PART 1 - GENERAL

The following specification defines the furnishing of all labor, materials, equipment and incidentals required to perform all surface preparation and application of shop primers on ferrous metals, shop and field painting and/or coating, excluding stainless steels, as specified herein.

1.1 SCOPE

1.1.1 General
This specification shall apply to all exposed structural and miscellaneous steel; all mechanical and electrical equipment, operators, posts, conveying systems, pipe, fittings and valves; and all electrical conduit and appurtenances as specified in the attached painting schedules and all other work required to be surface prepared, primed, painted and coated unless otherwise specified on the engineering drawings. Minor items not stated in the schedule of work shall be included in the work of this Section if they come within the general intent of the specification.

1.1.2 Work Included

The Contractor shall furnish all labor, materials, equipment, tools and all other associated appurtenances required to perform the surface preparation and application of shop primers all shop painting, field painting and coating as specified herein for the project.

The following items shall not be painted:

- Stainless steels unless specifically noted otherwise.
- Packing glands and other adjustable parts and name plates of mechanical equipment.

Painting shown in schedules may not provide the Contractor with complete indication of all painting Work.

All new and specifically identified existing surfaces and items except where the natural finish of the material is specified as a corrosion resistant material not requiring paint; or is specifically indicated in the Contract Documents as a surface not to be painted. Where items or surfaces are not specifically mentioned, paint them the same as adjacent similar materials or areas.

1.1.3 Location of the Work

The location of this work is as shown on the bidding documents. All exposed surfaces shall be painted in accordance with this specification and CCU standard details.
1.1.4 Coordination of Work

The Contractor shall be responsible for the satisfactory coordination of the surface preparation and application of shop primers, all shop and field painting with other construction and activities in the area. Delays in work resulting from lack of such harmony shall not in any way be a cause for extra compensation by any of the parties.

1.1.5 Working Hours

The work shall be carried out in accordance with local ordinance and not to cause any unreasonable nuisance to affected residents. Under emergency conditions, this limitation may be waived by the consent of Charlotte County Utilities (CCU).

1.2 METHOD OF MEASUREMENT & PAYMENT

Surface preparation, shop prime painting, shop and field painting activities shall be considered incidental to the cost of the final product and no direct compensation will be made therefore.

1.3 REFERENCED STANDARDS (latest revisions)

- Society for Protective Coatings (SSPC) SP 1 Solvent Cleaning
- SSPC SP 3, Power Tool Cleaning.
- SSPC SP 6, Commercial Blast Cleaning.
- SSPC SP 10, Near-White Blast Cleaning.
- SSPC SP 11, Power Tool Cleaning To Bare Metal.
- SSPC VIS 1, Visual Standard for Abrasive Blast Cleaned Steel.
- SSPC VIS 2, Method of Evaluating Degree of Rusting/Painted Steel Surfaces.
- SSPC Volume 2, Systems and Specifications.
- ANSI Z535.1, Safety Color Code
- ANSI/NSF Standard 60, Drinking Water Treatment Chemicals – Health Effects.
- ASTM D16, Terminology for Paint, Related Coatings, Materials and Applications.
- ASTM D2200, Pictoral Surface Preparation Standards for Painting Steel Surfaces.
- National Association of Piping Fabricators, NAPF 500-03, Surface Preparation Standard For Ductile Iron Pipe and Fittings in Exposed Locations Receiving Special External Coatings And/or Special Internal Linings.
- Steel Structures Painting Council (SSPC) PA 2, Measurement of Dry Coating Thickness with Magnetic Gages.
- AWWA C 550
- Federal, State, and Local regulations
1.4 PARTIAL LISTING OF RELATED SECTIONS

011307 - Submersible Sewage Pump and Rail System
002330 - Low Pressure Sewer Systems
002325 - Force Mains
002335 - Potable Water and Reclaimed Water Mains
002530 - Package Lift Stations
002540 - Standard Lift Stations
002340 - Valves
002345 - Fire Hydrants

Note: This is only a partial listing of related sections. The Contractor shall be responsible to review the entire contract documents.

