THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

NATIONAL INSTITUTE OF BUILDING SCIENCES

agcXML

BONDS

DATA SPECIFICATION AND SCHEMA

VERSION 1.0

MARCH 4, 2009

The agcXML Project

The Associated General Contractors of America

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1 . BOND

The agcXML **Bond** schema is discussed in this document as a class diagram using the Unified Modeling Language (UML) notation. The document presents the overall structure of the agcXML schema and discusses its components and dependencies—particularly the interrelationship between the common layer for aecXML definitions, common agcXML definitions and the particular usage and extension for the **Bond** schema. It also shows where components from ifcXML are reused and where IFC based BIM information can be handled and mapped into agcXML.

1.1   The **Bond** schema

The **Bond** schema is the schema to be used for sending and receiving bond information between parties involved in electronic exchange of business messages. The schema deals with the project-specific content (the variable elements of a typical bond form) of the bond transaction only, and not with the format of any particular bond transaction form. In scope are:

- The meta-data of the Bond document (who, when, with what application)
- The sender, recipient and notifiee role (for owner, contractor, subcontractor, surety, broker and architect information)
- The project information
- The project sum
- The bond sum
- The start date of the bond
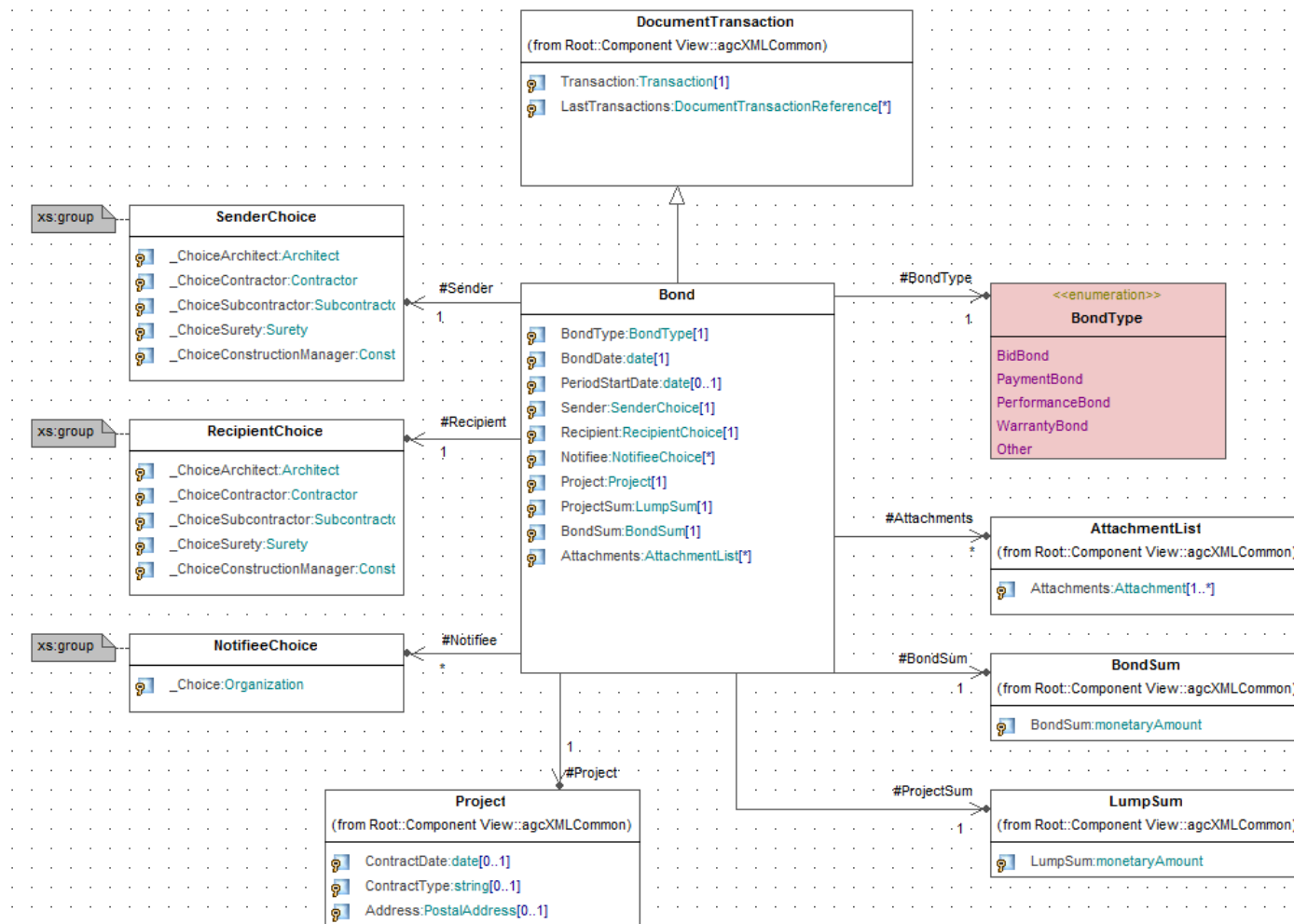
1.1.1   Name space considerations

