MEMORANDUM

SUBJECT: NADBank/BEIF Grant Funding
Reynosa, Tamaulipas, Mexico

FROM: John Blevins, Director
Compliance Assurance and
Enforcement Division (6EN)

TO: Richard E. Greene
Regional Administrator

Attached for your signature is the Environmental Assessment, Finding of No Significant Impact (EA/FNSI) package for the proposed awarding of Environmental Protection Agency grant funds to Reynosa, Tamaulipas, Mexico, for its water treatment and distribution system improvement project. The proposed funding will be provided from the Border Environment Infrastructure Fund administered by the North American Development Bank.

This EA is based on the environmental information document prepared for Reynosa by a consultant. No significant adverse environmental impacts associated with the awarding of the grant funds were identified. The EA/FNSI package will be issued for 30-day public notice to solicit comments regarding this decision not to prepare an Environmental Impact Statement (EIS). The decision will become final after the comment period expires and the comments received are addressed.

Attachment

FINDING OF NO SIGNIFICANT IMPACT

To All Interested Government Agencies and Public Groups:

In accordance with the environmental review guidelines of the Council on Environmental Quality found at 40 Code of Federal Regulations (CFR) Part 1500, and the implementing procedures of the U.S. Environmental Protection Agency (EPA) at 40 CFR Part 6, *"Procedures for Implementing the Requirements of the Council on Environmental Quality on the National Environmental Policy Act*," the EPA has performed an environmental review of the following proposed action:

Proposed Action: Possible awarding of EPA grant funds through the Border Environmental Infrastructure Fund (BEIF) for the Water Treatment and Distribution System Improvement Project

Applicant: City of Reynosa, Tamaulipas, Mexico

Estimated EPA Share: $29,700,000

Proposed Project: The city of Reynosa across the Rio Grande from the cities of Hidalgo, McAllen, Mission and Pharr, Texas (latitude 26º04'; longitude 98º17'), proposes to rehabilitate and expand its existing water treatment and distribution system. Under the proposed action, the 34 million gallons per day (MGD) Retama water treatment plant (WTP) would be constructed and the 34 MGD Loma Linda WTP would be rehabilitated on its 18-acre site. A 30-inch 4.2 mile pipeline would be constructed between the Loma Linda WTP and the Jarachina pumping station, and the 7.9 million gallon above ground clearwell would be rehabilitated. The capacity of the 17 MGD Benito Juárez WTP would be increased by 5.7 MGD to 23 MGD on its 11.3-acre site. Also, 6 raw water conveyance pumps would be replaced at the Anzaldúas Dam, 25 distribution pumps would be replaced, 4 water storage tanks would be added, and 60,000 individual water meters would be installed. Another 34 MGD WTP would be constructed starting in 2020.

Findings: EPA Region 6 has performed an environmental assessment (EA) of the Environmental Information Document prepared for the city of Reynosa by Camp Dresser & McKee, Inc. (CDM), and has made a preliminary finding that the project (individually, cumulatively over time, or in conjunction with other actions) will not have a significant adverse effect on the quality of the environment. Based on our review, we have determined that awarding of grant fund assistance to the city for the project will not result in significant

adverse impacts on the human environment and that an Environmental Impact Statement (EIS) is not warranted.

The major federal action is the granting of BEIF funds provided by the U.S. EPA and is subject to environmental review and assessment (EA) under the National Environmental Policy Act (NEPA). Reynosa is requesting Border Environment Cooperation Commission (BECC) certification only for the rehabilitation and expansion of the WTPs scheduled for completion by 2007. The infrastructure rehabilitation and upgrades would begin immediately, and construction of the new conduction line would commence in 2007. Much of the action to be taken after 2007 depends upon unknown groundwater conditions and future urban growth patterns, and cannot be comprehensively planned without additional information.

