

**APPENDIX Z – RESPONSES TO "IT QUESTIONS"****Responses to "IT Questions"****I. Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible?**

Yes. The potential and real adverse environmental effects of the proposed facility have been avoided to the maximum extent possible.

PA Prospect Corporation (PA Prospect Corporation) proposes to construct and operate the proposed commercial SWD facility using the best engineering and operational practices to avoid both potential and real adverse environmental effects, such as the release of approved Exploration and Production (E and P) liquid wastes. The proposed facility will be used to properly dispose of approved E and P waste fluids in an environmentally safe manner.

The residual solids that accumulate in tank bottoms will be periodically cleaned from the tanks, separated from the fluids, measured, manifested and transported to a facility authorized to accept solid waste. Skim oil will be separated from the approved E and P waste fluids and sold according to the regulatory provisions of DNR as they accumulate. The approved E and P waste fluids will be disposed of in proposed deep well injection wells, Riemer Calhoun SWD No. 001 and Riemer Calhoun SWD No. 002. "Approximately 92 percent of produced water is managed through Class II well injection into subsurface reservoirs, and is generally considered the safest and most effective method for handling these type fluids" (*Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States, May 2000 API report, section 2.4.2.*). Based on an Argonne National Laboratory, "Offsite Commercial Disposal of E and P Wastes" presentation in 2005, it was shown that commercial disposal costs for produced water was far more economical than by any other method, except land spreading (a less environmentally safe means of disposal). Oil field practices across the United States have established underground injection as a viable alternative method for the disposal of these types of industrial wastes (*Offsite Commercial Disposal of Oil and Gas Exploration and Production Waste: Availability, Options, & Costs, USDOE, August 2006*). The same report found that injection was almost exclusively used to manage produced water. Disposal fees for injection of approved E and P waste fluids range between \$0.30/bbl and \$10.00/bbl across the United States. The majority of the facilities surveyed reported disposal fees under \$1.00/bbl. Because transportation costs typically increase proportionately with distance or time from well site to disposal site, economic incentives exist for operators to send their wastes to disposal facilities located within a reasonably short distance from the oil and gas E and P site.

The proposed PA Prospect Corporation Commercial Facility (The Facility) is to be located approximately Eleven (11) miles northwest of the town of Coushatta, Louisiana, just to the south of U.S. Highway 84, and east of Interstate 49. The Facility is in the Northern part of the Red River – Bull Bayou Field and will serve many operators of oil and gas wells in De Soto, Red River, Natchitoches, Bienville, Bossier, Caddo, and Sabine Parishes of Louisiana.

The E and P waste fluids to be transported to and from The Facility by trucks (primarily vacuum trucks) will abide by the following control procedures to prevent approved E and P waste fluids from entering the environment:

- Only approved E and P waste fluids as defined in LDNR's rules at LAC 43:XIX.501 and listed on pages 1 and 2 of the WMOP (Appendix K) from approved generators of record will be received at this commercial saltwater disposal well facility. Other generators of approved E and P waste fluids will have to receive written approval from the Office of

Conservation in order to dispose of approved E and P waste fluids at this commercial facility.

- Before offloading at this commercial facility, each shipment of approved E and P waste fluids will be sampled and analyzed by PA Prospect Corporation personnel for pH, conductivity, and chloride content and documented on the UIC-28 manifest as required by regulations. Samples will be reviewed for percent solids. Records of these tests will be kept on file at The Facility for a period of three (3) years and will be available for review by an inspector employed by the Office of Conservation.
- A minimum of one (1) eight (8) ounce sample will be collected from each load and will be labeled with the date, operator, and manifest number. These samples will be retained at The Facility location for a minimum of thirty (30) days.
- E and P Waste Shipping Control Tickets (Form UIC-28) will be stored on-site for at least three (3) years for review by the Louisiana Department of Natural Resources.
- The Facility will comply with all regulations according to LAC 33: XV regarding NORM materials.
- A Waste Management Operations Plan (WMOP) and an Emergency Response Plan (ERP) have been developed for The Facility, which establishes procedures for responding to and cleaning up any spill and provides information to allow the operator of The Facility to immediately notify the appropriate agencies. Dry-chemical fire extinguishers will be maintained on-site.
- The unloading pad and tank containment area will be constructed with seamless/sealed concrete to prevent the release of approved E and P waste fluids into the environment and surrounding soils. The concrete unloading pad is bermed on four sides with 6-in. roll over berms and sloped to prevent run-off of approved E and P waste fluids and run-on of rainwater. The unloading area will be sloped toward an integrated seamless/sealed concrete sump so any spills can be properly captured and immediately pumped back through the flow process. This is shown on the detailed facility diagram, provided as Attachment 3 through-out this application. Approved E and P waste fluids from the trucks will be pumped to the desander through a closed loop system and through the flow process. Specific unloading procedures will be followed by the employees to minimize errors and prevent spills and releases to the environment.
- Only approved liquid E and P waste fluids, as noted in the WMOP (Appendix K) will be accepted at The Facility. The liquid E and P waste fluids, primarily produced saltwater, will be pumped from the truck unloading area. A 4-in. flexible hose is connected to the tail end of the tank truck to allow the contents to be pumped by centrifugal pumps through screen baskets to a manifold where it is directed through one (1) 750-barrel desander tank. The fluids will then be sent through one (1) of three (3) 1,000-barrel fiberglass surge tanks for solids separation and some minimal hydrocarbon separation. The fluids will then be transferred via centrifuge pumps through one (1) of two (2) 1,000-barrel fiberglass gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1,000-barrel surge tanks and siphoned from the gun barrels and transferred to two (2) 500-barrel fiberglass oil tanks. Fluid from the gun barrels is directed to one (1) of two (2) series of two (2) 750-barrel fiberglass saltwater tanks for solids separation and some minimal, additional hydrocarbon separation prior to being disposed of in the approved injection wells. There is spacing left for two (2) additional 750-barrel fiberglass saltwater tanks to be placed in the future if the

