

Departamento de Transportación y Obras Públicas
Autoridad de Carreteras y Transportación
Área de Diseño

DIRECTRIZ DE DISEÑO 115

Información de Diseño Requerida para Cumplir con la Revisión Anual de Consistencia del Plan de Gerencia de Activos de Transportación (TAMP por sus siglas en inglés) en Cumplimiento con la Regulación 23 CFR Parte 515.13.

La preparación e implementación de un Plan de Gerencia de Activos de Transportación (TAMP por sus siglas en inglés) es un requisito federal para las agencias de transportación recipientes de fondos federales (23 CFR § 515.3). Anualmente al 31 de julio se realiza una revisión federal de consistencia (23 CFR § 515.13 (a)). Para esta revisión tenemos que evaluar si la ACT impactó y realizó las inversiones según indicado en el Plan. Con el fin de ejecutar esta tarea, se desarrolló esta directriz de diseño donde se le solicita a los DISEÑADORES indicar los carriles millas y el área de superficie de puentes a impactarse, así como el estimado de costos relacionado; esto, por cada tipo de trabajo según las siguientes cuatro categorías: Preservación, Rehabilitación Menor, Rehabilitación Mayor y Reconstrucción/Reemplazo. Para la revisión de consistencia, se utilizarán los carriles milla y las áreas indicadas por el DISEÑADOR, y se aplicarán las proporciones de costos del DISEÑADOR al precio adjudicado. En esta directriz se le notifica a todos los DISEÑADORES, tanto externos como internos, que en el desarrollo del diseño de un proyecto se someterá la información descrita a continuación con la entrega de los documentos finales (100%), al Programa de Gerencia de Transportación a través del siguiente correo electrónico: *prhta.design@dtop.pr.gov*, con copia al Gerente de Proyecto por parte de la ACT. El asunto del correo electrónico debe incluir el número de esta directriz, el número de AC correspondiente y el número de contrato en el siguiente formato: **DD 115, AC-NNNNNN, Contrato Núm. YYYY-NNNNNN**.

La información que se someterá con la entrega de los documentos finales (100%) está descrita en la Tabla A - 1: Desglose de Trabajos y Costos Relacionado con Pavimentos y la Tabla A - 2: Desglose de Trabajos y Costos Relacionados con Puentes, incluidas en el Anejo A. El **Formato de Entrega** de estas tablas está disponible a través de los enlaces:

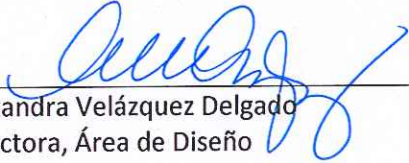
- https://act.dtop.pr.gov/pdf/17130_PRTAMP_Design_Directive_Tables_A-1-A-2.xlsx (directo) ó
- <https://act.dtop.pr.gov/directrices-de-diseno/>, renglón identificado como **115a**

El Anejo B incluye la definición, a utilizarse para propósitos de esta directriz, de las cuatro categorías de trabajos: Preservación, Rehabilitación Menor, Rehabilitación Mayor y Reconstrucción/Reemplazo para los proyectos de pavimentos y de puentes.

El Anejo C incluye ejemplos de las partidas o especificaciones a incluirse en los estimados de costos. Los estimados para cada categoría de trabajo deben incluir todas las partidas asociadas necesarias para poder llevar a cabo ese trabajo. En adición a la información solicitada, se debe incluir el desglose de los cálculos ("take off") en formato legible, preferiblemente Excel, Word, o PDF.

Al someter los planos finales, el DISEÑADOR anejará la Tabla A - 1 y la Tabla A - 2 incluidas en esta directriz. El DISEÑADOR será responsable de incluir todas las partidas o especificaciones relacionadas a cada categoría de trabajo en el diseño. De haber omitido alguna de la información solicitada en la Tabla A - 1 y/o la Tabla A - 2, el CONSULTOR deberá explicar las razones que le han impedido completar las mismas.

Esta directriz tiene vigencia inmediata.


Alexandra Velázquez Delgado
Directora, Área de Diseño

4-junio-2021
Fecha

Anejos

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Anejo A: Tablas a Llenar

Tabla A - 1: Desglose de Trabajos y Costos Relacionado con Pavimentos

Pavement Works in Analysis Period												
Surface Type	Network System	Project Type	Road	Start KM	End KM	Length (Miles)	Direction (Increasing Km /Decreasing Km)	Number of Lanes	Treatment Lane Miles	Shoulder Treatment Cost	Cost Estimate	Percent of Total Project Cost
Asphalt	Interstate	Preservation										
		Minor Rehabilitation										
		Major Rehabilitation										
		Reconstruction/ Replacement										
	NHS Non-Interstate	Preservation										
		Minor Rehabilitation										
		Major Rehabilitation										
		Reconstruction/ Replacement										
	Non-NHS	Preservation										
		Minor Rehabilitation										
		Major Rehabilitation										
		Reconstruction/ Replacement										

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Pavement Works in Analysis Period												
Surface Type	Network System	Project Type	Road	Start KM	End KM	Length (Miles)	Direction (Increasing Km /Decreasing Km)	Number of Lanes	Treatment Lane Miles	Shoulder Treatment Cost	Cost Estimate	Percent of Total Project Cost
Concrete	Interstate	Preservation										
		Minor Rehabilitation										
		Major Rehabilitation										
		Reconstruction/ Replacement										
	NHS Non-Interstate	Preservation										
		Minor Rehabilitation										
		Major Rehabilitation										
		Reconstruction/ Replacement										
	Non-NHS	Preservation										
		Minor Rehabilitation										
		Major Rehabilitation										
		Reconstruction/ Replacement										

