



DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS
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REPLY TO
ATTENTION OF

CESPD-PDC

15 APR 2015

MEMORANDUM FOR Commander, Albuquerque District, U.S. Army Corps of Engineers, ATTN: CESPA-PM-C [REDACTED] 4101 Jefferson Plaza NE, Albuquerque, New Mexico 87103

SUBJECT: Approval for the Rio Grande Basin Watershed Assessment Review Plan

1. The attached Review Plan for the Rio Grande Basin Watershed Assessment was prepared in accordance with EC 1165-2-214. The Review Plan was coordinated internally within the DST. CESPD will serve as the RMO (Encl).
2. The Review Plan does not include independent external peer review (IEPR).
3. I hereby approve this Review Plan, which is subject to change as circumstances require, consistent with project development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.
4. For any additional information or assistance, contact [REDACTED], CESPD-PDC, (415) 503-6558, Paul.A.Devitt@usace.army.mil.

BUILDING STRONG *and Taking Care of People!*

Encl

[REDACTED]
Brigadier General, USA
Commanding

REVIEW PLAN

RIO GRANDE BASIN WATERSHED ASSESSMENT

SECTION 729, WRDA 1986, as amended WATERSHED ASSESSMENT

Prepared by
U.S. Army Corps of Engineers
Albuquerque District
South Pacific Division

MSC Approval Date: 18 January 2013

Last Revision Date: 1 April 2015



**US Army Corps
of Engineers®**

Review Plan

RIO GRANDE BASIN WATERSHED ASSESSMENT

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1. PURPOSE AND REQUIREMENTS

Purpose

This Review Plan (RP) defines the scope and level of peer review for the Rio Grande Basin, Watershed Assessment products.

References

- Engineer Circular (EC) 1165-2-214, Civil Works Review Policy, 15 December 2012
- EC 1105-2-411, Watershed Plans, 15 Jan 2010
- EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007
- ER 1165-2-208, In-Kind Credit Provisions of Section 221 of the Flood Control Act of 1970, as amended
- CECW-CP Memo for Distribution, "Peer Review Process", 30 March 2007
- QMS 02500-SPD, Preparation and Approval of Review Plans
- QMS 02500.1-SPD, Supplemental Review Plan Checklist
- Rio Grande Watershed Assessment Management Plan

Requirements

This RP was developed in accordance with EC 1165-2-214, the review requirements therein modified in accordance with the provisions of Section 729 of the Water Resources Development (WRDA) of 1986 to fit the unique nature of a Watershed Assessment (WA) investigations authority that lacks construction authority. The WA does not result in implementation or construction of a project and is not a decision document. The review requirements laid out herein establish an appropriate, accountable comprehensive review strategy by providing a seamless process for review of planning documents in the WA. The general levels of review are outline below: District Quality Control/Quality Assurance (DQC); Agency Technical Review (ATR); Policy and Legal Compliance Review; Independent External Peer Review (IEPR) if applicable; and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this RP. The RMO for the peer review effort described in this RP is the Major Subordinate Command (MSC). The MSC for the Albuquerque District (SPA) is the South Pacific Division (SPD). The MCS will coordinate and approve the RP and manage the Agency Technical Review (ATR). SPA will post the approved plan on its public website.

While salinity issues that impact water resources are the main focus of the Rio Grande Basin Watershed Assessment, riparian and aquatic ecosystem restoration, water quality and supply, and possibly flood risk management will be addressed to ensure that all scenarios are developed in a holistic, integrate fashion. The MSC will coordinate with the Planning Center of

Expertise (PCX) for Ecosystem Restoration (ECO-PCX), the PCX for Water Management and Reallocation (WMRS-PCX), the Flood Risk Management PCX (FMR-PCX) and the Institute for Water Resources (IWR) as needed.

3. WATERSHED ASSESSMENT INFORMATION

Authority

The Section 729 Watershed Assessment - Rio Grande Basin WA is authorized under Section 729 of the Water Resources Development (WRDA) of 1986.

Decision Document

In Accordance with Section 729, the Rio Grande Basin WA will result in a Watershed Plan (WP) that will be prepared in accordance with ER 1105-2-100, Appendix H and EC 1105-2-411 and approved by the Chief, Planning and Policy Division, Headquarters, USACE (HQUSACE). Because the WA is a planning study and the resulting WP will not contain recommendations for authorization or funding for construction, it is categorically excluded from Nation Environmental Policy Act (NEPA) documentation pursuant to 33 Code of Federal Regulation 230.9(d). Preparation of NEPA documentation is therefore not required. Any action identified in the WP that is selected for implementation would require NEPA documentation by implementing or funding agency, as appropriate. If the Watershed Plan generates one or more proposals for a USACE project, then the NEPA documentation would be done as part of the associated feasibility study (EC 1105-2-411, 9(e)).