1.5 SUBMITTALS

1.5.1 For only those materials that the Contractor is requesting deviations from these specifications, the Contractor shall submit in writing documentation to justify approval of the proposed primers and detailed surface preparation, shop and field paint application procedures and dry film thicknesses, and complete schedule of paints by Charlotte County Utilities (CCU) prior to the start of the project.

1.5.2 The Contractor shall submit four (4) signed copies of the material submittals.

1.5.3 The Contractor shall submit representative physical samples of the proposed primers.

1.5.4 The Contractor shall submit color cards for initial color selections.

1.5.5 The contractor submittals shall include the statement that the submittals have been reviewed and the materials meet the contract specifications and/or standard details. Final approval is at the discretion of CCU.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 General

a. All painting materials shall be delivered to the mixing room in unbroken packages bearing the manufacturer’s brand and name.

b. All painting materials shall be used without adulteration and mixed, thinned, and applied in strict accordance with manufacturer’s directions for the applicable materials and surface.
c. Shop priming shall be done with primers that are guaranteed by the manufacturer to be compatible with the finish coats to be used.
d. No paint containing lead shall be used.
e. Oil shall be pure boiled linseed oil.
f. Materials shall be in full compliance with the requirements of pertinent codes and fire regulations.

2.1.2 Approved products

2.1.2.1 All priming, painting and coating products shall be supplied by the following manufacturers:

- Tnemec Company Inc. (TCI)
- Sika
- Valspar Co.
- Carboline Company, an RMP Company (TCC).
- Sherwin-Williams Company/Flex-Bon(SWC).
- or CCU approved equal.

2.1.2.2 The painting schedule shall be prepared on the basis of each manufacturer’s recommendation for application. Specific products are listed below for particular applications:

A. New and Existing Ferrous Metals, Structural Steel (With or Without Sprayed Fireproofing), Miscellaneous Ferrous Metals, Exterior Surfaces of Valves, Exterior Surfaces of Ferrous Piping, and Exterior Surfaces of All Ferrous Metal (Both Exposed and to be Later Covered With Insulation); Non-submerged, Interior:

a) Shop Primer: Minimum 67 percent volume solids, build, two component, cycloaliphatic amine-catalyzed epoxy or polyamido-amine epoxy coating; 250 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series N69 Hi-Build Epoxoline (TCI);
2. Carboguard 893 (TCC);
3. Macropoxy HS Epoxy (SWC):

One coat, 4.0 to 6.0 dry mils.

b) Field Primer and Touch-Up: Minimum 67 percent volume solids, high-build, two-component, Polyamidoamin-catalyzed epoxy; 250 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:
1. Series N69 Epoxoline II
2. Carboguard 890 or 890 LT (TCC);
3. Macropoxy 646 Epoxy (SWC)

One coat, 4.0-6.0 dry mils.

c) Finish: High-Gloss: Minimum 67 percent high build, two component, cycloaliphatic amine-catalyzed epoxy or polyamido-amine epoxy coating; 250 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series N69 Hi-Build Epoxoline II
2. Carboguard 890 or 890 LT (TCC);
3. High Performance Epoxy B67-200 Series (SWC):
   Horizontal Surfaces: One coat, 3.0 to 5.0 dry mils.
   Vertical Surfaces: One coat, 3.0-5.0 dry mils.

B. New and Existing Ferrous Metals, Galvanized Metals and Non-Ferrous Metals and Exterior Surfaces of Piping; Submerged and Intermittently Submerged, including up to 4.0 feet above liquid surface; Certified per ANSI/NSF Standard 61; Low VOC Content, Interior:

a) Prime/Finish: Semi-Gloss: Minimum 100 percent solids, modified polyamine epoxy or flakefilled epoxy; 8 grams per liter VOC, maximum, or functional equivalent.

b) The following product(s) are approved:

1. Series 22 Pota-Pox 100 (TCI);
2. Plastite 4500 S (TCC); One coat, 25 – 35 mils as desired.
3. Dura-Plate UHS NSF (SWC)
   Two coats, 12.0-16.0 dry mils, per coat.

