EMMA – Electronic Municipal Market Access

The Official Source for Municipal Disclosures and Market Data

Specifications for SHORT System Document Submission Service

Version 1.4

November 2022

Revision History

Version	Date	Major Changes
1.0	December 2010	Initial version.
1.1	February 2011	Figure 4: Required / Optional Data Elements separated into two tables (VRDO & ARS) Figure 5: Validation Response Messages updated
1.2	March 2011	Updated Figure 4 and Figure 5 to clarify the process for adding multiple PDFs to a submission.
1.3	August 2015	Updated the Support section to reflect the change in hours of operation for Email Support.
1.4	November 2022	Updated links as needed for the revised MSRB.org website.

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RESOURCES

MSRB Website: www.msrb.org
EMMA Website: emma.msrb.org

Rule G-34(c): https://www.msrb.org/Rules-and-Interpretations/MSRB-Rules/General/Rule-G-34

SUPPORT

For assistance, contact MSRB Support at 202-838-1330 or MSRBsupport@msrb.org.
Live Support: 7:30 a.m. - 6:30 p.m. ET
Email Support: 7:00 a.m. – 7:00 p.m. ET

Municipal Securities Rulemaking Board
1300 I Street NW, Suite 1000
Washington, DC 20005
Tel: 202-838-1500
Fax: 202-898-1500

INTRODUCTION

MSRB Rule G-34(c) provides for the collection of information and documents about Auction Rate Securities ("ARS") and Variable Rate Demand Obligations ("VRDO"). The purpose of this document is to assist submitters in uploading by a computer-to-computer interface documents and related information as required under Rule G-34(c)(i)(B) and (c)(ii)(B) to the Municipal Securities Rulemaking Board's (MSRB) Short-term Obligation Rate Transparency ("SHORT") System. Note, a separate interface is provided by the MSRB for uploading XML files that include the data identified in MSRB Rule G-34(c)(i)(A), on ARS Data, and (c)(ii)(A), on VRDO Data. *See* the SHORT System XML Interface Specifications and Data Elements document for computer-to-computer specifications for uploading such data. The MSRB also will publish a revised MSRB SHORT System Web User Interface Manual for manually uploading documents.

This document details the procedures for registering with the MSRB to submit documents to the SHORT System. Also included in this document are schemas used by the SHORT System to parse XML file submissions. The schemas can be used by SHORT System submitters to verify that XML files are properly formatted. In addition, this document sets forth the data elements that will be used in connection with a document submission to the SHORT System.

Documents submitted to the SHORT System are made available on the MSRB's Electronic Municipal Market Access ("EMMA") web portal and will be made available on a subscription basis.

The SHORT System and EMMA are components of an integrated suite of programs, services and systems ("MSRB market information programs") for the collection of municipal securities market data and documents from dealers and other market participants and the dissemination of such data and documents to the public. The MSRB market information programs leverage the components of the various individual programs, services and systems to enhance the overall efficiency and effectiveness of the MSRB market information programs. In particular, processes, software, hardware or other components initially placed into service for a particular program, service or system may be utilized by other programs, services and systems within the MSRB market information programs to optimize the effectiveness of the MSRB market information programs and the individual components thereof.

SHORT SYSTEM OVERVIEW

The SHORT System is a facility of the MSRB for the collection and dissemination of information and documents about securities bearing interest at short-term rates and making such information and documents publicly available through a dissemination service.

Submissions to the SHORT System

The SHORT System receives submissions of information and documents about securities bearing interest at short-term rates under MSRB Rule G-34(c).

Information and Documents to be Submitted. The basic items of information and documents required to be submitted to the SHORT System are the same as those required to be submitted to the MSRB under MSRB Rule G-34(c). Submitters of documents shall provide to the SHORT System related indexing information with respect to each document submitted, including an indication of the document type, date such document became available to the broker, dealer or municipal securities dealer, and CUSIP number(s) of the municipal securities to which such document relates. A submitter required to submit a document that is already available in its entirety in the SHORT System may, in lieu of submitting a duplicate document, identify the document already submitted and provide such items of related indexing information as are required by MSRB rules or the SHORT System input specifications and system procedures. A submitter required to submit a document that is not able to be obtained through best efforts as provided in Rule G-34(c) must provide an affirmative indication that a document required to be submitted is not available for submission notwithstanding the submitter's best efforts to obtain such document. The complete list of data elements that are required on a submission to the SHORT System is available in input specifications and system procedures made available on www.msrb.org. Submitters shall be responsible for the accuracy and completeness of all information submitted to the SHORT System.

Submitters. Submissions to the SHORT System may be made solely by authorized submitters using password-protected accounts in the MSRB's user authentication system, MSRB Gateway. Through MSRB Gateway, submitters also have the ability to designate third-party agents to submit information to the SHORT System on the submitter's behalf.

Submissions may be made by the following classes of submitters:

- ARS Program Dealer;
- VRDO Remarketing Agent;
- ARS Auction Agent; and
- Designated Agent, which may submit any information otherwise permitted to be submitted by another class of submitter which has designated such agent, as provided below.

Submitters may designate agents to submit information on their behalf, and may revoke

the designation of any such agents, through MSRB Gateway. Such Designated Agents must register to obtain password-protected accounts through MSRB Gateway in order to make submissions on behalf of the designating submitters. All actions taken by a Designated Agent on behalf of a submitter that has designated such agent shall be the responsibility of the submitter.

