



**City of Dallas**

# Overview of City of Dallas Green Construction Code

9-14-23

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City of Dallas

# Presentation Overview



Module 1 - Background

Module 2 - Permitting Process & Third-party Provider program

Module 3 - Residential Code Provisions

Module 4 - Commercial Code Provisions



# Presentation Overview



## Module 1

## Background



# Background



## Why have an ordinance?

- Create awareness of the positive benefits of green buildings
- Encourage building owners, design professionals, and builders to incorporate green building design strategies, construction practices, and operations in all proposed projects
- Lower water and energy consumption
- Reduce heat island effect
- Reduce negative impact of buildings on environment and occupants of the building



# Background



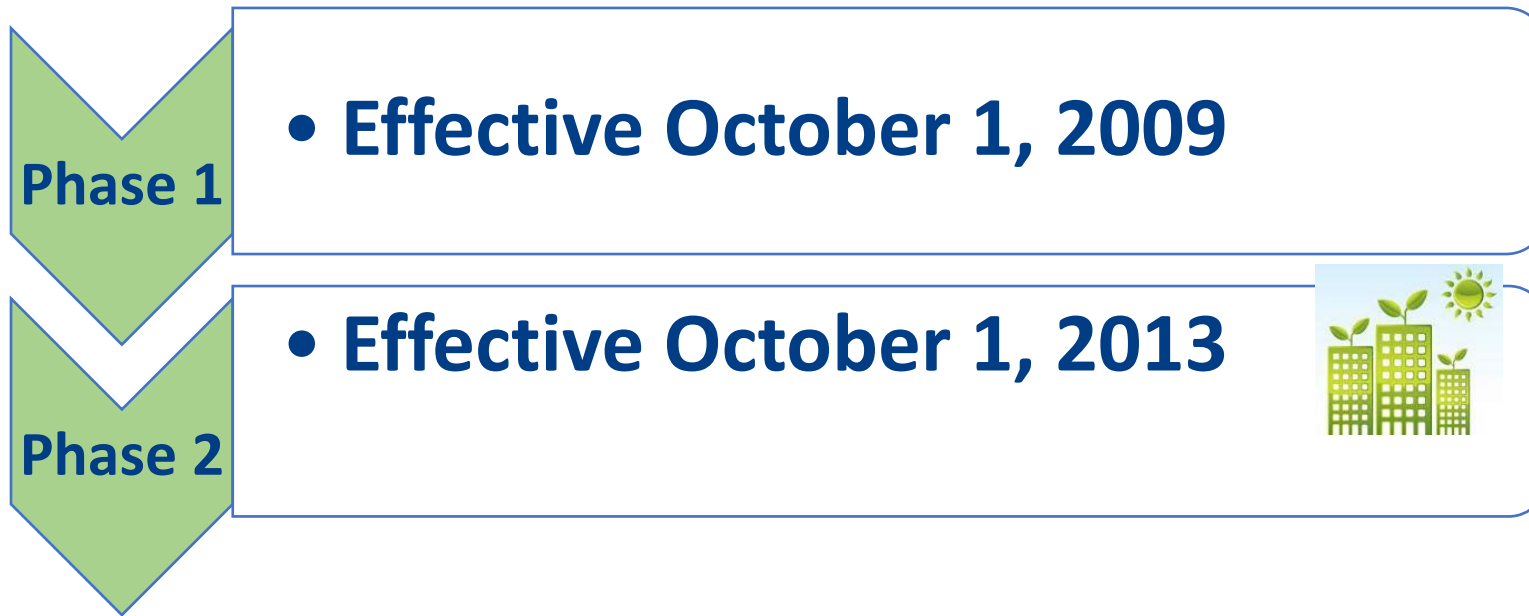
- Volunteer task force (Green Building Task Force) of diverse stakeholders: design professionals, contractors, owners, developers, building organizations, property managers, realtors, third party providers and city staff
- Tasked with researching green building programs, codes and standards and recommending best path for Dallas
- Two work groups: commercial and residential
- Met weekly for 4 months



# Dallas Green Ordinance



## 2008 Task Force Recommendations



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## Phase 1 – Three Different Programs

- New and Additions to Single Family and Duplex
- New and Additions to Commercial Buildings under 50,000 Sq. Ft.
- New and Additions to Commercial Buildings over 50,000 Sq. Ft





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## Phase 2 – Two Different Programs

- New and Additions to Single Family and Duplex
- New and Additions to Commercial Buildings – of any size!