C. New and Existing Ferrous Metals, Non-Ferrous Metals, and Galvanized Metals, including Water Storage Tanks; Low VOC Content, Non-Submerged, Exterior:

a) Ferrous Metal Primer: Minimum 67 percent volume solids, build, two-component, cycloaliphatic amine-catalyzed epoxy coating; 250 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series N69 Hi-Build Epoxoline (TCI);
2. Carboguard 890 or 890 LT (TCC);
3. Macropoxy 646 Epoxy (SWC)
One coat, 4.0 to 6.0 dry mils.

b) Ferrous Metal Touch-Up: For Low-temperature Curing Conditions: Minimum 80 percent solids, modified polyamido-amine or polyamine epoxy; 296 grams per liter VOC, maximum. For Warm-temperature Curing Conditions: Minimum 80 percent volume solids, modified polyamido-amine or polyamine epoxy; 296 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

For Low-temperature Curing Conditions:
1. Tnemec Series N69 with Tnemec Series 44-700 Epoxy Accelerator (TCI);
2. Carboguard 890 LT (TCC);
3. Macropoxy HS Epoxy (SWC)
   One coat, 10.0 dry mils.
For Warm-temperature Curing Conditions:
1. Series N69 Epoxoline II (TCI);
2. Carboguard 890 (TCC);
3. Macropoxy HS Epoxy (SWC)
   One coat, 3.0–5.0 dry mils.

c) Finish Gloss: Minimum 66 percent volume solids, two-component, waterborne acrylic polyurethane or aliphatic acrylic polyurethane coating; 297 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series 1074 Endurashield (TCI);
2. Carbothane 134 or HG (TCC);
3. Acrolon 218 HS Polyurethane (SWC)
   Two coats, 2.5–4.0 dry mils.

D. New and Existing Galvanized Metal, Non-Ferrous Metal, and Fiberglass; Nonsubmerged, Interior:

a) Primer: Minimum, 39 percent volume solids single-component, self-cross linking acrylic primer-sealer, 140 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series N69 Epoxoline II (TCI);
2. Galoseal WB Wash Primer (TCC); 0.5 – 1.0 mils dry mils
3. Pro Cryl Universal Primer (SWC)

One coat, 2.0 to 4.0 dry mils.
b) Finish: Satin: Minimum, 41 percent volume solids, single component, self-cross linking acrylic; 208 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series 1029 Enduratone
2. Carbocrylic 3359 (TCC);
3. DTM Acrylic Coating (SWC)

One coat, 2.0-3.0 dry mils.

E. New and Existing Pipe and Duct Insulation, Cloth, Paper and Canvas Jacketed; Non-submerged, Interior:

a) Primer: Minimum 38 percent volume solids single-component, self-cross linking acrylic primer-sealer; 159 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series 6 Tneme-Cryl(TCI);
2. Sanitile 120 (TCC); 1 – 2 mils dft
3. DTM Acrylic Coating (SWC)

One coat, 2.0 to 3.0 dry mils.

b) Finish: Satin: Minimum 37 percent volume solids, single component, self-cross linking acrylic; 226 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series 1029 Enduratone (TCI);
2. Carbocrylic 3359 (TCC);
3. Pro-Cryl Universal Primer (SWC)

One coat, 2.0 to 3.0 dry mils.

F. New and Existing PVC and CPVC Piping and Fiberglass Insulation Covering; Non-submerged, Interior:

a) Primer: Minimum 37 percent volume solids single-component, self-cross linking acrylic primer-sealer; 226 grams per liter VOC, maximum, or functional equivalent.

The following product(s) are approved:

1. Series 115 Uni-Bond DF (TCI);
2. Sanitile 120 @ 1 – 2 mils dry mils (TCC);
3. DTM Acrylic Coating (SWC)

One coat, 2.0 to 4.0 dry mils.

   b) Finish: Satin: Minimum 37 percent volume solids, single component, self-cross linking acrylic; 226 grams per liter VOC, maximum, or functional equivalent. The following product(s) are approved:

   1. Series 1029 Enduratone (TCI);
   2. Carbocrylic 3359 (TCC);
   3. DTM Acrylic Primer/Finish (SWC)

   One coat, 2.0 to 3.0 dry mils.