The MSRB anticipates that a majority of ARS information will be submitted by ARS Auction Agents. ARS Auction Agents would be allowed to submit information to the SHORT System without prior designation by an ARS Program Dealer. In the event that an ARS Auction Agent submits information about an auction to the SHORT System, an ARS Program Dealer would not also be required to submit information provided that the ARS Program Dealer has been correctly identified on the submission by the ARS Auction Agent. In the event that an ARS Auction Agent fails to submit information about an ARS auction, the ARS Program Dealer would be required to submit the required information about the auction to the SHORT System

Timing of Submissions. Submitters are required to make submissions to the SHORT System within the timeframes set forth in MSRB Rule G-34(c) and related MSRB procedures. Submissions generally are required to be made by no later than 6:30 P.M. Eastern Time on the day that an auction occurs in an ARS or on the day that an interest rate reset occurs for a VRDO. Submissions of information to the SHORT System may be made throughout any RTRS Business Day, as defined in Rule G-14 RTRS Procedures, from at least the hours of 6:00 A.M. to 9:00 P.M. Eastern Time, subject to the right of the MSRB to make such processes unavailable at times as needed to ensure the integrity of the SHORT System and any related systems. Submissions of documents may be made throughout any day, subject to the right of the MSRB to make such processes unavailable between the hours of 3:00 A.M. and 6:00 A.M. each day, Eastern Time, for required maintenance, upgrades or other purposes, or at other times as needed to ensure the integrity of MSRB systems. The MSRB shall provide advance notice of any planned periods of unavailability and shall endeavor to provide information to submitters as to the status of the submission interface during unanticipated periods of unavailability, to the extent technically feasible.

Method of Submission. Information and documents may be submitted to the SHORT System through a secure, password-protected, web-based electronic submitter interface or through a secure, authenticated computer-to-computer data connection, at the election of the submitter. When making submissions using the web-based interface, related information is entered manually into an on-line form and documents are uploaded as portable document format (PDF) files. Computer-to-computer submissions utilize XML files for data and PDF files for documents. Appropriate schemas and procedures for web-based and computer-to-computer submissions are available in input specifications and system procedures made available on www.msrb.org.

SHORT System Processing

The SHORT System provides a single portal for the submission of information and documents. The SHORT System, as well as other MSRB systems and services, performs various data checks to ensure that information and documents are submitted in the correct format. In

addition, data checks are performed to monitor dealer compliance with MSRB Rule G-34(c) as well as to identify information submitted in correct formats that may contain errors due to information not falling within reasonable ranges of expected values for a given item of information. All submissions generate an acknowledgement or error message, and all dealers that have information or documents submitted on their behalf by either an ARS Auction Agent or a Designated Agent are able to monitor such submissions.

SHORT System Information and Document Dissemination

Information and documents submitted to the SHORT System that pass the format and data checks described above are processed and disseminated on a real-time basis. Any changes to submissions also are processed upon receipt and updated information and documents are disseminated in real-time. Information submitted to the SHORT System is, in general, disseminated to the EMMA short-term obligation rate transparency service within 15 minutes of acceptance, although during peak traffic periods dissemination may occur within one hour of acceptance. Submissions of documents to the SHORT System accepted during the hours of 8:30 A.M. to 6:00 P.M. Eastern Time on an MSRB business day are, in general, disseminated to the EMMA short-term obligation transparency service within 15 minutes of acceptance, although during peak traffic periods posting may occur within one hour of acceptance. Submissions outside of such hours often are posted within 15 minutes although some submissions outside of the MSRB's normal business hours may not be processed until the next business day. SHORT System information and documents, along with related indexing information, shall be made available to the public through the EMMA portal for the life of the related securities.

The MSRB plans to offer subscriptions to the information and documents submitted to the SHORT System in the future.

SHORT SYSTEM REGISTRATION

Submissions to the SHORT System may be made solely by authorized submitters using password-protected accounts in MSRB Gateway. Submitters of information to the SHORT System are required to obtain an account in MSRB Gateway in order to submit information to the SHORT System. Through MSRB Gateway, submitters also have the ability to designate third-party agents to submit information to the SHORT System on the submitter's behalf.

Submissions to the SHORT System may be made by the following classes of submitters:

- ARS Program Dealer;
- VRDO Remarketing Agent;
- ARS Auction Agent; and
- Designated Agent, which may submit any information otherwise permitted to be submitted by another class of submitter which has designated such agent.

User Account Management System

MSRB has assigned a master MSRB Gateway account to each dealer and each account is administered by the dealer's Primary Contact under MSRB Rule A-12. Each dealer controls the administration of its master account and is able to create and manage individual user accounts within MSRB Gateway. Dealers can also appoint account administrators to assist with managing user profiles and account access rights. Accounts in MSRB Gateway will be created by MSRB staff for each ARS Auction Agent.

Agent Invitation and Designation System

MSRB Gateway allows submitters to designate third-party agents to submit information to the SHORT System on their behalf. To designate an agent through MSRB Gateway, submitters send "invitations" to third-parties to act as Designated Agents. MSRB Gateway transmits these invitations by e-mail to the third parties, and upon receipt, the third party can create their own accounts in MSRB Gateway if they are not already registered users. These third parties can then accept submitter invitations through MSRB Gateway.

Submitters can also electronically confirm Designated Agents through MSRB Gateway before such Designated Agents begin making submissions to the SHORT System. Once confirmed by a submitter, a Designated Agent can log into MSRB Gateway to make electronic submissions on behalf of the designating submitter. Submitters will be responsible in all respects for actions taken by Designated Agents on their behalf. MSRB Gateway will also allow submitters to revoke designations of Designated Agents at any time.

Please note that once a Designated Agent has been established as a recognized company in MSRB Gateway, the Designated Agent will utilize the User Account Management System as described above.

MSRB Gateway is accessible through the MSRB's website at https://msrb.org/ or through the EMMA web portal at https://dataport.emma.msrb.org/Home/Index.
Information about establishing accounts through MSRB Gateway for submissions to the SHORT System is available on the MSRB's web site at https://msrb.org/MSRB-Gateway.