need arises. Fluid from the four (4) 750-barrel saltwater tanks are then transferred via charging pumps to one (1) of the two (2) H-pumps which will be outside of the tank battery and have a 27'x19'3"x4" containment, then transferred to one (1) of the two (2) approved SWD wells. The hydrocarbons are temporarily stored until sold in accordance with DNR regulations. The tanks, offloading area, pumps and ancillary equipment will all be placed in bermed seamless/sealed concrete containment areas to prevent releases of approved E and P waste fluids to the surface soils, groundwater and recharge areas of aquifers.

- Monitoring of the tanks, valves, piping, containment areas, pumps, and other associated equipment will include daily inspections. Inspections of The Facility will be documented and recorded in accordance with an approved SPCC Plan. This plan will be developed by a professional engineer specifically for this facility upon approval in accordance with 40 CFR112 and LAC33.IX. The Facility will maintain onsite absorbent materials, such as pads, booms, and oil dry in the event of spills or releases of liquid approved E and P waste fluids. Emergency numbers will be posted in the event of a significant spill of approved E and P waste fluids.
- This commercial facility will be adequately manned during the hours of operation and shall receive approved E and P waste fluids by truck only.
- The Facility, offloading area, gun barrels, tanks, injection pumps, and office/lab, locations will be secured by a 6-ft. chain-link fence with lockable gates. The two (2) SWD wells will be surrounded by post and chain enclosures and any access roads to the well will have lockable gates that will remain locked at all times.

**A. What are the potential environmental impacts of the permittee's proposed facility?**

**1. What wastes will be handled?**

Only approved E and P waste fluids Types 01, 04, 08, 09, 10, 11, 14, 15, 16, and 99, as defined in §501 from approved generators of record, will be received at this commercial saltwater disposal well facility. Other generators of approved E and P waste fluids will have to receive written approval from the Office of Conservation in order to dispose of approved E and P waste fluids at this commercial facility.

**a. Classes of chemicals**

Only approved E and P waste fluids Types 01, 04, 08, 09, 10, 11, 14, 15, 16, and 99, as defined in §501 from approved generators of record, will be received at this commercial saltwater disposal well facility.

**b. Quantities (hazardous and non-hazardous)**

There will be no hazardous waste transported, treated, stored, or disposed at this facility. The average anticipated amount of approved E and P waste fluids to be disposed of is 15,000 barrels per day, and the maximum anticipated amount of E and P waste fluids to be disposed in the proposed injection wells is 25,000 barrels per day. A seamless/sealed concrete containment area measuring approximately 186' x 101', having