The WP includes a comprehensive study of economic and ecosystem related issues with regards to water quality (salinity) in the Rio Grande Basin. Where feasible, the WP will also address riparian and aquatic ecosystem restoration actions. The WP will consider other issues and purposes such as agricultural, municipal and industrial water supply, flood risk management, water quality, wildfire management and drought management. Solutions identified may be implemented by federal and non-federal sponsors and partners. If solutions are identified in the WP that would fit within the authorities of USACE project, then a tiered feasibility study, including the NEPA documentation, would be conducted under the appropriate authority.

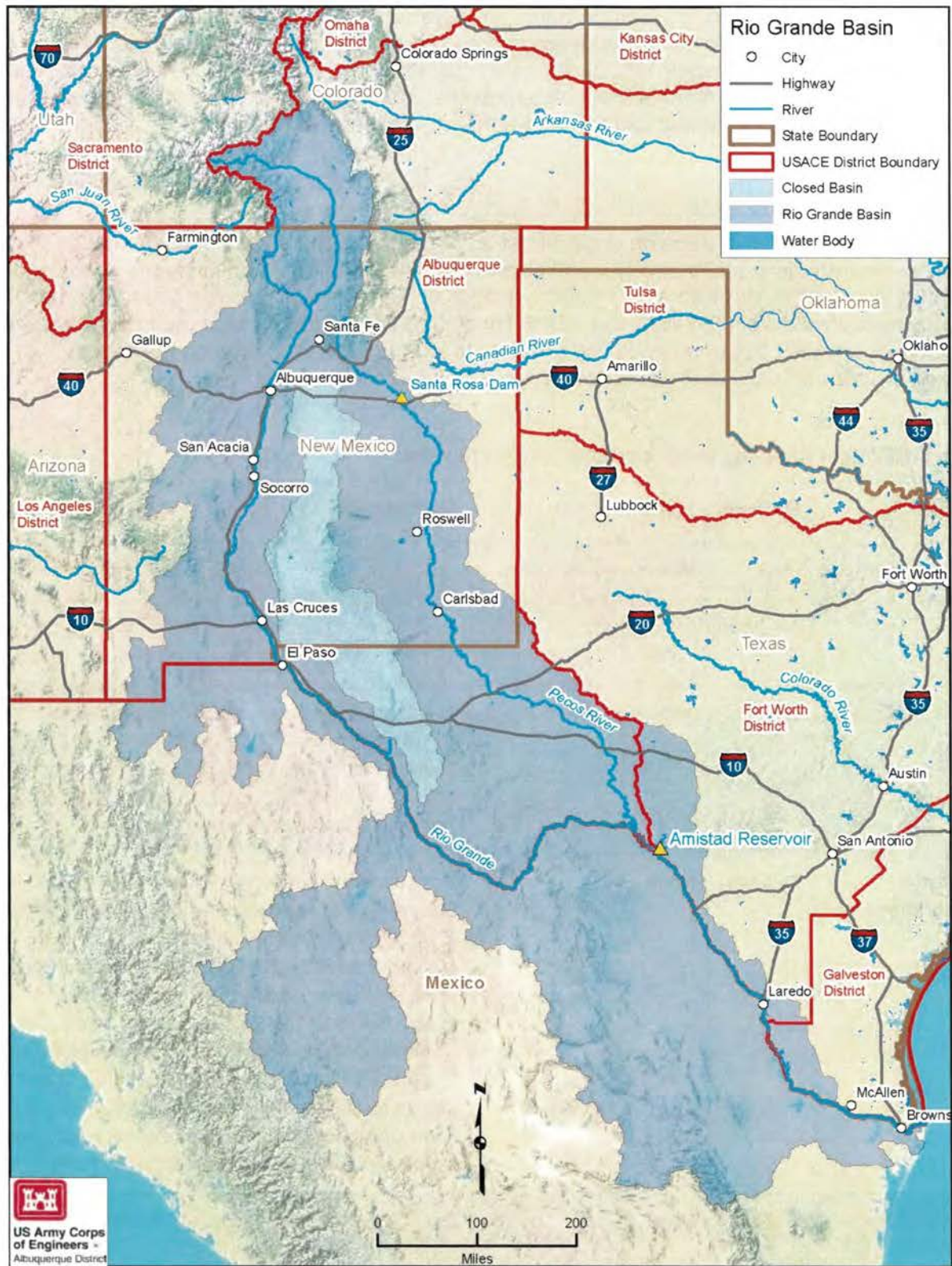
Study Sponsor

The non-Federal sponsors for the WA are the New Mexico Interstate Stream Commission (NMISC) and the Texas Commission on Environmental Quality (TCEQ).

Study Location

The study area is located within the Rio Grande Basin, extending along the mainstem Rio Grande from San Acacia, NM to Fort Quitman, TX and along the Pecos River, the largest tributary to the Rio Grande, from Santa Rosa Lake, NM to its confluence with the Rio Grande at Amistad Reservoir, TX (see Figure 3-1).