SPECIFICATIONS FOR THE SHORT SYSTEM DOCUMENT SUBMISSION SERVICE

WEB SERVICE INTERFACE

The MSRB has an exposed web service interface allowing for the submission of SOAP (Simple Object Access Protocol) standard XML (extensible markup language) messages and PDF (portable document format) documents using secure, computer-to-computer communications. This interface is remotely consumed by applications written by or for submitters in a wide variety of programming languages and running on a wide variety of platforms. Submitters using the automated submission interface will connect to the web service interface as follows:

For SHORT document submissions (production interface):
https://services.emma.msrb.org/DisclosureServices/ShortDocumentDisclosureService.svc

Beta version of automated submission interface. A beta version of the automated submission interface, which serves as a platform for potential submitters to the automated submission interface to conduct tests to ensure proper programming and configuration of their applications for making submissions to the SHORT document submission service, is made available by the MSRB. ***Test submissions made through the beta platform will not be published on the EMMA web portal and will not be disseminated through the SHORT subscription service. Documents submitted to the beta site will be available for other test submitters to view and will be made available to test subscribers. Submitters using the beta site for testing should use real disclosure documents when possible in order to better replicate the actual submission process. The same document may be uploaded multiple times for testing purposes.***

For beta platform of the SHORT disclosure submissions (test interface):
https://servicesbeta.emma.msrb.org/DisclosureServices/ShortDocumentDisclosureService.svc

DOCUMENT FORMAT

All documents submitted to the SHORT System are required to be portable document format (PDF) files. Documents created before the effective date of Rule G-34(c)(i)(B) and (c)(ii)(B) ("transition period documents") are not required to be word-searchable PDFs. New or amended versions of documents produced after the effective date of the rule change must be word-searchable PDFs.

SUBMISSION PROCESS

Overview of Document Message Processing, Schemas and Data Tags

This notice links to a series of figures and tables providing more detailed information about the automated submission interface process. A message processing overview is included in Figure 1. XML schemas for document messages, together with a type definition schema, are included in Figure 2. A data tag glossary is provided in Figure 3. Required and optional data elements for various scenarios (cases) are provided in Figure 4. Messages will be validated and the SHORT System will return response messages to the submitter's system. A table of validation response messages is included in Figure 5. Sample XML message that demonstrate the structure of open and modify submission are provided in Figure 6, along with a message header example including the file stream in Figure 7.

Upon successful submission of the document message through the automated submission interface, the SHORT System would provide a response message that includes, among other things, a submission identifier that the submitter would include in the related document update message(s).

DOCUMENT SUBMISSION AND DOCUMENT MESSAGE

Documents will be submitted through the automated submission interface as SOAP messages. The document message will be organized to include a message header, along with an authentication token and web services protocol support. The authentication token and web services protocol support to be included in the header are illustrated in Figure 7.

The elements available for the document message, together with the value to be selected, would be as follows:[1]

- **submission data -**
i) submission status (select 'publish', 'cancel', 'test')
ii) submission identifier (enter identification number assigned by EMMA or security CUSIP9 to identify submission for modification purposes)

- **security data -**
i) instrument type (select 'ARS', 'VRDO')
ii) security (enter nine digit CUSIP number(s) to which the disclosure is applicable)

- **document data -**
i) document type (select 'LettersOfCredit, 'StandbyBondPurchaseAgreements', etc.)
ii) document required to be submitted is not available flag (select 'True', 'False')

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[1]   Element and enumerated values from which specific selections are to be made are more fully described in the data tag glossary in Figure 3.

iii) transition period flag (select 'Yes','No')

●   **file data** -
i) document receive date (enter date the document was received)

●   **dealer data** -
i) dealer MSRB ID (enter MSRB-issued registration number of the primary dealer or
    agent)

           *   *   *

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Figure 1: Message Processing Overview

MESSAGE PROCESSING OVERVIEW
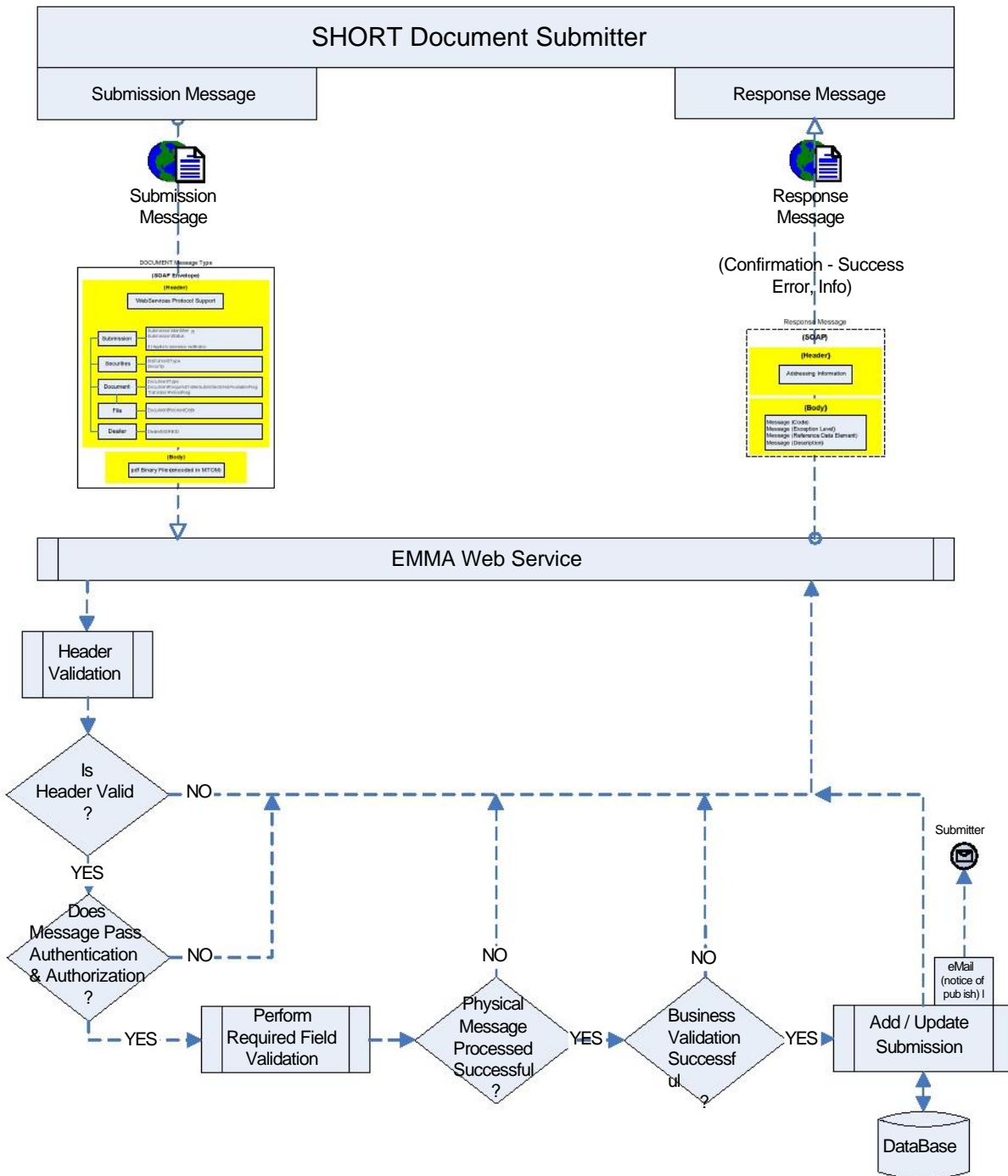
Figure 2: Document Message Schémas