Comments regarding this preliminary determination not to prepare an EIS will be accepted during the 30-day period following the public notice of this Finding of No Significant Impact (FNSI). Address all comments and requests for review of the administrative record supporting this determination to the Office of Planning and Coordination (6EN-XP), U.S. Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733. All comments received will be taken into consideration prior to making a final decision. No administrative action will be taken on this preliminary decision for at least 30 calendar days following the issuance of the FNSI. The preliminary decision and finding will become final after the 30-day comment period expires if no new significant information is provided to alter the finding.

Responsible Official,

Richard E. Greene
Regional Administrator

ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED EXPANSION AND REHABILITATION OF THE CITY OF REYNOSA, STATE OF TAMAULIPAS, MEXICO WATER TREATMENT AND DISTRIBUTION SYSTEM

1.0 PROPOSED ACTION

1.1 Purpose and Need for the Proposed Action. The city of Reynosa is located in the state of Tamaulipas in northeastern Mexico, across the Rio Grande from the communities of Hidalgo, McAllen, Mission and Pharr in Texas (Figure 1). An estimated six percent of the population of Reynosa has no potable water service and relies on suspect sources of drinking water or stores water in containers not designed for that purpose. This situation poses a risk to public health and safety. Also, approximately 19 percent of the potable water is lost through distribution system leaks, and insufficient metering allows loss of large volumes of potable water. Only about 52.5 percent of water customers have functioning water meters. The valve boxes of the distribution system have to be rehabilitated and new storage tanks must be installed. The distribution pumps proposed for replacement are inefficient with an average efficiency of 45 percent. The average efficiency of the raw water conveyance pumps proposed for replacement is 66 percent. The water treatment plants (WTP) and the water supply distribution systems must be maintained and expanded to meet the present and future needs of the city.

1.2 Project Description. The city of Reynosa proposes to rehabilitate and expand its water treatment and distribution systems. Under the proposed action, the Retama 34 million gallons per day (MGD) water treatment plant (WTP) would be constructed and the 34 MGD Loma Linda WTP would be rehabilitated on its 18-acre site. A 30-inch 4.2 mile conduction line would be constructed between the Loma Linda WTP and the Jarachina pumping station, and the 7.9 million gallon above ground clearwell would be rehabilitated. The capacity of the 17 MGD Benito Juárez WTP would be expanded by 5.7 MGD to 23 MGD on its 11.3-acre site. Also, 6 raw water conveyance pumps would be replaced at the Anzaldúas Dam, 25 distribution pumps would be replaced, 4 water storage tanks would be added, and 60,000 individual meters added. Another 34 MGD WTP would be constructed starting in 2020. There is a third existing WTP, the Rancho Grande WTP with a capacity of 1.1 MGD (Figure 2).

2.0 ALTERNATIVES

2.1 Alternatives Available to the EPA.

2.1.1 Approval for Grant Funding for the Project as Proposed. Depending on available funding, EPA can recommend approval of the grant for the proposed project without modification.

2.1.2 Approval for Grant Funding for a Modified Project. Information received during the EA process could result in identification of significant adverse impacts that would require

modification of the project to mitigate the impacts. Modification of the project may allow the EPA to accept the project as modified and recommend approval of the possible grant funding.

2.1.3 Recommend Preparation of an EIS. A determination that the project as proposed could result in potentially significant adverse impacts to the environment that cannot be satisfactorily mitigated would preclude a recommendation of approval of the grant funding. The preparation of an Environmental Impact Statement (EIS) would then be recommended to evaluate the potentially significant impacts. The EIS process includes a scoping meeting to identify critical facts and issues, a Draft EIS, a public comment period on the Draft EIS, a public hearing on the Draft EIS, the Final EIS, a public comment period on the Final EIS, and a Record of Decision.

2.2 Alternatives Considered by the Applicant. Various alternatives addressing the infrastructure needs of the area were evaluated and considered based on environmental acceptability, feasibility, availability of land, maximized use of existing facilities where applicable, operation and maintenance costs, system reliability, future expansion capability, and public acceptance. Each of the alternatives would expand the capacity of the plants to eliminate the predicted deficits in treatment capacity, reduce inefficiencies in the treatment and distribution systems, and provide water distribution service to the design year population.

