



# DESIGN STANDARDS + CHAPTER 19 GUIDELINES

**HOUSTON PUBLIC WORKS**

**AUGUST 2018**

# PROGRESS



TTI May 29th



30 day Comment Period on  
Chapter 19 Guidelines



60 day Comment Period on  
Design Standards



10 Community Meetings + Survey



TTI Update July 23rd



Revisions based on feedback

# COMMUNITY ENGAGEMENT

**updated survey results**

# COMMUNITY ENGAGEMENT



**10**  
OPEN  
HOUSES



**450+**  
ATTENDEES

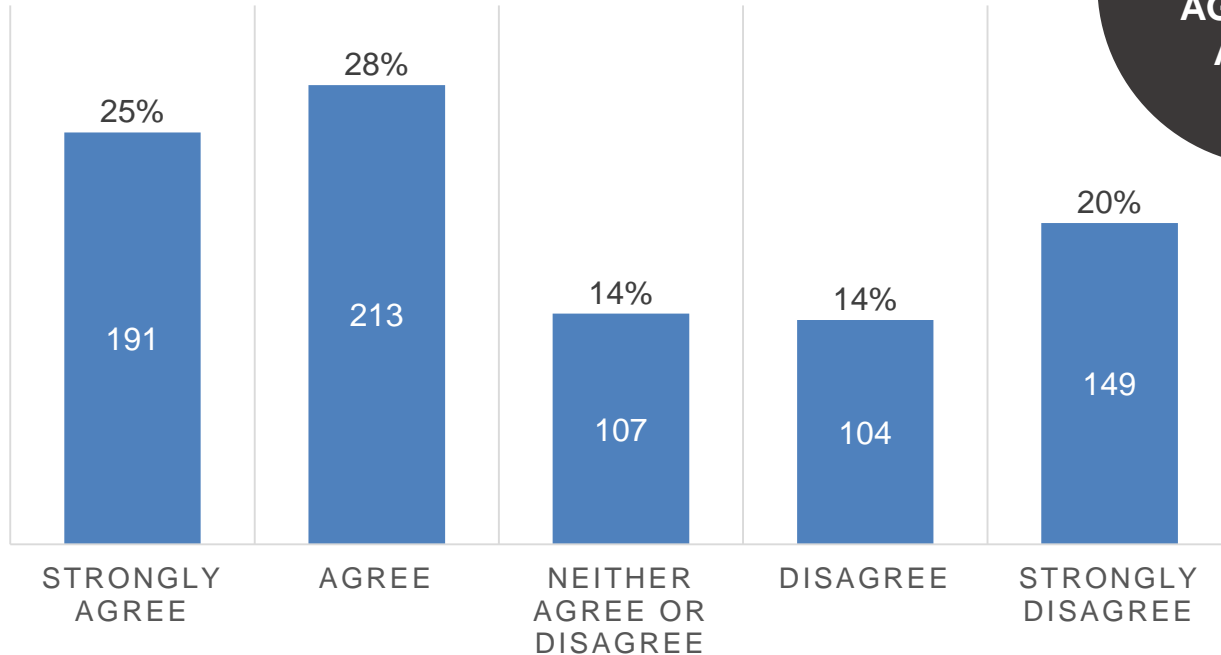


**900+**  
SURVEYS/  
COMMENTS

# HOME ELEVATION

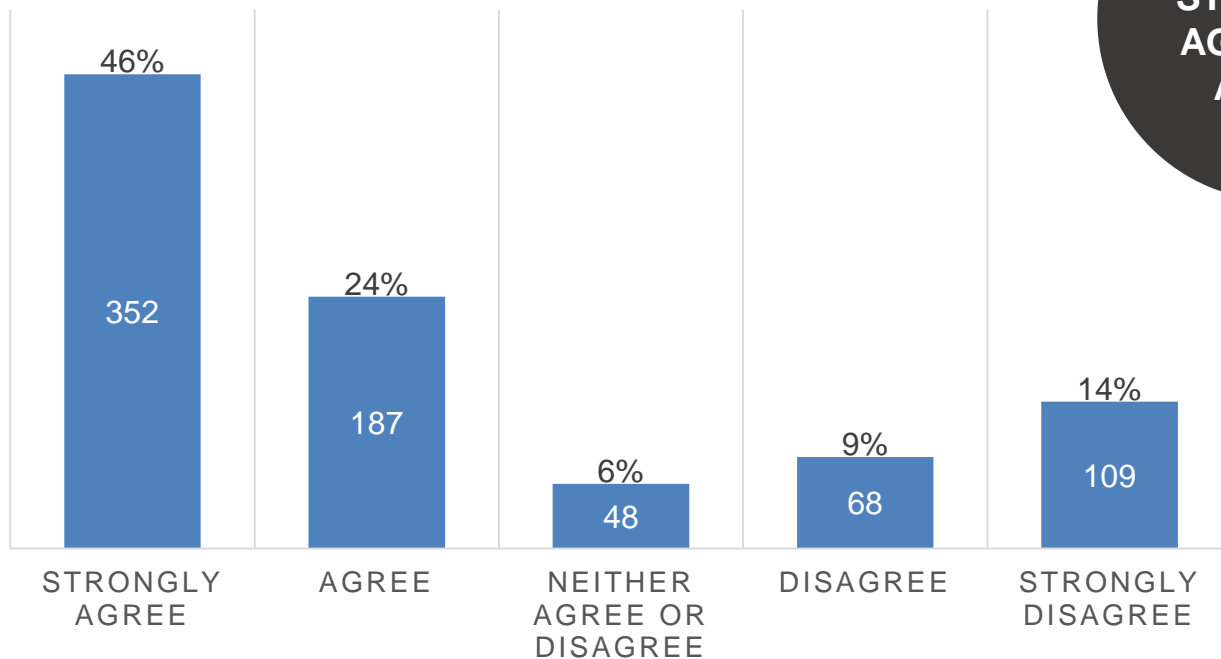
HOUSTON SHOULD INCREASE THE LOWEST FLOOR ELEVATION OF NEW HOMES OUTSIDE OF THE FLOODPLAIN

53%  
STRONGLY  
AGREE OR  
AGREE



# DETENTION

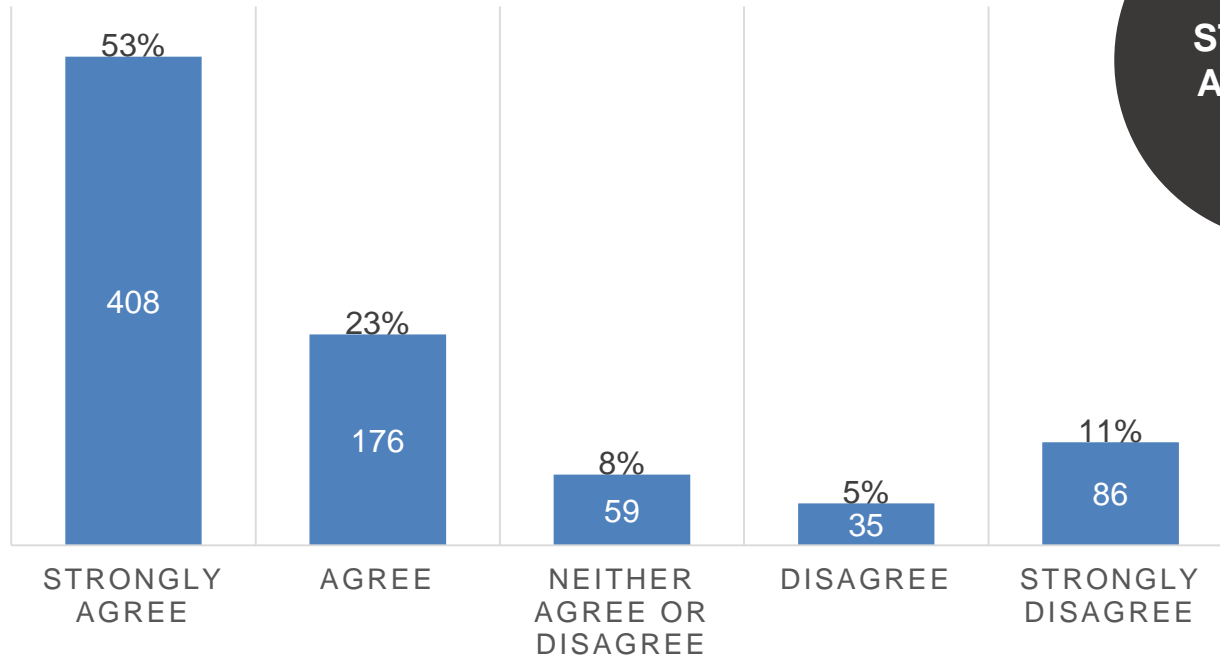
DEVELOPERS SHOULD FOLLOW THE SAME  
DETENTION RULES FOR NEW DEVELOPMENT  
AND REDEVELOPMENT