DOCUMENT MESSAGE & TYPE DEFINITION SCHEMAS

Set forth below is a schema model showing the Document Message Type required to make a submission. Within each message are information containers (Submission, Securities, Document, File and Dealer) and the information types and values associated with each.
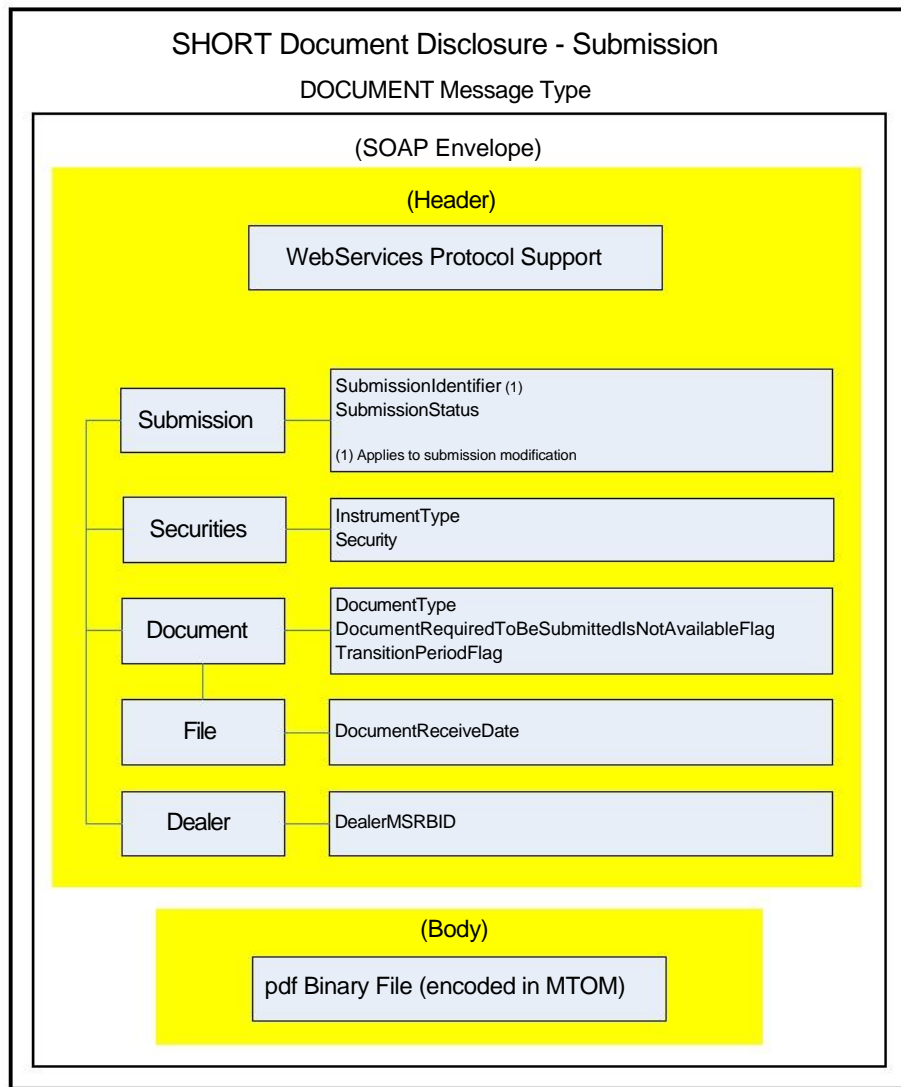
SOAP (Simple Object Access Protocol) - foundation layer of the web services protocol stack
MTOM (SOAP Message Transmission Optimization Mechanism) - a method of efficiently sending binary data to and from web services

XML MESSAGE SCHEMAS

ShortDocumentDisclosureService_0.xsd

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://schemas.microsoft.com/Message" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:tns="http://schemas.microsoft.com/Message">
  <xs:simpleType name="StreamBody">
   <xs:restriction base="xs:base64Binary" />
  </xs:simpleType>
</xs:schema>
```

ShortDocumentDisclosureService_1.xsd

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:tns="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure">
  <xs:import schemaLocation="https://services.emma.msrb.org/DisclosureServices/ShortDocumentDisclosureService_2.xsd"
namespace="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure/types" />
  <xs:element name="ShortDocumentDisclosureServiceOpenSubmissionMessage">
   <xs:complexType>
    <xs:sequence>
     <xs:element ref="q1:FileContents" minOccurs="0" xmlns:q1="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure/types" />
    </xs:sequence>
   </xs:complexType>
  </xs:element>
  <xs:element name="ShortDocumentDisclosureServiceUpdateSubmissionMessage">
   <xs:complexType>
    <xs:sequence>
     <xs:element ref="q2:FileContents" minOccurs="0" xmlns:q2="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure/types" />
    </xs:sequence>
   </xs:complexType>
  </xs:element>
</xs:schema>
```

