



Property - Replacement Cost API Reference

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Property – Replacement Cost API Reference

POST services/property

The Fenris Digital Property – Replacement Cost API quickly and accurately provides a summary of replacement cost information on a given building.

Endpoint

<https://api.fenrisd.com/services/property/v1/replacementcost/search>

Request

This section describes the headers and request body for the Property – Replacement Cost API.

Headers

Field	Type	Description
Content-Type	application/json	The body is in JSON format, using UTF-8 character encoding.
Authorization	Bearer <token>	The header includes a Bearer token for authentication.
Submission-Id	string	Passthrough field: A client-specified identifier used to tie back to client data or systems. If not supplied, uses an auto-generated field.

Sample headers

- Content-Type: application/json
- Authorization: Bearer <token>
- Submission-Id: abcd-efgh-ijkl

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Request body fields

Field	Type	Description
addressLine1	string	Required – Standard street and unit designator portion of an address
city	string	Required if no zipCode is present - City name: city or zipCode is required.
state	string	Required – Two-character state abbreviation
zipCode	string	Required if no city is present – Five-digit USPS® postal code

Sample request body

```
{  
  addressLine1:"123 Main St",  
  "city":"Anytown",  
  "state":"IA",  
  "zipCode":"54321"  
}
```

Response

This section outlines the responses returned for an address and ZIP Code by a call to POST SERVICES/PROPERTY.

Body

Field	Type	Description
requestId	string	Returns an Internally generated unique ID used for auditing and support
submissionId	string	Returns a client-supplied identifier that ties back to client data or systems: If not supplied, the API uses the requestID.
status	string	Returns the status of the search: Usually, SUCCESS or NOT FOUND
matchDescription	string	Indicates the match strategy that provided the returned information. Returns one of the following: <ul style="list-style-type: none">• Default match logic

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Field	Type	Description
		<ul style="list-style-type: none"> • Artificial match • Not Found
architecturalStyle	string	Visual style of the building
constructionQuality	string	Quality of construction and finishes
physicalShape	string	Shape of the structure
constructionType	string	Construction type: residential, commercial, etc.
exterior	string	Type of exterior wall in the structure
roofCovering	string	Roof type on the structure
roofConfiguration	string	Shape of the roof
foundationType	string	Foundation configuration
numStories	int	Number of stories in the structure
sitesSlopes	string	Slope of building site
locale	string	Location
yearBuilt	string	Year of occupation certificate
livingAreaSqFt	int	Area of all buildings on this property in square feet
costBreakdown	[costBreakdown]	California only.
costDetails	[costDetails]	Commercial only.
replacementCost	int	Total replacement cost for structure
locationType	string	Use of location

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costBreakdown

This section of the response returns the components replacement cost of the input location ([Request body fields](#)) submitted.

Field	Type	Description
architectFeesAndPermits	double	Architectural cost estimate component of cost.
houseMaterialsAndLabor	double	Physical materials cost.
overhead	double	Utilities, licenses, accounting, expenses, payroll, etc.
profit	double	Profit component of cost.
costWithoutDebrisRemoval	double	Replacement cost minus removal of debris.
debrisRemoval	double	Removal of debris.
costIncludingDebrisRemoval	double	Replacement cost plus removal of debris.

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costDetails

Object with information about the value of the input location ([Request body fields](#)) submitted.

Field	Type	Description
low	[low]	Low end of estimate range of the cost of structure.
medium	[medium]	Middle estimate range of the cost of structure.
high	[high]	High end of estimate range of the cost of structure.

The following tables describe the information returned by the fields in *costDetails*.

low

Field	Type	Description
costPerSquareFoot	double	Low estimated cost per square foot.
totalCost	double	Low estimated total cost of structure.

medium

Field	Type	Description
costPerSquareFoot	double	Middle estimated cost per square foot.
totalCost	double	Middle estimated total cost of structure.

high

Field	Type	Description
costPerSquareFoot	double	High estimated cost per square foot.
totalCost	double	High estimated total cost of structure.

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Sample response body

```
{
  "requestId": "1420f134-26c6-41ce-b187-d03f767c7f25",
  "submissionId": "string",
  "status": "Success",
  "matchDescription": "Default match logic",
  "architecturalStyle": "string",
  "constructionQuality": "string",
  "physicalShape": "string",
  "constructionType": "string",
  "exterior": "string",
  "roofCovering": "string",
  "roofConfiguration": "string",
  "foundationType": "string",
  "numStories": 0,
  "siteSlope": "string",
  "locale": "string",
  "yearBuilt": "string",
  "livingAreaSqFt": 0,
  "costBreakdown": {
    "architectFeesAndPermits": 0,
    "houseMaterialsAndLabor": 0,
    "overhead": 0,
    "profit": 0,
    "costWithoutDebrisRemoval": 0,
    "debrisRemoval": 0,
    "costIncludingDebrisRemoval": 0
  },
  "costDetails": {
    "low": {
      "costPerSquareFoot": 0,
      "totalCost": 0
    },
    "medium": {
      "costPerSquareFoot": 0,
      "totalCost": 0
    },
    "high": {
      "costPerSquareFoot": 0,
      "totalCost": 0
    }
  },
  "replacementCost": 0,
  "locationType": "string"
}
```


Authentication

Fenris Digital restricts access to its APIs and manages access tokens through an OAuth2 authorization server. The Client Credentials workflow defined by the OAuth 2 specification is the principal token manager. You will receive a Client-Id and Client Secret used to obtain an access token from the Authorization Server.

Obtaining a token

To get a token, make this request:

Entity	Content
URL	https://auth-fenrisd.auth.us-east-1.amazoncognito.com/oauth2/token
method	POST
header	<p>Content-Type: application/x-www-form-urlencoded</p> <p>Authorization: Basic <<BASIC_STRING>></p> <p>The BASIC_STRING is the Base-64 encoding of the client_id and client_secret separated by a colon. This is the standard token passed for Basic authentication with username replaced by client_id, and password replaced by client_secret.</p> <p>Many libraries will do this for you:</p> <ul style="list-style-type: none">● Select basic authentication● Set the username to your client_id● Set the password to the client_secret.
body	<p>client_id: <<Obtain from Fenris>></p> <p>grant_type: client_credentials</p>

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Sample response body – authentication request

```
{
  "token_type": "Bearer",
  "expires_in": 3600,
  "access_token": "<<omitted>>",
  "scope": "api"
}
```

Use the value in the `access_token` field as a Bearer token in the Authorization header of the request.

NOTE: Access tokens are good for one hour. You must submit another call to obtain a new token after the previous one expires.

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