2.1.3 Color Coding for Pipes and Equipment

A. Guidelines:

   a. CCU reserves the right to select non-standard colors for paint systems specified within ability of paint manufacturer to produce such non-standard colors. Provide such colors at no additional expense to the COUNTY.

   b. The color code establishes, defines, and assigns a definite color for each process system.

   c. All elements originating from the equipment and/or supplying the equipment shall be painted between and up to, but not including, the fixed flanges nor the flexible conduit connections on the equipment.

   d. Valves and fittings shall be painted in the color of the main body of the pipe.

   e. Stainless steel components, bolts, washers, and nuts shall not be painted.

   f. All pipes and equipment shall be “paint and color coding schedule” as described in this specification. Elements not listed on the schedule shall be assigned a color by CCU and shall be treated as an integral part of the contract.

   g. All hanger saddles and pipe support floor stands shall be painted the same color and with the same paint as the pipe it supports unless made of stainless steel.

   h. For equipment on roofs or exposed to view, such as on exterior building facades and in offices and lobbies, color shall be selected by CCU.
B. Color Codes:

Unless otherwise specified, use the following color codes:

### TABLE 09900-A
#### TABLE OF STANDARD COLORS

<table>
<thead>
<tr>
<th>Standard Colors</th>
<th>Color Designation*</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTABLE WATER LINES</td>
<td>BLUE (PANTONE 287)</td>
</tr>
<tr>
<td>POTABLE WATER VALVE CAPS</td>
<td>BLUE (PANTONE 287)</td>
</tr>
<tr>
<td>FIRE LINES</td>
<td>ANSI SAFETY RED (PANTONE 485)</td>
</tr>
<tr>
<td>FIRE LINE VALVE CAPS</td>
<td>ANSI SAFETY RED (PANTONE 485)</td>
</tr>
<tr>
<td>WASTE WATER LINES</td>
<td>ANSI SAFETY GREEN (PANTONE 3415)</td>
</tr>
<tr>
<td>WASTE WATER VALVE CAPS</td>
<td>ANSI SAFETY GREEN (PANTONE 3415)</td>
</tr>
<tr>
<td>RECLAIMED WATER LINES</td>
<td>PURPLE (PANTONE 522C)</td>
</tr>
<tr>
<td>RECLAIMED WATER VALVE CAPS</td>
<td>PURPLE (PANTONE 522C)</td>
</tr>
<tr>
<td>FIRE HYDRANTS</td>
<td>ANSI SAFETY YELLOW (PANTONE 109)</td>
</tr>
<tr>
<td>FIRE HYDRANTS VALVE CAPS</td>
<td>ANSI SAFETY YELLOW (PANTONE 109)</td>
</tr>
</tbody>
</table>

*Equivalent colors matching these colors are acceptable. Provide with Shop Drawing submittal direct color comparisons of color numbers available from manufacturer submitted.

### PART 3 - EXECUTION

#### 3.1 GENERAL

Any work involving surface preparation, application of shop primers, shop and field painting and/or coating shall be completed in accordance with all the latest applicable federal, state and local requirements and regulations as well as the applicable AWWA standards.

All painters shall be equipped with the appropriate personal protective equipment in accordance with Federal, State, and Local environmental, health, and safety regulations.

#### 3.2 SURFACE PREPARATION

##### 3.2.1 Surface Preparation and Priming

a. All waste residues resulting from surface preparation and priming shall be handled in accordance with all applicable federal, state, and local regulations.

b. Non-submerged components scheduled for priming shall be blast cleaned in accordance with SSPC-SP-6, Commercial Grade, immediately prior to priming.

c. Submerged components scheduled for priming shall be blast cleaned in accordance with SSPC-SP-10.
d. Surfaces shall be dry and free of dust, oil, grease, and other foreign material before priming.

e. Field and Shop prime shall be in accordance with approved manufacturer’s recommendations.

f. All metal welds, blisters, etc., shall be ground and sanded smooth. All pits and dents shall be filled and all imperfections shall be corrected so as to provide a smooth surface for painting. All rust, loose scale, oil, tar, and asphalt bearing coatings, grease, and dirt shall be removed by use of approved solvents, wire brushing, grinding, or sanding.

g. All PVC pipe and other plastic matrix surfaces to be painted shall be lightly sanded and cleaned of residue before painting.

h. Galvanized surfaces shall have all oxidation and foreign material removed before painting by SSPC SP 1, Solvent Cleaning using an approved V.O.C. compliant method.

i. Surfaces required to support 24 mils (or more) of coating shall have a minimum Anchor Profile of 3.0 mils.