2.2.1 No-action Alternative. This alternative was rejected from further consideration because it is not compatible with the purpose and need of the proposed project and the current and future needs of the area would not be met. Under the No-action Alternative, no additional treatment capacity would be installed and the existing treatment plants would continue operating at their current design. The No-action Alternative would fail to provide adequate drinking water to area residents and would allow the current public health concerns, the environmental contamination, and general deterioration of the area to continue.

2.2.2 Alternative 1. This alternative would seek to maximize the use of surface water and not rely on ground water. The three overall categories of the project would include (1) the rehabilitation and expansion of existing WTPs, (2) the rehabilitation, automation, and expansion of the water distribution system, and (3) construction of one or two new 34 MGD surface water treatment plants in the western and southern sections of the city between 2008 and 2027, to provide an adequate quantity and quality of drinking water for the Reynosa area in the next 25 years. Under this alternative, aqueducts would be constructed from the Anzaldúas Reservoir to the two WTPs, but the 30-inch 4.2 mile conduction line between the Loma Linda WTP and the Jarachina pumping station would not be needed (Figure 3).

2.2.3 Alternative 2. Alternative 2 would not include new surface water withdrawals and would seek to maximize the use of ground water resources immediately. It would encompass several projects that would take place between now and 2027, and would provide a plan for supply and distribution of water adequate in quantity and quality for the Reynosa area in the upcoming 25 years. The three overall categories of the project would include (1) the rehabilitation and expansion of existing WTPs, (2) the rehabilitation, automation, and expansion of the water distribution system, and (3) development of new ground water sources. Under this alternative, the city would seek the transfer of water rights from agricultural use through the Comisión Nacional del Agua, and develop the Retama aquifer to provide water to the Benito Juárez WTP

until the new 34 MGD Retama WTP is constructed. This alternative would construct an aqueduct from the Retama aquifer to the Benito Juárez WTP. A second 34 MGD WTP is also being considered for construction between 2020 and 2027 (Figure 4).

2.2.4 Alternative 3. Alternative 3 is the preferred alternative. It would continue using surface water while groundwater resources are studied and developed, and would include several projects taking place through 2027. Under this proposal, water treatment and distribution systems would be rehabilitated and expanded. The 34 million gallons per day (MGD) Retama WTP would be constructed and the 34 MGD Loma Linda WTP would be rehabilitated and a 30-inch 4.2 mile conduction line would be constructed from the Loma Linda WTP to the Jarachina pumping station. The 7.9 million gallon above ground clearwell would be rehabilitated, and the capacity of the 17 MGD Benito Juárez WTP would be expanded by 5.7 MGD to 23 MGD. Also, six raw water conveyance pumps would be replaced at the Anzaldúas Dam, 25 distribution pumps would be replaced, four water storage tanks would be added, and 60,000 individual meters added. Another 34 MGD WTP would be constructed starting in 2020 (Figure 5).

3.0 ENVIRONMENTAL SETTING.

3.1 Land Resources. The city of Reynosa is located within the Municipality of Reynosa which has an area of about 1,218 square miles (sq.mi). The Municipality is bordered by the Rio Grande to the north, the Municipality of Mendez to the south, the Municipality of Diaz Ordaz and the state of Nuevo Leon to the west, and the Municipality of Rio Bravo to the east. Reynosa has an area of about 45 sq.mi. and is located approximately 105 miles downstream from the bi-national Falcon Reservoir which provides water storage for the U.S. and Mexico. Land use within the city consists 80.8 percent of residential areas, 13.2 percent of industrial/commercial areas, and 6 percent of water bodies and floodplain areas. The elevation of Reynosa is about 120 feet above mean sea level and general topography of the area is gentle and nearly level.

