



</agcXML>
Information Exchange

**THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
NATIONAL INSTITUTE OF BUILDING SCIENCES**

agcXML

**OWNER CONTRACTOR AGREEMENT
DATA SPECIFICATION AND SCHEMA**

**VERSION 1.0
MARCH 4, 2009**

The agcXML Project

The Associated General Contractors of America

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1 . OWNER CONTRACTOR AGREEMENT DIAGRAM

The agcXML **OwnerContractorAgreement** schema is discussed in this document as a class diagram using the Unified Modeling Language notation, UML. 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 **OwnerContractorAgreement** 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 OwnerContractorAgreement schema

The **OwnerContractorAgreement** schema is the schema to be used for sending and receiving contractual documents between parties involved in electronic exchange of business messages. The schema deals with the variable part of contractual forms, not with the legal text itself. In scope are:

- The contract meta-data
- The standard contract data fields
- The reference to the contract section by contract type

In addition two other forms of electronic exchange of contractual documents are discussed, a document with alternations of the standard contractual text, and a document containing the contractual language as part of the exchange. In scope are:

- Reference to standard text with alternates
- Including of full contractual language as a blob within the exchange message

In both cases the actual formatting of the contractual text is not part of this schema development, only the meta-data, the standard and variable contract data fields and the reference to the underlying contract type (the agcXML document number or similar).

1.1.1 Name space considerations

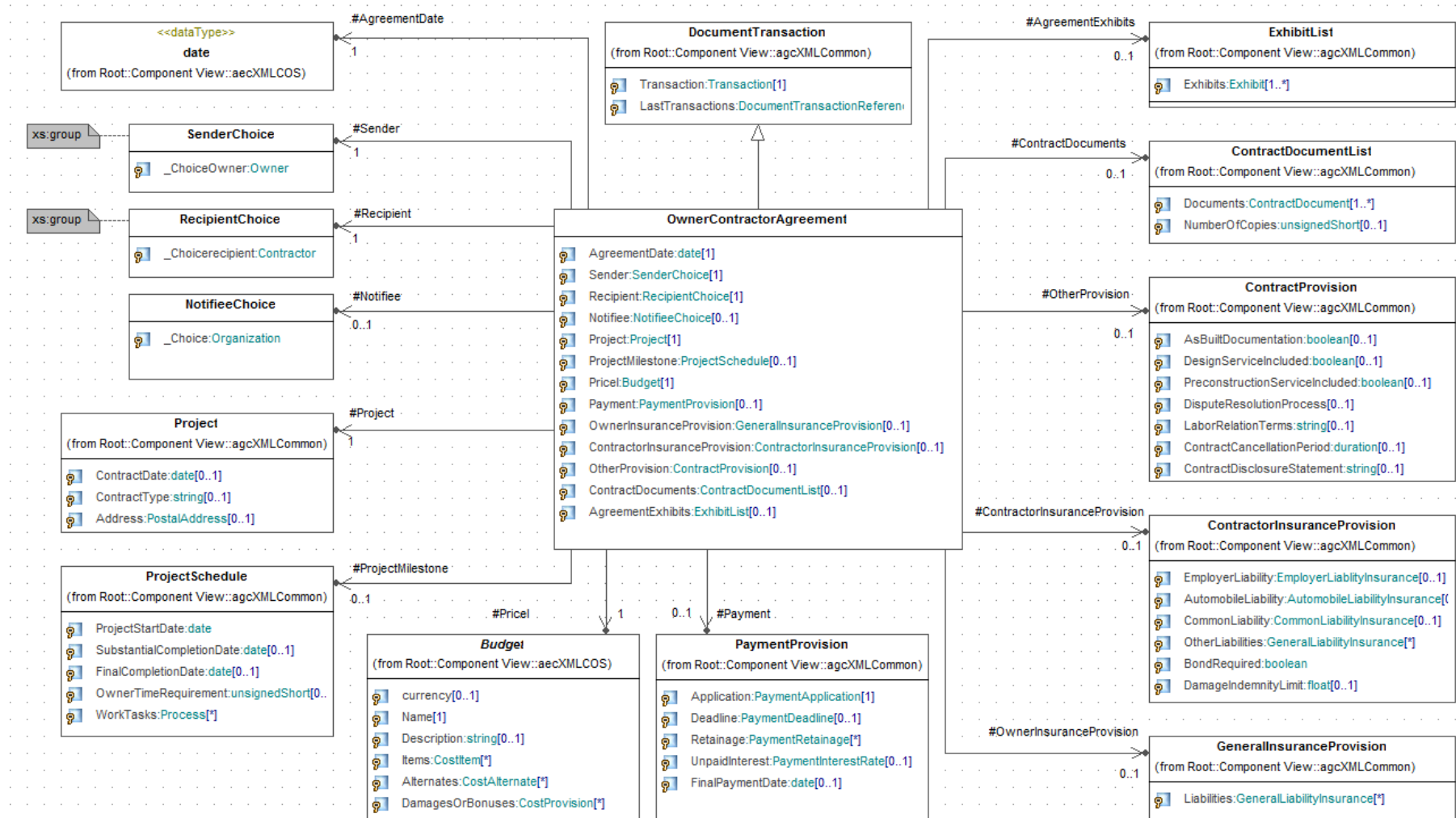
The following name spaces are assigned:

