

No.	Watershed	Abbreviated Questions	Final Response
1	General	Basis for developers to avoid building storm water detention as part of their developments?	TIRZ 17 does not regulate, review or permit development plans.
2	General	What is status of Charting Buffalo Bayou study?	Charting Buffalo is an HCFCD initiative
3	General	Consider putting underground detention beneath the parking lots within the TIRZ both north & south of I-10?	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
4	General	Does TIRZ have in its possession any engineering study that demonstrates that Buffalo Bayou is capable of carrying more water than has been flowing into it so far during big rains? What if extra water causes flooding for folks downstream?	No.
5	General	How much money has been generated by business in TIRZ and how much from residents?	There are no single family residents within the boundaries of TIRZ 17.
6		What oversight does the City have over TIRZ expenditures?	The TIRZ 17's annual budget and proposed project plans require approval from the City. Additionally, TIRZ 17 is regularly monitored by City staff and individual project designs are reviewed and approved by the City.
7		End the practice of "Grandfathering" properties. In a semitropical city, anything that increases the floodplain should not be tolerated.	TIRZ 17 does not regulate, review or permit development plans.
8	General	Enforce existing drainage ordinances.	TIRZ 17 does not regulate, review or permit development plans.
9	General	Do not allow unwarranted variances that would decrease drainage or detention.	TIRZ 17 does not regulate, review or permit development plans.
10		Scrutinize drainage reports better to prevent "cheating" on required detention.	TIRZ 17 does not regulate, review or permit development plans.
11	General	Do not allow properties to be "raised" by adding fill dirt without properly mitigating for the displaced flow.	TIRZ 17 does not regulate, review or permit development plans.
12		Prior to constructing any drainage project, require the receiving basin be studied to determine it can accept additional water without flooding concerns.	TIRZ 17 has complied and will continue to comply with all no-adverse impact requirements including no increased flow and water surface elevatoin to receiving drainage systems. This is in compliance with City of Houston and HCFCD regulations.
13		Begin migration of all future projects to two dimensional flow analysis models so that unintended consequences (e.g., flow reversals) are reduced.	Currently proposed TIRZ 17 CIP projects within the Regional Drainage Study boundary will be analyzed using the developed 2D model.
14		Address all drainage projects on a "Global" level so that unintended consequences are reduced; that is, address impacts on adjacent properties too.	Currently proposed TIRZ 17 CIP projects within the Regional Drainage Study boundary will be analyzed using the developed 2D model thereby providing a "global" assessment of the benefits and potential impacts.
15	(-eneral	Use the Super Neighborhood (SN) program to funnel information from the people who know the flooding patterns best to the engineers.	The SN program was engaged in the original Regional Drainage Study efforts.
16	General	Keep the SN's involved through regular meetings with residents of the affected area.	The SN program was engaged in the original Regional Drainage Study efforts.
17	(DADATAI	Allow SN's or their designated representative(s) access to preliminary engineering documents prior to release for bidding.	Preliminary engineering reports and studies are posted to the TIRZ 17 website for access and download.
18	General	Why were the Walter P Moore's original proposed drainage plans not implemented?	The Walter P Moore proposed drainage concepts were taken into account in the TIRZ 17 Regional Drainage Study.
19	General	A City/TIRZ contract for 2 detention ponds on both sides of I-10 was never released to public and expired	Opportunities for feasible detention basins lead to the proposed W140 basin. The TIRZ 17 Board has instructed the engineers to explore opportunities for surface and sub-surface detention that will hydraulically function and are cost effective.
20	General	The RDS was a good plan but implementation has not taken place.	Projects identified in the Regional drainage Study are progressing. Some projects have been completed and several are currently pending regulatory review and approval, while others are in the PER stage.



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21	General	The Public would like to be able to have some good discussions concerning TIRZ plans.	The January 8, 2013 Public Forum is intended to provide an opportunity for the community to offer input on the proposed TIRZ 17 CIP projects.
22	General	Can culvert sizes be maximized for in-line detention on all TIRZ projects?	The use of in-line detention in the form of oversized storm sewers located beneath the roadway has been and will continue to be explored as a feasable optoin for improving local and regional draingae issues.