Tabla A - 2: Desglose de Trabajos y Costos Relacionados con Puentes

Bridge Works in Analysis Period													
Network System	Project Type	Element	Bridge Number	Start KM	End KM	Direction (Increasing Km /Decreasing Km)	Number of Lanes	Length (Meters)	Deck / Approach Width (Meters)	Treatment Equivalent Deck Area (Square Meters)	Cost Estimate	Percent of Total Project Cost	
NHS	Preservation	Deck											
		Super structure											
		Sub structure											
	Minor Rehabilitation	Deck											
		Super structure											
		Sub structure											
	Major Rehabilitation	Deck											
		Super structure											
		Sub structure											
	Reconstruction/ Replacement	Deck											
		Super structure											
		Sub structure											

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Bridge Works in Analysis Period												
Network System	Project Type	Element	Bridge Number	Start KM	End KM	Direction (Increasing Km /Decreasing Km)	Number of Lanes	Length (Meters)	Deck / Approach Width (Meters)	Treatment Equivalent Deck Area (Square Meters)	Cost Estimate	Percent of Total Project Cost
Non-NHS	Preservation	Deck										
		Super structure										
		Sub structure										
	Minor Rehabilitation	Deck										
		Super structure										
		Sub structure										
	Major Rehabilitation	Deck										
		Super structure										
		Sub structure										
	Reconstruction/ Replacement	Deck										
		Super structure										
		Sub structure										

Anejo B: Definiciones a Usar para los Tipos de Tratamientos

Tabla B - 1: Tipos de Tratamientos para Trabajos de Pavimentos

Flexible Pavement (Asphalt & Other) Project Type	Description (Type of treatment or works included in the project)
Preservation	Less than 2" of Micro Milling & Overlay, Crack Filling, Crack Sealing, Fog Seal, Sand Seal, Flush Seal, Slurry Seal, Micro-Surfacing, Cape Seal
Minor Rehabilitation	From 2" to less than 6" of Cold Milling & Overlay, HIR (Hot in place recycling), Pothole Patching
Major Rehabilitation	6" or more of Cold Milling & Overlay, CIR (Cold in place recycling), Drainage Repairs
Reconstruction	Full Depth Repairs (Base replacement if needed), FDR (Full Depth Reclamation)
Rigid Pavement (Concrete) Project Type	Description (Type of treatment or works included in the project)
Preservation	Joint Sealing, Crack Sealing, Diamond Grinding, Diamond Grooving
Minor Rehabilitation	Partial Depth Repairs, Undersealing or Slab Jacking, LTR (Load Transfer Restoration)
Major Rehabilitation	Full Depth Repairs, Drainage Repairs
Reconstruction	Slab Replacement (Base replacement if needed), CRR (Cracking Reseating & Resurfacing)

Tabla B - 2: Tipos de Tratamientos para Trabajos de Puentes

Bridges Approach of the Project	Component	Description (Type of treatment or works included in the project)
Preservation Cyclic Maintenance	Deck, Approach Slab, and Barrier	Sweeping/washing Corrosion inhibitor Sealing Polymer overlay Joints clean/repair/replace/elimination Drain clean
	Superstructure	Bearing clean/lubricate Clean Corrosion inhibitor Crack sealing
	Substructure	Clean Corrosion inhibitor Crack sealing Scour countermeasures
Minor Rehabilitation Condition Based	Deck, Approach Slab, and Barrier	Partial depth patching Cyclic works
Major Rehabilitation Condition Based	Deck, Approach Slab, and Barrier	Partial/full depth patching Concrete overlay Cyclic works
	Superstructure	Bearing rehabilitate/replace Repair/rehabilitate/retrofit Cyclic works
	Substructure	Repair/rehabilitate/retrofit Cyclic works
Reconstruction Rehabilitation/Replacement		Replace Deck Replace superstructure Replace substructure

Culverts Approach of the Project	Component	Description (Type of treatment or works included in the project)
Preservation Cyclic Maintenance	Slab, Approach slab, and barrier & walls	Sweeping/washing Corrosion inhibitor Crack sealing Polymer overlay Partial depth patching Clean debris Scour countermeasures Channel improvements
Minor Rehabilitation Condition Based	Slab, Approach slab, and barrier & walls	Partial depth patching Repair/rehabilitate/retrofit Cyclic works
Major Rehabilitation Condition Based	Slab, Approach slab, and barrier & walls	Partial/full depth patching Repair/rehabilitate/retrofit Concrete overlay Cyclic works
Reconstruction Rehabilitation/Replacement	Slab, Approach slab, and barrier & walls	Replace slab Replace walls/headwalls

Anejo C: Ejemplos de Partidas o Especificaciones a Incluir en los Estimados de Costo