- 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"
- OwnerContractorAgreement:
 - xmlns:agcoca="http://www.aecXML.org/agcXML/OwnerContractorAgreement"

1.2 The OwnerContractorAgreement root element

The root element of the xml exchange document is the **OwnerContractorAgreement** element. It is defined in the **OwnerContractorAgreement** 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 **OwnerContractorAgreement** element adds the following application for payment specific elements:

Figure 1: the root element Agreement in *OwnerContractorAgreement* name space

1.2.1 Basic document information

The [OwnerContractorAgreement](#) holds (if requested and/or provided by the contract form) the following information:

- The governing contract form (i.e. the contract template number for the boiler plate text)
- The agreement date
- The information about the parties of the agreement
 - The sender information, being:
 - Owner information
 - The recipient information, being:
 - Contractor information
 - The notifyee information, being zero or one of:
 - Architect information
 - Engineer information
- The project information, including
 - Project address
 - Project milestone dates
- The contract financial terms
 - Overall contract sum
 - Alternates to the contract sum
 - Unit cost items
 - Damage and/or bonus provisions
- Payment terms, including
 - Application for payment
 - Payment deadlines
 - Retainage
 - Interest rates
- Insurance, bond and indemnity provisions
 - Owner insurance
 - Contractor insurances
- The contract documents
- The exhibits to the contract

1.2.2 Governing form

The exchange of the owner contractor agreement is based on the standard forms published by the Associated General Contractors of America (AGC), by the American Institute of Architects (AIA), or other standard templates. The element [GoverningForm](#) is defined at [Document](#).

It should be noted that the exchange of the boiler plate text that is included in the standard form is not facilitated by this schema. Proposed changes of the boiler plate text have to be exchanged in addition, e.g. by a referenced electronic document.

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

- ConsensusDOCS 200 (formerly AGC Document 200) Owner/Contractor Standard Agreement & General Conditions (Lump Sum)
- ConsensusDOCS 205 (formerly AGC Document 205) Owner/Contractor Agreement, Short Form (Lump Sum)

- | | |
|--|--|
| ▪ ConsensusDOCS 510
(formerly AGC Document 230) | Owner/Construction Manager Agreement
formerly Owner/Contractor Agreement, (Cost plus PreConstruction
Services Fee) |
| ▪ AGC Document 235 | Short Form Agreement Between Owner & Contractor (Cost of Work) |
| ▪ AGC Document 250 | Owner/Contractor Agreement (GMP plus optional Preconstruction
Service Fee) |
| ▪ AIA Document A101 | Owner/Contractor Agreement (Stipulated Sum) |
| ▪ AIA Document A105 | Owner/Contractor Agreement for Small Project (Stipulated Sum) |
| ▪ AIA Document A107 | Owner/Contractor Agreement, Limited Scope (Stipulated Sum) |
| ▪ AIA Document A111 | Owner/Contractor Agreement (Cost plus with GMP) |
| ▪ AIA Document A114 | Owner/Contractor Agreement (Cost plus with no GMP) |

1.2.3 Agreement date

The date of the agreement is given by **AgreementDate:date**, based on **xs:date** datatype. The display of the date in either alphanumerical or digital form is chosen by the user interface of the participating software systems.

1.3 The parties involved in the agreement

An owner contractor agreement transaction is established between a sender, the owner, and a recipient, the contractor. In addition, others can be notified. Sender and recipient may also be the signatories of the agreement.

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 **OwnerContractorAgreement** is presented by the **Owner**. The information is accessible as **Sender**.

1.3.2 The recipient Information

The recipient for the **OwnerContractorAgreement** is presented by the **Contractor**. The information is accessible as **Recipient**.

1.3.3 The notifyee Information

Other parties may be notified of the **OwnerContractorAgreement**. Notifyees for the **OwnerContractorAgreement** can be **Architect** or **Engineer**. It is accessible as **Notifyee**. The notifyee information is optional, and can include zero or one notifyee.

1.3.4 Choice of roles for sender, recipient and notifyee

Information about **Owner**, **Contractor**, **Engineer**, and **Architect** is provided in the document “agcXML common definitions”. The information about any of the actors may include an:

- Address (postal and/or telecom)
- License
- Representative
- Representative Signature

The information is independent of whether the organization is the sender, recipient or notifyee in this transaction.

1.4 The project information of the agreement

1.4.1 Project information

The **ProjectInformation** is provided by **Project** defined in **agcXMLCommon** name space. The minimum information provided within the **OwnerContractorAgreement** element should be **Project.Name**, **.Description**, **.ProjectId**, **.ContractDate**, and **.Address**.

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

1.4.2 Project milestone dates

The project milestone is defined as **ProjectSchedule** in the **agcXMLCommon** name space. The structure allows reusing the common definitions of a schedule in agcXML within the **OwnerContractorAgreement**. Simplifications should be agreed upon within implementation agreements. The minimum information provided within the **ProjectSchedule** element should be **ProjectStartDate**, **SubstantialCompletionDate**, **FinalCompletionDate**, and **OwnerTimeRequirement**. Optionally a list of **WorkTask**'s with individual **StartDate** and **CompletionDate** can be included.

Information about **ProjectSchedule** is provided in the document “agcXML common definitions”, section “Schedule”.