23	General	Why were flow patterns within TIRZ 17 not mapped, but flow patterns outside TIRZ boundaries were?	Flow patterns within TIRZ 17 were mapped as part of the Regional Draiange Study.
24	General	Can the RDS be used to identify the most effective drainage solutions, then prioritize TIRZ/City/HCFCD construction plans?	The Regional Drainage Study was not intended to be used for projects outside the TIRZ boundaries without additional feasibility engineering effort.
25	General	Should W156 drainage area be added to the RDS?	The W156 watershed is not as hydraulically connected with the other watersheds modeled in the Regional Drainage Study.
26	General	Significant new detention is needed. Why not consider these sites: 1. Front of Sams Club 2. Possible unused capacity at City pumped pond on I-10 WB Service road 3. Expand Witte pond 4. Underground detention at at new buildings @ I-10 & Gessner. 5. Sites along W140 East of Bunker Hill	Additional detention sites north and south of IH-10 will be considered as part of the proposed update to the TIRZ 17 Regional Drainage Study.
27	General	Can the TIRZ pay for projects outside the TIRZ limits to help City or HCFCD?	No, TIRZ is legally prohibited to spend money outside it's limits unless it has immediate benefit to the TIRZ.
28	General	Can a detention pond be added in front of the Great Indoors or Sam's Club parking lots?	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
29	Capperal	Whenever new buildings are added, can the TIRZ offer to install underground detention under the parking garage or parking lot?	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
30		Why has the City not tried to find ways to force developers to add detention on their property?	Question should be referred to the City of Houston.



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1		What is the estimated cost per acre-foot of detention for proposed Briar Branch Storm water Detention Basin and associated channel improvements?	The estimated cost per acre-foot of detention for the basin is \$222K / ac-ft. The Channel Improvements project is still in the preliminary engineering phase. No cost estimate is currently available.
2	W140	Within the region north of I-10, there are several potential sites for additional detention: a. The large tract in front of Sams. b. Possible unused capacity in the city's pumped pond on the I-10 westbound service road. c. Possible sites east of the planned TIRZ pond along W-140. d. Improvements to the existing pond near Witte and Westview. e. Underground detention like the detention just installed @ Frostwood school at Gessner & Memorial. f. At the new buildings planned for the NW corner of I-10 and Gessner.	Additional detention sites north and south of IH-10 will be considered as part of the proposed update to the TIRZ 17 Regional Drainage Study.
3	W140	Questions concerning TIRZ detention pond along W-140: a.Has HCFCD's agreed to the contracts terms for maintenance? Did the City review the contract? b.Can the channel be expanded sufficiently within the right-of-way? If not, can additional right-of-way be purchased? Will HCFCD accept maintaining this ditch which may have non-standard dimensions? c.To what extent will the W-140 culverts under Bunker Hill require expansion?	 a. TIRZ 17 will maintain the basin for three years. The basin will be constructed to meet HCFCD maintenance criteria. b. The W140 channel has limited right-of-way and the preliminary engineering phase includes coordination of maintenance with HCFCD to determine the acceptable cross section. c. The Bunker Hill bridge crossing W140 is being analyzed as part of the W140 Channel improvement PER.
4		When did the City request TIRZ 17 accommodate drainage requirements for Gessner, from Long Point north to Nuens? How many acre feet does the City want to detain in the proposed TIRZ 17 detention basin?	During a meeting on December 14, 2012 the City informed TIRZ 17 that the abutting Gessner project might need to use some of the capacity provided in the proposed W140 detention basin. Preliminary estimates place the need at less than 2 acre/ft.
5	W140	What are the proposed purposes of the W140 detention basin?	The primary purpose for the W140 detention basin along with W140 Channel improvements is to reduce the water surface elevations during major rain events and reduce structural damages.
6	1 7/7/12411	How will the proposed W140 improvements provide help for the neighborhood adjacent to the new W140 detention pond?	The proposed W140 regional improvements will lower the water surface allowing additional flow from the adjacent neighborhood to more easily drain into the channel.