Tabla C - 1: Pavimentos Interestatales de Asfalto

INTERSTATE ASPHALT PAVEMENTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Pavement Preservation		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
403	CuM	Cold Milling Bituminous Concrete Pavement (Micro-Milling)
412	LnM	Crack Sealing and Filling for Asphalt Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
967	SqM	Structural Rumble Strips
xxx	SqM	Micro-surfacing (Draft)
xxx	SqM	Bonded Wearing Courses and Ultra-Thin Bonded Wearing Course (Draft)
Pavement Rehabilitation		
Spec. Number	Units	Description
305	SqM	Lean Concrete 0.20 M Thick
402	CuM	Full Depth Removal of Bituminous Concrete Pavement
402	CuM	Replacement of Aggregate Base Course
403	CuM	Cold Milling Bituminous Concrete Pavement (0.075 M Thick)
412	LnM	Crack Sealing and Filling for Asphalt Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow

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INTERSTATE ASPHALT PAVEMENT		
Pavement Rehabilitation		
Spec. Number	Units	Description
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
967	SqM	Paving Structural Geogrid
967	SqM	Structural Rumble Strips
xxx	xxx	Full Depth Reclamation
Pavement Reconstruction/Replacement		
Spec. Number	Units	Description
203	SqM	Proof Rolling
402	CuM	Full Depth Removal of Bituminous Concrete Pavement
402	CuM	Replacement Aggregate Base Course
402	CuM	Replacement Subbase Material
403	CuM	Cold Milling Bituminous Concrete Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
967	SqM	Paving Structural Geogrid
967	SqM	Structural Rumble Strips
xxx	xxx	Full Depth Reclamation
Other (Included in all work categories)		
Spec. Number	Units	Description
604	Each	Valve Box Adjustment
604	Each	Inlets Adjustments
604	Each	Manhole Adjustments
636	LS	Adjustments of PRASA Facilities

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 2: Pavimentos NHS No Interestatales de Asfalto

NHS-NON-INTERSTATE ASPHALT PAVEMENTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Pavement Preservation		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
403	CuM	Cold Milling Bituminous Concrete Pavement (Micro-Milling)
412	LnM	Crack Sealing and Filling for Asphalt Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
967	SqM	Structural Rumble Strips
xxx	SqM	Micro-surfacing (Draft)
xxx	SqM	Bonded Wearing Courses and Ultra-Thin Bonded Wearing Course (Draft)
Pavement Rehabilitation		
Spec. Number	Units	Description
305	SqM	Lean Concrete 0.20 M Thick
402	CuM	Full Depth Removal of Bituminous Concrete Pavement
402	CuM	Replacement of Aggregate Base Course
403	CuM	Cold Milling Bituminous Concrete Pavement (0.075 M Thick)
412	LnM	Crack Sealing and Filling for Asphalt Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow

NHS-NON-INTERSTATE ASPHALT		
Pavement Rehabilitation		
Spec. Number	Units	Description
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
967	SqM	Paving Structural Geogrid
967	SqM	Structural Rumble Strips
xxx	xxx	Full Depth Reclamation
Pavement Reconstruction/Replacement		
Spec. Number	Units	Description
203	SqM	Proof Rolling
402	CuM	Full Depth Removal of Bituminous Concrete Pavement
402	CuM	Replacement Aggregate Base Course
402	CuM	Replacement Subbase Material
403	CuM	Cold Milling Bituminous Concrete Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
967	SqM	Paving Structural Geogrid
967	SqM	Structural Rumble Strips
xxx	xxx	Full Depth Reclamation
Other (Included in all work categories)		
Spec. Number	Units	Description
604	Each	Valve Box Adjustment
604	Each	Inlets Adjustments
604	Each	Manhole Adjustments
636	LS	Adjustments of PRASA Facilities

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 3: Pavimentos No NHS de Asfalto

NON-NHS ASPHALT PAVEMENTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Pavement Preservation		
Spec. Number	Units	Description
401	Ton	Hot Plant-Mix Bituminous Pavement Mix S (75) (12)
401	Ton	Hot Plan-Mix Bituminous Pavement Mix B (75) (34)
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 M Thick)
403	CuM	Cold Milling Bituminous Concrete Pavement (Micro-Milling)
412	LnM	Crack Sealing and Filling for Asphalt Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
967	SqM	Structural Rumble Strips
xxx	SqM	Micro-surfacing (Draft)
xxx	SqM	Bonded Wearing Courses and Ultra-Thin Bonded Wearing Course (Draft)
Pavement Rehabilitation		
Spec. Number	Units	Description
305	SqM	Lean Concrete 0.20 M Thick
401	Ton	Hot Plant Mix Bituminous Pavement Mix S (75) (12)
401	Ton	Hot Plant Mix Bituminous Pavement Mix B (75) (34)
402	CuM	Full Depth Removal of Bituminous Concrete Pavement

NON-NHS ASPHALT PAVEMENT		
Pavement Rehabilitation		
Spec. Number	Units	Description
402	CuM	Replacement of Aggregate Base Course
403	CuM	Cold Milling Bituminous Concrete Pavement (0.075 M Thick)
412	LnM	Crack Sealing and Filling for Asphalt Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
967	SqM	Paving Structural Geogrid
967	SqM	Structural Rumble Strips
xxx	xxx	Full Depth Reclamation
Pavement Reconstruction/Replacement		
Spec. Number	Units	Description
203	SqM	Proof Rolling
401	Ton	Hot Plant Mix Bituminous Pavement Mix S (75) (12)
401	Ton	Hot Plant Mix Bituminous Pavement Mix B (75) (34)
402	CuM	Full Depth Removal of Bituminous Concrete Pavement
402	CuM	Replacement Aggregate Base Course
402	CuM	Replacement Subbase Material
403	CuM	Cold Milling Bituminous Concrete Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised pavement Marking, One Way Yellow
967	SqM	Paving Structural Geogrid
967	SqM	Structural Rumble Strips
xxx	xxx	Full Depth Reclamation
Other (Included in all work categories)		
Spec. Number	Units	Description
604	Each	Valve Box Adjustment
604	Each	Inlets Adjustments
604	Each	Manhole Adjustments
636	LS	Adjustments of PRASA Facilities