1.5 Contract sum

The overall sum of the agreement defines the budget and can be expressed by either:

- lump sum
- contractor's fee
- guaranteed maximum sum

In addition to the overall sum, unit costs may be provided. They can be part of the contract sum, or given in addition to the contract sum. These include:

- preconstruction services compensation
- unit prices
- allowances
- labor rates

For each budget a list of alternates can be provided, being either accepted or outstanding alternates. They can be itemized, if appropriate.

- accepted alternates
- outstanding alternates

Additional liquidated damage provisions or bonus provisions are included.

The basis contract sum schema is therefore structured into different element types for the overall contract sum, different types of individual unit cost items, alternates and damage/bonus provisions.

The total contract sum is available as **PriceInformation** from the root **OwnerContractorAgreement** element.

1.5.1 Budget

The total project budget is provided as **Budget** as an abstract element in the **aecXMLCOS** name space. It is specialized into three forms within the **agcXMLCommon** name space, depending on the nature of the agreement form:

- **BudgetByContractorFee**,
- **BudgetByLumpSum**, and

- **BudgetByGuaranteedMax**

Depending on the kind of agreement, one of the three budget information can be utilized. Each individual element has the name, total sum, and eventual adjustment terms, saving provisions, or other price assumptions.

Information about **Budget** is provided in the “aecXML common object schema,” section “Budget.”

1.5.2 Cost Item

The **Budget**, provides as **PriceInformation**, may contain individual cost items (depending on contract document form), they are provided as **CostItem**, an abstract element in the **aecXMLCOS** name space. The following four elements specialized within the **agcXMLCommon** name space, can be utilized for the owner contractor agreement depending on the nature of the cost item form:

- **UnitPrice**,
- **Allowance**,
- **EmployeeRate** and
- **Compensation**.

Information about **UnitPrice**, **Allowance**, **EmployeeRate** and **Compensation** is provided in the “aecXML common object schema,” section “Cost item.”

1.5.3 Cost Alternates

In addition a **Budget** may include alternates given by or requested from a contractor. Zero, one or many **AcceptedAlternate** and/or **OutstandingAlternate** can be provided.

Information about **AcceptedAlternate** and **OutstandingAlternate** is provided in the “aecXML common object schema,” section “Cost alternate.”

1.5.4 Cost Provisions

An agreement may include liquidated damage or bonus provisions, e.g. for early or late completion. An abstract element **CostProvision** in the **agcXMLCommon** name space provides the common supertype for **DamageProvision** and **BonusProvision** elements. A bonus or damage provision has a name or id, an optional descriptive text, a sum, and optionally a basis for the payment sum (e.g. per day, per week, etc.).

Information about **DamageProvision** and **BonusProvision** is provided in “aecXML common object schema,” section “Cost provisions.”

1.6 Payment provisions

The **OwnerContractorAgreement** may include payment provisions; they are grouped into the element **PaymentProvision** defined in the **agcXMLCommon** name space. It includes:

- Application for payment
- Payment deadline (owner to pay contractor)
- Payment retainage (primary, additional, material & equipment, subcontractor)
- Interest rates for unpaid payments
- Final payment date

Information about **PaymentProvision** is provided in the “aecXML common object schema,” section “Payment provision.”

1.7 Insurance, Bond and Indemnity Provisions

The **OwnerContractorAgreement** may include insurance provisions; for both the owner and the contractor. The insurance provision combines the individual bond requirements, liability limits and indemnity limits.

Information about [GeneralInsuranceProvision](#) and [ContractorInsuranceProvision](#) is provided in the document “agcXML common definitions”, section “Insurance”.

1.7.1 Owner insurance

The [OwnerInsurance](#) is a specific type of [InsuranceProvision](#) defined in the [aecXMLCommon](#) name space. It uses the [GeneralInsuranceProvision](#) that allows adding any [LiabilityInsurance](#) provision,

1.7.2 Contractor insurance

The [ContractorInsurance](#) is a specific type of [InsuranceProvision](#) defined in the [AECxmlCommon](#) name space. It used the [ContractorInsuranceProvision](#) that allows adding four particular insurances information to represent required liability limits are added as particular elements:

- [EmployerLiabilityInsurance](#) to capture the bodily injury liability limits,
- [AutomobileLiabilityInsurance](#) to capture the vehicle accident liability limit,
- [GeneralLiabilityInsurance](#) to capture general liability limits.
- [CommonLiabilityInsurance](#)

In addition the information of whether a bond is required, [BondRequired](#), and the amount of a general [DamageIndemnityLimit](#) can be provided.

1.8 Contract provisions

Other provisions, such as design service included, pre-construction service included, labor relation terms, etc. are provided by [ContractProvision](#), referring to the [ContractProvision](#) element defined in the [agcXMLCommon](#) name space.

Information about [ContractProvision](#) is provided in the document “agcXML common definitions”, section “Contract provision”.

1.9 Documents and exhibits

Contract documents and exhibits can be referenced from the [OwnerContractorAgreement](#). Contract document and exhibits are specialized in the [agcXMLCommon](#) name space.

1.9.1 Contract documents

For each referenced document, an element [ContractDocument](#) is included providing a list of [ContractDocument](#) within the [ContractDocumentList](#). Both elements are defined in the [agcXMLCommon](#) name space.

Information about [ContractDocumentList](#) and [ContractDocument](#) is provided in the document “agcXML common definitions”, section “Document references”.

1.9.2 Exhibits

For each referenced exhibit, an element [AgreementExhibits](#) is included providing a list of [Exhibit](#) within the [ExhibitList](#). Both elements are defined in the [agcXMLCommon](#) name space.

