MEMORANDUM

DATE: November 10, 2020

TO: The Honorable Mayor and Council
FROM: Carlos A. De La Torre, P.E.
        Director
        Environmental & General
        Services Department

SUBJECT: Former Flint Oil Site, Barrio Viejo Environmental Update (Meeting Held
October 16, 2020)

The Environmental & General Services Department (EGSD) respectfully provides the following
responses to questions posed by Ward 6 Council Member Steve Kozachik following the Barrio
Viejo environmental update for the Former Flint Oil Site held on October 16, 2020. Environmental
reports for the Former Flint Oil site have been posted to the City’s website and are available at
tucsonaz.gov/es/505-simpson.

Groundwater-related responses were provided by the Tucson Water Department and are italicized.

What’s the depth at which our testing took place, and what’s the depth of the water table on
and around the site?

*The Former Flint Oil Site located at 505 W. Simpson sits atop an area of known groundwater
contamination in downtown Tucson. The current depth to the regional aquifer in that area is
approximately 110 feet below ground surface (bgs). Additionally, there is a discontinuous perched
groundwater zone in the downtown area at depths of approximately 49 feet to 75 feet bgs.*

Soil samples were taken at surface level and at 5-foot (ft) intervals terminating at 40 ft during the
Phase II Environmental Site Assessment (ESA) conducted in 2020. Three soil samples were
advanced beyond 40 ft and are discussed in the final Phase II ESA report. Groundwater was
encountered at 75 ft during the sampling. Soil vapor samples were taken at 5 and 20 ft in 2020.

Is there a contamination plume? Can that be determined through the core samples we took,
or will that require more testing?

*A groundwater contamination “plume” has not been defined; but in general the downtown Tucson
area is known for poor quality groundwater. A comprehensive groundwater investigation of the
area would be required to determine contaminants of concern, the extent of contamination, and
the likelihood of a particular property owner or activity being a contributor to that contamination.*
Based on the 2020 Phase II ESA results, there are no indications groundwater would be impacted by the activities at the site. All soil sampling results were below groundwater protection levels (GPLs). Separate groundwater sampling would need to be conducted to determine current groundwater conditions beneath the site.

Can topsoil be removed to the depth of the deepest contamination, scraped off and replaced w/clean fill to make the site ready for use? Remediation costs?

The 2017 Cleanup Plan outlined two remedial strategies for the site, capping and soil remediation, based on the assessments conducted between 2006 and 2009.

Capping involves the installation of a relatively impermeable cap on the property to prevent site users from encountering chemicals of concern. Capping does not eliminate site contamination nor eliminate potential exposure or health risks. Capping requires ongoing monitoring, maintenance, and reporting, and also requires restrictions on the site’s redevelopment and end use. The estimated cost for this option was $286,100 in 2017.

Soil remediation involves the excavation and disposal of soils in excess of remediation levels. Soil remediation would eliminate site contamination, potential exposure, and health risks. Remediation to below residential levels would allow for unrestricted redevelopment of the property. Long-term monitoring and maintenance is not required after soil remediation. The estimated cost for this option was $353,400 in 2017, assuming the waste soil is eligible for disposal at the Los Reales Landfill.

The contaminants moved south between the 2009 testing and the 2020 testing. Did it also move deeper, in depth?

The 2020 Phase II ESA results do not necessarily represent movement of contaminants at the Former Flint Oil site. Rather, they provide a snapshot of environmental conditions at specific times:

- 2008: Within a year of ceasing industrial operations
- 2009: Prior to and after demolition of industrial structures
- 2020: After being vacant for 11 years

Additionally, soil sampling locations and sampling depths were not consistent from 2008 to 2020 and soil gas sampling was conducted for the first time at the site in 2020.

What's the closest groundwater source that’s vulnerable to these contaminants?

Because downtown Tucson is known for groundwater contamination, Tucson Water does not have any active potable production wells in the area. The attached map illustrates that the general direction of groundwater flow in the area is to the north and that the closest active Tucson Water
TO: The Honorable Mayor and Council
SUBJECT: Former Flint Oil Site, Barrio Viejo Environmental Update (Meeting Held October 16, 2020)
Page 3

potable production well is B-013B located 2.5 miles east of the Flint Oil property. Tucson Water potable production well SS-024A is located approximately 2.5 miles to the south (upgradient) and is in stand-by status rather than active status. The map also illustrates known private active and inactive wells in the area.

The water Tucson Water provides to the area near the Flint Oil site comes primarily from two water sources: CAP recovered water from the Avra Valley aquifer and advanced treated water from the Tucson Area Remediation Project (TARP). Tucson Water does not produce any drinking water from any part of the aquifer where the risk of contamination is present. This includes areas downtown where historic environmental impacts are known to exist.

All Tucson Water is rigorously tested throughout the year to confirm that our potable water meets and exceeds Federal safe drinking water regulations.

Is there an MCL for each of the contaminants, and if so, what levels did we test at vs those MCL's?

Maximum Contaminant Levels (MCLs) are the highest level of contamination allowed in drinking water. No groundwater sampling has been conducted at the Flint Oil site; therefore, Tucson Water cannot state if products used in historic operations at the facility have impacted either the perched and/or regional aquifers above MCLs.

Rolanda kept saying that dust isn't a concern, and yet she also said we were careful to control the dust while working on the site. Have we considered spraying the surface to control dust?

A site-specific health and safety plan was developed in 2017 to provide guidance for on-site activities and to ensure field activities are conducted in a manner protective of the safety and health of site workers. Contractors working on the site must be aware of and incorporate safety measures such as dust control, trained personnel, and the use of appropriate personal protective equipment.

Capping the site was identified as a possible remedial strategy in 2017. Dust control measures such as hydroseeding, gravel, or dust suppressants could interfere with existing constituents or require ongoing maintenance. Any dust control measure could complicate future sampling and remediation and, if soils are deemed hazardous, any dust suppressants that bind with contaminants could increase the amount of hazardous material to remediate.

If you have any questions or would like additional information regarding the Former Flint Oil Site, please contact Frank Bonillas, EGSD Environmental Manager.

CT/FB/rm
TO: The Honorable Mayor and Council  
SUBJECT: Former Flint Oil Site, Barrio Viejo Environmental Update (Meeting Held October 16, 2020)  
Page 4  

Enclosure: Flint Property Area Wells  

cc: Ann Chanecka, Deputy Director, Housing and Community Development  
John Kmiec, Deputy Director, Tucson Water  
Jeff Biggs, Administrator, Tucson Water  
Dee Korich, Chief Hydrologist, Tucson Water  
Chad Lapora, Environmental Compliance Supervisor, Tucson Water  
Pat Tapia, Deputy Director, Environmental & General Services  
Frank Bonillas, Environmental Manager, Environmental & General Services