3.2.2 Non Primed Surfaces

Approved coating shall be applied in accordance with manufacturer’s recommendations.

3.2.3 Painted and Coated Surfaces

All surfaces to be painted and coated shall be prepared as follows and shall be dry and clean before painting:

a. Painting and coating shall be in accordance with approved manufacturer’s recommendations.

b. Connection points of all surfaces for products shop painted shall be covered to retain a clean surface and allow for proper installation to adjoining materials and thereafter field painted as required.

c. Valves and fittings shall be painted in the color of the main body of the pipe.

d. Stainless steel components, bolts, washers, and nuts shall not be painted.

e. All pipes and equipment shall be painted to meet the “paint and color coding schedule” as described in this specification. Elements not listed on the schedule shall be assigned a color by CCU and shall be treated as an integral part of the contract.

f. All hanger saddles and pipe support floor stands shall be painted the same color and with the same paint as the pipe it supports unless made of stainless steel.
3.2.4 **Application**

a. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint, until paint film is uniform finish, color, and appearance, particularly for intense chroma primary colors. Ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a film thickness equivalent to that of flat surfaces.

b. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint before final installation of registers or grilles.

c. Paint backs of access panels and removable or hinged covers to match exposed surfaces.

d. Paint aluminum parts in contact with dissimilar materials with specified paint system.

e. Paint tops, bottoms, and side edges of doors the same as exterior surfaces.

f. Omit field-applied primer on metal surfaces that have been primed in the shop. Touch-up paint shop-primed coats and pre-finished items only when approved by CCU using compatible primers and manufacturer's recommended compatible field-applied finishes.

g. Welds shall be stripe-coated with intermediate or finish coat of paint after application of prime coat.

3.2.5 **Surface Preparation and Priming, Painting, and Coating of Existing and Previously Painted or Coated Surfaces and Existing Non Primed Surfaces**

a. Surface preparation and priming, painting and coating of existing or previously painted or coated surfaces and existing non primed surfaces shall be in accordance with approved manufacturer's recommendations.

b. The condition of existing paint or coating shall be determined by approved manufacturer and CCU approval.

c. Existing paint or coating shall be scarified to produce an anchor profile to support the new coatings per approved manufacturer and CCU.

d. The thickness of new coatings applied to old existing coatings shall be in accordance with approved manufacturer recommendations and with CCU approval.

e. During surface preparation of old coatings, bare steel surfaces shall be spot surface prepared and spot primed. Additionally, the edges of the surrounding coatings shall be feathered so that the new coatings may blend with the old coatings.
3.3 **WORKMANSHIP**

3.3.1 **General**

a. At the request of CCU, samples of the finished work prepared in strict accordance with these Specifications shall be furnished and all painting shall be equal in quality to the approved samples. Finished areas shall be adequate for the purpose of determining the quality of workmanship. Experimentation with color tints shall be furnished to the satisfaction of CCU where standard chart colors are not satisfactory.

b. Protection of movable objects, equipment, fittings and accessories shall be provided throughout the painting operation. Remove all electric plates, surface hardware, etc., before painting, protect and replace when completed. Mask all machinery name plates and all machined parts not receiving a paint finish. Dripped or spattered paint shall be promptly removed. Lay drop cloths in all areas where painting is being done to adequately protect flooring and other work from all damage during the operation and until the finished job is accepted.