The following name spaces are assigned:

- ifcXML – not part of the XML schema, will be handled by XSLT based mapping, when required
- aecXMLCOS:
  - xmlns:cos="http://www.aecXML.org/aecXML/cos"
- agcXMLCommon:
  - xmlns:agcxml="http://www.aecXML.org/agcXML/agcXMLCommon"
- Bond:
  - xmlns: agcbnd="http://www.aecXML.org/agcXML/Bond"

1.2   The **Bond** root element

The root element of the xml exchange document is the **Bond** element. It is defined in the **Bond** name space, and inherits from the **DocumentTransaction** in the **agcXMLCommon** name space. All attributes and elements of **DocumentTransaction** are explained in the document "agcXML common definitions".

The **Bond** element adds the following application for payment specific elements:

Figure 1: the root element **Bond** *in* **Bond** *name space*

1.2.1   Basic document information

The **Bond** carries (if fully instantiated) the following information:

- Bond name, number and transaction date
- The governing form (i.e. the template for the bond document)
- The type of bond (bid, payment, performance, warranty)
- The information about the parties involved in the bond
  - The sender information, being either:
    - Architect
    - Construction Manager/Advisor
    - Contractor (as contractor or design-builder)
    - Subcontractor
    - Surety
  - The recipient information, being either:
    - Architect
    - Construction Manager/Advisor
    - Contractor (as contractor or design-builder)
    - Subcontractor
    - Surety
  - The notifiee information, being zero, one or many of:
    - any organization
- The project information (name, date, address and reference number)
- The project sum
  - Lump sum, currency, description
- The bond sum
  - Bond sum, currency, description
- The bond date and optionally periodic start date

1.2.2   Governing form

The exchange of the bond is based on the data requirements of the standard forms published by the American Institute of Architects (AIA), the Associated General Contractors of America (AGC), and the Engineers' Joint Commission on Contract Documents (EJCDC), or other standard forms. The element **GoverningForm** is defined at **Document**. It should include one of the following values for **Name**.

It identifies the underlying and governing form, which currently may be any one of the following:

- ConsensusDOCS 260   Performance Bond
  (formerly AGC Document 260)
- ConsensusDOCS 261   Payment Bond
  (formerly AGC Document 261)
- ConsensusDOCS 262   Bid Bond
  (formerly AGC Document 262)
- ConsensusDOCS 263   Warranty Bond
  (formerly AGC Document 263)
- ConsensusDOCS 470   Design-Builder Performance Bond (Surety Liable for Design Costs)
  (formerly AGC Document 470)
- ConsensusDOCS 471   Design-Builder Performance Bond (Surety Not Liable for Design Costs)
  (formerly AGC Document 471)

- ConsensusDOCS 472   Design-Build Payment Bond (Surety Liable for Design Costs)
  (formerly AGC Document 472)
- ConsensusDOCS 473   Design-Build Payment Bond (Surety Not Liable for Design Costs)
  (formerly AGC Document 473)
- AGC Document 660   Subcontract Bid Bond
- ConsensusDOCS 706   Subcontract Performance Bond
  (formerly AGC Document 606)
- ConsensusDOCS 707   Subcontract Payment Bond
  (formerly AGC Document 607)
- AIA Document A310-1970   Bid Bond
- AIA Document A312-1984 (Part I)   Performance Bond
- AIA Document A312-1984 (Part II) Payment Bond
- EJCDC Document D-610   Design-Build Performance Bond
- EJCDC Document D-615   Design-Build Payment Bond

Additional templates can be defined and agreed upon.

1.2.3   Bond type

Several types of a bond are distinguished by the BondType element. Its type is an enumeration allowing for

- Bid bond
- Payment bond
- Performance bond
- Warranty bond
- others

1.3   The parties involved in the bond

A bond transaction is established between a sender and a recipient. In addition, others can be notified. Sender and recipient may also be the signatories of the bond.

Information about organization and person information of the parties is provided in the document "agcXML common definitions" section "Person and organization".

1.3.1   The sender information

The sender for the **Bond** is presented by the Surety, Contractor or Subcontractor. It is accessible as **Sender**.