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 4: Pavimentos Interestatales de Hormigón

INTERSTATE CONCRETE PAVEMENTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrows Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hours	Truck Mounted Attenuator (TMA), TL-3
Pavement Preservation		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
502	Each	Injection Holes
502	Bags	Undersealing Grout Cement
505	Each	New Dowels
505	Each	Dowels Replacement
506	SqM	Grind Concrete Pavement
507	LnM	Sealing of PCC Pavement Joint and Cracks
507	LnM	Sealing of Pavement/Shoulder Joint
508	Each	Pavement Jacking Injection Holes
508	Bags	Jacking Grout Cement
509	SqM	Removal of Existing Bituminous Overlay
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
Pavement Rehabilitation		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
501	LnM	Pavement Drains
504	SqM	Partial Depth Patching Portland Cement Concrete Pavement

INTERSTATE CONCRETE PAVEMENT		
Pavement Rehabilitation		
Spec. Number	Units	Description
505	Each	Dowels
506	SqM	Grind Concrete Pavement
507	LnM	Sealing of PCC Pavement Joint and Cracks
507	LnM	Sealing of Pavement/Shoulder
509	SqM	Removal of Existing Bituminous Overlay
512	LnM	Reconstruction of Expansion Joint
512	LnM	Replacement of Compression Joint Seal
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
Pavement Reconstruction/Replacement		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
501	LnM	Pavement Drain
503	SqM	Removal of Portland Cement Concrete Pavement
503	CuM	Replacement Sub-base Material
503	CuM	Replacement Aggregate Base Course
503	SqM	Portland Cement Concrete Slab Replacement
503	SqM	PC Concrete Pavement (Acc. Strength) 0.25 Mt. Th.
505	Each	New Dowels
506	SqM	Grind Concrete Pavement
509	SqM	Cracking, Resealing and Cleaning Concrete Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
Other (Included in all work categories)		
Spec. Number	Units	Description
604	Each	Valve Box Adjustments
604	Each	Inlets Adjustments
604	Each	Manhole Adjustments
636	LS	Adjustment of PRASA Facilities

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 5: Pavimentos NHS No Interestatales de Hormigón

NHS-NON-INTERSTATE CONCRETE PAVEMENTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrows Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hours	Truck Mounted Attenuator (TMA), TL-3
Pavement Preservation		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
502	Each	Injection Holes
502	Bags	Undersealing Grout Cement
505	Each	New Dowels
505	Each	Dowels Replacement
506	SqM	Grind Concrete Pavement
507	LnM	Sealing of PCC Pavement Joint and Cracks
507	LnM	Sealing of Pavement/Shoulder Joint
508	Each	Pavement Jacking Injection Holes
508	Bags	Jacking Grout Cement
509	SqM	Removal of Existing Bituminous Overlay
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
Pavement Rehabilitation		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
501	LnM	Pavement Drains
504	SqM	Partial Depth Patching Portland Cement Concrete Pavement

NHS-NON-INTERSTATE CONCRETE PAVEMENT		
Pavement Rehabilitation		
Spec. Number	Units	Description
505	Each	Dowels
506	SqM	Grind Concrete Pavement
507	LnM	Sealing of PCC Pavement Joint and Cracks
507	LnM	Sealing of Pavement/Shoulder
509	SqM	Removal of Existing Bituminous Overlay
512	LnM	Reconstruction of Expansion Joint
512	LnM	Replacement of Compression Joint Seal
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
Pavement Reconstruction/Replacement		
Spec. Number	Units	Description
305	CuM	Lean Concrete Base
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
501	LnM	Pavement Drain
503	CuM	Replacement Sub-base Material
503	CuM	Replacement Aggregate Base Course
503	SqM	Portland Cement Concrete Slab Replacement
503	SqM	PC Concrete Pavement (Acc. Strength) 0.25 Mt. Th.
505	Each	New Dowels
506	SqM	Grind Concrete Pavement
509	SqM	Cracking, Resealing and Cleaning Concrete Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)
Other (Included in all work categories)		
Spec. Number	Units	Description
604	Each	Valve Box Adjustments
604	Each	Inlets Adjustments
604	Each	Manhole Adjustments
636	LS	Adjustment of PRASA Facilities

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 6: Pavimentos No NHS de Hormigón

NON-NHS CONCRETE PAVEMENTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrows Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hours	Truck Mounted Attenuator (TMA), TL-3
Pavement Preservation		
Spec. Number	Units	Description
401	Ton	Hot Plant Mix Bituminous Pavement Mix S (75) (12)
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
502	Each	Injection Holes
502	Bags	Undersealing Grout Cement
505	Each	New Dowels
505	Each	Dowels Replacement
506	SqM	Grind Concrete Pavement
507	LnM	Sealing of PCC Pavement Joint and Cracks
507	LnM	Sealing of Pavement/Shoulder Joint
508	Each	Pavement Jacking Injection Holes
508	Bags	Jacking Grout Cement
509	SqM	Removal of Existing Bituminous Overlay
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
Pavement Rehabilitation		
Spec. Number	Units	Description
401	Ton	Hot Plant Mix Bituminous Pavement Mix S (75) (12)
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
501	LnM	Pavement Drains
504	SqM	Partial Depth Patching Portland Cement Concrete Pavement