c. On metal surfaces, apply each coat of paint at the rate specified by the manufacturer to the minimum dry mil thickness required. If material has thickened or must be diluted for application by spray gun, the coating shall be built up to the same film thickness achieved with undiluted material. One gallon of paint as originally furnished by the manufacturer shall not cover a greater area when applied by spray gun than when applied unthinned by brush. Deficiencies in film thickness shall be corrected by the application of an additional coat(s). On porous surfaces, it shall be the painter's responsibility to achieve a protective and decorative finish either by decreasing the coverage rate or by applying additional coats of paint.

d. **Protection of Property and Structures:**

  o Protect property and structures adjacent to the Work from waste residues resulting from cleaning, surface preparation and paint application.

  o Use shrouding, vacuum blasting, or other approved methods for cleaning and surface preparation of exterior surfaces.

  o During blast cleaning and surface preparation of interior and exterior surfaces, control discharge of dust and grit, using shrouding, negative-pressure containment/dust collection systems, or other means to protect adjacent property and structures and prevent dust/grit from escaping. Similarly control removal and temporary storage of residues to protect adjacent property and structures.

  o For painting of exterior surfaces, use rollers, shrouding or other approved methods as required to protect adjacent property and structures from wind-blown paint residues.

  o Submit proposed procedures for cleaning, surface preparation and paint application describing methods for protecting adjacent property and structures from residues. Do not
proceed with cleaning, surface preparation or painting until proposed procedures are approved by CCU.

- Tint undercoats to match color of finish coat of paint, but provide sufficient difference in shade of undercoats to distinguish each separate coat. Provide a code number to identify material tinted by manufacturer.

- Non Primed Surfaces Gears, bearings surfaces, and other similar surfaces shall not to be painted and shall be given a heavy shop coat of grease or other suitable rust resistant coating. This coating shall be maintained by the contractor as necessary to prevent corrosion during all periods of storage, erection, final acceptance test and acceptance by CCU.

3.3.2 Field Priming

a. Steel members, metal castings, mechanical and electrical equipment, and other metals which are shop primed before delivery at the site will not require a prime coat on the job. All piping and other bare metals to be painted shall receive one coat of primer before exposure to the weather, and this prime coat shall be the first coat as specified in the painting schedule.

b. Equipment which is specified to receive a baked-on enamel finish or other factory finish shall not be field painted unless the finish has been damaged in transit or during installation. Surfaces that have been shop painted and have been damaged or where the shop coat or coats of paint have deteriorated shall be properly cleaned and retouched before any successive painting is done on them in the field. All such field painting shall match as nearly as possible the original finish.

c. Equipment shipped with a protective shop painting coat or coats shall be touched up to the satisfaction of CCU with primers as recommended by the manufacturer of the finish paint.

3.3.3 Field Painting

a. All painting at the site shall be designated as field painting and shall be under the direct and complete control of the contractor and only skilled painters and specialists, and where required, shall be used on the work.

b. All paint shall be at room temperature before applying and no painting shall be done when the temperature is below 50° F, in dust-laden air, when rain is falling, or until all traces of moisture have completely disappeared from the surface to be painted.

c. Painting shall be continuous and shall be accomplished in an orderly manner so as to facilitate inspection. Materials subject to weather shall be primed coated as quickly as possible. Surfaces of exposed members that will be inaccessible after erection shall be cleaned and painted before erection.
d. All painting shall be performed by approved methods with number of coats modified as required to obtain the total dry film thickness specified. Spray painting shall be performed specifically by methods submitted and as approved by CCU.

e. All surfaces to be painted as well as the atmosphere in which painting is to be done shall be kept dry by heating and ventilation, if necessary, until each coat of paint has hardened. Any defective paint shall be scraped off and repainted in accordance with CCU approval.

f. Before final acceptance of the work, all damaged surfaces of paint shall be cleaned and repainted as approved by CCU.

3.4 CLEANUP

3.4.1 The premises shall be free from accumulation of waste material and rubbish caused by employees or work.

3.4.2 The contractor shall remove all paint where it has been spilled, splashed, or spattered on all surfaces at the completion of all painting.

3.4.3 All clean up and disposal of waste materials from the surface preparation, painting and coating activities shall be disposed of, by the Contractor, in conformance with all laws, regulations and standard practices.

END OF SECTION