1.3.2   The recipient information

The recipient for the **Bond** is presented by the Surety, Contractor or Subcontractor. It is accessible as **Recipient**.

1.3.3   The notifiee information

Other parties may be notified of the **Bond.** Notifiees for the **Bond** can be Architect, Owner, Contractor or Broker. It is accessible as **Notifiee**. The notifiee information is optional, and can include zero, one, or many notifiees.

1.3.4   Choice of roles for sender, recipient and notifiee

Information about **Contractor**, **Subcontractor**, **Surety**, **Broker**, and **Architect** is provided in the document "agcXML common definitions". The information is independent of whether the organization is the sender, recipient or notifiee in this transaction.

1.4   The project information of the bond

The **ProjectInformation** is provided by **Project**. Information about **Project** is provided in the document "agcXML common definitions". The minimum information provided within the **Bond** element should be **Project.Name**, **.Description**, **.ProjectId**, .**ContractDate**, and .**Address**.

Information about **Project** is provided in the document "agcXML common definitions", section "Project".

1.5   The Project sum information

The project sum is provided by **ProjectSum**, referencing **LumpSum** defined in the **agcXMLCommon** name space. It provides the **LumpSum** amount.

Information about **LumpSum** is provided in the document "agcXML common definitions", section "Cost items".

1.6   The Bond sum information

The **BondSum** provides information about the amount of the bond. It is given by **BondSum** defined in the **agcXMLCommon** name space. It provides the **BondSum** amount. It may have **Description** to indicate written modifications of the bond.

Information about **BondSum** is provided in the document "agcXML common definitions", section "Cost items".

1.7   The required start and end date

The two elements **BondDate** and **PeriodStartDate** can be specified to transport the date of the bond and optionally the period when the bond starts.

1.8   The attachments

Additionally any transaction of bonds can include **Attachments** as a list of **Attachment**. Attachment is defined in the **agcXMLCommon** name space.

2 XML SCHEMA

The XML schema definitions are defined in different name spaces following the agcXML technical framework.

▪ The most general definitions are included in the **aecXMLCOS** name space; some of those definitions are taken from other standards, such as **ifcXML** for general elements and ISO-IEC_82045-5 for document metadata.

▪ Definitions that are common to AGC document exchanges within the scope of **agcXML** are included in the **agcXMLCommon** name space.

▪ Definitions that are specific to the exchange of bonds are included in the **Bond** name space.

2.1 aecXMLCOS name space

The XML schema definitions of the aecXMLCOS schema are provided in the document "agcXML common definitions", section "aecXML schema".

2.2 agcXMLCommon name space

The XML schema definitions of the agcXMLCommon schema are provided in the document "agcXML common definitions", section "agcXMLCommon schema".

