



## XML MESSAGE SCHEMAS

Detailed below are Data, Document and Type Definition schemas. The Data and Document schemas describe the base structural containers which in turn reference child-level containers and specifications described in the Type Definition schema.

### Data Message Schema

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="EMMA-SUBMISSION-XML" targetNamespace="EMMA-SUBMISSION-XML"
elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
  <xs:include schemaLocation="..." />
  <xs:element name="SubscriptionDataMessage" type="SubscriptionDataMessageType" />
  <!-- Type Definition starts -->
  <xs:complexType name="SubscriptionDataMessageType">
    <xs:sequence>
      <xs:element name="Submission" type="SubmissionDetailsType" maxOccurs="unbounded" />
    </xs:sequence>
    <xs:attribute name="SubmissionTransactionCount" type="xs:integer" />
    <xs:attribute name="ReplayDate" type="ISODate" />
  </xs:complexType>
  <xs:complexType name="SubmissionDetailsType">
    <xs:sequence>
      <xs:element name="Offering" type="OfferingDetailsType" minOccurs="1" maxOccurs="1" />
      <xs:element name="Document" type="DocumentDetailsType" minOccurs="0" maxOccurs="unbounded" />
      <xs:element name="OSAvailabilityContactInformation" type="OSAvailabilityContactInformationType" minOccurs="0"
maxOccurs="unbounded" />
    </xs:sequence>
    <xs:attribute name="SubmissionIdentifier" type="Max25Text" use="required" />
    <xs:attribute name="SubmissionType" type="SubmissionType" use="required" />
    <xs:attribute name="SubmissionStatus" type="SubmissionStatusType" />
    <xs:attribute name="SubmissionTransactionDateTime" type="ISODateTime" />
  </xs:complexType>
</xs:schema>
```

## **Document Message Schema**

```

<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="EMMA-SUBMISSION-XML" targetNamespace="EMMA-SUBMISSION-XML"
elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
  <xs:include schemaLocation="..."/>
  <xs:element name="SubscriptionDocumentMessage" type="SubscriptionDocumentMessageType"/>
  <!-- Type Definition starts -->
  <xs:complexType name="SubscriptionDocumentMessageType">
    <xs:sequence>
      <xs:element name="File" type="FileDetailsType" minOccurs="1" maxOccurs="1"/>
    </xs:sequence>
  </xs:complexType>
  <!-- Type definition ends -->
</xs:schema>

```

## **Type Definition Schema**

```

<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
  <!-- Type Definition starts -->
  <xs:complexType name="OfferingDetailsType">
    <xs:sequence>
      <xs:element name="Issue" type="IssuesType" maxOccurs="unbounded"/>
    </xs:sequence>
    <xs:attribute name="OfferingType" type="OfferingType"/>
    <xs:attribute name="OSAvailabilityStatus" type="OSAvailabilityStatusType"/>
    <xs:attribute name="POSAvailabilityStatus" type="POSAvailabilityStatusType"/>
    <xs:attribute name="UnderwritingSpreadDisclosureIndicator" type="UnderwritingSpreadDisclosureIndicatorType"/>
    <xs:attribute name="UnderwritingSpread" type="xs:float"/>
  </xs:complexType>
  <xs:complexType name="IssuesType">
    <xs:sequence>
      <xs:element name="OriginalCUSIP9OfRemarketedSecurity" type="Cusip9Type" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="UnderlyingSecurities" type="UnderlyingSecuritiesType" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
    <xs:attribute name="IssueType" type="IssueType"/>
    <xs:attribute name="SecurityType" type="SecurityType"/>
  </xs:complexType>