Figure 3-1 The Rio Grande Basin Watershed Assessment Study Area



Study Description

The Section 729 WA for the Rio Grande Basin will develop a WP to support an integrated and comprehensive approach to finding solutions addressing salinity and other water resource issues across multiple agencies, organizations and jurisdictions in New Mexico and Texas. The WP will include watershed management measures that municipalities, communities, agencies, or other organizations can undertake to support this comprehensive approach.

Factors Affecting the Scope and Level of Review

This WA does not result in decision documentation or construction / project implementation. As such, the inherent risks are relatively low. Table 3-1 outlines the factors affecting the scope and level of review for this WA with a rating of the factors as high, medium and low based upon their difficulty to address within the WA. The "IEPR Trigger" column notes if any of the factors warrant the need for an IEPR based on guidance provided in EC1165-2-214. Based on the factors outlined in Table 3-1, an IEPR would not be required for this WA.

Table 3-1 Factors Affecting the Scope and Level of Review

Factor	Rating	IEPR Trigger	Description
Construction Costs	Low	With no construction activities proposed, the trigger of construction greater than or equal to \$45 million is not met	In accordance with WRDA §729 and EC 1105-2-411, the Rio Grande Basin WA will identify planning scenarios or strategies. It does not result in recommendations for design and construction. If management measures are identified that would fall under a USACE authority, a new feasibility study would be requested for that action, including a new cost share agreement and project management plan. A NEPA document would be prepared under the appropriate authority referencing information in the Watershed Plan.
Customer Expectations	Medium	None	The sponsors for this WA are the New Mexico Interstate Stream Commission and the Texas Commission on Environmental Quality; however, both of these agencies are also members of the Rio Grande and Pecos River Compact Commissions. Our sponsors have a high expectation that SPA will also engage both Compact Commissions for decision making throughout this project. SPA has worked closely with our customers as well as members of the both the Rio Grande and Pecos River Compact Commissions to ensure that their expectations are clearly defined for this WA.
Subject Matter Expertise	Medium	None	Subject matter expertise risk is a measure of the level of expertise concerning salinity in the Rio Grande basin and the risk that relevant information may not be available. SPA has contacted current and retired known

			subject matter expertise from the academic communities located in the Rio Grande Basin as well as subject matter experts from other governmental agencies and enlisted their input.
Plan Formulation	High	None	This is one of the first watershed studies seeking complete involvement from both the Rio Grande and Pecos River Compact Commissions. Both of the Commissions' directives to SPA was to focus on salinity issues within the Rio Grande Basin. This focus involves a specific set of requirements that limits the scope of this WA. The plan development will be challenging.
Economic - Environmental Costs and Benefits	Medium	None	Consistent with EC 1105-2-411, identifying a National Economic Development (NED) or National Ecosystem Restoration (NER) plan is not required. However, the sponsors and the Commissioners from both Compacts understand the importance of analyzing economic impacts related to salinity issues and have included an economic analysis as a part of the scope for this WA. The plan will follow the USACE planning process and conduct a screening level economic comparison among the strategies to prioritize actions. A detailed NED/NER analyses would be done as part of the feasibility planning process if a USACE tiered-off project is identified. The plan will lean heavily on existing economic data and reports. No novel methods are proposed for the screening level comparative analysis.
Environmental - Cultural Impacts, including impacts to fish and wildlife species.	Medium	None A NEPA document is not required. Any tiered implementation studies that would have potential for significant impacts would address NEPA and IEPR analysis at that time. The IEPR discretionary trigger of potential significant impacts is not met.	In accordance with EC 1105-2-411, a NEPA document is not required for this WA. However, as part of the planning process, a screening of the potential environmental and cultural impacts of the planning scenarios will be conducted. This will also include a screening of potential impacts to federally listed species and other fish and wildlife species. With a primary purpose of ecosystem restoration, impacts to environmental and cultural issues will be avoided and minimized to the full extent practicable. In some of the more developed areas or in areas with conflicting uses, there is a potential for significant impacts. The WA will identify these potential impacts or concerns. Assessment of the extent of those impacts and identification of mitigation, if necessary, will be done in association with the tiered-off feasibility studies to implement the proposed actions by the appropriate lead agency. If there are projects identified for USACE to consider, then this assessment would occur in a USACE