NON-NHS CONCRETE PAVEMENT		
Pavement Rehabilitation		
Spec. Number	Units	Description
401	Ton	Hot Plant Mix Bituminous Concrete Pavement Mix S (75) (12)
401	Ton	Hot Plant Mix Bituminous Concrete Pavement Mix B (75) (34)
505	Each	Dowels
506	SqM	Grind Concrete Pavement
507	LnM	Sealing of PCC Pavement Joint and Cracks
507	LnM	Sealing of Pavement/Shoulder
509	SqM	Removal of Existing Bituminous Overlay
509	SqM	Cracking, Resealing and Cleaning Concrete Pavement
512	LnM	Reconstruction of Expansion Joint
512	LnM	Replacement of Compression Joint Seal
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
Pavement Reconstruction/Replacement		
Spec. Number	Units	Description
305	CuM	Lean Concrete Base
401	Ton	Hot Plant Mix Bituminous Pavement Mix S (75) (12)
403	CuM	Cold Milling Bituminous Concrete Pavement (0.05 m Thick)
501	LnM	Pavement Drain
503	CuM	Replacement Sub-base Material
503	CuM	Replacement Aggregate Base Course
503	SqM	Portland Cement Concrete Slab Replacement
503	SqM	PC Concrete Pavement (Acc. Strength) 0.25 Mt. Th.
505	Each	New Dowels
506	SqM	Grind Concrete Pavement
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
618	Each	Thermoplastic Pavement Marking Stripes, Symbols & Letters
640	Each	Reflective Raised Pavement Marking, One Way Clear
640	Each	Reflective Raised Pavement Marking, One Way Yellow
Other (Included in all work categories)		
Spec. Number	Units	Description
604	Each	Valve Box Adjustments
604	Each	Inlets Adjustments
604	Each	Manhole Adjustments
636	LS	Adjustment of PRASA Facilities

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 7: Puentes NHS

NHS BRIDGES		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Bridge Preservation		
Spec. Number	Units	Description
203	CuM	Unclassified Excavation
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class _____
632	Each	Cleaning and Repair of Manholes, Inlets and Catch Basins
653	LS	Cleaning and Painting Structures, Bearing System 3 Bare Steel
660	Each	Name Plate
815	SqM	Corrosion Inhibitor
815	SqM	Gravity Fed Low Viscosity Crack Sealer/Healer
815	SqM	Thin Epoxy Overlay with Broadcast Aggregate System
827	Each	Bridge Load Rating
827	Each	As Built Drawing
907	SqM	Cleaning of Bridge Concrete Barrier
910	Each	Bridge Transition Upgrade
937	SqM	Impregnating of Corrosion Inhibitor
937	SqM	Sealing Bridge Deck Surface
937	LnM	Sealing of Construction Joint in Patching Areas
937	CuM	Deck Patch Material (Accelerate Strength Concrete), Partial Depth
937	LnM	Sealing of Cracks in Concrete Substrate
937	SqM	Partial Depth Removal Bridge Concrete Deck 0.10 M
939	CuM	Header Material
939	LnM	Sealing of Construction Joint in Bridge Joint System
939	LnM	Concrete Bridge Joint System Type A

NHS BRIDGES		
Bridge Preservation		
Spec. Number	Units	Description
939	LnM	Special Concrete Bridge Joint System
940	CuM	Barrier Patch Material (Accelerate Strength Concrete), Partial Depth
940	SqM	Partial Depth Removal Bridge Concrete Barrier 0.08 M
981	CuM	Concrete Overlay, Type ____ Mix
981	SqM	Partial-Depth Removal of Bridge Concrete Deck, ____ inch (Scarification)
Bridge Rehabilitation		
Spec. Number	Units	Description
202	LS	Removal of Structures & Obstructions
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B
601	CuM	Class A Concrete
602	Lbs	Reinforcing Steel
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
632	Each	Cleaning and Repair of Manholes, Inlets and Catch Basins
653	LS	Cleaning and Painting Structures, Bearing System 3 Bare Steel
660	Each	Name Plate
907	SqM	Cleaning of Bridge Concrete Barrier
910	Each	Bridge Transition Upgrade
937	SqM	Impregnating of Corrosion Inhibitor
937	SqM	Partial Depth Removal of Bridge Deck Concrete, ____ inch (Scarification)
937	SqM	Full Depth Removal of Bridge Concrete Deck
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Partial Depth
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Full Depth
937	LnM	Sealing of Construction Joints in Patching Areas
937	LnM	Sealing of Cracks in Concrete Substrate
939	LnM	Concrete Bridge Joint System, Type I
939	CuM	Header Material
939	LnM	Special Bridge Joint System
940	CuM	Partial Depth Removal Bridge Concrete Barrier 0.08 M
940	CuM	Barrier Patch Material (Accelerate Strength Concrete), Partial Depth
981	SqM	Overlay Concrete Test Section
981	SqM	Bridge Deck Concrete Overlay, Type ____ Mix
Bridge Reconstruction/Replacement		
Spec. Number	Units	Description
202	LS	Removal of Structures and Obstructions
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B