7	W140	Can the W140 channel be widened and deepened?	Any modifications to the W140 channel require HCFCD approval.
8		Can the opening under the bridge at Bunker Hill be increased so water can be conveyed from the neighborhood to the new detention pond?	The Bunker Hill road culverts crossing W140 are currently being analyzed as part of the W140 channel improvement PER.
9	W140	Can the TIRZ look for other possible detention locations along Witte that can be used for detention?	Additional detention sites north and south of IH-10 will be considered as part of the proposed update to the TIRZ 17 Regional Drainage Study.
10	W140	How will the water from the conjoined W151 and W140 get to the new detention pond east of Bunker Hill?	Water from the Witte/W140 crossing is conveyed to the proposed detention basin via the W140 channel.
11	1 7/7/12411	Who can implement the improvements identified in the Regional Drainage Study to help remove water from the neighborhood?	The City of Houston.
12	1 7/7/12411	Can the TIRZ use the RDS to prioritize the CIP projects that improve the drainage in neighborhoods adjacent to W140?	The Regional Drainage Study was not intended to be used for projects outside the TIRZ boundaries without additional feasibility engineering effort.
13	W140	Can check valves be installed to prevent water back-flowing thru existing drain pipes into neighborhoods?	The installation of control structures to prevent water back flowing through existing drain pipes requires a detail review of the headloss associated with the structure or device, and maintenance considerations with the agency responsible for the drainage system in question.
14		Can new pipes be installed under cross streets to bypass the Bunker Hill Bridge and move neighborhood water further downstream?	Construction of additional pipes under Bunker Hill road requires a detailed engineering examination.
15	1 1/1/1/11	Why will the neighborhood adjacent to the new detention pond not benefit from it? Are there alternatives that do help?	The W140-01-05 ditch limits the benefits to the neighborhood immediately adjacent to the proposed detention basin. Alternatives to alieviate this have not been analyzed.
16	W140	Why didn't Fidelis need to have detention?	TIRZ 17 does not regulate, review or permit development plans.



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17	W140	Why did the City allow Fidelis to raise their property and where did they expect the water to go?	TIRZ 17 does not regulate, review or permit development plans.
18	W140	Why was The Room Store allowed to raise their property and why isn't there any detention there?	TIRZ 17 does not regulate, review or permit development plans.
19			The inlet in question is being evaluated as part of the TIRZ 17 Gessner PER, currently underway.
20		In a heavy rain, can water in the open ditch W140 flow into the closed pipe W151 under Witte Road or will water only flow out of W151? How can you tell?	W151.
21	W140	Has HCFCD agreed to improve W140? If so, will it be concrete lined or enclosed?	TIRZ 17 will fund the improvements to W140. The design is in the early preliminary engineering phase and will require HCFCD approval.
22		Can underground detention be installed at Hayden Park, Crosspoint Church detention pond, under SBISD bus barn parking lot or other properties along Witte?	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
23	W140	Why landscape the W140 detention pond neither visible nor accessible to the public?	As a condition for property owner selling the tract, limited landscaping of the proposed W140-01 detention basin was included in the purchase agreement.
24	W140	Will HCFCD be able to take over maintenance of the proposed W140 detention basin?	TIRZ 17 will maintain the basin for three years. The basin will be constructed to meet HCFCD maintenance criteria.
25	VV 14()	W140 is narrow and will likely have to be expanded. Will additional right-of-way be needed? Has HCFCD been consulted?	The W140 channel has limited right-of-way and the preliminary engineering phase includes coordination of maintenance with HCFCD to determine the acceptable cross section.
26	W140	What are details on the new W140 Bunker Hill Bridge/culverts?	The Bunker Hill road culverts crossing W140 are currently being analyzed as part of the W140 channel improvement PER.
27	W140	Can the middle portion of Hayden Park be considered for detention?	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
28	W140	Can I-10 water be redirected into the Conrad Sauer detention basin?	The Conrad Sauer detention basin is a City owned and operated facility. Efforts to modify its operation should be led by the City.