The predominant soil type in the Rio Grande terraces and riverbanks along the Rio Grande, roughly a one-mile wide strip, consists of Rio Grande-Matamoros-Camargo alluvial soil. This soil is deep to very deep, moderately well drained to well drained, slowly to moderately rapidly permeable, and formed on calcareous, clayey, and other alluvial sediments. Construction of the four new storage tanks would require some land acquisition. One tank would be at the existing Jarachina pumping station, and the other three would be in the Los Arcos and Balcones de Alcalá neighborhoods. Short-term impacts on land use would be related to traffic disruption during work on roadways. These impacts would cease after completion of construction activities.

3.2 Water Resources.

3.2.1 Surface Water Resources. Raw water for the Loma Linda and Rancho Grande WTPs is supplied from the Anzaldúas Reservoir, an international reservoir on the Rio Grande located about seven miles upstream of the Hidalgo International Bridge. The Rancho Grande WTP, and the Benito Juárez WTP, get raw water supply from the Rio Grande. The proposed action would continue using surface water while groundwater resources are studied and developed.

As part of the 1997 Comprehensive Sanitation Project for the city of Reynosa, treated wastewater was to be redirected from the Rio Grande to agricultural uses through the Anzaldúas and Rodhe canals. The plan was changed to redirect the wastewater to the Rodhe and Culebrón canals by the end of 2005.

3.2.2 Ground Water Resources. The development of new ground water sources is highly dependent upon unknown ground water conditions and future urban growth patterns. The Retama aquifer would be the first new water source that would be developed under the proposed action. The aquifer underlies an area of about 204 sq.mi. between Reynosa and Matamoros. Little is known about the water quality in this unconfined aquifer, but has ranged from average to poor, with total dissolved solids ranging between 1,000 and 4,000 parts per million. Rural communities using wells of 50 to 65 feet in depth have encountered contamination problems. Some deeper wells in the range of 330 to 395 feet in depth have produced a much better quality of water. It is not known whether the water from the deep wells is from the Retama aquifer or if it is geologically separate and a new water source. A hydro-geologic study would have to be done to determine what ground water sources could be used and the treatment methods that would be required.

Reynosa intends to transfer water rights allotted to agricultural use for use as raw water. The CNA regulates ground water resources in Mexico and any additional water rights that might be granted by CNA through development of ground water or other new water sources would not result in an increase in water withdrawals from the Rio Grande. A determination has been made that protected ground water resources in the area will not be adversely impacted by construction of the project. Also, Reynosa proposed to improve the water distribution system to reduce the per capita water consumption 5.5 percent and 12.4 percent by 2007 and 2027, respectively. The detection of leaks and conservation control measures are expected to reduce water losses from 19 percent to 17 percent by 2008, and 15 percent by 2011.

3.3 Ambient Air Quality. The climate in the region is considered semitropical desert, with an average annual precipitation of 27.55 inches and an annual mean temperature of 73.3°F. Air quality in Mexico would be temporarily and directly impacted by the construction activities. Impacts would mostly be fugitive dust, exhaust emissions, and noise generation from construction equipment. The proposed Retama wells would produce noise emissions in the vicinity. The noise would be away from the border and would not be heard in the U.S. The project is located in an area that is across the U.S.-Mexico border from a designated attainment area in compliance with the National Ambient Air Quality Standards (NAAQS) for all criteria air pollutants. The only regular air quality monitoring that takes place in the area between Brownsville and Laredo is for particulate matter under 2.5 microns ($PM_{2.5}$).

Mitigation measures for dust abatement and particulate removal would use electrostatic precipitation or cyclones. Vehicles and equipment used in the construction of this project would have to comply with the regulations concerning control of air pollution from mobile sources. Since the project will not violate the NAAQS, air quality will not be adversely impacted by construction of the project. Potential impacts in the U.S., if detectable, would be limited to the banks of the Rio Grande across from the Anzaldúas diversion during pump replacement and installation of the emergency diversion.