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## Scope:

- Provisions shall apply to:
  - **NEW** buildings (New Constructions)
  - **NEW** portions of buildings (Additions), and
  - **FIRST** time tenant finish outs
- Green Building code **DOES NOT** apply to
  - Renovations / Remodels





# Module 2

## Permitting Process & Third Party Provider Program



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## Permitting process:

- You will need to hire a *Third-Party Provider* for performing green code plan reviews and inspections.
- Below is the link to list of registered green building Third party providers:

[https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/DCH%20documents/pdf/BI\\_Phase%202\\_List%20of%20Third%20Party%20Green%20Providers.pdf](https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/DCH%20documents/pdf/BI_Phase%202_List%20of%20Third%20Party%20Green%20Providers.pdf)



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## Who is a third-party provider?

Third party green provider is a certifying agent that:

- Has authority to enforce green building code
- Is Third party to the City
- Is Third party to the project
- Has a role limited to plan review and inspection
- Receives a fee not set by the City and exclusive of other permit costs or fees established by the City



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## Third-party Responsibility

### Plan Review

- Performed by 3<sup>rd</sup> Party Green Provider prior to Building Permit application
- Verify compliance path
- Review drawings, specifications, and other documents necessary to determine compliance
- Submit signed and notarized Plan Review Compliance Affidavit
- Submit Plan Review Checklist





## Permit Application

### NEW CONSTRUCTION FOR COMMERCIAL BUILDINGS AND ADDITIONS



City of Dallas

#### APPLICATION CHECKLIST AND REQUIRED DOCUMENTS

By checking each requirement, you are stating that you have supplied correct and complete information. In the event that the required information is not contained in the submitted documents, you will be notified of the deficiency. Failure to supply the additional requested information within five (5) working days after notification may result in your application being delayed and eventually discarded. A new application, the original application, complete plans and a new checklist will be required for re-submittal for plan review. This re-submittal will be treated as a new application and will be processed in the order of receipt. ~~Complete the information sheet attached.~~

1. These plans comply with the Dallas Energy Conservation Code and the Green Building Ordinance (Ord. no. 27131).

Completed Commercial Green Building Program Plan Review Compliance Affidavit & Application Checklist from a Registered Third Party Green Building Provider.

An Energy Code Certificate will be submitted to the electrical inspector prior to final inspection.

2. Have you submitted with your application, certified copies of any instrument that contains a restriction on the use of or on construction on the affected property?

Yes  No, not applicable

3. An asbestos survey has been conducted in accordance with the Texas Asbestos Health Protection Rules and the National Emission Standards for Hazardous Air Pollutants for the area being renovated and/or demolished.

Yes  No (Permit cannot be issued prior to notification of survey being conducted.)

4. Documented proof that plans and specifications were submitted to the Texas Department of Licensing and Regulation that comply with the Texas Accessibility Standards (TAS) by a Registered Accessibility Specialist (independent contract provider) must be presented along with the building permit application.

Texas Department of Licensing and Regulation (TDLR) Project Number:



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## Plan Review Compliance Affidavit

PRINT



City of Dallas

### Dallas Green Building Program Plan Review Compliance Affidavit

Type of Construction:

- Residential
- Commercial
- New Construction
- Addition
- First Time Finish Out

1. Address of Construction: \_\_\_\_\_ Permit No. \_\_\_\_\_

2. Provider Name: \_\_\_\_\_

3. Provider Registration No. \_\_\_\_\_

Registered as:

- Residential Provider
- Commercial Provider

I, \_\_\_\_\_, have reviewed the project drawings, specifications, and applicable information documents for this project and confirm that it has been designed to meet or exceed the green building requirements of the Dallas Green Building Code for:

- Residential dwellings (one- or two-family dwellings)  
Compliance Path: Dallas Prescriptive, ICC 700, LEED for Homes, Green Built Texas (circle one)
- Commercial  
Compliance Path: Chapter 61, LEED NC, LEED CS, LEED CI, Multifamily, Mixed Use (circle one)
- Seeking certification (Identify certification under \_\_\_\_\_)

SIGN

Therefore, I certify that I performed the Green Plan Review in compliance with the Third Party Provider Code of Ethics of the City of Dallas, and I am not a part of a company that provides design services to this client.

\_\_\_\_\_  
Provider Signature

State of Texas

County of \_\_\_\_\_

This affidavit was acknowledged before me on \_\_\_\_\_ by \_\_\_\_\_  
(Date) (Provider Name)

\_\_\_\_\_  
Notary Public

(Notary Public Stamp)

Phase 2  
Issued 8-18-16





# Dallas Green Ordinance



## Third-party Responsibility

### Inspections

- Inspections performed by Third Party Provider
- Green building inspections must be completed before Final Inspection by the City is performed
- Provider is required to email Inspection Compliance Affidavit to the City of Dallas at [bigreencode@dallas.gov](mailto:bigreencode@dallas.gov) prior to final building inspection
- Provider maintains supporting documentation for a minimum of 6 months.