Information about [ExhibitList](#) and [Exhibit](#) is provided in the document “agcXML common definitions”, section “Document references”.

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 owner contractor agreements are included in the [OwnerContractorAgreement](#) 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 agcXMLOCA name space

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Mit XMLSpy v2007 sp2 (http://www.altova.com) von Thomas Liebich (AEC3 Deutschland GmbH) bearbeitet
-->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:agcoca="http://www.aecXML.org/agcXML/OwnerContractorAgreement"
  xmlns:agcxml="http://www.aecXML.org/agcXML/agcXMLCommon" xmlns:cos="http://www.aecXML.org/aecXML/cos"
  targetNamespace="http://www.aecXML.org/agcXML/OwnerContractorAgreement" 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"/>
  <!--Owner contractor agreement diagram-->
  <xs:element name="OwnerContractorAgreement" type="agcoca:OwnerContractorAgreement"
    substitutionGroup="agcxml:DocumentTransaction" nillable="false"/>
  <xs:complexType name="OwnerContractorAgreement">
    <xs:complexContent>
      <xs:extension base="agcxml:DocumentTransaction">
        <xs:sequence>
          <xs:element name="AgreementDate" type="xs:date"/>
          <xs:element name="Sender">
            <xs:complexType>
              <xs:group ref="agcoca:SenderChoice"/>
            </xs:complexType>
          </xs:element>
          <xs:element name="Recipient">
            <xs:complexType>
              <xs:group ref="agcoca:RecipientChoice"/>
            </xs:complexType>
          </xs:element>
          <xs:element name="Notiffee">
            <xs:complexType>
              <xs:choice>
                <xs:element ref="agcxml:Organization"/>
                </xs:choice>
              </xs:complexType>
            </xs:element>
          <xs:element name="Project" type="agcxml:Project"/>
          <xs:element name="ProjectMilestone" type="agcxml:ProjectSchedule" minOccurs="0"/>
          <xs:element name="Price" type="cos:Budget"/>
          <xs:element name="Payment" type="agcxml:PaymentProvision" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

```
<xs:element name="OwnerInsuranceProvision" type="agcxml:GeneralInsuranceProvision"
  minOccurs="0"/>
<xs:element name="ContractorInsuranceProvision" type="agcxml:ContractorInsuranceProvision"
  minOccurs="0"/>
<xs:element name="ContractProvision" type="agcxml:ContractProvision" minOccurs="0"/>
<xs:element name="ContractDocuments" type="agcxml:ContractDocumentList" minOccurs="0"/>
<xs:element name="AgreementExhibits" type="agcxml:ExhibitList" minOccurs="0"/>
</xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>
<!--Actor definition diagram-->
<xs:group name="SenderChoice">
  <xs:choice>
    <xs:element ref="agcxml:Owner"/>
  </xs:choice>
</xs:group>
<xs:group name="RecipientChoice">
  <xs:choice>
    <xs:element ref="agcxml:Contractor"/>
  </xs:choice>
</xs:group>
</xs:schema>
```

A . ASSIGNMENT TO COMPARATIVE ANALYSIS

The following table shows each agcXML element reference (from root element Agreement in [OwnerContractorAgreement](#) name space) assigned to the corresponding data field obtained from the comparative analysis of the existing transaction media for owner-contractor agreement transactions (the commonly accepted standard contract forms published by the AIA, AGC, and 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.

Comparative Analysis

Owner/Contractor Agreements

Data Field Description/Content

Names in current agcXML schema

GoverningForm (based on value – correct template to be used)

Agreement Date

Project Agreement Date: Day	[1]	<i>only numeric</i>
Project Agreement Date: Month	[1]	<i>only numeric</i>
Project Agreement Date: Year	[1]	<i>only numeric</i>
Project Agreement Date (dd/mm/yyyy)	[1]	AgreementDate:date (based on xs:date)

Owner Information

Owner Company Name	[1]	Sender: Owner.Name
Owner Project Number	[1]	Sender: Owner.ProjectNumber
Owner Address 1	[1]	Sender: Owner.PostalAddress.AddressLine1
Owner Address 2	[1]	Sender: Owner.PostalAddress.AddressLine2
Owner City	[1]	Sender: Owner.PostalAddress.Town
Owner State	[1]	Sender: Owner.PostalAddress.Region
Owner Country	[1]	Sender: Owner.PostalAddress.Country
Owner Company Phone	[1]	Sender: Owner.TelecomAddress.Telephone
Owner Company Fax	[1]	Sender: Owner.TelecomAddress.Facsimile
Owner Representative Last Name	[1]	Sender: Owner.Representative.FamilyName
Owner Representative First Name	[1]	Sender: Owner.Representative.GivenName
Owner Representative Phone	[1]	Sender: Owner.Representative.TelecomAddress.Telephone
Owner Representative Fax	[1]	Sender: Owner.Representative.TelecomAddress.Facsimile
Owner Representative e-mail Address	[1]	Sender: Owner.Representative.TelecomAddress.Email
Owner Signature	[1]	<<actual signature not exchanged - see discussion about electronic signature>>
Owner Signatory Last Name	[1]	Sender: Owner.Representative.Signature.SignatoryName
Owner Signatory First Name		Sender: Owner.Representative.Signature.SignatoryName