70%  
STRONGLY  
AGREE OR  
AGREE

# SHEET FLOW

## HOUSTON SHOULD REQUIRE NEW DEVELOPMENT TO NOT BLOCK EXISTING SHEET FLOW

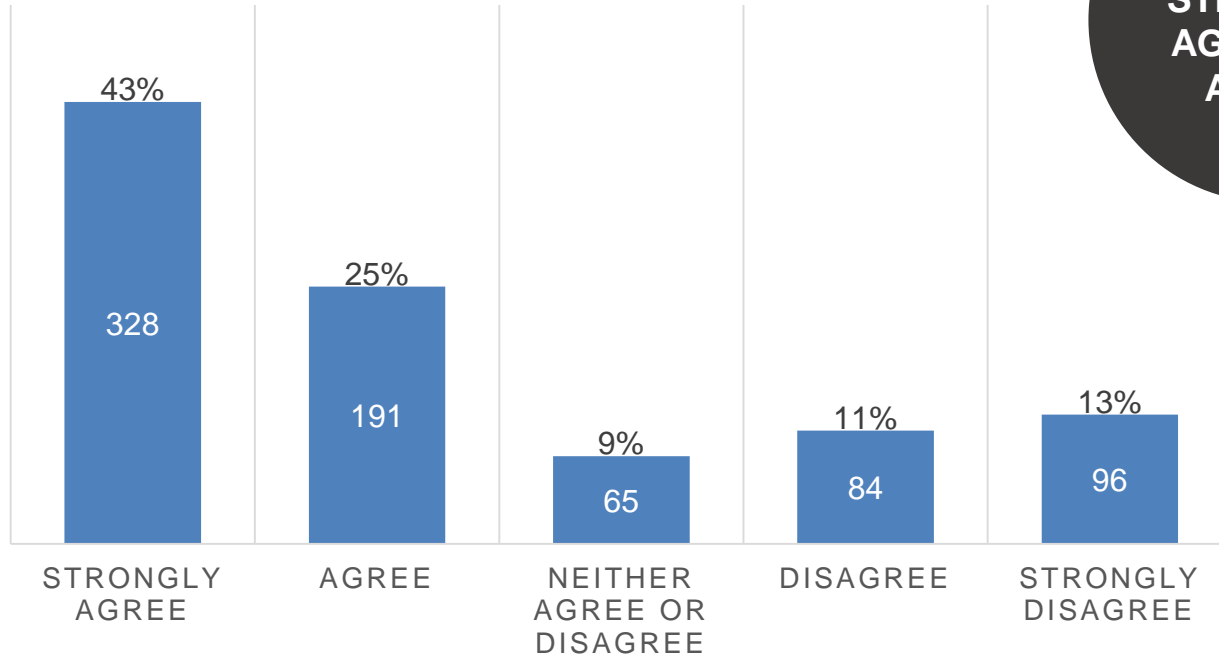


76%  
**STRONGLY  
AGREE OR  
AGREE**

# STORMWATER REGULATIONS

**TOUGHER STORMWATER REGULATIONS ARE  
NEEDED TO REDUCE THE RISK OF FLOODING  
IN HOUSTON**

**68%  
STRONGLY  
AGREE OR  
AGREE**





# DESIGN STANDARDS

**changes to Infrastructure Design Manual &  
Building Code to adopt recommendations of  
Redevelopment & Drainage Task Force**