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## Inspection Compliance Affidavit

PRINT



City of Dallas

### Dallas Green Building Program Final Inspection Compliance Affidavit

Type of Construction:

- Residential  New Construction  
 Commercial  Addition  
 First Time Finish Out

1. Address of Construction: \_\_\_\_\_ Permit No. \_\_\_\_\_

2. Provider Name: \_\_\_\_\_

3. Provider Registration No. \_\_\_\_\_

Registered as:

- Residential Provider  
 Commercial Provider

I, \_\_\_\_\_, have made site inspections for the project and have reviewed applicable informational and product submittals to verify that this project meets or exceeds the green building requirements of the Dallas Green Building Code for:

- Residential dwellings (one- or two-family dwellings)  
Compliance Path: Dallas Prescriptive, ICC 700, LEED for Homes, Green Built Texas (circle one)  
 Commercial  
Compliance Path: Chapter 01, LEED NC, LEED CS, LEED CI, Multifamily, Mixed Use (circle one)  
 Seeking certification (Identify certification under \_\_\_\_\_)  
 TCO: The Contractor has made significant progress towards the completion of the required points / requirements. Should a TCO be granted I agree to provide a *Final Compliance Affidavit* upon receipt of all required documentation prior to Final Inspection and Final Certificate of Occupancy.

Furthermore, I certify that I performed the Green Building Inspection in compliance with the Third Party Provider Code of Conduct of the City of Dallas, and I am not a part of a company that provides design services to this client.

Provider Signature \_\_\_\_\_

State of Texas \_\_\_\_\_

County of \_\_\_\_\_

This affidavit was acknowledged before me on \_\_\_\_\_ by \_\_\_\_\_  
(date) (Provider Name)

Notary Public  
{Notary Public Stamp}

Phase 2  
Issued: 8-18-16

SIGN



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## Third-party Information

City of Dallas website  
[www.dallascityhall.com](http://www.dallascityhall.com)



Building Permits and Inspections



Current City Code



Green Building



# Dallas Green Ordinance



**Find out how to become a third-party green provider for the City of Dallas...**



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## Provider Qualifications:

Current certification by:

- Commercial:
  - ICC: IgCC Certification
  - USGBC: LEED AP with specialty, except Homes
- Residential:
  - ICC Green Building Residential Examiner
  - LEED for Homes
  - Green Built Texas Verifier
- Other nationally recognized certification approved by Building Official



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## Provider Qualifications:

- Minimum 2 years Green Building experience
  - Design, construction, management, inspections, operations
- Mandatory training by City of Dallas
- Written exam on Dallas Green Building Code
- Payment of annual registration fee (\$120) to register





## Module 3

# Residential Code Provisions





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## Compliance path options for Residential

- Meet ALL of the COD prescriptive requirements; OR
- Meet min. requirements of Green Built Texas; OR
- Meet min. requirements of LEED for Homes; OR
  - 20% Water Use Reduction- only pre-requisite
- Meet min. requirements of ICC 700; OR
- Other equivalent green building program approved by Building Official

**Note: When following rating system path, formal registration and certification is not required**





## COD Dallas Prescriptive Path requirements include:

- Stormwater
- Water efficiency
- Energy Efficiency
- Heat island mitigation
- Indoor air quality



# Dallas Green Ordinance

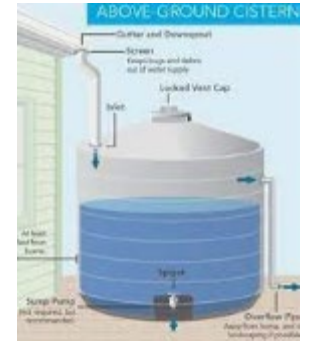


## COD Dallas Prescriptive Path

### Stormwater:

70% of nonroof area has:

- Vegetative landscape, or
- Permeable paving, or
- Sloped for water runoff to a permanent infiltration feature such as vegetated swale, onsite rain garden or rainwater cistern



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## COD Dallas Prescriptive Path

### Water Efficiency (New Construction):

- Utilize Drip Irrigation for bedding areas, **and**
- Must meet any **3** of the following:
- Lavatory Faucets: Average flow rate 2.0 gallons per minute or less
- Shower Heads: Average flow rate of 2.0 gallons per minute or less
- Toilets: Average flow rate of:
  - Less than or equal to 1.3 gallons per flush; or
  - Dual flush complying with ASME A 112.19.14; or
  - Comply with US EPA Water Sense; certified and labeled
- Energy Star dishwasher
- Energy Star clothes washer