Owner Signatory Title	[1]	Sender: Owner.Representative.Signature.SignatoryTitle
Owner Signature Witness Signature		<<actual signature not exchanged – see discussion about electronic signature>>
Owner Signature Witness Signatory Last Name		Sender: Owner.Representative.Signature.SignatoryWitnessName
Owner Signature Witness Signatory First Name		Sender: Owner.Representative.Signature.SignatoryWitnessName
Owner Signature Witness Signatory Title		Sender: Owner.Representative.Signature.SignatoryWitnessTitle

Contractor Information

Contractor Company Name	[1]	Recipient: Contractor.Name
Contractor Project Number	[1]	Recipient: Contractor.ProjectNumber
Contractor Account Code	[1]	Recipient: Contractor.ProjectAccountCode
Contractor Address 1	[1]	Recipient: Contractor.PostalAddress.AddressLine1
Contractor Address 2	[1]	Recipient: Contractor.PostalAddress.AddressLine2
Contractor City	[1]	Recipient: Contractor.PostalAddress.Town
Contractor State	[1]	Recipient: Contractor.PostalAddress.Region
Contractor Country	[1]	Recipient: Contractor.PostalAddress.Country
Contractor Company Phone	[1]	Recipient: Contractor.TelecomAddress.Telephone
Contractor Company Fax	[1]	Recipient: Contractor.TelecomAddress.Facsimile
Contractor Representative Name	[1]	Recipient: Contractor.Representative.FamilyName Recipient: Contractor.Representative.GivenName
Contractor Representative Phone	[1]	Recipient: Contractor.Representative.TelecomAddress.Telephone
Contractor Representative Fax	[1]	Recipient: Contractor.Representative.TelecomAddress.Facsimile
Contractor Representative e-mail Address	[1]	Recipient: Contractor.Representative.TelecomAddress.Email
Contractor Safety Representative Name	[1]	Recipient: Contractor.SafetyRepresentative.FamilyName Recipient: Contractor.SafetyRepresentative.GivenName
Contractor Safety Representative Phone	[1]	Recipient: Contractor.SafetyRepresentative.TelecomAddress.Telephone
Contractor Safety Representative Fax	[1]	Recipient: Contractor.SafetyRepresentative.TelecomAddress.Facsimile
Contractor Safety Representative e-mail Address	[1]	Recipient: Contractor.SafetyRepresentative.TelecomAddress.Email
Contractor Signature	[1]	<<actual signature not exchanged - see discussion about electronic signature>>
Contractor Signature Witness Signature	[1]	Recipient: Contractor.Representative.Signature.SignatoryWitnessName Recipient: Contractor.Representative.Signature.SignatoryWitnessTitle
Contractor Signatory Name	[1]	Recipient: Contractor.Representative.Signature.SignatoryName
Contractor Signatory Title	[1]	Recipient: Contractor.Representative.Signature.SignatoryTitle
Contractor License Number	[1]	Recipient: Contractor.License.Number
Contractor License Jurisdiction City	[1]	Recipient: Contractor.License.JurisdictionTown
Contractor License Jurisdiction State	[1]	Recipient: Contractor.License.JurisdictionState

Project Information

Project name and location	{1}	
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

Prime Design Professional Information

Architect/Engineer, name, address, and other information	{1}	
Architect/Engineer Company Name	[0..1]	Notiffee: Architect Engineer.Name
Architect/Engineer Project Number	[0..1]	Notiffee: Architect Engineer.ProjectNumber
Architect/Engineer Address 1	[0..1]	Notiffee: Architect Engineer.PostalAddress.AddressLine1
Architect/Engineer Address 2	[0..1]	Notiffee: Architect Engineer.PostalAddress.AddressLine2
Architect/Engineer City	[0..1]	Notiffee: Architect Engineer.PostalAddress.Town
Architect/Engineer State	[0..1]	Notiffee: Architect Engineer.PostalAddress.Region
Architect/Engineer Country	[0..1]	Notiffee: Architect Engineer.PostalAddress.Country
Architect/Engineer Company Phone	[0..1]	Notiffee: Architect Engineer.TelecomAddress.Telephone
Architect/Engineer Company Fax	[0..1]	Notiffee: Architect Engineer.TelecomAddress.Facsimile
Architect/Engineer Representative Name	[0..1]	Notiffee: Architect Engineer.Representative.FamilyName Notiffee: Architect Engineer.Representative.GivenName
Architect/Engineer Representative Phone	[0..1]	Notiffee: Architect Engineer.Representative.TelecomAddress.Telephone
Architect/Engineer Representative Fax	[0..1]	Notiffee: Architect Engineer.Representative.TelecomAddress.Facsimile
Architect/Engineer Representative e-mail Address	[0..1]	Notiffee: Architect Engineer.Representative.TelecomAddress.Email
Architect/Engineer License Number	[0..1]	Notiffee: Architect Engineer.License.Number Notiffee: Architect Engineer.License.JurisdictionTown
Architect/Engineer License Jurisdiction State	[0..1]	Notiffee: Architect Engineer.License.JurisdictionState

Project Milestone Dates

Project Start Date (if different from Project Agreement Date)	[1]	ProjectMilestone.StartDate
Owner's Time Requirement Prior to Commencement	[1]	ProjectMilestone.OwnerTimeRequirement
Substantial Completion Date (calendar days from date of commencement,	[1]	only numeric

in words)