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    <xs:attribute name="IssueDescription" type="Max250Text"/>
    <xs:attribute name="IssuerName" type="Max250Text"/>
    <xs:attribute name="IssuerState" type="StateCode"/>
    <xs:attribute name="IssueClosingDate" type="ISODate"/>
    <xs:attribute name="IssueDatedDate" type="ISODate"/>
    <xs:attribute name="OriginalDatedDate" type="ISODate"/>
    <xs:attribute name="CUSIP6" type="Cusip6Type"/>
    <xs:attribute name="CUSIP9OfLatestMaturityOnIssueNotUnderwritten" type="Cusip9Type"/>
  </xs:complexType>
  <xs:complexType name="UnderlyingSecuritiesType">
    <xs:sequence>
      <xs:element name="Security" type="SecurityDetailsType" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="SecurityDetailsType">
    <xs:attribute name="CUSIP9" type="Cusip9Type"/>
    <xs:attribute name="MaturityDate" type="ISODate"/>
    <xs:attribute name="SecurityDatedDate" type="ISODate"/>
    <xs:attribute name="InitialOfferingPriceYield" type="xs:float"/>
    <xs:attribute name="InitialOfferingPriceYieldRange" type="xs:float"/>
    <xs:attribute name="MaturityPrincipalAmount" type="xs:decimal"/>
    <xs:attribute name="InterestRate" type="xs:decimal"/>
    <xs:attribute name="UnderwrittenIndicator" type="UnderwrittenIndicatorType"/>
    <xs:attribute name="ParValueUnderwritten" type="xs:decimal"/>
    <xs:attribute name="OriginalCUSIP9OfRefundedSecurity" type="Cusip9Type"/>
    <xs:attribute name="NewCUSIP9OfUnrefundedBalance" type="Cusip9Type"/>
    <xs:attribute name="NewCUSIP9OfRefundedSecurity" type="Cusip9Type"/>
  </xs:complexType>
  <xs:complexType name="DocumentDetailsType">
    <xs:sequence>
      <xs:element name="CUSIP9IdentifierOfRefundingIssue" type="Cusip9Type" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="OriginalCUSIP9OfRefundedSecurity" type="Cusip9Type" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="UnderlyingFiles" type="UnderlyingFilesType" maxOccurs="1"/>
    </xs:sequence>
    <xs:attribute name="DocumentIdentifier" type="Max25Text"/>
    <xs:attribute name="DocumentType" type="DocumentType" use="required"/>
    <xs:attribute name="DocumentDescription" type="Max250Text"/>
    <xs:attribute name="DocumentStatus" type="DocumentStatusType"/>
  </xs:complexType>

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    <xs:attribute name="DocumentPostingDate" type="ISODate"/>
    <xs:attribute name="DocumentArchiveDate" type="ISODate"/>
    <xs:attribute name="DocumentPostingOperationIndicator" type="DocumentPostingOperationIndicatorType"/>
    <xs:attribute name="DocumentDisclosureCompletionIndicator" type="DocumentDisclosureCompletionIndicatorType" use="required"/>
</xs:complexType>
<xs:complexType name="UnderlyingFilesType">
  <xs:sequence>
    <xs:element name="File" type="FileDetailsType" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="FileDetailsType">
  <xs:attribute name="FileIdentifier" type="Max25Text"/>
  <xs:attribute name="FileOrder" type="xs:integer"/>
  <xs:attribute name="FileStatus" type="DocumentStatusType"/>
  <xs:attribute name="FilePostingDate" type="ISODate"/>
  <xs:attribute name="FileArchiveDate" type="ISODate"/>
</xs:complexType>
<xs:complexType name="OSAvailabilityContactInformationType">
  <xs:attribute name="OSContactOrganizationName" type="Max140Text"/>
  <xs:attribute name="OSContactFirstName" type="Max25Text"/>
  <xs:attribute name="OSContactLastName" type="Max25Text"/>
  <xs:attribute name="OSContactTitle" type="Max140Text"/>
  <xs:attribute name="OSContactPhoneNumber" type="Max14Text"/>
  <xs:attribute name="OSContactPhoneNumberExtension" type="Max6Text"/>
  <xs:attribute name="OSContactAddress" type="Max140Text"/>
  <xs:attribute name="OSContactCity" type="Max25Text"/>
  <xs:attribute name="OSContactState" type="StateCode"/>
  <xs:attribute name="OSContactZipCode" type="Max14Text"/>
  <xs:attribute name="OSContactEMailAddress" type="Max140Text"/>
</xs:complexType>
<xs:simpleType name="SubmissionType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="PrimaryMarketDisclosure"/>
    <xs:enumeration value="AdvanceRefundingDisclosure"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="SubmissionStatusType">
  <xs:restriction base="xs:string">