NHS BRIDGES		
Bridge Reconstruction/Replacement		
Spec. Number	Units	Description
206	CuM	Unclassified Excavation for Structures
211	CuM	Bridge Approach Embankment
301	CuM	Subbase Course
304	CuM	Aggregate Base Course, Grading A
401	Ton	Hot Plant-Mix Bituminous Pavement Mix S (75) (12)
401	Ton	Hot Plant-Mix Bituminous Pavement Mix B (75) (1)
403	CuM	Cold Milling Bituminous Concrete Pavement
601	CuM	Class A Concrete
602	Pnd	Reinforcing Steel
610	LnM	Concrete Barrier Type A
610	LnM	Concrete Barrier Type C
615*	LnM	Prestressed Concrete Piles, ____
615*	LnM	Precast Conventionally Reinforced Concrete Piles, ____
615*	LnM	Prestressed Concrete Test Piles, ____
615*	Each	Load Test
630*	Each	Prestressed Structural Concrete Member AASHTO Type ____
660	Each	Name Plate
909	SqM	Pre-Fabricated Drainage Composite
910	Each	New Transition Module (Cast In Place)
934	CuM	Concrete Class IV (Bridge Deck), Level 2
934	CuM	Concrete Class IV (General Use), Level 2
934	CuM	Concrete Class IV (General Use), Level 2
Roadway (Included in all work categories)		
Spec. Number	Units	Description
606	LnM	W-Beam Guardrail, Single Face
606	LnM	W-Beam Guardrail, Double Face
606	LnM	Removal, Storage, and Delivery of Existing Guardrail (any type)
606	Each	Thrie-Beam Transition Section, Type ____
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
640	Each	Reflective Raised Pavement Marking Stripes, One Way Clear
640	Each	Reflective Raised Pavement Marking Stripes, One Way Yellow

* Piles, test piles and structural members dimensions, strength and materials will vary according to the soil properties and design criteria. For details and specifications see PRHTA Standard Specifications, design directives and current standards.

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 8: Puentes No NHS

NON-NHS BRIDGES		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Bridge Preservation		
Spec. Number	Units	Description
203	CuM	Unclassified Excavation
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class _____
632	Each	Cleaning and Repair of Manholes, Inlets and Catch Basins
653	LS	Cleaning and Painting Structures, Bearing System 3 Bare Steel
660	Each	Name Plate
815	SqM	Corrosion Inhibitor
815	SqM	Gravity Fed Low Viscosity Crack Sealer/Healer
815	SqM	Thin Epoxy Overlay with Broadcast Aggregate System
827	Each	Bridge Load Rating
827	Each	As Built Drawing
907	SqM	Cleaning of Bridge Concrete Barrier
910	Each	Bridge Transition Upgrade
937	SqM	Impregnating of Corrosion Inhibitor
937	SqM	Sealing Bridge Deck Surface
937	LnM	Sealing of Construction Joint in Patching Areas
937	CuM	Deck Patch Material (Accelerate Strength Concrete), Partial Depth
937	LnM	Sealing of Cracks in Concrete Substrate
937	SqM	Partial Depth Removal Bridge Concrete Deck 0.10 M
939	CuM	Header Material
939	LnM	Sealing of Construction Joint in Bridge Joint System
939	LnM	Concrete Bridge Joint System Type A

NON-NHS BRIDGES		
Bridge Preservation		
Spec. Number	Units	Description
939	LnM	Special Concrete Bridge Joint System
940	CuM	Barrier Patch Material (Accelerate Strength Concrete), Partial Depth
940	SqM	Partial Depth Removal Bridge Concrete Barrier 0.08 M
981	CuM	Concrete Overlay, Type ____ Mix
981	SqM	Partial-Depth Removal of Bridge Concrete Deck, ____ inch (Scarification)
Bridge Rehabilitation		
Spec. Number	Units	Description
202	LS	Removal of Structures & Obstructions
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B
601	CuM	Class A Concrete
602	Lbs	Reinforcing Steel
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
632	Each	Cleaning and Repair of Manholes, Inlets and Catch Basins
653	LS	Cleaning and Painting Structures, Bearing System 3 Bare Steel
660	Each	Name Plate
907	SqM	Cleaning of Bridge Concrete Barrier
910	Each	Bridge Transition Upgrade
937	SqM	Impregnating of Corrosion Inhibitor
937	SqM	Partial Depth Removal of Bridge Deck Concrete, ____ inch (Scarification)
937	SqM	Full Depth Removal of Bridge Concrete Deck
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Partial Depth
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Full Depth
937	LnM	Sealing of Construction Joints in Patching Areas
937	LnM	Sealing of Cracks in Concrete Substrate
939	LnM	Concrete Bridge Joint System, Type I
939	CuM	Header Material
939	LnM	Special Bridge Joint System
940	CuM	Partial Depth Removal Bridge Concrete Barrier 0.08 M
940	CuM	Barrier Patch Material (Accelerate Strength Concrete), Partial Depth
981	SqM	Overlay Concrete Test Section
981	SqM	Bridge Deck Concrete Overlay, Type ____ Mix
Bridge Reconstruction/Replacement		
Spec. Number	Units	Description
202	LS	Removal of Structures and Obstructions
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B