Substantial Completion Date (calendar days from date of commencement, in numerals)	[1]	only numeric as date
Substantial Completion Date - Alternate (calendar date; format: mm/dd/yyyy)	[1]	ProjectMilestone.SubstantialCompletionDate
Final Completion Date (calendar days from date of substantial completion, in words)	[1]	only numeric
Final Completion Date (calendar days from date of substantial completion, in numerals)	[1]	ProjectMilestone.FinalCompletionDate
Portion of Work	[0..*]	ProjectMilestone.WorkTasks[*].Completion
Portion of Work Value, in dollars	[0..*]	
Substantial Completion Date, Portion of Work (one per Portion of Work; format: mm/dd/yyyy)	[0..*]	ProjectMilestone.WorkTasks[*].SubstantialCompletionDate

Liquidated Damage or Bonus Provisions

Provisions for Liquidated Damages or Bonus Payments for Late/Early Completion	[1]	(for damage) PriceInformation.DamagesOrBonuses.DamageFine PriceInformation.DamagesOrBonuses.DamageFineBasis (for bonus) PriceInformation.DamagesOrBonuses.BonusFee PriceInformation.DamagesOrBonuses.BonusFeeBasis
---	-----	---

Contract Sum

Contract Sum in words	[0..1]	only numerically given in the schema
Contract Sum in numerals	[0..1]	PriceInformation.{BudgetByLumpSum}.LumpSum
Contractor's Fee (Cost-Plus-a-Fee Agreements only)	[0..1]	PriceInformation.{BudgetByContractorFee}.TotalContractorFee
Contractor's Fee Adjustment Terms	[0..1]	PriceInformation.{BudgetByContractorFee}.AdjustmentTerms
Preconstruction Services Compensation	[0..1]	PriceInformation.Items{Compensation}[*].CompensationSum
Contractor's Office Project Personnel Functional Title	[0..*]	PriceInformation.Items{EmployeesRateItem}[*].EmployeeFunctionTitle
Contractor's Site Personnel	[0..*]	PriceInformation.Items{EmployeesRateItem}[*].Name
Contractor's Site Personnel, Status (one per Contractor's Site Personnel)	[0..*]	PriceInformation.Items{EmployeesRateItem}[*].EmployeeStatus
Contractor's Site Personnel, Rate of Compensation (one per Contractor's Site Personnel)	[0..*]	PriceInformation.Items{EmployeesRateItem}[*].EmployeeRate
Contractor's Site Personnel, Compensation Period (allowable values: <hourly> <weekly> <bi-weekly> <semi-monthly> <monthly>)	[1]	PriceInformation.Items{EmployeesRateItem}[*].RateTimeUnit
Guaranteed Maximum Price	[0..1]	PriceInformation.{BudgetByGuaranteedMax}.MaxPrice
Guaranteed Maximum Price Savings Provisions	[0..1]	PriceInformation.{BudgetByGuaranteedMax}.MaxPriceSavingTerms
Guaranteed Maximum Price Assumptions	[0..1]	PriceInformation.{BudgetByGuaranteedMax}.MaxPriceAssumptions
Accepted Alternates List	[1]	
Accepted Alternate ID	[0..*]	PriceInformation.Alternates{AcceptedAlternate}[*].Name

Accepted Alternate Title/Description (one per Accepted Alternate ID)	[0..*]	PriceInformation.Alternates{AcceptedAlternate}[*].Description
Accepted Alternate Sum (one per Accepted Alternate ID)	[0..*]	PriceInformation.Alternates{AcceptedAlternate}[*].AcceptedSum
Outstanding Alternate ID	[0..*]	PriceInformation.Alternates{OutstandingAlternate}[*].Name
Outstanding Alternate Title/Description (one per Outstanding Alternate ID)	[0..*]	PriceInformation.Alternates{OutstandingAlternate}[*].Description
Outstanding Alternate Sum	[0..*]	PriceInformation.Alternates{OutstandingAlternate}[*].OutstandingSum
Outstanding Alternate Expiration Date (one per Outstanding Alternate ID)	[0..*]	PriceInformation.Alternates{OutstandingAlternate}[*].ExpirationDate
Unit Price Item ID	[0..*]	PriceInformation.Items{UnitPriceItem}[*].Name
Unit Price Item Title/Description (one per Unit Price Item ID)	[0..*]	PriceInformation.Items{UnitPriceItem}[*].Description
Unit Price Number of Units (one per Unit Price Item ID)	[0..*]	PriceInformation.Items{UnitPriceItem}[*].UnitCount
Unit Price, Cost per Unit (one per Unit Price Item ID)	[0..*]	PriceInformation.Items{UnitPriceItem}[*].UnitCost
Allowance Item ID	[0..*]	PriceInformation.Items{AllowanceItem}[*].Name
Allowance Item Title/Description (one per Allowance Item ID)	[0..*]	PriceInformation.Items{AllowanceItem}[*].Description
Allowance Item Sum (one per Allowance Item ID)	[0..*]	PriceInformation.Items{AllowanceItem}[*].AllowanceSum
Allowance Item Type (one per Allowance Item ID; allowable values: <labor> <materials> <labor & materials>)	[0..*]	PriceInformation.Items{AllowanceItem}[*].Usage