ShortDocumentDisclosureService_2.xsd

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:tns="http://emma.msrb.org/schemas/disclosuremessages/shortdocumentdisclosure/types">
  <xs:import schemaLocation="https://services.emma.msrb.org/DisclosureServices/ShortDocumentDisclosureService_0.xsd"
namespace="http://schemas.microsoft.com/Message" />
  <xs:element name="FileContents" type="q1:StreamBody" xmlns:q1="http://schemas.microsoft.com/Message" />
  <xs:complexType name="ShortDocumentMessageType">
   <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Submission" type="tns:SubmissionDetailsType" />
    <xs:element minOccurs="1" maxOccurs="1" name="Securities" type="tns:SecuritiesDetailsType" />
    <xs:element minOccurs="1" maxOccurs="1" name="Document" type="tns:DocumentDetailsType" />
    <xs:element minOccurs="1" maxOccurs="1" name="Dealer" type="tns:DealerDetailsType" />
   </xs:sequence>
  </xs:complexType>
  <xs:complexType name="SubmissionDetailsType">
   <xs:attribute name="SubmissionStatus" type="tns:SubmissionStatusType" />
   <xs:attribute name="SubmissionIdentifier" type="tns:Max25Text" />
  </xs:complexType>
  <xs:simpleType name="SubmissionStatusType">
   <xs:restriction base="xs:string">
    <xs:enumeration value="Publish" />
    <xs:enumeration value="Cancel" />
    <xs:enumeration value="Test" />
   </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="SecuritiesDetailsType">
   <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="unbounded" name="Security" type="tns:SecurityDetailsType" />
   </xs:sequence>
   <xs:attribute name="InstrumentType" type="tns:InstrumentType" />
  </xs:complexType>
  <xs:complexType name="SecurityDetailsType">
   <xs:attribute name="CUSIP9" type="tns:Cusip9Type" />
  </xs:complexType>
  <xs:simpleType name="InstrumentType">
```

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```xml
    <xs:restriction base="xs:string">
      <xs:enumeration value="ARS" />
      <xs:enumeration value="VRDO" />
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="DocumentDetailsType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="UnderlyingFiles" type="tns:UnderlyingFilesType" />
    </xs:sequence>
    <xs:attribute name="DocumentType" type="tns:DocumentType" />
    <xs:attribute name="TransitionPeriodFlag" type="tns:TransitionPeriodFlagType" />
    <xs:attribute name="DocumentRequiredToBeSubmittedIsNotAvailableFlag" type="tns:DocumentRequiredToBeSubmittedIsNotAvailableFlagType" />
  </xs:complexType>
  <xs:complexType name="UnderlyingFilesType">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="File" type="tns:FileDetailsType" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="FileDetailsType">
    <xs:attribute name="DocumentReceivedDate" type="tns:ISODate" />
  </xs:complexType>
  <xs:simpleType name="DocumentType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="LettersOfCredit" />
      <xs:enumeration value="StandbyBondPurchaseAgreements" />
      <xs:enumeration value="OtherDocumentThatEstablishesAnObligationToProvideLiquidity" />
      <xs:enumeration value="DocumentThatDefinesCurrentAuctionProceduresAndInterestRateSettingMechanisms" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="TransitionPeriodFlagType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Yes" />
      <xs:enumeration value="No" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="DocumentRequiredToBeSubmittedIsNotAvailableFlagType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="True" />
      <xs:enumeration value="False" />
```

```xml
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="DealerDetailsType">
      <xs:attribute name="DealerMSRBID" use="required">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:minLength value="1" />
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
    </xs:complexType>
    <xs:simpleType name="Cusip6Type">
      <xs:restriction base="xs:string">
        <xs:minLength value="6" />
        <xs:maxLength value="6" />
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="Cusip9Type">
      <xs:restriction base="xs:string">
        <xs:minLength value="9" />
        <xs:maxLength value="9" />
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="StateCode">
      <xs:restriction base="xs:string">
        <xs:pattern value="[A-Z]{2,2}" />
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="Max140Text">
      <xs:restriction base="xs:string">
        <xs:minLength value="1" />
        <xs:maxLength value="140" />
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="Max75Text">
      <xs:restriction base="xs:string">
        <xs:minLength value="1" />
        <xs:maxLength value="75" />
      </xs:restriction>
```

```xml
    </xs:simpleType>
    <xs:simpleType name="Max50Text">
     <xs:restriction base="xs:string">
      <xs:minLength value="1" />
      <xs:maxLength value="50" />
     </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="Max25Text">
     <xs:restriction base="xs:string">
      <xs:minLength value="1" />
      <xs:maxLength value="25" />
     </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="Max15Text">
     <xs:restriction base="xs:string">
      <xs:minLength value="1" />
      <xs:maxLength value="15" />
     </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="Max6Text">
     <xs:restriction base="xs:string">
      <xs:minLength value="1" />
      <xs:maxLength value="6" />
     </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ISODate">
     <xs:restriction base="xs:date" />
    </xs:simpleType>
</xs:schema>
```

Figure 3: Data Tab Glossary

DATA TAG GLOSSARY

Set forth below is a glossary of all data tags to be used in SHORT System document submission interface for submissions of data messages and document messages. These data elements are organized in a hierarchical data relationship. This glossary sets out each data element's XML container, data tag, definition and data specifications, including a listing of enumerated values for those data elements where the submitter is to choose a value and an example of the data format where the submitter is to enter a value.

	Submission Data Tags Description and Specification SHORT System Document Submission Service				
XML Container	Data Tag	Definition	Data Specification	Required / Optional
Submission	Submission Identifier	Unique identifier assigned by the SHORT System at time of initiation of data submission (the initial submission event) and used by the submitter in connection with subsequent submission events, <u>including document submission</u>	Max25Text *ex:* S212345678910	As Applicable
	Submission Status	Indicates the intention to publish the information in the EMMA public portal	Enumerated Value: • Publish • Cancel • Test	Required
Securities	Instrument Type	Indicates the type of security being reported as either Auction Rate Security (ARS) or Variable Rate Demand Obligation (VRDO)	Enumerated Value: • ARS • <u>VRDO</u>	Required
	Security	Indicates the nine-digit CUSIP number(s) to which the document applies	CUSIP9 String{Min9,Max9} *ex:* 123456AB7	Required