2.3 agcXML Bond name space

```xml
< ?xml version="1.0" encoding="UTF-8"?>
<!-- XMLSpy v2007 sp2 (http://www.altova.com) Thomas Liebich (AEC3 Deutschland GmbH) -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:cos="http://www.aecXML.org/aecXML/cos"
xmlns:agcxml="http://www.aecXML.org/agcXML/agcXMLCommon"
xmlns:agcbnd="http://www.aecXML.org/agcXML/Bond" targetNamespace="http://www.aecXML.org/agcXML/Bond"
elementFormDefault="qualified" attributeFormDefault="unqualified">
   <xs:import namespace="http://www.aecXML.org/aecXML/cos" schemaLocation="aecXMLCOS.xsd"/>
   <xs:import namespace="http://www.aecXML.org/agcXML/agcXMLCommon" schemaLocation="agcXMLCommon.xsd"/>
   <!--bond diagram-->
   <xs:element name="Bond" type="agcbnd:Bond" substitutionGroup="agcxml:DocumentTransaction"
      nillable="false">
      <xs:annotation>
         <xs:documentation>Root element for the XML exchange document for AGC bonds</xs:documentation>
      </xs:annotation>
   </xs:element>
   <xs:complexType name="Bond">
      <xs:complexContent>
         <xs:extension base="agcxml:DocumentTransaction">
            <xs:sequence>
               <xs:element name="Bondtype" type="agcbnd:BondType"/>
               <xs:element name="BondDate" type="xs:date"/>
               <xs:element name="PeriodStartDate" type="xs:date" minOccurs="0"/>
               <xs:element name="Sender">
                  <xs:complexType>
                     <xs:group ref="agcbnd:SenderChoice"/>
                  </xs:complexType>
               </xs:element>
               <xs:element name="Recipient">
                  <xs:complexType>
                     <xs:group ref="agcbnd:RecipientChoice"/>
                  </xs:complexType>
               </xs:element>
               <xs:element name="Notifiee">
                  <xs:complexType>
                     <xs:choice>
                        <xs:element ref="agcxml:Organization"/>
                     </xs:choice>
                  </xs:complexType>
               </xs:element>
               <xs:element name="Project" type="agcxml:Project"/>
```

```xml
                    <xs:element name="ProjectSum" type="agcxml:LumpSum"/>
                    <xs:element name="BondSum" type="agcxml:BondSum"/>
                    <xs:element name="Attachments" type="agcxml:AttachmentList" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <!--bond actor diagram - Group definition for choice of sender, recipiant, and notifiee-->
    <xs:group name="SenderChoice">
        <xs:choice>
            <xs:element ref="agcxml:Architect"/>
            <xs:element ref="agcxml:ConstructionManagerAdvisor"/>
            <xs:element ref="agcxml:Surety"/>
            <xs:element ref="agcxml:Contractor"/>
            <xs:element ref="agcxml:Subcontractor"/>
        </xs:choice>
    </xs:group>
    <xs:group name="RecipientChoice">
        <xs:choice>
            <xs:element ref="agcxml:Architect"/>
            <xs:element ref="agcxml:ConstructionManagerAdvisor"/>
            <xs:element ref="agcxml:Surety"/>
            <xs:element ref="agcxml:Contractor"/>
            <xs:element ref="agcxml:Subcontractor"/>
        </xs:choice>
    </xs:group>
    <!--Enumeration and type definition diagram-->
    <xs:simpleType name="BondType">
        <xs:restriction base="xs:normalizedString">
            <xs:enumeration value="BidBond"/>
            <xs:enumeration value="PaymentBond"/>
            <xs:enumeration value="PerformanceBond"/>
            <xs:enumeration value="Warranty"/>
            <xs:enumeration value="Other"/>
        </xs:restriction>
    </xs:simpleType>
</xs:schema>
```

A ASSIGNMENT TO COMPARATIVE ANALYSIS

The following table shows each agcXML element reference (defined as a path from root element `Bond` in `Bond` name space) assigned to the corresponding data field obtained from the comparative analysis of the existing transaction media for bond transactions (the commonly accepted standard contract forms published by the AIA, AGC, EJCDC, and others). The table is NOT intended to represent the entire content of the schema or the actual cardinality of each element in the schema. The full comparative analysis is published separately and can be obtained from AGC.

Table 1: agcXML path information assigned to the fields of the comparative analysis for contractor bonds

agcXML Comparative Analysis		
Data Field Description/Content	**Cardinality**	**agcXML Schema Definition**
Bond Information		
Bond Date (dd/mm/yyyy)	[1]	BondDate
Bond Period Start Date (dd/mm/yyyy)	[0..1]	PeriodStartDate
Bond Sum, in dollars	[1]	BondSum.BondSum
Bond Modifications (check one):		
None	[0..1]	*implicit*
See Description	[0..1]	*implicit*
Bond Modification Description	[0..1]	BondSum.Description
Owner/Contractor Agreement Information		
Project Agreement Date (dd/mm/yyyy)		Project.ContractDate
Project Agreement Sum		ProjectSum.LumpSum
Owner Information		
Owner Company Name	[1]	Notifiee:Owner.Name
Owner Address 1	[1]	Notifiee:Owner.PostalAddress.AddressLine1
Owner Address 2	[1]	Notifiee:Owner.PostalAddress.AddressLine2
Owner City	[1]	Notifiee:Owner.PostalAddress.Town
Owner State	[1]	Notifiee:Owner.PostalAddress.Region
Owner Country	[1]	Notifiee:Owner.PostalAddress.Country
Owner Company Phone	[1]	Notifiee:Owner.TelecomAddress.Telephone
Prime Design Professional Information		
Architect/Engineer Company Name	[0..1]	Sender | Recipient | Notifiee:Architect.Name
Architect/Engineer Address 1	[0..1]	Sender | Recipient | Notifiee:Architect.PostalAddress.AddressLine1
Architect/Engineer Address 2	[0..1]	Sender | Recipient | Notifiee:Architect.PostalAddress.AddressLine2
Architect/Engineer City	[0..1]	Sender | Recipient | Notifiee:Architect.PostalAddress.Town
Architect/Engineer State	[0..1]	Sender | Recipient | Notifiee:Architect.PostalAddress.Region
Architect/Engineer Country	[0..1]	Sender | Recipient | Notifiee:Architect.PostalAddress.Country