29	W140	How can the pumping system for the Conrad-Sauer detention basin be optimized a storm event?	The Conrad Sauer detention basin is a City owned and operated facility. Efforts to modify its operation should be led by the City.
30	W140	Can water from the Conrad Sauer detention pond be redirected to W156 rather than W151?	The Conrad Sauer detention basin is a City owned and operated facility. Efforts to modify its operation should be led by the City.
31	W140	Can the City and TIRZ ask TxDOT to fix flooding along the I-10 feeder roads west of Bunker Hill Road?	The City of Houston is responsible for coordinating with TxDOT regarding drainage issues.
32	W140	Will Gessner be reconstructed with in-line detention?	The TIRZ 17 North Gessner project is currently in preliminary engineering. In-line detention is being considered.
33	W140	When Witte Road is rebuilt, will the 15 acre-foot Crosspoint detention pond be rendered useless?	The existing detention basin on Witte Road (identified as Crosspoint) will function at or above the existing basin benefit after the reconstruction of Witte Road.



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1	W151	Any plans to concrete W-151 south of Memorial City? South of Memorial Drive?	W151 is a HCFCD maintained channel. TIRZ 17 has no proposed project to improve W151.
2	W151	Plan to cut off drainage from north of I-10 flowing into W-151?	There are no plans to cut off drainage from north of IH-10 flowing into W151.
3	1 1/1/15/1	Any consideration to converting the W151 open channel ROW (south of Memorial City) for underground detention and adding a restrictor at the bridge?	W151 is a HCFCD maintained channel. TIRZ 17 has no proposed project to improve W151. Installing inline detention along W151 will have significant constructability challenges (and associated construction cost) due to the existing ROW width and the existing channel cross section.
4	W151	Does the TIRZ or HCFCD have plans to straighten and build in-line detention for W151?	W151 is a HCFCD maintained channel. TIRZ 17 has no proposed project to improve W151.
5	W151	With reconstruction of Barryknoll, how many extra acre feet of storage is being added within the TIRZ?	Approximately 4.5 acre-feet of detention is being added with Barryknoll East.
6	1 1/1/151	Are additional water flows expected from the expansion of the TIRZ, north of its original boundary to Long Point and Witte, plus the proposed severing of W-151 from its current flow under I-10 and Memorial City.	There are no plans to cut off drainage from north of IH-10 flowing into W151. The recent TIRZ 17 annexation is not expected to result in additional peak runoff.
7	W151	What are possible solutions to the W151 - Stoney Creek -General problem of excessive flow?	Since the Regional Strey Lane alternative is no longer available, potential alternative to improve regional drainage of W151 are proposed to be evaluated as part of the planned update to the Regional Drainage Study.
8	W151	Can in-line detention be added under Frostwood, Kingsride and Barryknoll during construction?	The proposed improvements identified in the Regional Drainage Study for Kingsride, Frostwood, and Barryknoll call for in-line detention.
9	W151	· · · · · · · · · · · · · · · · · · ·	Since the Regional Strey Lane alternative is no longer available, potential alternative to improve regional drainage of W151 are proposed to be evaluated as part of the planned update to the Regional Drainage Study.
10	1 1/1/151	Why can't detention be added in Susan Kellner Park and Bunker Hill Elementary's playground at the northern end of W151?	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
11	W151	Why can't detention be added underground in the Memorial City Shopping Center parking lot?	Memorial City Mall parking lot is private property and TIRZ 17 has no authority to require detention under the lot.
12	W151	To provide additional detention, can W151 be reconstructed with large underground box culverts?	W151 is a HCFCD maintained channel. TIRZ 17 has no proposed project to improve W151. Installing inline detention along W151 will have significant constructability challenges (and associated construction cost) due to the existing ROW width and the existing channel cross section.
13	W151	Can the depth and width of the drainage channel north of Memorial Drive be increased, while keeping the flow restricted at the bridge opening at Memorial Drive? Will the bridge over Stoney Creek have the same crosssectional area?	W151 is a HCFCD maintained channel. TIRZ 17 has no proposed project to improve W151. It is our understanding TxDOT is considering rebuilding the Memorial bridge over W151 and is coordinating that effort with HCFCD.