XML Container	Data Tag	Definition	Data Specification	Required / Optional
Document	Document Type	Indicates type of document being submitted	Enumerated Value: (VRDO) • LettersOfCredit • StandbyBondPurchaseAgreements • OtherDocumentThatEstablishesAnObligationToProvideLiquidity Enumerated Value: (ARS) • DocumentThatDefinesCurrentAuctionProceduresAndInterestRateSettingMechanisms	As Applicable
	Document Required To Be Submitted Is Not Available Flag	For VRDO issues, an affirmative indication that a document required to be submitted is not available for submission notwithstanding the submitter's best efforts to obtain such document. Note, only applicable to submissions of "transition period" documents, described below.	Enumerated Value: • True • False	As Applicable
	Transition Period Flag	Indication that a submission is being made pursuant to notice 2010-31 rule provision to provide documents for existing programs and issues as follows: For existing ARS programs, dealers will be required to submit the current versions of ARS documents defining current auction procedures and interest rate setting mechanisms to the SHORT System within ninety days after the effective date of the rule change. For existing VRDO issues, dealers will be required to undertake and document best efforts to obtain current versions of VRDO liquidity facility documents, including Letters of Credit, Stand-by Bond Purchase Agreements and any other document that establishes an obligation to provide liquidity, and submit such documents to the SHORT System within ninety days after the effective date of the proposed rule change.	Enumerated Value: • Yes • No	As Applicable
File	Document Receive Date	Date that the document was received NOTE: This value is not applicable for documents submitted pursuant to the transition period, described above.	CCYY-MM-DD ex: 2008-12-08	As Applicable
Dealer	Dealer MSRB ID	MSRB-issued registration number of the primary ARS Program Dealer, ARS Auction Agent or VRDO Remarketing Agent	Max15Text ex: A12345	Required

Figure 4: Required/Optional Data Elements

Case	Submission Operation	Submission Identifier	Submission Status	Dealer MSRBID	Instrument Type [1]	CUSIP9	Transition Period Flag [1]	Document Required To Be Submitted Is Not [1] Available Flag	File [3]	Document Type [1]	Document Receive Date
1	Open / Update [2]	AA	R	R	R	R	O or AA IF: No or not provided	N/A	R	R	R
2	Open / Update [2]	AA	R	R	R	R	O or AA IF: Yes	R IF: True	N/A	N/A	N/A
3	Open / Update [2]	AA	R	R	R	R	O or AA IF: Yes	R IF: False	R	R	N/A
4	"Cancel" (Special form of Update with Submission Status = Cancel)	R	R	R	R (Cannot be changed	R	O or AA (Cannot be changed)	O (Cannot be changed)	N/A (No file operation allowed)	O (Cannot be changed)	O

Footnotes:

R	Required for a complete submission
O	Optional
AA	As Applicable
N/A	Not Applicable - signifies that no data is to be provided for a particular data element because such data is not needed for such submission - any data supplied for a data element marked as N/A will not be used for purposes of EMMA portal or SHORT subscription services.
[1]	Cannot be updated after open submission
[2]	Update may be accomplished within a case only, not between cases
[3]	Can only add a file to a submission via an update, subject to case constraint. If there is a need to remove or replace a file, the submission should be canceled with a new submission opened.

Auction Rate Security (ARS) Submission Data Tags Description and Specification

SHORT System Document Submission Service

| Case	Submission Operation	Submission Identifier	Submission Status	Dealer MSRBID	Instrument Type [1]	CUSIP9	Transition Period Flag [1]	Document Required To Be Submitted Is Not Available Flag	File [3]	Document Type [1]	Document Receive Date
1	Open / Update [2]	AA	R	R	R	R	O or AA IF: No or <u>not provided</u>	N/A	R	R	R
2	Open / Update [2]	AA	R	R	R	R	O or AA <u>IF: Yes</u>	N/A	R	R	N/A
3	"Cancel" (Special form of Modify with <u>Submission Status = Cancel</u>)	R	R	R	R (Cannot be changed	R	O or AA (Cannot be changed)	N/A	N/A (No file operation allowed)	O (Cannot be changed)	O
Footnotes:											
R	<u>Required for a complete submission</u>										
O	Optional										
AA	<u>As Applicable</u>										
N/A	Not Applicable - signifies that no data is to be provided for a particular data element because such data is not needed for such submission - any data supplied for a data element marked as N/A will not be used for purposes of EMMA portal or SHORT subscription services.										
[1]	<u>Cannot be updated after open submission</u>										
[2]	Update may be accomplished within a case only, not between cases										
[3]	Can only add a file to a submission via an update, subject to case constraint. If there is a need to remove or replace a file, the submission should be canceled with a new <u>submission opened.</u>										

Figure 5: Validation Response Messages

VALIDATION RESPONSE MESSAGES

As submission messages are processed by the SHORT System, the message content will be verified relative to business rules of expected data relationships. Exception response messages will be returned to the submitter system when certain types of conditions exist with respect to the data submitted. Currently, all response messages are classified as Error, which indicates termination of message processing with failure of the intended action. The submitter should take appropriate corrective action and re-submit as appropriate.

An abstract representation of a Response Message, shown below, will be returned to the Submitter System with the Response Message Content, defined in the table below, contained in the body of the message.