Architect/Engineer Company Phone	[0..1]	Sender | Recipient | Notifiee:Architect.TelecomAddress.Telephone
Contractor Information		
Contractor Company Name	[1]	Sender | Recipient:Contractor.Name
Contractor Company Seal	[1]	*not supported in electronic exchange*
Contractor Project Number	[1]	Sender | Recipient:Contractor.ProjectNumber
Contractor Address 1	[1]	Sender | Recipient:Contractor.PostalAddress.AddressLine1
Contractor Address 2	[1]	Sender | Recipient:Contractor.PostalAddress.AddressLine2
Contractor City	[1]	Sender | Recipient:Contractor.PostalAddress.Addresses.Town
Contractor State	[1]	Sender | Recipient:Contractor.PostalAddress.Addresses.Region
Contractor Country	[1]	Sender | Recipient:Contractor.PostalAddress.Addresses.Country
Contractor Company Phone	[1]	Sender | Recipient:Contractor.TelecomAddress.Telephone
Contractor Company Fax	[1]	Sender | Recipient:Contractor.TelecomAddress.Facsimile
Contractor Bond Signatory Last Name	[1]	Sender | Recipient:Contractor.Representative.FamilyName
Contractor Bond Signatory First Name	[1]	Sender | Recipient:Contractor.Representative.GivenName
Contractor Bond Signatory Title	[1]	Sender | Recipient:Contractor.Representative.RepresentativeTitle
Contractor Bond Signatory Phone	[1]	Sender | Recipient:Contractor.Representative.TelecomAddress.Telephone
Contractor Bond Signatory Fax	[1]	Sender | Recipient:Contractor.Representative.TelecomAddress.Facsimile
Contractor Bond Singatory e-mail Address	[1]	Sender | Recipient:Contractor.Representative.TelecomAddress.Email
Contractor Bond Signatory Signature	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>
Contractor Bond Signatory Signature Date	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>
Contractor Bond Signatory Signature Witness Signature	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatoryWitnessName <<actual signature not exchanged - see discussion about electronic signature>>
Surety Information		
Surety Company Name	[1]	Sender | Recipient:Surety.Name
Surety Corporate Seal	[1]	*not supported in electronic exchange*
Surety Address 1	[1]	Sender | Recipient:Surety.PostalAddress.AddressLine1
Surety Address 2	[1]	Sender | Recipient:Surety.PostalAddress.AddressLine2
Surety City	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Town
Surety State	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Region
Surety Country	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Country
Surety Company Phone	[1]	Sender | Recipient:Surety.TelecomAddress.Telephone
Surety Company Fax	[1]	Sender | Recipient:Surety.TelecomAddress.Facsimile
Surety Bond Signatory Last Name	[1]	Sender | Recipient:Surety.Representative.FamilyName
Surety Bond Signatory First Name	[1]	Sender | Recipient:Surety.Representative.GivenName
Surety Bond Signatory Title	[1]	Sender | Recipient:Surety.Representative.RepresentativeTitle
Surety Bond Signatory Phone	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Telephone

Surety Bond Signatory Fax	[1]	Sender	Recipient:Surety.Representative.TelecomAddress.Facsimile
Surety Bond Singatory e-mail Address	[1]	Sender	Recipient:Surety.Representative.TelecomAddress.Email
		Sender	Recipient:Surety.Representative.Signature.SignatoryName
Surety Bond Signatory Signature	[1]	<<actual signature not exchanged - see discussion about electronic signature>>
		Sender	Recipient:Surety.Representative.Signature.SignatureDate
Surety Bond Signatory Signature Date	[1]	<<actual signature not exchanged - see discussion about electronic signature>>
		Sender	Recipient:Surety.Representative.Signature.SignatoryWitnessName
Surety Bond Signatory Signature Witness Signature	[1]	<<actual signature not exchanged - see discussion about electronic signature>>

Agent or Broker Information

Agent or Broker Company Name	[1]	Notifiee:Broker.Name
Agent or Broker Address 1	[1]	Notifiee:Broker.PostalAddress.AddressLine1
Agent or Broker Address 2	[1]	Notifiee:Broker.PostalAddress.AddressLine2
Agent or Broker City	[1]	Notifiee:Broker.PostalAddress.Town
Agent or Broker State	[1]	Notifiee:Broker.PostalAddress.Region
Agent or Broker Country	[1]	Notifiee:Broker.PostalAddress.Country
Agent or Broker Company Phone	[1]	Notifiee:Broker.TelecomAddress.Telephone
Agent or Broker Company Fax	[1]	Notifiee:Broker.TelecomAddress.Facsimile