14	1 1/1/15/1	Does the TIRZ know how much upstream detention will be required for all the projects that it intends to build? When will HCFCD have upstream detention set aside for TIRZ water?	The amount of detention required for W151 will depend on the solutions implemented. The PERs for most of these projects have not started and thus the amount of detention is unknown.
15	W151	How many acre-feet of in-line detention are being added for the new TIRZ projects?	The amount of detention required for W151 will depend on the solutions implemented. The PERs for most of these projects have not started and thus the amount of detention is unknown.
16	W151	Why did the TIRZ assume Strey Lane as the only option during the RDS?	The Reginal Drainage Study identified Strey Lane as the preferred alternative for improving the W151 watershed since at the time there was potential for the regional project.
17	W151	Can the RDS be updated to account for additional water on Gaylord and other changes within the TIRZ?	The Regional Drainage Study accounts for the ultimate development conditions.
18	W151	If Memorial bridge over Stoney Creek is rebuilt, will the widening of the opening heading south be accomplished?	TIRZ 17 has no proposed project on Stoney Creek.
19	W151	What consideration has been given to the hydraulics at the Naughton bridge over Stoney Creek?	The Regional Drainage Study peformed by TIRZ 17 did consider the hydraulics.
20			HCFCD regulations require any drainage project discharging into receiving streams and bayous have no adverse impact on the system.
21		Drainage from tall buildings builds up a lot of velocity and force so takes precedence over overland sheetflow. Was this considered when designing the drainage systems for the new high rises near Gaylord?	TIRZ 17 does not regulate, review or permit development plans.



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22	W151	Barryknoll East drainage improvement: a. How much in-line detention will be installed? b. Is the maximum culvert size being used? What are the sizes? c. Will the design improve drainage in the Memorial Village townhouse complex?	 a. Approximately 4.5 acre-feet of detention is being added with Barryknoll East. b. Dual 8'x6' box culverts, the maximum culvert size that can be installed within the ROW, are proposed for Barryknoll East. c. Improvements to the Memorial Village Townhouse complex are not part of the project scope. d. The design accounts for the current IH-10 configuration and the fully developed conditions for the immediate area. e. The Barryknoll East drainage improvement will reduce the overflow of runoff into Hedwig Village but will not eliminate it. f. Barryknoll East will provide immediate benefit to the area by providing approximately 4.5 acre-feet of detention.
23	W151	Will W151 be severed south of W140?	There are no plans to cut off drainage from north of IH-10 flowing into W151.
24	W151		The box culverts sizes under Gessner (between IH-10 and Barryknoll) were maximized while accounting for constructability constraints for maintaining traffic along Gessner and access to the hospital.
25	W151		Barryknoll East requires full reconstruction of the roadway in order to install the maximum size boxes - dual 8'x6'. Therefore, the entire estimated project cost of \$6.2M are considered drainage improvements.
26	W151	On what basis was the restrictor on Barryknoll sized.	To maintain existing flow to W151 Channel.



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1	W153	What is the status for reconstructing Memorial from BW8 to Benignus the associated detention pond?	The Memorial Drive TIRZ 17 CIP project is currently planned for 2016/2017
2		How does the currently constructed City drainage project under Tallowood move water within the W153 watershed and across Memorial?	Question should be referred to the City of Houston.
3	W153	Did the City use the RDS to analyze flow in the W153 while designing the Tallowood project?	Question should be referred to the City of Houston.
4	W153	ICAN A NEIGHBON DONG AT 17505 MEMORAL DE CONSTRUCTEGA	The TIRZ 17 Board has instructed the engineers to explore opportunities for sub-surface detention that will hydraulically function and are cost effective.
5	W153		The PER for the Memorial Drive project has not been started; therefore, it is not known if the suggestion is feasible.
6	W153		TIRZ 17 has no plans for additional runoff to W153. The Memorial Drive CIP projects includes the construction of restrictors to maintain flow to W153.