NON-NHS BRIDGES		
Bridge Reconstruction/Replacement		
Spec. Number	Units	Description
206	CuM	Unclassified Excavation for Structures
211	CuM	Bridge Approach Embankment
301	CuM	Subbase Course
304	CuM	Aggregate Base Course, Grading A
401	Ton	Hot Plant-Mix Bituminous Pavement Mix S (75) (12)
401	Ton	Hot Plant-Mix Bituminous Pavement Mix B (75) (1)
403	CuM	Cold Milling Bituminous Concrete Pavement
601	CuM	Class A Concrete
602	Pnd	Reinforcing Steel
610	LnM	Concrete Barrier Type A
610	LnM	Concrete Barrier Type C
615*	LnM	Prestressed Concrete Piles, ____
615*	LnM	Precast Conventionally Reinforced Concrete Piles, ____
615*	LnM	Prestressed Concrete Test Piles, ____
615*	Each	Load Test
630*	Each	Prestressed Structural Concrete Member AASHTO Type ____
660	Each	Name Plate
909	SqM	Pre-Fabricated Drainage Composite
910	Each	New Transition Module (Cast In Place)
934	CuM	Concrete Class IV (Bridge Deck), Level 2
934	CuM	Concrete Class IV (General Use), Level 2
934	CuM	Concrete Class IV (General Use), Level 2
Roadway (Included in all work categories)		
606	LnM	W-Beam Guardrail, Single Face
606	L nM	W-Beam Guardrail, Double Face
606	LnM	Removal, Storage, and Delivery of Existing Guardrail (any type)
606	Each	Thrie-Beam Transition Section, Type ____
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
640	Each	Reflective Raised Pavement Marking Stripes, One Way Clear
640	Each	Reflective Raised Pavement Marking Stripes, One Way Yellow

* Piles, test piles and structural members dimensions, strength and materials will vary according to the soil properties and design criteria. For details and specifications see PRHTA Standard Specifications, design directives and current standards.

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 9: Puentes Atarjeas NHS

DD115 aplica a atarjeas cuya longitud es igual o mayor a 20 pies o 6.1 metros.

NHS CULVERTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Culvert Preservation		
Spec. Number	Units	Description
202	CuM/SqM	Removal of Debris and Garbage
203	CuM	Unclassified Excavation
305	CuM	Lean Concrete
601	CuM	Class A Concrete
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
815	SqM	Corrosion Inhibitor
815	SqM	Thin-Epoxy Overlay with Broadcast Aggregate System
907	SqM	Cleaning of Concrete Barriers
910	Each	New Transition Module
937	SqM	Partial-Depth Removal of Concrete Deck (Scarification), ____ in
937	CuM	Deck-Patching Material (Accelerate Strength Concrete), Partial Depth
937	LnM	Sealing of Cracks in Concrete Substrate
937	LnM	Sealing of Construction Joints in Patching Areas
981	CuM	Overlay Concrete, Type ____ Mix
Culvert Rehabilitation		
Spec. Number	Units	Description
202	LS	Removal of Structures and Obstructions
202	CuM/SqM	Removal of Debris and Garbage
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B
203	CuM	Borrow Class D

NHS CULVERTS		
Culvert Rehabilitation		
Spec. Number	Units	Description
304	CuM	Aggregate Base Course, Grading A
305	CuM	Lean Concrete
601	CuM	Class A Concrete
602	Lbs	Reinforcing Steel
603	Each	Reinforced Concrete Box Headwall
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
907	SqM	Cleaning of Concrete Barriers
910	Each	New Transition Module
937	SqM	Partial-Depth Removal of Concrete Deck, ____ inch
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Partial Depth
937	SqM	Full Depth Removal of Concrete Deck
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Full Depth
937	LnM	Sealing of Cracks in Concrete Substrate
940	SqM	Partial-Depth Removal of Concrete Barrier 0.08 Mts
940	CuM	Barrier Patching Material (Accelerate Strength Concrete), Partial Depth
981	CuM	Overlay Concrete, Type ____ Mix
Culvert Reconstruction/Replacement		
Spec. Number	Units	Description
202	LS	Removal of Structures and Obstructions
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B
203	CuM	Borrow Class D
301	CuM	Subbase Course
304	CuM	Aggregate Base Course, Grading A
601	CuM	Class A Concrete
602	Lbs	Reinforcing Steel
603*	LnM	____ inch Reinforced Concrete Pipe, Class ____
603*	Each	____ inch Reinforced Concrete Culvert End Section
603*	LnM	Precast Reinforced Concrete Box Section
603*	Each	Reinforced Concrete Box Headwall
610	LnM	Concrete Barrier Type A
610	LnM	Concrete Barrier Type C
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
910	Each	New Transition Module
934	CuM	Concrete Class III (General Use), Level 2
934	CuM	Concrete Class IV (General Use), Level 2

NHS CULVERTS		
Culvert Reconstruction/Replacement		
Spec. Number	Units	Description
934	CuM	Concrete Class V (Deck), Level 2
Roadway (Included in all work categories)		
Spec. Number	Units	Description
403	CuM	Cold Milling Bituminous Concrete Pavement
606	LnM	W-Beam Guardrail, Single Face
606	LnM	W-Beam Guardrail, Double Face
606	LnM	Removal, Storage, and Delivery of Existing Guardrail (any type)
606	Each	Thrie-Beam Transition Section, Type ____
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
640	Each	Reflective Raised Pavement Marking Stripes, One Way Clear
640	Each	Reflective Raised Pavement Marking Stripes, One Way Yellow
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPS)
964	Ton	Warm Mix Asphalt Pavement Superpave Mix (SPB)

* Drainage & culvert pipes and precast box sections dimensions, strength and materials may vary according to site characteristics and design criteria. For details and specifications see PRHTA Standard Specifications and Drawings.