Project Information

Project Name 1 (e.g., Smith Biophysics Laboratory)	[1]	Project.Name
Project Name 2 (e.g., University of Toledo)	[1]	Project.Description
Project Reference Number	[1]	Project.ProjectId
Project Street Address 1	[1]	Project.Address.AddressLine1
Project Street Address 2	[1]	Project.Address.AddressLine2
Project City	[1]	Project.Address.Town
Project State/Province	[1]	Project.Address.Region
Project Country	[1]	Project.Address.Country
Project Postal Code	[1]	Project.Address.PostalCode

Table 2: agcXML path information assigned to the fields of the comparative analysis design-build bonds

agcXML Comparative Analysis		
Data Field Description/Content	**Cardinality**	**agcXML Schema Definition**
Bond Information		
Bond Number		Name
Bond Date (dd/mm/yyyy)	[1]	BondDate
Bond Period Start Date (dd/mm/yyyy)	[0..1]	PeriodStartDate
Bond Sum, in dollars	[1]	BondSum.BondSum
Bond Modifications (check one):		
None	[0..1]	*implicit*
See Description	[0..1]	*implicit*
Bond Modification Description	[0..1]	BondSum.Description
Owner/Contractor Agreement Information		
Project Agreement Date (dd/mm/yyyy)		Project.ContractDate
Project Agreement Sum		ProjectSum.LumpSum
Owner Information		
Owner Company Name	[1]	Notifiee:Owner.Name
Owner Address 1	[1]	Notifiee:Owner.PostalAddress.AddressLine1
Owner Address 2	[1]	Notifiee:Owner.PostalAddress.AddressLine2
Owner City	[1]	Notifiee:Owner.PostalAddress.Town
Owner State	[1]	Notifiee:Owner.PostalAddress.Region
Owner Country	[1]	Notifiee:Owner.PostalAddress.Country
Owner Company Phone	[1]	Notifiee:Owner.TelecomAddress.Telephone
Design-Builder Information		
Design-Builder Company Name	[1]	Sender | Recipient:Contractor.Name
Design-Builder Company Seal	[1]	*not supported in electronic exchange*
Design-Builder Project Number	[1]	Sender | Recipient:Contractor.ProjectNumber
Design-Builder Address 1	[1]	Sender | Recipient:Contractor.PostalAddress.AddressLine1
Design-Builder Address 2	[1]	Sender | Recipient:Contractor.PostalAddress.AddressLine2
Design-Builder City	[1]	Sender | Recipient:Contractor.PostalAddress.Addresses.Town
Design-Builder State	[1]	Sender | Recipient:Contractor.PostalAddress.Addresses.Region
Design-Builder Country	[1]	Sender | Recipient:Contractor.PostalAddress.Addresses.Country
Design-Builder Company Phone	[1]	Sender | Recipient:Contractor.TelecomAddress.Telephone
Design-Builder Company Fax	[1]	Sender | Recipient:Contractor.TelecomAddress.Facsimile
Design-Builder Bond Signatory Last Name	[1]	Sender | Recipient:Contractor.Representative.FamilyName

Design-Builder Bond Signatory First Name	[1]	Sender | Recipient:Contractor.Representative.GivenName
Design-Builder Bond Signatory Title	[1]	Sender | Recipient:Contractor.Representative.RepresentativeTitle
Design-Builder Bond Signatory Phone	[1]	Sender | Recipient:Contractor.Representative.TelecomAddress.Telephone
Design-Builder Bond Signatory Fax	[1]	Sender | Recipient:Contractor.Representative.TelecomAddress.Facsimile
Design-Builder Bond Singatory e-mail Address	[1]	Sender | Recipient:Contractor.Representative.TelecomAddress.Email
Design-Builder Bond Signatory Signature	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>
Design-Builder Bond Signatory Signature Date	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>
Design-Builder Bond Signatory Signature Witness Signature	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatoryWitnessName <<actual signature not exchanged - see discussion about electronic signature>>
Design-Builder Bond Signatory Signature Witness Title	[1]	Sender | Recipient:Contractor.Representative.Signature.SignatoryWitnessTitle <<actual signature not exchanged - see discussion about electronic signature>>
Surety Information		
Surety Company Name	[1]	Sender | Recipient:Surety.Name
Surety Corporate Seal	[1]	*not supported in electronic exchange*
Surety Address 1	[1]	Sender | Recipient:Surety.PostalAddress.AddressLine1
Surety Address 2	[1]	Sender | Recipient:Surety.PostalAddress.AddressLine2
Surety City	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Town
Surety State	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Region
Surety Country	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Country
Surety Company Phone	[1]	Sender | Recipient:Surety.TelecomAddress.Telephone
Surety Company Fax	[1]	Sender | Recipient:Surety.TelecomAddress.Facsimile
Surety Bond Signatory Last Name	[1]	Sender | Recipient:Surety.Representative.FamilyName
Surety Bond Signatory First Name	[1]	Sender | Recipient:Surety.Representative.GivenName
Surety Bond Signatory Title	[1]	Sender | Recipient:Surety.Representative.RepresentativeTitle
Surety Bond Signatory Phone	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Telephone
Surety Bond Signatory Fax	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Facsimile
Surety Bond Singatory e-mail Address	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Email
Surety Bond Signatory Signature	[1]	Sender | Recipient:Surety.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>
Surety Bond Signatory Signature Date	[1]	Sender | Recipient:Surety.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>
Surety Bond Signatory Signature Witness Signature	[1]	Sender | Recipient:Surety.Representative.Signature.SignatoryWitnessName <<actual signature not exchanged - see discussion about electronic signature>>
Surety Bond Signatory Signature Witness Title	[1]	Sender | Recipient:Surety.Representative.Signature.SignatoryWitnessTitle <<actual signature not exchanged - see discussion about electronic signature>>
Project Information		
Project Name 1 (e.g., Smith Biophysics Laboratory)	[1]	ProjectInformation.Name