			tiered-off feasibility analysis/NEPA documentation as appropriate for the applicable authority.
Public Dispute	High	While there are current and historic public disputes, since the creation of the Rio Grande and Pecos Compact Commissions, the water-rights disputes have largely been resolved. The IEPR Mandatory Trigger for significant public dispute is not currently met.	<p>The public dispute issues concern water rights as all water in the Rio Grande Basin are highly regulated by the Rio Grande Compact. This treaty which was ratified in 1939 not only specifies a water delivery schedule, but also sets a minimum quality standard specific to salinity. The Rio Grande Compact Commission is comprised of representatives from the states of Colorado, New Mexico and Texas and is responsible for administering the Rio Grande Compact.</p> <p>As part of the public involvement plan, the goal is to collaborate with not only the public, but to actively engage the entire membership of the Commission through the planning process. To meet this objective, SPA has included an intensive public involvement process including Commission-sponsored and facilitated meetings to help ensure the plan meets the overall goals and objectives of the Rio Grande Basin community. At this time, no issues of public dispute over the goals and objectives of the plan have arisen.</p>
Significant Interagency Interest	Low	This is an interagency collaborative plan. There have been no requests raised by Federal or State agencies for an IEPR. The IEPR discretionary trigger of agency interest in IEPR is not met.	As the Rio Grande Compact administers water rights in the Rio Grande basin, there is a significant level of interagency interest. However, the Rio Grande Compact Commission has been involved since the project was initiated and the plan is designed to incorporate a collaborative and integrated process. As such, all members of the Commission as well as other federal, state and local agencies that have an interest or role in implementing the goals and objectives of this effort will be actively engaged throughout the planning process.
Governor Request for IEPR	Low	There has been no request by either the Governor of New Mexico or the Governor of Texas for a peer review by independent experts. The IEPR Mandatory Trigger is not met.	The NMISC and the TCEQ are the non-federal sponsors of this WA. The WA is meeting specific needs and objectives for the both the sponsors as well as the Rio Grande and Pecos River Compact Commissions. Based on discussions with the sponsors and the members of both the Commissions, they do not see any need to request a peer review by independent experts for this WA.
Risk Assessment	Low	None	This WA will reflect the uncertainties and assumptions inherent in planning on a larger scale and will result in a more comprehensive and strategic vision or plan.

			Because the plan will result in alternative scenarios or strategies rather than specific projects, a general risk assessment of the scenarios abilities to meet the goals and objectives of the plans will be conducted. If any proposals are identified that would meet USACE authorities, separate feasibility studies with associated detailed cost engineering and risk assessments would be conducted as tiered studies to this WA.
Life Safety	Low	With no construction proposed and the focus on salinity management and ecosystem restoration, the IEPR mandatory trigger to significant threat to human life is not triggered.	At this time, Flood Risk Management (FRM) is not a primary planning objective. The development of salinity management measures and ecosystem restoration strategies will consider their interaction with FRM issues to provide a systematic and holistic approach to the strategy. The study will not necessarily lead to USACE action. Any flood risk management components of the plan will require an individual assessment on whether there is a significant threat to human life associated with the proposed project. Any proposed flood risk management project will require additional authority and feasibility study prior to implementation. In the event that additional funding and need to develop FRM strategies arises during the planning process, the issue of life safety will be re-evaluated.
Novel Methods	Medium	No Novel Methods are proposed so the MSC discretionary trigger for IEPR is not met.	The WA will incorporate information developed by the sponsors, including economic and salinity models. The WA will consolidate and integrate existing research for use in these models but no new research is proposed. All new information will be restricted to data collection only to address data gaps in the existing without plan conditions. No novel methods are proposed for the data collection or data interpretation. Data gaps that could be formed into research questions will be identified within the plan. However, any research based on these data gaps would be conducted under tiered-off studies by USACE or other partners and will be subject to the appropriate reviews within those tiered-off studies.
Robust or Unique Construction Sequencing	Low	With no construction proposed, the MSC discretionary trigger for IEPR for unique construction is not met.	Since the Rio Grande Basin WA will only result in alternative planning scenarios and will not construction of a project, there are no issues surrounding the project design. Considerations of the project design approach and necessary reviews will be addressed in tiered off feasibility studies of any potential USACE projects identified within the final Rio Grande Basin Plan.

In-Kind Contributions

Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR. The anticipated non-Federal Sponsors' in-kind contributions for this study are discussed in the Watershed Assessment Management Plan (WAMP).

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC prior to ATR. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the WAMP. SPA will manage DQC. Documentation of DQC activities is required and will be accordance with the Quality Manuals of SPA and the RMO.

Documentation of DQC

Reviewers shall review the draft WA to confirm that work will be done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments on the report shall be submitted into DrChecks™ software and provided as report in subsequent compliance packages. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.

Review comments shall contain these four principal elements:

- A clear statement of the concern;
- The basis for the concern, such as law, policy, or guidance;
- Significance for the concern; and
- Specific actions needed to resolve the comment.

Comments should be limited to those that address content or policy compliance issues. Comments to grammar, style or spelling should be not added to Dr Checks but should be submitted to the PM who will compile these comments to be transmitted to the PM via email.