Payment Provisions

Payment Procedures and Retainage Provisions

Application for Payment Period (default value: one calendar month)	[1]	PaymentInformation.Application.PaymentPeriod
Application for Payment Period End (day of month; default value: last day of month)	[1]	PaymentInformation.Application.RecurringPaymentDay
Application for Payment Receipt Deadline (single field; no specified format)		
Day of month application for payment to be received by architect, in words	[1]	<i>only numeric</i>
Day of month application for payment to be received by architect, in numbers	[1]	PaymentInformation.Application.RecurringReceiptDay
Day of month owner to pay contractor (single field; no specified format)		
Day of month owner to pay contractor, in words	[0..1]	<i>only numeric</i>
Day of month owner to pay contractor, in numerals	[0..1]	PaymentInformation.Deadline.RecurringDay
Month Owner to Pay Contractor (allowable values: <same> or <following>)	[0..1]	included in PaymentInformation.Deadline.RecurringDay
Period, in days from receipt of application, Owner to Pay Contractor, in words	[0..1]	<i>only numeric</i>
Period, in days from receipt of application, Owner to Pay Contractor, in numerals	[0..1]	PaymentInformation.Deadline.ElapsingDays
Retainage, in words	[0..1]	<i>only numeric</i>
Retainage, in numerals	[0..1]	PaymentInformation.Retainage.Retainage using RetainageUsage=Primary
Additional Retainage, in words	[0..1]	<i>only numeric</i>

Additional Retainage, in numerals	[0..1]	PaymentInformation.Retainage.Retainage using RetainageUsage=Additional
Retainage, Materials & Equipment, in words	[0..1]	<i>only numeric</i>
Retainage, Materials & Equipment, in numerals	[0..1]	PaymentInformation.Retainage.Retainage using RetainageUsage=MaterialAndEquipment
Retainage, Subcontractors, in words	[0..1]	<i>only numeric</i>
Retainage, Subcontractors, in numerals	[0..1]	PaymentInformation.Retainage.Retainage using RetainageUsage=PrimarySubcontractor
Limitation of Retainage	[0..1]	PaymentInformation.Retainage.RetainageLimit applicable to all RetainageUsage
Interest rate on unpaid payments due	[0..1]	
Interest rate on unpaid payments due (in words)	[0..1]	<i>only numeric</i>
Interest rate on unpaid payments due (in numerals)	[0..1]	PaymentInformation.UnpaidInterest.InterestRate
Interest period on unpaid payments due (in words; e.g., per annum, per month)	[0..1]	PaymentInformation.UnpaidInterest.RatePeriod
Final Payment Date (default value: 30 days after final Certificate for Payment)	[0..1]	PaymentInformation.FinalPaymentDate
Insurance, Bond, & Indemnity Provisions		
Insurance & Bond Type, Unspecified Party (list, unlimited number of items)		
Insurance & Bond, Unspecified Party, Required Limit (list, unlimited number of items)		
Performance & Payment Bond Requirement (allowable values <are required> <are not required>)	[0..1]	ContractorInsuranceProvision.BondRequired
Contractor's Employers' Liability Insurance, Required Limit of Liability, Bodily Injury By Accident, Each Accident	[0..1]	ContractorInsuranceProvision.EmployerLiability. BodilyInjuryByAccidentPerAccidentLimit
Contractor's Employers' Liability Insurance, Required Limit of Liability, Bodily Injury by Disease, Policy Limit	[0..1]	ContractorInsuranceProvision.EmployerLiability. BodilyInjuryByDiseasePerEmployeeLimit
Contractor's Employers' Liability Insurance, Required Limit of Liability, Bodily Injury by Disease Per Employee	[0..1]	ContractorInsuranceProvision.EmployerLiability. BodilyInjuryByDiseasePolicyLimit
Contractor's Business Automobile Liability Insurance, Required Limit of Liability Per Accident	[0..1]	ContractorInsuranceProvision.AutomobileLiability.VehiclePerAccidentLimit
Contractor's General Liability Insurance, Limit of Liability Per Occurrence	[0..1]	ContractorInsuranceProvision.GeneralLiability.PerOccurrenceLimit
Contractor's General Liability Insurance, Limit of Liability, General Aggregate	[0..1]	ContractorInsuranceProvision.GeneralLiability.GeneralAggregateLimit
Contractor's General Liability Insurance, Limit of Liability, Products/Completed Operations Aggregate	[0..1]	ContractorInsuranceProvision.GeneralLiability.OperationAggregateLimit
Contractor's General Liability Insurance, Limit of Liability, Personal and Advertising Injury Limit	[0..1]	ContractorInsuranceProvision.GeneralLiability.PersonalInjuryLimit
Contractor Insurance Type (Other)	[0..*]	ContractorInsuranceProvision.Liabilitie[*].InsuranceType
Contractor Insurance, Required Limit of Liability (one per Contractor)	[0..*]	ContractorInsuranceProvision.Liabilitie[*].TotalLiabilityLimit

Insurance Type)		
Contractor's Limit of Indemnity for Damage to Owner's Property due to negligence (in words)	[0..1]	<i>only numeric</i>
Contractor's Limit of Indemnity for Damage to Owner's Property due to negligence (in numerals)	[0..1]	ContractorInsuranceProvision.DamageIndemnityLimit
Owner Insurance Type	[0..*]	OwnerInsuranceProvision.Liabilitie[*].InsuranceType
Owner Insurance, Required Limit of Liability (one per Owner Insurance Type	[0..*]	OwnerInsuranceProvision.Liabilitie[*].TotalLiabilityLimit