Project Name 2 (e.g., University of Toledo)	[1]	ProjectInformation.Description
Project Reference Number	[1]	ProjectInformation.ReferenceNumber
Project Street Address 1	[1]	ProjectInformation.Address.AddressLine1
Project Street Address 2	[1]	ProjectInformation.Address.AddressLine2
Project City	[1]	ProjectInformation.Address.Town
Project State/Province	[1]	ProjectInformation.Address.Region
Project Country	[1]	ProjectInformation.Address.Country
Project Postal Code	[1]	ProjectInformation.Address.PostalCode

Table 3: agcXML path information assigned to the fields of the comparative analysis for subcontractor bonds

agcXML Comparative Analysis		
Data Field Description/Content	**Cardinality**	**agcXML Schema Definition**
Bond Information		
Bond Date (dd/mm/yyyy)	[1]	BondDate
Bond Period Start Date (dd/mm/yyyy)	[0..1]	PeriodStartDate
Bond Sum, in dollars	[1]	BondSum.BondSum
Bond Modifications (check one):		
None	[0..1]	*implicit*
See Description	[0..1]	*implicit*
Bond Modification Description	[0..1]	BondSum.Description
Owner/Contractor Agreement Information		
Project Agreement Date (dd/mm/yyyy)		Project.ContractDate
Project Agreement Sum		ProjectSum.LumpSum
Owner Information		
Owner Company Name	[1]	Notifiee:Owner.Name
Owner Address 1	[1]	Notifiee:Owner.PostalAddress.AddressLine1
Owner Address 2	[1]	Notifiee:Owner.PostalAddress.AddressLine2
Owner City	[1]	Notifiee:Owner.PostalAddress.Town
Owner State	[1]	Notifiee:Owner.PostalAddress.Region
Owner Country	[1]	Notifiee:Owner.PostalAddress.Country
Owner Company Phone	[1]	Notifiee:Owner.TelecomAddress.Telephone
Contractor Information		
Contractor Company Name	[1]	Notifiee:Contractor.Name
Contractor Company Seal	[1]	*not supported in electronic exchange*
Contractor Project Number	[1]	Notifiee:Contractor.ProjectNumber
Contractor Address 1	[1]	Notifiee:Contractor.PostalAddress.AddressLine1
Contractor Address 2	[1]	Notifiee:Contractor.PostalAddress.AddressLine2
Contractor City	[1]	Notifiee:Contractor.PostalAddress.Addresses.Town
Contractor State	[1]	Notifiee:Contractor.PostalAddress.Addresses.Region
Contractor Country	[1]	Notifiee:Contractor.PostalAddress.Addresses.Country
Contractor Company Phone	[1]	Notifiee:Contractor.TelecomAddress.Telephone
Subcontractor Information		
Subcontractor Company Name	[1]	Sender | Recipient:Contractor.Name
Subcontractor Company Seal	[1]	*not supported in electronic exchange*