Response Message

```
┌─────────────────────────────────────────────────────┐
│                  (SOAP Envelope)                      │
│  ┌─────────────────────────────────────────────────┐ │
│  │                   (Header)                        │ │
│  │        ┌─────────────────────────────────┐        │ │
│  │        │  WebServices Protocol Support   │        │ │
│  │        └─────────────────────────────────┘        │ │
│  └─────────────────────────────────────────────────┘ │
│  ┌─────────────────────────────────────────────────┐ │
│  │                    (Body)                         │ │
│  │  ┌─────────────────────────────────────────────┐  │ │
│  │  │ SubmissionID                                │  │ │
│  │  │ SubmissionStatus (Accepted, Rejected,       │  │ │
│  │  │ Updated, Added)                             │  │ │
│  │  │ MessageReturnCode (Error, Warning,          │  │ │
│  │  │ Information])                               │  │ │
│  │  │ MessageContent [Data Tag, Description])      │  │ │
│  │  └─────────────────────────────────────────────┘  │ │
│  └─────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────┘
```
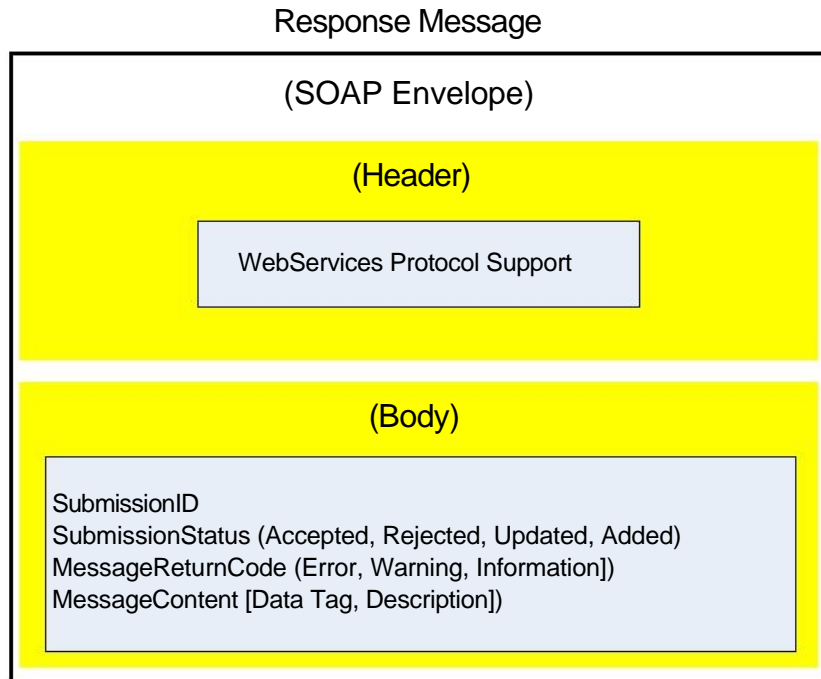
Below is a sample Response Message trace where a submission event has been confirmed as added successfully. This sample is intended to show the general structure of response messages.

Response Message - Sample Trace File

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
        <Action s:mustUnderstand="1"
xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">http://emma.msrb.org/schemas/disclo
sureservice/IDisclosureService/OpenSubmissionResponse
        </Action>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <DisclosureMessageResponse xmlns="http://emma.msrb.org/schemas/disclosuremessages">
          <DisclosureResponseDetails xmlns="http://emma.msrb.org/schemas/disclosureservice">
                <Submission SubmissionID="EA1734" SubmissionStatus="Added"
                        xmlns="http://emma.msrb.org/schemas/disclosuremessages/types">
                </Submission>
                <Message MessageReturnCode="Information" MessageContent="SHORT document
disclosure submission added."
        xmlns="http://emma.msrb.org/schemas/disclosuremessages/types">
                </Message>
          </DisclosureResponseDetails>
        </DisclosureMessageResponse>
  </s:Body>
</s:Envelope>
```

XML Submission Validation - Response Messages

SHORT System Document Submission Service

XML Block	Data Tag	Message Return Code	Response Message Content
Submission	Submission Identifier	Error	Failure to Identify Submission - failed to identify a Submission with the given Submission Identifier ({0}).
		Error	Required Field - Submission Identifier is a required field on subsequent disclosure submission messages.
	Submission Status	Error	Data Validation - The referenced submission is of status (Cancelled) and cannot be updated.
		Error	Required Field: Submission Status is a required field
	Miscellaneous	Error	Submission - Element Missing.
		Error	Required Field: Instrument Type is a required field
Securities	Instrument Type	Error	Submission Modification: The Instrument Type cannot be changed on an existing submission. If the Instrument Type is incorrect the submission should be cancelled and resubmitted.
	Security	Error	Required Field: CUSIP9 is a required field
		Error	Data Validation: Security CUSIP9:123456AB7 is not recognized as a well-formed CUSIP9.
		Error	Securities - Security - Element Missing
Document	Document Type	Error	Required Field: Document Type is required for Instrument Type = ARS
		Error	Required Field: Document Type is a required field when Transition Period Flag is No or not provided for Instrument Type = VRDO
		Error	Required Field: Document Type is a required field when Transition Period Flag is Yes and Document Required To Be Submitted Is Not Available Flag is False for Instrument Type = VRDO
		Error	Not Applicable Field: Document Type is not applicable when Transition Period Flag is Yes and Document Required To Be Submitted Is Not Available Flag is True for Instrument Type = VRDO
		Error	Submission Modification: Document Type may not be changed on a submission
		Error	Data Validation - Document Type (DocumentThatDefinesCurrentAuctionProceduresAndInterestRateSettingMechanisms) is allowed for Instrument Type is ARS

XML Block	Data Tag	Message Return Code	Response Message Content
Document		Error	Data Validation - Document Types (LettersOfCredit, OtherDocumentThatEstablishesAnObligationToProvideLiquidity, StandbyBondPurchaseAgreements) are allowed for Instrument Type VRDO
	Document Required To Be Submitted Is Not Available Flag	Error	Data Validation: Document Required To Be Submitted Is Not Available Flag is not applicable for Instrument Type = ARS
		Error	Required Field: Document Required To Be Submitted Is Not Available Flag is a required field when Transition Period Flag is Yes for Instrument Type = VRDO
		Error	Data Validation: Document Required To Be Submitted Is Not Available Flag is not applicable when Transition Period Flag is No or not provided for Instrument Type = VRDO
		Error	Submission Modification: Document Required To Be Submitted Is Not Available Flag cannot be changed for Instrument Type = VRDO
	Transition Period Flag	Error	Submission Modification: Transition Period Flag cannot be changed on an existing submission. If the Transition Period Flag is incorrect the submission should be cancelled and resubmitted
File	Miscellaneous	Error	Document - Element Missing
	Document Receive Date	Error	Required Field: Document Receive Date is required when Transition Period Flag is No or not provided for Instrument Type = VRDO or ARS
		Error	Not Applicable Field: Document Receive Date is not applicable when Transition Period Flag is Yes and Document Required To Be Submitted Is Not Available Flag is True for Instrument Type = VRDO
		Error	Not Applicable Field: Document Receive Date is not applicable when Transition Period Flag is Yes and Document Required To Be Submitted Is Not Available Flag is False for Instrument Type = VRDO
		Error	Submission Modification: Document Receive Date is not applicable on a submission that does not contain a document for Instrument Type = VRDO
	Miscellaneous	Error	Required Field: File is required for Instrument Type = ARS
		Error	Required Field: A file is required to be submitted when Transition Period Flag is No or not provided for Instrument Type = VRDO
		Error	Required Field: A file is required to be submitted when Transition Period Flag is Yes and Document Required To Be Submitted Is Not Available Flag is False for Instrument Type = VRDO
		Error	Only one file may be included with a submission
		Error	A File must not be provided when the Transition Period Flag is Yes and Document Required To Be Submitted Is Not Available Flag is True for Instrument Type = VRDO

XML Block	Data Tag	Message Return Code	Response Message Content
		Error	The Underlying File element must not be provided when the "Transition Period Flag" is Yes and "Document Required To Be Submitted Is Not Available Flag" is True
		Error	Underlying Files - File - Element Missing
Dealer	Dealer MSRB ID	Error	Required Field: Dealer MSRB ID is required
		Error	Data Validation - You are not authorized to submit on behalf of the party indicated by the Dealer MSRB_ID
	Miscellaneous	Error	Dealer - Element Missing

Figure 6: Sample Document XML Messages

SAMPLE DOCUMENT XML MESSAGES

Document Message (Open Submission - Transition Period = No)