In some situations, especially addressing incomplete or unclear information, commenters will seek clarification by coordinating directly with PDT member to assess whether further specific concerns may exist.

The DQC documentation in DrChecks™ will include each DQC comment and the PDT response. A copy of the DQC comments will be submitted to the ATR Team.

Products to Undergo DQC

The following products will be subject to DQC:

- The Draft WP
- The Final WP
- All supporting documentation and technical reports

Required DQC Expertise

DQC Team Members / Disciplines	Expertise Required
DQC Lead	The DQC lead should be a senior professional with experience in preparing Civil Works watershed plans and conducting DQCs. The DQC lead should also have the necessary skills and experience to lead a team through the DQC process. The DQC lead may also serve as a reviewer for another specific discipline.
Planning	The reviewer should have recent experience in reviewing Plan Formulation processes for watershed assessments and be able to draw on "lessons learned" in advising the PDT of best practices.
Economics	The reviewer should be a senior economist with experience with the processes used in evaluation of not only ecosystem restoration projects, but also water supply and treatment projects.
Environmental Resources	The reviewer should have a solid background in the habitat types to be found in the arid southwestern United States, and understand the water quality and quantity factors found in the arid southwest that may impact native species of plants and animals.
Cultural Resources	The reviewer should have extensive Corps' experience regarding cultural resources on public and tribal lands. They need to be familiar with Department of Defense as well as USACE policies and procedures as they pertain to Corps studies and projects. http://www.usace.army.mil/CECW/Pages/cultural.aspx
Hydrology and Hydraulic Engineering	The reviewer should have extensive knowledge of hydrology of arid-land, flashy wash systems and low flow conditions analysis to support stream restoration measures.
Geotechnical Engineering	The reviewer should carry a Professional Engineer's license and have recent experience in the Corps' design requirements. This person should also have experience in investigating existing subsurface conditions and materials; determining their physical/mechanical and chemical properties that are relevant to the project considered, assessing risks posed by site conditions; designing earthworks and structure foundations; and monitoring site conditions, earthwork and foundation construction.
Engineering and Design	The reviewer should have recent experience in the design

DQC Team Members / Disciplines	Expertise Required
	and of plans and specifications for water treatment facilities.
Cost Engineering	The cost engineering reviewer should have experience in screening level cost engineering analysis suitable for watershed plans.
Water Quality	The water quality reviewer should have expertise in water quality solutions related to salinity reduction, sediment, nutrients and contaminants such as those associated with agricultural, municipal or industrial activities.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.); however, ATR should be scaled according to the complexity of the WA. The objective of the ATR is to ensure consistency with established criteria, guidance, procedures and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. The ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside SPA that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel. The ATR team lead will be from outside the home MSC.

Products to Undergo ATR

ATR will be performed throughout the WA in accordance with SPA and SPD Quality Management Plans. Based on recommendations from the RMO, only the Draft Watershed Plan will undergo ATR.

Required ATR Team Expertise

The following ATR expertise is required for this project. Where possible, ATR team members will address multiple disciplines and emphasis. The ECO-PCX, as the RMO, will identify the final make-up of the ATR team and identify the ATR team leader in consultation with the Project Manager (PM), the vertical team and other appropriate centers of expertise. Table 5-1 lists the disciplines and expertise likely needed for the ATR team.

Table 5-1 Required ATR Team Member Expertise by Technical Specialty

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing Civil Works watershed plans and conducting ATRs. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc). The ATR Lead shall be from outside SPD.
Planning	The reviewer should be a senior water resources planner with experience in water quality issues such as salinity, multi-purpose watershed assessments and general planning policy. The planning reviewer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report. The planning reviewer should also understand public collaborative planning methods and processes.
Economics	The reviewer should be a senior economist with experience in combined NER plans and trade-off analysis. The reviewer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report.
Environmental Resources	The resources reviewer should be a senior environmental specialist with experience in aquatic ecosystem restoration. The reviewer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report. Expertise in saline freshwaters systems is also needed.
Cultural Resources	The resources reviewer should be a senior cultural resources specialist with experience in coordination with indigenous populations and incorporation of indigenous perspectives such as traditional ecological knowledge within a planning process. The cultural resources reviewer should have a strong understanding of Civil Works watershed plans and the unique