3.4 Biological Resources.

3.4.1 Flora. The vegetation in the Reynosa area is classified in Mexico as being in one of three groups: *vegetación halófita* (salt-tolerant vegetation), *pastizal natural* (natural grassland), and *matorral xerófilo* (cactus-related brush). The *matorral xerófilo* vegetation includes *matorral mediano bajo espinoso* (shallow thorny bush) and *matorral subinerme* (brush with few branches) vegetations. Most of the natural vegetation in the area has been replaced by cropland and urban development, although areas of native brush land remain in both the U.S. and Mexico. Plant species typical of salt-tolerant vegetation include Berlandier's wolfberry, blackbrush, boxthorn fiddlewood, calderona, candelilla, elbowbush, grass, guayacan, honey mesquite, knifeleaf condalia, lotebush, oreja de ratón, palo verde, prickly pear, red grama, saladillo, and tasajillo.

3.4.2 Fauna. Wildlife communities in the north and central parts of Reynosa include opossums, badgers, raccoons, coyotes, flocks of small wild birds, and migratory white-winged doves. In the Laguna Escondida Park at the southeastern part of the city, swimming turtles, quail, snow geese, mourning doves, white-tipped doves, redbilled pigeons, and five types of ducks are found. Common mammals in the park are opossums, armadillos, and black-tailed jackrabbits.

The Mexican government has designated 148 natural protected areas, classified as biosphere reserves, national parks, natural monuments, natural resource protection areas, flora and fauna protection areas, and sanctuaries. Three of these areas are in the state of Nuevo León and one is in the state of Tamaulipas. The closest one to the proposed study area is the El Sabinal National Park, located 80 miles west of Reynosa, in the Municipality of Cerralo, Nuevo León. Ducks Unlimited de Mexico, a conservation organization that protects habitat for waterfowl, has identified 28 key wetlands for migratory and residential waterfowl in Mexico. The closest key wetland to Reynosa is the Rio Grande Delta, 350,140-acre wetland area located 65 miles east of Reynosa.

Biological resources in the study area, and State of Texas and U.S. federally listed threatened and endangered species would not be affected. The 90,000-acre Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) is across the Rio Grande in Cameron, Hidalgo and Starr counties in Texas, between Falcon Dam and the Gulf of Mexico. The LRGVNWR hosts a diverse wildlife community including some endangered species.

3.5 Cultural/Historic Resources. During the planning process, Reynosa obtained a declaration from the *Instituto Nacional de Antropología e Historia*, (INAH, National Institute of Anthropology and History), that states that no cultural resources have been identified in the construction area for the near term actions under the Water Master Plan.

There are sixteen cultural resources listed in the National Register of Historic Places for Hidalgo County, three of which are in the city of Hidalgo. None of these cultural resources are located on the banks of the Rio Grande, making it very unlikely that they would be affected by activities in Reynosa. The proposed project was coordinated with the State Historic Preservation Officer concerning the protection of sensitive resources with archaeological, historical, architectural, or cultural significance. These protected resources do not occur in the proposed

project area and cultural or historic resources will not be adversely impacted by construction of the project.

3.6 Prime and Unique Farmlands. The proposed project area is in Reynosa, Mexico and protected resources such as prime and unique farmland are U.S. designations. No U.S. soils will be adversely affected by construction of the project. The Natural Resources Conservation Service (NRCS) has stated that it has no objection to the project and that construction activities will not affect any NRCS work in the area.

3.7 Floodplain Management and Wetland Protection.

3.7.1 Floodplain Management. The proposed project was coordinated with the International Boundary Water Commission (IBWC), BECC, governments of the U.S. and Mexico, concerning floodplain protection and floodplain management regulations. The flow in the Rio Grande would not be affected by the transfer of water rights from agricultural to municipal and industrial uses, and no water boundaries would be affected by the proposed project.