```
<?xml version=1.0 encoding=UTF-8?>
< ShortDisclosureMessage xmlns=EMMA-SUBMISSION-XML xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance xsi:schemaLocation=EMMA-
SUBMISSION-XML …>
        <Submission SubmissionStatus=Publish/>
        <Securities InstrumentType=VRDO>
                <Security CUSIP9=699438AJ7/> <Security
                CUSIP9=699438AK4/>
        </Securities>
        <Document DocumentType=LettersOfCredit TransitionPeriodFlag=No>
                <UnderlyingFiles>
                        <File DocumentReceivedDate=2008-12-05 />
                </UnderlyingFiles>
        </Document>
        <Dealer DealerMSRBID=A99955/>
</ ShortDisclosureMessage >
```

Document Message (Open Submission - Transition Period = Yes and Document Not Available)

```
<?xml version=1.0 encoding=UTF-8?>
< ShortDisclosureMessage xmlns=EMMA-SUBMISSION-XML xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance xsi:schemaLocation=EMMA-
SUBMISSION-XML …>
        <Submission SubmissionStatus=Publish />
        <Securities InstrumentType=VRDO>
                <Security CUSIP9=699438AJ7/> <Security
                CUSIP9=699438AK4/>
        </Securities>
        <Document TransitionPeriodFlag=Yes DocumentRequiredToBeSubmittedIsNotAvailableFlag=True>
        </Document>
        <Dealer DealerMSRBID=A99955/>
</ ShortDisclosureMessage >
```

Document Message (Modify Submission security and file data)
      Note: Document cannot be submitted with a submission modification

```
<?xml version=1.0 encoding=UTF-8?>
<ShortDisclosureMessage xmlns=EMMA-SUBMISSION-XML xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance xsi:schemaLocation=EMMA-
SUBMISSION-XML …>
        <Submission SubmissionStatus=Publish SubmissionIdentifier=123456/>
        <Securities InstrumentType=VRDO>
                <Security CUSIP9=699438AB7/> <Security
                CUSIP9=699438AC4/>
        </Securities>
        <Document DocumentType=LettersOfCredit >
                <UnderlyingFiles>
                        <File DocumentReceivedDate=2008-12-31 />
                </UnderlyingFiles>
        </Document>
        <Dealer DealerMSRBID=A99966/>
</ ShortDisclosureMessage >
```

Figure 7: Sample XML Headers

SAMPLE XML HEADERS

Document Message - Sample Header File

```
<s:Envelope xmlns:s=http://schemas.xmlsoap.org/soap/envelope/ xmlns:u=http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd>
        <s:Header>
                < ShortDisclosureMessage xmlns=EMMA-SUBMISSION-XML xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
                xsi:schemaLocation=EMMA-SUBMISSION-XML …>
                        <Submission SubmissionStatus=Publish/>
                        <Securities InstrumentType=VRDO>
                                <Security CUSIP9=699438AJ7/> <Security
                                CUSIP9=699438AK4/>
                        </Securities>
                        <Document DocumentType=LettersOfCredit TransitionPeriodFlag=No>
                                <UnderlyingFiles>
                                        <File DocumentReceivedDate=2008-12-05 />
                                </UnderlyingFiles>
                        </Document>
                        <Dealer DealerMSRBID=A99955/></ ShortDisclosureMessage >
                <o:Security s:mustUnderstand=1 xmlns:o=http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd><u:Timestamp
                u:Id=_0><u:Created>2008-08-21T19:26:53.468Z</u:Created><u:Expires>2008-08-21T19:31:53.468Z</u:Expires></u:Timestamp>
                <o:UsernameToken u:Id=uuid-c3e563e4-bd51-40f7-8c02-3ed0b5a4a1bb-35><o:Username><!--Removed--></o:Username><o:Password><!--
                Removed--></o:Password></o:UsernameToken></o:Security>
                <To s:mustUnderstand=1 xmlns=http://schemas.microsoft.com/ws/2005/05/addressing/none>https://temp-
                wrk/EmmaDisclosureService/DisclosureService.svc</To>
                <Action s:mustUnderstand=1
                xmlns=http://schemas.microsoft.com/ws/2005/05/addressing/none>http://emma.msrb.org/schemas/disclosureservice/IDisclosureService/PostD
                ocumentFile</Action>
        </s:Header>
        <s:Body xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance xmlns:xsd=http://www.w3.org/2001/XMLSchema>

        [*BINARY STREAM OF PDF FILE*]
        </s:Body>
</s:Envelope>
```