	differences to the traditional feasibility report.
Hydrology	The reviewer should be an experienced hydrologist with expertise in flash flood systems and the computer modeling techniques to be used and are required to be in the CERCAP system. Models to be used will be determined after the cost share agreement is executed but may include GSSHA. The hydrology reviewer should have expertise in hydrologic considerations for aquatic ecosystem restoration. The hydrology reviewer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report.
Hydraulic Engineering	The hydraulic engineering reviewer should be an expert in the field of hydraulics and have knowledge of hydraulic considerations for aquatic ecosystem restoration, bioengineering approaches – specifically bioengineering approaches to help reduce salinity, sediment and erosion issues downstream and are required to be in the CERCAP system. Understanding of non-structural approaches such as low impact development is beneficial. The hydraulic engineering reviewer should also have experience with the computer modeling techniques that will be used. Models to be used will be determined after the cost share agreement is executed, but are likely to include groundwater modeling, MODFLOW-2000, HEC-RAS and FLO-2D. The hydraulic engineer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report.
Geotechnical Engineering	The geotechnical engineering reviewer should be an expert in the field of the geology of semi-arid and arid- climate river basins, as well as geologic sources of sources of salt and are required to be in the CERCAP system. The reviewer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report.
Engineering and Design	The engineering and design reviewer should be an expert in the field of civil engineering as it relates to treating saline waters and designing aquatic ecosystem restoration in these areas and are required to be in the CERCAP system. The reviewer should have expertise in multipurpose bioengineering approaches. Specific engineering disciplines of geotechnical, civil, and structural may be needed. The reviewer should have

	a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report.
Cost Engineering	The reviewer should be a senior cost engineer with experience in multipurpose projects including water treatment and ecosystem restoration. The cost engineer should have a strong understanding of Civil Works watershed plans and the unique differences to the traditional feasibility report.

Documentation of ATR

DrChecks™ review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
- The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks™ will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks™ with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;

- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date (see attachment 2).

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the WA. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the WA. For decision documents where a Type II IEPR (Safety Assurance Review (SAR)) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.
- **Type II IEPR.** Type II IEPR, or SAR, are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and FRM projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

Decision on IEPR

This study does not meet the mandatory or discretionary triggers for a Type I IEPR per Section 2034 of the Water Resources Development Act of 2007 or EC 1165-2-214. The study has a cost estimate of less than \$45 million, does not represent a threat to health and safety, is not controversial, and has not had a request for IEPR from any governor in the states involved in this study the Rio Grande Compact Commission, or the head of a Federal or state agency.

Table 3-1 outlines the criteria for an IEPR and details how this WA does not meet the criteria and is therefore eligible for an IEPR exclusion request.

The decision on whether the above criteria are met (and a Type I IEPR exclusion is appropriate) is the responsibility of the RMO/MSD Commander. A Type I IEPR exclusion is appropriate for this assessment subject to approval by the MSD Commander.

As described in Section 3, the conceptual nature of alternative measures or recommendations contained in the Watershed Assessment typically do not trigger the need for IEPR as described in EC 1165-2-214 and presented below. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. In the case of the Rio Grande Basin Watershed Assessment, IEPR exclusion is appropriate since the following statements are true:

- Federal action is not justified by life safety or failure of the project would not pose a significant threat to human life;
- Life safety consequences and risk of non-performance of a project are not greater than under existing conditions;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an EIS;
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

The Albuquerque District's Chief of Engineering and Construction Division has also completed an assessment to verify if Type II IEPR is warranted for the Rio Grande Basin Watershed Assessment and has concurred that there are no existing or potential hazards that could pose a significant threat to human life, therefore, Type II IEPR is not applicable (see Attachment 4).

Products to Undergo Type I IEPR

Not applicable

Required Type I IEPR Panel Expertise

Not applicable

Documentation of Type I IEPR

Not applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

All watershed plans will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in EC 1105-2-411 and Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in any of these products and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the Commander, SPD. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in watershed plans.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All watershed plans shall be coordinated with the Cost Engineering MCX, located in the Walla Walla District. The MCX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The MSC is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

In accordance with EC 1105-2-412 Paragraph 5.c, models that are single-use or study-specific require approval that the model is technically and theoretically sound and is a functional tool that can be applied during the planning process by knowledgeable and trained staff for purposes consistent with the model's purpose and limitations. For this project, the PM will coordinate with the ECO-PCX in determining the appropriate level of review for model approval. At this time, an additional ATR reviewer has been added to specifically approve models for site specific use.

The following planning models are anticipated to be used in the development of the watershed plan.

Planning Models

Because the availability of planning models that address salinity issues in riparian systems is limited, groundwater models were developed to support evaluation of water budgets and groundwater flow paths, used in the Mesilla Basin Conceptual Site Model as part of the WA. Additionally, models were developed to address salinity and economics for the WA. The PDT will evaluate additional models to determine whether the models that will most effectively meet the needs of the plan and provide the greatest opportunity will be applied to similar efforts in the Rio Grande Basin in the future.

Consistent with the model certification requirements in EC 1105-2-412, model certification / approval will be initiated before the submittal of the draft Watershed Assessment to SPD and HQUSACE. Table 9-1 provides a list of planning models being considered.