# Dallas Green Ordinance



## COD Dallas Prescriptive Path Water Efficiency (Additions):

Must meet any **2** of the following:

- Lavatory Faucets: Average flow rate 2.0 gallons per minute or less
- Shower Heads: Average flow rate of 2.0 gallons per minute or less
- Toilets: Average flow rate of:
  - Less than or equal to 1.3 gallons per flush; or
  - Dual flush complying with ASME A 112.19.14; or
  - Comply with US EPA Water Sense; certified and labeled



# Dallas Green Ordinance



## COD Dallas Prescriptive Path Heat Island Mitigation:

Proposed projects shall install:

- **Option 1:** Energy Star qualified roof system for roof with slope of 2:12 or greater, or
- **Option 2:** Vegetative roof (requires approval of Building Official), or
- **Option 3:** Radiant barrier in attic with conventional shingles, or
- **Option 4:** Encapsulated foam insulation between the roof rafters (R-22 or greater)



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## COD Dallas Prescriptive Path Indoor Air Quality:

- **HVAC and Ductwork:** Located outside of fire rated envelope of garage
- **Minimize pollutants from the garage:** Surfaces between conditioned space and an attached garage must be tightly sealed.

### **Conditioned spaces above the garage:**

- All penetrations must be sealed
- All floor and ceiling joist bays must be sealed
- Walls and ceilings of conditioned space must be painted

### **Conditioned spaces next to garage:**

- All penetrations must be sealed
- All doors must be weather stripped

• All cracks at wall base must be sealed





# Dallas Green Ordinance



## COD Dallas Prescriptive Path Indoor Air Quality:

### Air Filters:

- MERV 8 or greater
- Air handlers capable of maintaining adequate air pressure and air flow
- Air filter housings must be airtight to prevent leakage





## Module 4

# Commercial Code Provisions



# Dallas Green Ordinance



## Compliance path options for Commercial

- The Dallas Green Construction Code - Chapter 61 -2015,
  - Meet minimum requirements of the International Green Construction Code (IgCC) as adopted - Chapter 61-Dallas Green Construction Code of the Dallas City Code
  - or
- LEED Version 4
  - Achieve min. # points required for LEED certified level under any of the LEED rating systems for new construction (at least 40 points LEED v4) – certification by USGBC not required;
  - 20% Water Use Reduction- only pre-requisite
  - LEED pre-requisites are options – 1 point each
  - or
- ASHRAE 189.1 - 2014



# Dallas Green Ordinance



## Dallas Green Construction Code - Chapter 61

- Changes Phase 2 from LEED base to Code base program
  - IgCC 2015 Chapters 1, 3, 4, 5, 7, 8, 12 modified for Dallas
  - IgCC 2015 Chapters 2, 6, 9, 10, 11 deleted



# Dallas Green Ordinance



## Dallas Green Construction Code - Chapter 61

### Scope:

- Overlays other building codes
- Not point based
- Provisions shall apply to:
  - **NEW** buildings (New Constructions)
  - **NEW** portions of buildings (Additions), and
  - **FIRST** time tenant finish outs
- Green Building code **DOES NOT** apply to
  - Renovations / Remodels



# Dallas Green Ordinance



## Chapter 61 requirements include:

*Reduce, Re-use, Recycle...*

*...for construction **site** and **building** waste!*



# Dallas Green Ordinance



## Section 406 Building Site Waste Management:

Minimum 50% of Site waste shall be diverted from landfill:

- Requires GC to create a Site Waste Management Plan
- Divert not less than **50%** of land clearing debris and excavated soils (includes rocks, trees, vegetation, etc.)
  - Divert = recycle or reuse
  - GC to keep receipts for code official
  - Calculated by weight or volume but not both
  - Where contaminated soils removed – treat and properly dispose
  - Effectively destroy and dispose invasive plants







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## Section 503.1 Construction material and waste management:

Minimum 50% of nonhazardous waste shall be diverted (recycled or salvaged for re-use)

- **Construction Waste Management Plan** shall comply with:
  - Location for collection & storage of recyclable construction waste
  - Materials to be diverted by efficient usage, recycling, reuse, manufacturer's reclamation, or salvage for future use, or donation, or sale.
  - Calculated by weight or volume but not both
  - GC to keep receipts for code official



# Dallas Green Ordinance



## Section 503.1 Construction material and waste management

### Exceptions:

1. For projects that generate not more than 2.5 pounds per square foot of affected project area, divert not less than 25% of the waste; or,
2. For projects that generate not more than 1.5 pounds per square foot and the project area is 2,500 square feet or less, then diversion is not required.