Subcontractor Project Number	[1]	Sender | Recipient:Subcontractor.ProjectNumber
Subcontractor Address 1	[1]	Sender | Recipient:Subcontractor.PostalAddress.AddressLine1
Subcontractor Address 2	[1]	Sender | Recipient:Subcontractor.PostalAddress.AddressLine2
Subcontractor City	[1]	Sender | Recipient:Subcontractor.PostalAddress.Addresses.Town
Subcontractor State	[1]	Sender | Recipient:Subcontractor.PostalAddress.Addresses.Region
Subcontractor Country	[1]	Sender | Recipient:Subcontractor.PostalAddress.Addresses.Country
Subcontractor Company Phone	[1]	Sender | Recipient:Subcontractor.TelecomAddress.Telephone
Subcontractor Company Fax	[1]	Sender | Recipient:Subcontractor.TelecomAddress.Facsimile
Subcontractor Bond Signatory Last Name	[1]	Sender | Recipient:Subcontractor.Representative.FamilyName
Subcontractor Bond Signatory First Name	[1]	Sender | Recipient:Subcontractor.Representative.GivenName
Subcontractor Bond Signatory Title	[1]	Sender | Recipient:Subcontractor.Representative.RepresentativeTitle
Subcontractor Bond Signatory Phone	[1]	Sender | Recipient:Subcontractor.Representative.TelecomAddress.Telephone
Subcontractor Bond Signatory Fax	[1]	Sender | Recipient:Subcontractor.Representative.TelecomAddress.Facsimile
Subcontractor Bond Singatory e-mail Address	[1]	Sender | Recipient:Subcontractor.Representative.TelecomAddress.Email
Subcontractor Bond Signatory Signature	[1]	Sender | Recipient:Subcontractor.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>
Subcontractor Bond Signatory Signature Date	[1]	Sender | Recipient:Subcontractor.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>
Subcontractor Bond Signatory Signature Witness Signature	[1]	Sender | Recipient:Subcontractor.Representative.Signature.SignatoryWitnessName <<actual signature not exchanged - see discussion about electronic signature>>
Surety Information		
Surety Company Name	[1]	Sender | Recipient:Surety.Name
Surety Corporate Seal	[1]	*not supported in electronic exchange*
Surety Address 1	[1]	Sender | Recipient:Surety.PostalAddress.AddressLine1
Surety Address 2	[1]	Sender | Recipient:Surety.PostalAddress.AddressLine2
Surety City	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Town
Surety State	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Region
Surety Country	[1]	Sender | Recipient:Surety.PostalAddress.Addresses.Country
Surety Company Phone	[1]	Sender | Recipient:Surety.TelecomAddress.Telephone
Surety Company Fax	[1]	Sender | Recipient:Surety.TelecomAddress.Facsimile
Surety Bond Signatory Last Name	[1]	Sender | Recipient:Surety.Representative.FamilyName
Surety Bond Signatory First Name	[1]	Sender | Recipient:Surety.Representative.GivenName
Surety Bond Signatory Title	[1]	Sender | Recipient:Surety.Representative.RepresentativeTitle
Surety Bond Signatory Phone	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Telephone
Surety Bond Signatory Fax	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Facsimile
Surety Bond Singatory e-mail Address	[1]	Sender | Recipient:Surety.Representative.TelecomAddress.Email
Surety Bond Signatory Signature	[1]	Sender | Recipient:Surety.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>

Surety Bond Signatory Signature Date	[1]	Sender | Recipient:Surety.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>
Surety Bond Signatory Signature Witness Signature	[1]	Sender | Recipient:Surety.Representative.Signature.SignatoryWitnessName <<actual signature not exchanged - see discussion about electronic signature>>

Agent or Broker Information

Agent or Broker Company Name	[1]	Notifiee:Broker.Name
Agent or Broker Address 1	[1]	Notifiee:Broker.PostalAddress.AddressLine1
Agent or Broker Address 2	[1]	Notifiee:Broker.PostalAddress.AddressLine2
Agent or Broker City	[1]	Notifiee:Broker.PostalAddress.Town
Agent or Broker State	[1]	Notifiee:Broker.PostalAddress.Region
Agent or Broker Country	[1]	Notifiee:Broker.PostalAddress.Country
Agent or Broker Company Phone	[1]	Notifiee:Broker.TelecomAddress.Telephone
Agent or Broker Company Fax	[1]	Notifiee:Broker.TelecomAddress.Facsimile

Project Information

Project Name 1 (e.g., Smith Biophysics Laboratory)	[1]	ProjectInformation.Name
Project Name 2 (e.g., University of Toledo)	[1]	ProjectInformation.LongName
Project Reference Number	[1]	ProjectInformation.ReferenceNumber
Project Street Address 1	[1]	ProjectInformation.Address.AddressLine1
Project Street Address 2	[1]	ProjectInformation.Address.AddressLine2
Project City	[1]	ProjectInformation.Address.Town
Project State/Province	[1]	ProjectInformation.Address.Region
Project Country	[1]	ProjectInformation.Address.Country
Project Postal Code	[1]	ProjectInformation.Address.PostalCode