Table 9-1 Planning Models

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the WA	Certification / Approval Status
Economic Model	Model used to support relative economic benefit amongst different management alternatives. See Appendix B of CH2M HILL, 2011, for documentation. Model developed for this project and approved by Coalition	One-time use approval will be sought and coordinated with the appropriate PCX

Engineering Models

Similar to the planning model process, engineering models will be selected based on the detailed planning objectives that will be developed after cost share agreement execution. As the result of the planning is a preferred scenario rather than a preferred plan or alternative, the extent use of engineering models may be limited based on the WA goals. Priority will be given to USACE SET preferred models. Table 9-2 provides a list of likely engineering models to be used.

Per EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2011, models that represent engineering systems, such as models used to perform hydrologic and hydraulic analyses, are engineering models and not planning models. It is the responsibility of the Engineering function to ensure that the application and proper use of the software is document in the Technical Review process.

The following engineering models are anticipated to be used in the development of the watershed management plan:

Table 9-2 Engineering Models

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the WA	Approval Status
MODFLOW-2000	New Mexico Office of the State Engineer "Draft Groundwater Flow Model for Administration and Management in the Lower Rio Grande Basin" (SSPA, 2007). Model was used to support evaluation of water budgets and groundwater flow	One-time use approval will be sought and coordinated with the Hydraulics and

	paths, used in the Mesilla Basin Conceptual Site Model. Model developed by NMISC and preferred by Coalition	Hydrology CoP
Salinity Model	Salinity model used to estimate downstream reduction in salinity under various management alternatives. See Appendix B of CH2M HILL, 2011 for documentation. Model developed for this project and approved by Coalition	One-time use approval will be sought and coordinated with the Hydraulics and Hydrology CoP

10. REVIEW SCHEDULES AND COSTS

ATR Schedule and Cost

The estimated total cost of the ATR is \$40,000 for review of the draft WA. This includes the cost for the ATR team lead to facilitate the ATR but does not include the costs for the PDT to respond to ATR comments. It is anticipated that the ATR review will take approximately 2 weeks, PDT response will take approximately 2 weeks, and ATR back-check and comment close out will take 1 week for a total of 5 weeks of review. Table 10-1 shows the dates the DQC and ATR review milestones are scheduled to be completed.

Table 10-1 Rio Grande Salinity - Phase III Schedule

Task/Milestone	Completion Date	Related Activities/Description
Execute Amended Cost Share Agreement	19 March 2014	
Visioning Milestone	May 2015	
Recommendations Milestone	March 2016	
DQC of Draft Watershed Plan	April 2016	DQC will include salinity subject matter experts as well as USACE expertise as identified in Section 4 of this Review Plan
Public Review	June-July 2016	
DQC of Watershed Plan	September 2016	DQC will include salinity subject matter experts as well as USACE expertise as identified in Section 4 of this Review Plan
ATR of Watershed Plan	October 2016	
SPD/HQUSACE Review of Watershed Plan	January 2017	
Final Rio Grande Basin Watershed Assessment	July 2017	

Type I IEPR Schedule and Cost

Not Applicable

Model Certification and Approval

The estimated cost of model certification is \$50,000 per model. It is assumed that all three models (MODFLOW 200, Salinity Model and Economic Model) will require certification or approval for a total amount of \$150,000. The model certification/approval documentation will be provided to the PCX no later than the development of watershed management strategies and will be completed no later than the SPD/USACEHQ reviews of the Final Rio Grande Basin Watershed Plan. The model certification/approval process is likely to take four months. The cost and schedule will be adjusted as needed with the PCX once certifiers have been identified.

11. PUBLIC PARTICIPATION

The approved RP will be posted on the SPA website and the ECO-PCX website. The intent of the public involvement process is to work at a public collaboration level. With this approach, public involvement will be early, often, and consistent throughout the feasibility level WA process. For example, the PDT meets with both the Rio Grande Salinity Coalition and the Pecos River Water Quality Coalition on a regular basis. Both Coalition groups are made up of Federal, State, and local agency personnel, as well as members of the public and academia, and have already provided valuable input to the watershed assessment scope.

Consistent USACE regulations, at least one public scoping meeting will be held early in the process with a public comment meeting being held after the release of the Draft Watershed Assessment. Consistent with the transparency objectives of the USACE planning process, the RP, final decision documents and applicable review reports will be made available to the public.

State and Federal resource agencies may be invited to participate in the WA covered by this RP as partner agencies or as technical members of the PDT, as appropriate. Any public comments received on the RP, at public meetings or on draft or final reports will be provided to the review teams before they conduct their reviews.