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.

Tabla C - 10: Puentes Atarjeas No NHS

DD115 aplica a atarjeas cuya longitud es igual o mayor a 20 pies o 6.1 metros.

NON-NHS CULVERTS		
General (Included in all work categories)		
Spec. Number	Units	Description
151	LS	Mobilization
Maintenance and Protection of Traffic (Included in all work categories)		
Spec. Number	Units	Description
638	SqM	Construction Sign
638	Each	Barricade Type III
638	Each	Drums
638	LnM	Removal Pavement Marking
638	LnM	Temporary Pavement Marking
638	Each	Temporary Impact Attenuator, TL-3, Type 3
638	Day	Flashing Arrow Panel
638	LnM	Temporary Concrete Barrier
638	Month	Portable Changeable Message Sign
638	Hour	Truck Mounted Attenuator (TMA), TL-3
Culvert Preservation		
Spec. Number	Units	Description
202	CuM/SqM	Removal of Debris and Garbage
203	CuM	Unclassified Excavation
305	CuM	Lean Concrete
601	CuM	Class A Concrete
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
815	SqM	Corrosion Inhibitor
815	SqM	Thin-Epoxy Overlay with Broadcast Aggregate System
907	SqM	Cleaning of Concrete Barriers
910	Each	New Transition Module
937	SqM	Partial-Depth Removal of Concrete Deck (Scarification), ____ in
937	CuM	Deck-Patching Material (Accelerate Strength Concrete), Partial Depth
937	LnM	Sealing of Cracks in Concrete Substrate
937	LnM	Sealing of Construction Joints in Patching Areas
981	CuM	Overlay Concrete, Type ____ Mix
Culvert Rehabilitation		
Spec. Number	Units	Description
202	LS	Removal of Structures and Obstructions
202	CuM/SqM	Removal of Debris and Garbage
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B
203	CuM	Borrow Class D

NON-NHS CULVERTS		
Culvert Rehabilitation		
Spec. Number	Units	Description
304	CuM	Aggregate Base Course, Grading A
305	CuM	Lean Concrete
601	CuM	Class A Concrete
602	Pnd	Reinforcing Steel
603	Each	Reinforced Concrete Box Headwall
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
907	SqM	Cleaning of Concrete Barriers
910	Each	New Transition Module
937	SqM	Partial-Depth Removal of Concrete Deck, ____ inch
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Partial Depth
937	SqM	Full Depth Removal of Concrete Deck
937	CuM	Deck Patching Material (Accelerate Strength Concrete), Full Depth
937	LnM	Sealing of Cracks in Concrete Substrate
940	SqM	Partial-Depth Removal of Concrete Barrier 0.08 Mts
940	CuM	Barrier Patching Material (Accelerate Strength Concrete), Partial Depth
981	CuM	Overlay Concrete, Type ____ Mix
Culvert Reconstruction/Replacement		
Spec. Number	Units	Description
202	LS	Removal of Structures and Obstructions
203	CuM	Unclassified Excavation
203	CuM	Borrow Class B
203	CuM	Borrow Class D
301	CuM	Subbase Course
304	CuM	Aggregate Base Course, Grading A
601	CuM	Class A Concrete
602	Lbs	Reinforcing Steel
603*	LnM	____ inch Reinforced Concrete Pipe, Class ____
603*	Each	____ inch Reinforced Concrete Culvert End Section
603*	LnM	Precast Reinforced Concrete Box Section
603*	Each	Reinforced Concrete Box Headwall
610	LnM	Concrete Barrier Type A
610	LnM	Concrete Barrier Type C
622	CuM	Filter Blanket
622	CuM	Grouted Riprap, Class ____
910	Each	New Transition Module
934	CuM	Concrete Class III (General Use), Level 2
934	CuM	Concrete Class IV (General Use), Level 2

NON-NHS CULVERTS		
Culvert Reconstruction/Replacement		
Spec. Number	Units	Description
934	CuM	Concrete Class V (Deck), Level 2
Roadway (Included in all work categories)		
Spec. Number	Units	Description
401	Ton	Hot Plant-Mix Bituminous Pavement Mix S (75) (12)
401	Ton	Hot Plant-Mix Bituminous Pavement Mix B (75) (1)
403	CuM	Cold Milling Bituminous Concrete Pavement
606	LnM	W-Beam Guardrail, Single Face
606	LnM	W-Beam Guardrail, Double Face
606	LnM	Removal, Storage, and Delivery of Existing Guardrail (any type)
606	Each	Thrie-Beam Transition Section, Type ____
618	LnM	Thermoplastic Pavement Marking Stripes, White
618	LnM	Thermoplastic Pavement Marking Stripes, Yellow
640	Each	Reflective Raised Pavement Marking Stripes, One Way Clear
640	Each	Reflective Raised Pavement Marking Stripes, One Way Yellow

* Drainage & culvert pipes and precast box sections dimensions, strength and materials may vary according to site characteristics and design criteria. For details and specifications see PRHTA Standard Specifications and Drawings.

Note: If several work categories are performed, input the items included in all work categories proportionally to the efforts of each category.