# MAJOR UPDATES

Detention	Fill	Encroachments
<ul style="list-style-type: none"><li>• Fee in lieu of detention</li><li>• Detention credit for green/low impact developments</li><li>• Eliminate detention credit for existing impervious cover</li></ul>	<ul style="list-style-type: none"><li>• Require protection of sheet flow for all developments</li><li>• Accommodate natural drainage patterns</li><li>• Clearly define “engineered grading”</li></ul>	<ul style="list-style-type: none"><li>• Public roadside drainage education campaign</li><li>• Re-establish drainage in City right-of-way</li></ul>
<ul style="list-style-type: none"><li>• Sale of excess detention capacity</li></ul>	<ul style="list-style-type: none"><li>• Change threshold amount for engineered grading</li></ul>	
<ul style="list-style-type: none"><li>• Private sector involvement in regional detention in parks/public land</li></ul>		

# ROUTINE UPDATES: INFRASTRUCTURE DESIGN MANUAL

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## Standards Review Committee

Coordinated by the Office of the City Engineer

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Reviews, revises, and updates the IDM and other documents

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Encourages public input and participation

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Reviews the entire IDM within a five year cycle

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Includes review of Chapter 9 and 13 in the 2018-2019 review cycle

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# SUMMARY OF COMMENTS + ACTIONS

Comments	Actions
Clarify requirement for detention for all disturbed areas	Detention requirement limited to disturbed areas resulting in impervious surface
Demonstrate that receiving storm infrastructure is adequate for proposed discharge from development or redevelopment over 1 acre or upgrade public infrastructure	Referred to Standard Review Committee
Adopt Low Impact Development (LID) criteria consistent with Harris County	Referred to Standard Review Committee

# SUMMARY OF COMMENTS + ACTIONS

Comments	Actions
Clarify proposed changes to storm sewer design procedures	Changes to storm sewer design procedures removed and referred to Standard Review Committee
Eliminate detention exemption for some single family residential development/redevelopment	Referred to Standard Review Committee
Require lower rate of detention for some single family residential development/redevelopment	Referred to Standard Review Committee

# SUMMARY OF COMMENTS + ACTIONS

Comments	Actions
Suggested changes to detention volume formula	Referred to Standard Review Committee
Require public hearings for any exceptions to Chapter 9 of IDM	Referred to Standard Review Committee
Move Storm Water Regulations to Chapter 42	Referred to Standard Review Committee

# CHAPTER 19

**companion to Floodplain Ordinance to  
establish operational procedures**

# NEW PROCEDURE HIGHLIGHTS

## permits

temporary repair permit

small project expedited permit

## design

simplified mitigation plan

flood opening calculations

sheet flow analysis

## enforcement

non-compliance certificate

non-conversion agreement

Section 1316 – denial of FEMA flood insurance

mitigation facility recertification



# EXISTING PROCEDURE CLARIFICATION

## substantial damage

only applies in 100-year floodplain

substantial damage determination request

substantial damage appeal

increased cost of compliance letter request

## city engineer

preliminary damage assessment

Community Rating System (CRS)

Plan for Public Information (PPI)

Floodplain Management Plan (FMP)

FEMA community letter requests

# SUMMARY OF COMMENTS + ACTIONS

Comment	Action
Clarify requirements for Elevation Certificates	Developing Elevation Certificate guidance and hosting training for surveyors in partnership with FEMA
Provide resources for flood resistant materials and flood protection	Hosting flood protection training in partnership with FEMA
Allow for use of computer modeling for Sheet Flow Analysis	Revised guidelines to allow computer modeling and are developing guidance information
Develop city tools for Sheet Flow Analysis using computer models	Reviewing feasibility

# | SCHEDULE

Chapter 19 Guidelines – September 1<sup>st</sup> Final  
Design Standards – August 22<sup>nd</sup> Council Action  
Effective Date September 1<sup>st</sup>  
Continued Review of Chapter 9 & 13 in 2018-2019 cycle

# THANK YOU

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