEX and WET files**
 Delineated stream and wetland data will be integrated into a WEX file following the Consultant GPS-CADD guidelines as attached. Any changes from the site visit with NCDOT and the agencies will be incorporated into the WET file.
- 5. Preparation of Preliminary Jurisdictional Package (PJD)**
 DRAFT and FINAL PJD packages will be prepared in accordance with a separate guideline (see attached).
- 6. Agency site visit – if anticipated**
- 7. Natural Resources Memo**
 A natural resource memo along with the minimum criteria determination checklist will be prepared to cover the streams, wetlands, and endangered species surveys.
- 8. Review of Natural Resource Material and Project Management**
 QA/QC of the information gathered for the Natural Resource Memo. This task will also include management of the project coordination, safety compliance, and coordination with the Division DEO.



We have developed a PCN scoping template to help guide the process of getting a consultant under contract. The tasks are aligned to provide the information needed for the PCN and also to get the information needed to complete PJD. This scoping template is a guide, adapted from one that we would use to complete the permit application.

Task 9 - 11 includes the information gathered for Human Environment Investigations

9. Screen for known Historic Resources

Check National Register of Historic Places in North Carolina for structures within study area (ROW +25'). ROW limits should be checked for potentially eligible structures

10. Screen for potential Archeological Resources

Identify any areas of undisturbed ground in uplands, within the study area, immediately adjacent to WOTUS.

11. Screen Indirect and Cumulative Effects

Determine if the project will result in additional development which could impact downstream water quality.

Task 12 includes the information gathered for Hydraulic Review Investigation

12. Determine if the project occurs in a FEMA-designated 100-year floodplain

Deliverables

- PCN cover letter explaining impacts and natural and human resource information summarized*
- Completed PCN*
- Jurisdictional Determination package – this may vary per project.
- Figures showing vicinity of project, topographical area and study area of project
- Project pictures
- Natural Resource Memo
- Map with PLS certification in pdf format
- QA/QC form with signatures

Schedule to be determined by Division



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Cost estimate spreadsheet that approximates the appearance of the sheet you will populate in the “kitchen sink” spreadsheet that will be explained in the next presentation. A estimate of man hours for each task will lead to an estimated total cost. You would fill this out with the hours it would take, by the appropriate Division personnel, to complete each task. We’ve had some questions as to what are reasonable time frames for some tasks. In general, to complete a cost estimate, we start with a project study area. We then have several rules of thumb that we use to develop manhour estimates that can be adjusted for individual projects. In general we allow 4 hrs for landowner letters; for NR and T&E fieldwork we estimate between 9 acres/day (vegetated) and 25 acres/day (maintained/disturbed). Extra time and or travel may be needed depending on T&E survey windows. WEX and WET file creation can vary from 4hrs for a bridge to 3 days for a large project with multiple resources. Similarly PJD package will depend on the size of the project and the extent of jurisdictional resources – 1 day for a bridge and 3+ days for complex projects. If an NRTR is required times could range from a day to not more than a week.

NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS			
POLICY			
Title:	Wetlands Mapping Policy		
Policy Number:	BP-1005-4 Rev. 2		
Status: Draft	Date Originated:	9/08/09	By: Surveying Committee
For Approval	Rev. No.:	2	Date:
Final ☒	Referred to		
Date for Board Approval:	5/13/10	Date Approved:	5/13/10
Date for Board Approval:	Rev 1 - 7/15/10	Date Approved:	7/15/10
Date for Board Approval:	Rev 2 - 2/11/15	Date Approved:	2/11/15
Date to be Reviewed:	2018	Date Reviewed:	2014
Category(s):	Surveying Practice		
Keywords:	Wetlands, Surveying, Conservation, Easements, Buffers		
Wetlands Survey: A survey showing the boundaries of an area delineated as "jurisdictional waters of the US." Wetland Boundaries shall be tied by course and distance to either 1) property corners that are properly monumented and verified, or 2) project boundaries that have been properly monumented, or 3) NC State Plane Coordinates System. This shall be done in a manner that permits future surveyors to readily retrace the wetland boundary. The calculated ratio of precision before adjustments or statement of positional accuracy of such ties must be consistent with the land use classification of the parcel being surveyed as described in Board Rule 21-56.1603. Data collection and plotting of these types of wetland boundaries must be performed by or under the direct supervision of a surveyorPLS. A PLS or PE may only accept wetlands survey data from a PLS for the purpose of showing the information on survey plats, engineering drawings (other than Preliminary Planning drawings), permits or reports. Any location data generated by delineators is only for the use of the PLS in performing a survey of the wetland boundary and should be noted with a disclaimer to that effect. The preliminary wetland map with a disclaimer by the delineators, that the location data is not to be relied upon for accuracy and is only for appropriate use by a PLS or PE, may be used by a PE for Preliminary Planning Purposes. If equipment other than survey grade accuracy equipment is used on the survey, a statement indicating the equipment, procedure, and position tolerances (21-56.1608) used for the work must be clearly stated on the plat or work product. Only surveyed wetlands may be placed on a property plat. Data provided by a Government Agency can be depicted as long as the source of the information used is disclosed and denoted as lines not surveyed within the plat or report. The mapping of conservation easements, buffers or other boundaries shall be done by, or under the responsible charge of, a PLS and conform to the same requirements as stated for wetland boundaries.			



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For projects that involve areas delineated as jurisdictional WOTUS, a PLS must seal the wetland delineation. Consultants are used to this part of the wetland mapping task but you need account for it in your cost estimates. There are a few work arounds – the main one being if Division personnel survey wetland flags but this may, or may not be practical given the early timeline of this data gathering.

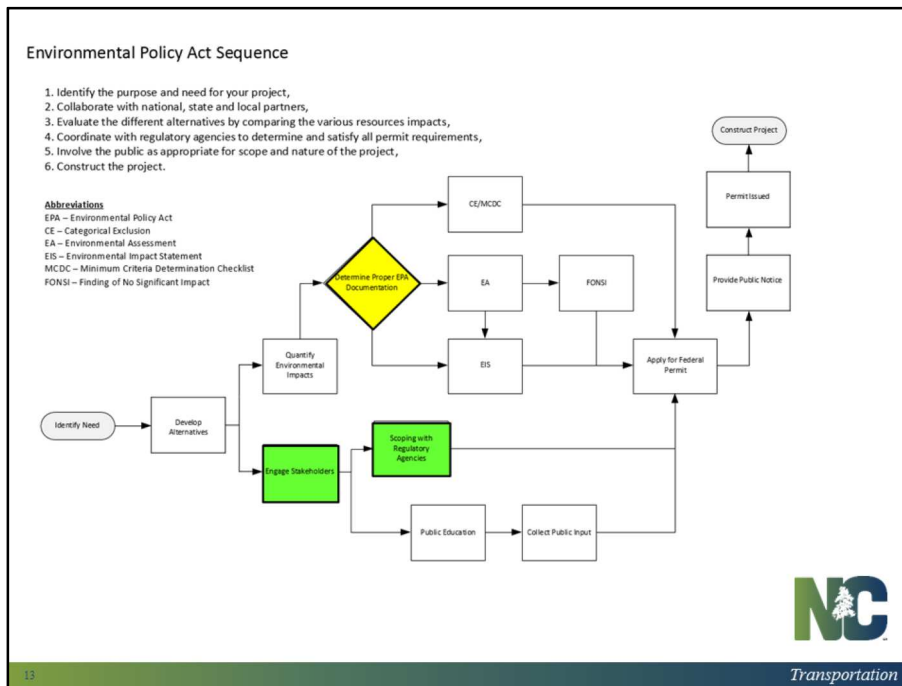
Environmental Analysis Work Scheduling

- Once the PCN information is determined, with the help of the Division Planning Engineer and the USACE, determine what level of project environmental review will be needed to permit the project. The review can undergo the following considerations:



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Once the preliminary environmental analysis is complete, a meeting with the USACE is recommended.