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## Chapter 61 requirements include:

### *Heat Island mitigation... (Section 408)*

TABLE 408.3.1  
REFLECTANCE AND EMITTANCE

ROOF SLOPE	MINIMUM AGED SOLAR REFLECTANCE	MINIMUM AGED THERMAL EMITTANCE	MINIMUM SRI
2:12 or less	0.575	0.75	64
Greater than 2:12	0.3	0.75	25

- 50% of hardscape must be either pervious, or initial reflectance value of at least 0.30, or
- Shading by trees or buildings is based on projected peak sun angle on the summer solstice (in the shade all year round)
- Not less than 75% of roof surfaces (and covered parking located in climate zones 1-3) must comply with table 408.3.1 for reflectance and emittance (exception, PVs, roof equip., roof decks)
- Vegetated roofs



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## Chapter 61 requirements include:

### *Site lighting...(Section 409)*

- must be designed and installed to be full cutoff
- max. lamp wattage for commercial lighting is 250 watts
- max. lamp wattage for residential 100 watts for incandescent bulbs or 32 watts for compact fluorescents





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## Chapter 61 requirements include:

### *Materials Selection...Section 505*

- Not less than 45% of total building materials shall be either used, have recycled content, bio-based or indigenous (Section 505.2)
- Based on mass, volume or cost but not both shall comply with 1 or more of the following:
  - Used materials
  - Recyclable
  - Bio-based materials (per ASTM D 6866, or SFI, or FSC wood)
  - Indigenous materials that are extracted and manufactured within 500 miles radius of building site





# Dallas Green Ordinance

## Chapter 61 requirements include:

*IAQ requirements— meet an indoor quality baseline!*

### 804.2 Post-construction, pre-occupancy baseline IAQ testing.

- Pre-occupancy IAQ testing required (in accordance with ASTM & ISO givens) after finish materials are installed, shall not exceed **VOC levels of 500 micrograms per cubic meter.**
  - 1 testing sample per 25,000 SF

#### Exceptions:

- for occupancy groups F, H, S & U
- Similarly designed and tested buildings as determined by code official



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## LEED v4 Compliance path

- Alternate compliance path
- Formal certification is not required
- Minimum points to achieve certification is required
  - Minimum 40 points
  - 20% Water Use Reduction- only pre-requisite

### Clarifications:

- Under COD program, mandatory LEED prerequisites are additional point options
- Compliance with the COD LEED path does not ensure certification





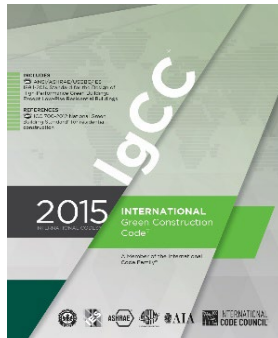
# Dallas Green Ordinance



## Reminder

*Energy and green are **NOT** the same!*

- Energy inspections required by the energy code not green building code
- Energy inspections are separate activity from the Green Building plan review and inspections







## Necessary Tools

- Dallas Green Building Ordinance
- Dallas Green checklists, and affidavits
- Commercial
  - IgCC 2015, preferably the code and commentary version
  - LEED Reference Guides
  - Other rating systems as applicable



# Dallas Green Ordinance



## Necessary Tools

Website:

<http://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/pages/greenBuilding.aspx>

Ordinance and amendments

[https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/DCH%20documents/pdf/BI\\_2015\\_IGCC\\_Amendments\\_01-25-2017.pdf](https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/DCH%20documents/pdf/BI_2015_IGCC_Amendments_01-25-2017.pdf)

Plan review and inspection Affidavits, Green forms and Checklists

[https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/Pages/phase\\_two.aspx](https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/Pages/phase_two.aspx)



# Dallas Green Ordinance



## Contact Information

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## Brain Teaser

**Energy and Green are 2 different codes. Is this true or false?**





## Brain Teaser

Energy and Green are 2 different codes. Is this true or false?

True





## Brain Teaser

**Who performs green plan reviews and inspections for City of Dallas?**





## Brain Teaser

Who performs the green plan reviews and inspections for City of Dallas?

Third party green provider





## Brain Teaser

**Green ordinance applies to Remodels and Renovations.  
True or False?**







## Brain Teaser

**Green ordinance applies to Remodels and Renovations.**  
**False**



# Dallas Green Ordinance



## Q&A