3.7.2 Wetland Protection. The U.S. Army Corps of Engineers (COE) which oversees the protection of jurisdictional wetlands in the U.S. would not have jurisdiction over construction activities in Mexico. There will be no short or long-term impacts of any kind on other waterways or wetlands in the U.S. Ducks Unlimited de Mexico, a conservation organization that protects habitat for waterfowl, has identified 28 key wetlands for migratory and residential waterfowl in Mexico. The closest key wetland to Reynosa is the Rio Grande Delta, 350,140-acre wetland area located 65 miles east of Reynosa. As a mitigation measure, distribution line work would be conducted in stages so that excavation piles would be left exposed for shorter periods of time.

3.8 Socio-economics and Environmental Justice. The Municipality of Reynosa has experienced an average population growth rate of 3.67 percent since 1950. The city of Reynosa has experienced a growth rate of 5.07 percent. In the year 2000, the population of Reynosa was 403,718, corresponding to 96 percent of the population of the Municipality. Fifty-five percent of the population 12 years of age and older in the Municipality were economically active. The 2003 minimum wage in Reynosa was $120(US) per month. About four percent of the employed population of the Municipality received the minimum wage or less, while 39 percent received 1 to 2 times the minimum wage, 34 percent about 2-5 times the minimum wage, and about 12 percent over 5 times the minimum wage. As of 2000, 69.7 percent of Reynosa households were connected to the municipal sewer system, and 12.1 percent used septic tanks or drained to a ravine. About 17.7 percent of the households did not have any drainage.

3.9 Cumulative Impacts. Potential cumulative impacts would be those impacts to the local environment resulting from the proposed project in conjunction with other on-going actions and those in the foreseeable future. No other major construction activity is being conducted presently or planned for the immediate future. The proposed project will not individually nor cumulatively over time have a negative impact on the quality of the human or natural environment. Instead, the proposed water and wastewater projects on both sides of the Rio Grande are considered to be beneficial environmental protection actions. These Border

Environment Cooperation Commission (BECC) and Colonias projects and will serve to protect the local environment from continued contamination and improve the public health and safety of border area residents.

4.0 OTHER ENVIRONMENTAL CONSIDERATIONS.

4.1 Unavoidable Adverse Impacts. The proposed project has been analyzed and the probability of impact occurrence evaluated for conformity to national, international mandates and distribution of socio-economic risks and benefits. No significant unavoidable adverse impacts have been identified. A temporary increase in employment may occur during construction of the various elements of the treatment plant and distribution systems, and some local businesses may evidence a temporary increase in business from nonresidents working on the construction of the WTPs. The proposed project actions should not have any substantial negative impacts upon current land uses or land values, nor the values of surrounding land holdings. The proposed action would have energy requirements typical of other projects of similar scope, size and duration.

4.2 Relationship of Short-Term Uses and Long-Term Productivity. The majority of the impacts associated with the proposed project will be short-term and will cease after completion of construction work in any particular area. In the short term, construction of the proposed project elements may cause temporary traffic disruptions, increased truck traffic, and fugitive dust emissions. The long-term benefits provided to the population by the drinking water treatment and distribution system would more than offset any short-term inconveniences.

4.3 Irreversible and Irretrievable Commitments of Resources. The only irreversible irretrievable commitment of resources would be the financial, energy and equipment, and resources used to construct the WTP and distribution systems.

5.0 AGENCIES RECEIVING EA FOR REVIEW

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
International Boundary and Water Commission
Border Environment Cooperation Commission
North American Development Bank
Natural Resources Conservation Service
Texas Commission on Environmental Quality
Texas Parks and Wildlife Department
Texas Water Development Board
Secretaría de Comunicaciones y Obras Públicas
Secretaría de Planeación y Evaluación
Secretaría de Desarrollo Urbano y Ecología
Comision Nacional del Agua, Subdireccion General Tecnica
Instituto Nacional de Antropología e Historia (INAH)
Secretaría del Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP) (Environment, Natural Resources & Fishing Secretary)

6.0 FIGURES

7.0 BIBLIOGRAPHY

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