Other Provisions

Other Provisions	[0..*]	
Final As-Built Documentation (allowable values: <final marked-up as-built drawings> <updated electronic data> <exhibit name>)	[0..1]	OtherProvision.AsBuiltDocumentation
Professional design services not provided	[0..*]	OtherProvision.DesignServiceIncluded
Preconstruction Services Option (allowable values: <are included> <are not included>)	[0..1]	OtherProvision.PreconstructionServiceIncluded
Dispute Resolution Process (allowable values: Arbitration, Litigation)	[0..1]	OtherProvision.DisputeResolutionProcess
Labor Relations Conditions, Obligations, or Requirements	[0..1]	OtherProvision.LaborRelationTerms
Contract Cancellation period, disclosures, or other warning statements		
Contract Cancellation Period	[0..1]	OtherProvision.ContractCancellationPeriod
Contract Disclosures and Warning Statements	[0..1]	OtherProvision.ContractDisclosureStatement

Contract Documents

Contract Documents - Item	[0..*]	ContractDocuments.Documents
Contract Documents, number of copies (in words)	[0..*]	<i>only numeric</i>
Contract Documents, number of copies (in numerals)	[0..*]	ContractDocuments.NumberOfCopies
Project Manual Date	[0..*]	ContractDocuments.Documents[*].Date using Usage=ProjectManual
Drawings Date (single date for all drawings)	[0..*]	ContractDocuments.Documents[*].Date using Usage=DrawingList
Specifications Date	[0..*]	ContractDocuments.Documents[*].Date using Usage=SpecificationList
Drawings and Specifications Date	[0..*]	<i>provided using Date for DrawingList and Date for SpecificationList</i>
Supplementary and Other Conditions, Document ID	[0..1]	ContractDocuments.Documents[*].DocumentId using Usage=SupplementaryConditions
Supplementary and Other Conditions, Document Title	[0..1]	ContractDocuments.Documents[*].Name using Usage=SupplementaryConditions
Supplementary and Other Conditions, Number of Pages	[0..1]	ContractDocuments.Documents[*].DNumberOfPages using Usage=SupplementaryConditions
Specifications Section List or Specifications Exhibit Title	[0..1]	ContractDocuments.Documents[*].Name using Usage=SpecificationList

Specification Section ID	[0..*]	ContractDocuments.Documents.Sections[*].DocumentId using Usage=SpecificationSection
Specificaion Section Title (one per Specification Section ID)	[0..*]	ContractDocuments.Documents.Sections[*].Name using Usage=SpecificationSection
Specification Section, Number of Pages (one per Specification Section ID)	[0..*]	ContractDocuments.Documents.Sections[*].NumberOfPages using Usage=SpecificationSection
Drawing List or Drawing Exhibit Title	[0..1]	ContractDocuments.Documents[*].Name using Usage=DrawingList
Drawing Number	[0..*]	ContractDocuments.Documents.Sections[*].DocumentId using Usage=DrawingNumber
Drawing Title (one per Drawing Number)	[0..*]	ContractDocuments.Documents.Sections[*].Name using Usage=DrawingNumber
Drawing Date (one per Drawing Number)	[0..*]	ContractDocuments.Documents.Sections[*].Date using Usage=DrawingNumber
Addenda List or Exhibit Title	[0..1]	ContractDocuments.Documents[*].Name using Usage=AddendumList
Addendum Number	[0..*]	ContractDocuments.Documents.Sections[*].DocumentId using Usage=AddendumNumber
Addendum Date (one per Addendum Number)	[0..*]	ContractDocuments.Documents.Sections[*].Date using Usage=AddendumNumber
Addendum Pages (one per Addendum Number)	[0..*]	ContractDocuments.Documents.Sections[*].NumberOfPages using Usage=AddendumNumber
Other Documents (one per Addendum Number)	[0..*]	ContractDocuments.Documents[*].Name using Usage=OtherDocument
Exhibits - number of pages		
AGC Exhibit A - Description of the Work - page count	[0..1]	AgreementExhibits.Exhibits[*].NumberOfPages using Usage=Exhibit_A
AGC Exhibit B - Contract Documents List	[0..1]	AgreementExhibits.Exhibits[*].NumberOfPages using Usage=Exhibit_B
AGC Exhibit C - Progress Schedule - page count	[0..1]	AgreementExhibits.Exhibits[*].NumberOfPages using Usage=Exhibit_C
AGC Exhibit D - Alternate and Unit Prices List & Expiration Dates - page count	[0..1]	AgreementExhibits.Exhibits[*].NumberOfPages using Usage=Exhibit_D
AGC Exhibit E - Insurance Provisions - page count	[0..1]	AgreementExhibits.Exhibits[*].NumberOfPages using Usage=Exhibit_E
Exhibit ID	[0..*]	AgreementExhibits.Exhibits[*].DocumentId using Usage=OtherExhibit
Exhibit Title (one per Exhibit ID)	[0..*]	AgreementExhibits.Exhibits[*].Name using Usage=OtherExhibit
Exhibit page count (unlimited cardinality, one per Exhibit Letter)	[0..*]	AgreementExhibits.Exhibits[*].NumberOfPages using Usage=OtherExhibit

Table 1: AGCxml elements assigned to the fields of the comparative analysis