12. REVIEW PLAN APPROVAL AND UPDATES

The SPD Commander is responsible for approving this RP. The Commander's approval reflects vertical team input as to the appropriate scope and level of review for the decision document. Like the PMP, the RP is a living document and may change as the WA progresses. SPA is responsible for keeping the RP up to date. Minor changes to the RP since the last SPD Commander approval are documented in Attachment 3. Significant changes to the RP (such as changes to the scope and/or level of review) should be re-approved by the SPD Commander following the process used for initially approving the plan. The latest version of the RP, along with the Commanders' approval memorandum, should be posted on SPA's webpage. The latest RP should also be provided to SPD and the ECO-PCX.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this RP can be directed to the following points of contact:

██████████ Project Manager: ██████████ / 505-342-3187

██████████ Chief of Planning: ██████████ / (505) 342-3201

Ecosystem Restoration Planning Center of Expertise Operations Director: ██████████;
██████████ / (309) 794-5448

SPD Reviewer: District Support Team Lead (415) 503-6591

ATTACHMENT 1: TEAM ROSTERS

PDT Team Members

Name	Agency	Role	Phone #
[REDACTED]	NMISC	Sponsor POC	505-476-5397
[REDACTED]	NMISC	Sponsor POC	505-476-3671
[REDACTED]	NMISC	Sponsor POC	505-827-7867
[REDACTED]	NMISC	Hydrologist	505-383-4046
[REDACTED]	TCEQ	Sponsor POC	512-239-4707
[REDACTED]	TCEQ	Sponsor POC	512-239-4730
[REDACTED]	USACE	Project Manager	505-342-3187
[REDACTED]	Rio Grande Compact Commission	Commissioner and POC	

DQC Team (TBD)

Name	Discipline	District	Phone #
TBD	Planning		
TBD	Economics		
TBD	Environmental Resources		
TBD	Cultural Resources		
TBD	Hydrology		
TBD	Hydraulic Engineering		
TBD	Geotechnical Engineering		
TBD	Engineering and Design		

ATRT (TBD by RMO)

Name	Discipline	District	Phone #
TBD	ATR Lead		
TBD	Planning		
TBD	Economics		
TBD	Environmental Resources		
TBD	Cultural Resources		
TBD	Hydrology		
TBD	Hydraulic Engineering		
TBD	Geotechnical Engineering		
TBD	Engineering and Design		

Vertical Team

Name	Discipline	Location	Phone #
██████████	USACEHQ VT Lead	Washington, DC	202-761-1367
██████████	SPD VT Lead	San Francisco, CA	415-503-6558

ATTACHMENT 2: SAMPLE STATEMENT OF AGENCY TECHNICAL REVIEW

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Watershed Management Plan for the Rio Grande Basin, §729 Watershed Assessment. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214 and Director of Civil Works' Policy Memorandum #1. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks™.

SIGNATURE

Name

Date

ATR Team Leader, Office Symbol

SIGNATURE

Name

Date

Project Manager, USACE-CESPD-CESPA-PM-C

SIGNATURE

Name

Date

RMO Representative, USACE-CESPA-PDS

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

Name

Chief, Engineering Division, Office Symbol

Date

SIGNATURE

Name

Chief, Planning Division, USACE-CESPD-PDS-P

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page/Paragraph Number
Pending	Updates to Review Plan to include updated policy, schedule and costs	All

ATTACHMENT 4: TYPE II IEPR ASSESSMENT

SPA, CHIEF OF ENGINEERING AND CONSTRUCTION DIVISION IEPR ASSESSMENT

I have assessed the conditions to verify if there is a significant threat to human life or threat to project performance. I concur with the life safety risk assessment presented in Section 3, Watershed Assessment Information, Factors Affecting the Scope and Level of Review, of the Review Plan, Rio Grande Basin Watershed Assessment, on the Maintsem Rio Grande from San Acacia, NM to Fort Quitman, TX and along the Pecos River from Santa Rosa Lake, NM to its confluence with the Rio Grande at Amistad Reservoir, TX.

The subject Watershed Assessment and resulting work product will neither be a decision document nor an implementation document; USACE Civil works Review Policy (EC 1165-2-214) has limited applicability to this specific effort. It is understood that if any of the Watershed Plan measures further lead into a Feasibility Plan, that this will require a separate Review Plan and assessment of need for IEPR.

I concur that there are no existing and potential hazards that pose a significant threat to human life and certify IEPR type II Safety Assurance Review is not required.

Digitally signed by

A large black rectangular box redacting the signature of the official.

Chief of Engineering and Construction
Albuquerque District

ATTACHMENT 5: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
DQC	District Quality Control/Quality Assurance	PCX	Planning Center of Expertise
DX	Directory of Expertise	PDT	Project Delivery Team
EC	Engineer Circular	PMP	Project Management Plan
ER	Engineering Regulation	RMO	Review Management Organization
FRM	Flood Risk Management	SAR	Safety Assurance Review
Home District/MS	The District or MSC responsible for the preparation of the decision document	USACE	U.S. Army Corps of Engineers
HQUSACE	Headquarters, U.S. Army Corps of Engineers	WA	Watershed Assessment
IEPR	Independent External Peer Review	WRDA	Water Resources Development Act
MSC	Major Subordinate Command		
NED	National Economic Development		