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        <xs:enumeration value="Publish"/>
        <xs:enumeration value="NoticeOfCancellationOfOffering"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="OfferingType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Bond"/>
        <xs:enumeration value="MunicipalFundSecurity"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="IssueType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="NewIssue"/>
        <xs:enumeration value="Remarketed"/>
        <xs:enumeration value="Refunded"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="SecurityType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="CUSIP-9"/>
        <xs:enumeration value="CUSIP-6"/>
        <xs:enumeration value="non-CUSIP"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="DocumentType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="OfficialStatement"/>
        <xs:enumeration value="PreliminaryOfficialStatement"/>
        <xs:enumeration value="AdvanceRefundingDocument"/>
        <xs:enumeration value="RemarketingSupplement"/>
        <xs:enumeration value="MFSDisclosureDocument"/>
        <xs:enumeration value="MFSDisclosureDocumentSupplement"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="DocumentPostingOperationIndicatorType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="AppendToPostedDocment"/>
        <xs:enumeration value="ReplacePostedDocument"/>
    </xs:restriction>
</xs:simpleType>

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    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="DocumentStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Current"/>
    <xs:enumeration value="Archived"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="POSAvailabilityStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="POSSubmitted"/>
    <xs:enumeration value="NoPOSPrepared"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="OSAvailabilityStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="OSNotAvailableAtClosing"/>
    <xs:enumeration value="OSAvailableOnlyFromUnderwriter_15c212ExemptLimitedOffering"/>
    <xs:enumeration value="OSNotProduced_15c212ExemptLimitedOffering"/>
    <xs:enumeration value="OSNotProduced_15c212ExemptShortTermOffering"/>
    <xs:enumeration value="OSNotProduced_15c212ExemptPuttableOffering"/>
    <xs:enumeration value="OSNotProduced_15c212ExemptSmallOffering"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="DocumentDisclosureCompletionIndicatorType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Partial"/>
    <xs:enumeration value="Complete"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="UnderwriterAssessmentDiscountIndicatorType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="EntireOfferingMatures2YearsOrLess"/>
    <xs:enumeration value="EntireOfferingPuttable2YearsOrLess"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="UnderwriterAssessmentExemptionIndicatorType">
  <xs:restriction base="xs:string">

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        <xs:enumeration value="OfferingLessThan1Million"/>
        <xs:enumeration value="EntireOfferingMatures9MonthsOrLess"/>
        <xs:enumeration value="EntireOfferingPuttable9MonthsOrLess"/>
        <xs:enumeration value="Rule15c212d1iExemptLimitedOffering"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="UnderwritingSpreadDisclosureIndicatorType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="DisclosedInOfficialStatement"/>
        <xs:enumeration value="NotDisclosed_CompetitiveSale"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="UnderwrittenIndicatorType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="NotUnderwritten"/>
        <xs:enumeration value="PartiallyUnderwritten"/>
    </xs:restriction>
</xs:simpleType>
<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="ISODate">
    <xs:restriction base="xs:date"/>
</xs:simpleType>

```



```
<xs:simpleType name="ISODateTime">
  <xs:restriction base="xs:dateTime"/>
</xs:simpleType>
<xs:simpleType name="Max250Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="250"/>
  </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="Max25Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="25"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max14Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="14"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max10Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="10"/>
  </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>  
  <!-- Type definition ends -->  
</xs:schema>
```