At this meeting, the appropriate level of environmental documentation and permit type can be better determined. Any additional environmental coordination can also be determined.

Environmental Analysis Work Scheduling

- Is the project entirely state funded?
If so, then proceed with the minimum criteria determination checklist (MCDC) or SEPA Document.
- Does the project have any federal funds?
If so, then proceed with PCE, CE, or the appropriate NEPA document.
- Will the project be permitted under a NW, GP, or IP?
Regardless of state or federal funds, there will need to be, at a minimum, a review at the MCDC level.



Environmental Analysis Work Scheduling

- When project design is completed at the preliminary level, the agencies can visit the site for verification (if needed).
- Provide Natural and Human Resource information either through a Natural Resource memo, Arch/Historic Forms, SEPA Doc., NEPA Doc., or MCDC.





Pre-Construction Notification (PCN) Form Instructions



The PCN form is required for applicants seeking the following approvals: Corps 404 or Section 10 Permit, or DWQ 401

I. PURPOSE

The PCN – Pre-Co North Carolina belt around streams, an ecosystem, or water

The PCN is a combined effort by the NC Division of Water Quality (DWQ) and the US Army Corps of Engineers (USACE) to coordinate regulatory requirements for work in (or affecting) wetlands, streams, riparian buffers, and waters within North Carolina. By accurately completing the PCN form, we can determine if you meet requirements to proceed with your project as proposed. We can evaluate the measures you propose to take to avoid or mitigate for any damage to the environment. Our

Many Corps Nation a PCN form before Activities that require within protected areas your application for information to process your application in the NC DWQ

How do I know if I need a PCN? Many nationwide permits (NWP) and all major projects require a PCN

Note: Do not use if Water Quality Cert (WQC) is required

Which nationwide permits require a PCN?

(Asterisk * and bold is a more commonly used NWP in the Wilmington District; gray is a NWP presently not used in District)

- NWP 1 – Aids to navigation: rarely (see regional conditions)
- NWP 3 – Maintenance: usually
- NWP 4 – Fish & wildlife devices: rarely (see regional conditions)

Revised for 2012-2017 Nationwide Permits, March 26, 2013

1



Pre-Construction Notification (PCN) Form Instructions



The PCN form is required for applicants seeking the following approvals: Corps 404 or Section 10 Permit, or DWQ 401 Certification, Buffer Authorization, Isolated/non-404 Wetlands Permit.

i. PURPOSE FOR THE PCN:

The PCN – Pre-Construction Notification form helps regulators from the state and federal agencies in North Carolina better understand and evaluate the impacts of activities that you propose to do in or around streams, wetlands, or other waters that may affect water quality, the health of the aquatic ecosystem, or water access or flow, in the immediate or nearby drainage area.

The PCN is a combined effort by the US Army Corps of Engineers (USACE- known as the "Corps") and the NC Division of Water Quality (DWQ) to coordinate regulatory requirements for work in (or affecting) wetlands, streams, riparian buffers, and waters within North Carolina. By accurately completing the PCN form, we can determine if you meet requirements to proceed with your project as proposed. We can evaluate the measures you propose to take to avoid or mitigate for any damage to the environment. Our



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Links

- **PCN guidance** <http://www.saw.usace.army.mil/Portals/59/docs/regulatory/regdocs/Permits/PCN-help-complete-2013-03.pdf>
- **T&E Survey Protocols:**
<https://connect.ncdot.gov/resources/Environmental/PDEA%20Procedures%20Manual%20Documents/Protected%20Species%20Survey%20Protocol.pdf>
- **Link to GPS-CADD Standards:**
https://connect.ncdot.gov/resources/Environmental/Compliance%20Guides%20and%20Procedures/ConsultantGPSCADD_07192012.zip





Questions?

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