4 ft. high concrete walls, will have a total containment capacity of approximately 13,000 barrels. The tanks within the containment will have a maximum storage of 11,250 barrels of approved E and P waste fluids, consisting primarily of produced saltwater. The approved E and P waste fluids, primarily produced saltwater, will be pumped from the truck unloading area through a closed loop system by centrifugal pumps and transferred to the one (1) 750-barrel desander tank. The fluids will then be sent through one (1) of three (3) 1,000-barrel fiberglass surge tanks for solids separation and some minimal hydrocarbon separation. The fluids will then be transferred via centrifuge pumps through one (1) of two (2) 1,000-barrel fiberglass gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1,000-barrel surge tanks and siphoned from the gun barrels and transferred to two (2) 500-barrel fiberglass oil tanks. Fluid from the gun barrels is directed to one (1) of two (2) series of two (2) 750-barrel fiberglass saltwater tanks for solids separation and some minimal, additional hydrocarbon separation prior to being disposed of in the approved injection wells. There is spacing left for two (2) additional 750-barrel fiberglass saltwater tanks to be placed in the future if the need arises. Fluid from the four (4) 750-barrel saltwater tanks are then transferred via charging pumps to one (1) of the two (2) H-pumps which will be outside of the tank battery and have a 27'x19'3"x4" containment, then transferred to one (1) of the two (2) approved SWD wells. See the attached facility diagram (Attachment 3).

**c. Physical and chemical characteristics**

E and P waste as defined in LAC 43:XIX.501: Such wastes include the following E and P waste fluids:

1. **Type 01** – Defined as: Salt water (produced brine or produced water), except for salt water whose intended and actual use is in drilling, workover, or completion fluids or in enhanced mineral recovery operations, processed fluids generated by approved salvage oil operators who only receive oil (BS&W) from oil and gas leases, and non-hazardous natural gas plant processing waste fluid which is or may be commingled with produced formation water;
2. **Type 04** – Defined as: Completion, workover, and stimulation fluids;
3. **Type 08** – Defined as: Produced formation fresh water;
4. **Type 09** – Defined as: Rainwater from firewalls, ring levees and pits at drilling and production facilities;
5. **Type 10** – Defined as: Washout water and residual solids generated from the cleaning of containers that transport E and P Waste and are not contaminated by hazardous waste or material; washout water and solids (E and P Waste Type 10) is or may be generated at a commercial facility or transfer station by the cleaning of a container holding a residual amount of E and P Waste;

6. **Type 11** – Defined as: Washout pit water and residual solids from oil field related carriers and service companies that are not permitted to haul hazardous waste or material;
7. **Type 14** – Defined as: Pipeline test water which does not meet discharge limitations established by the appropriate state agency, or pipeline pigging waste, i.e., waste fluids/waste generated from cleaning of the pipeline;
8. **Type 15** – Defined as: E and P Wastes that are transported from the permitted commercial facilities and transfer stations to permitted commercial treatment and disposal facilities, except those E and P Waste defined as Waste Types 01 and 06;
9. **Type 16** – Defined as: Crude oil spill clean-up waste;
10. **Type 99** – Defined as: Other E and P Waste not described above (shipment to a commercial facility or transfer station must be pre-approved prior to transport).

PA Prospect Corporation intends to receive only the liquid portions of approved E and P waste Types 15, 16, and 99 at The Facility.

**d. Hazardous waste classification (listed, characteristic, etc.)**

While approved E and P waste fluids are not regulated under the Louisiana Department of Environmental Quality regulations, it contains constituents that are common to fuel or oil. As the material typically contains less than one percent (1%) fuels, the material is still flammable and may contain toxic compounds associated with fuels. The low percentage of fuel and condensate associated with the produced water limits the explosiveness of approved E and P waste fluids. The fluids are not highly corrosive. The slightly corrosive nature of the saltwater will be managed with the use of minor amounts of corrosion inhibitor as indicated in the WMOP section of the permit application.

**2. How will they be handled?**

Approved E and P waste fluids will arrive through a security gate to the facility by truck transport. These trucks may be vacuum trucks, tanker trucks, and portable tanks. A PA Prospect Corporation employee trained in unloading procedures will witness the entry, then accept and process the entry of waste into the facility. To limit unauthorized access, The Facility has a secured gate at the entrance, and a 6 ft. chain link fence around the treatment and storage areas. A trained employee of PA Prospect Corporation will be at The Facility during the hours of operation to monitor facility operations and treatment/pumping of approved E and P waste fluids.

A minimum of one (1) eight (8) ounce sample will be collected from each incoming load. These samples will be monitored before offloading for the presence of NORMs as required by the applicable DEQ regulations and requirements. The eight (8) ounce sample of each load will be collected, dated, and labeled with the manifest number and operator identification. The samples will be analyzed in accordance with LAC 43:XIX.543.B.1 (pH, conductivity &

CI-) prior to being accepted for unloading. The collected samples will be stored in an area with minimum exposure to individuals at The Facility. Trucks will be directed to the unloading area where they will connect to a closed loop system to begin the treatment process.

**a. Treatment**

The approved E and P waste fluids, or primarily produced saltwater, will be pumped from the truck unloading area through a closed loop system. A 4-in. flexible hose connected to the tail end of the tank truck will allow the contents to be transferred by centrifugal pumps through screen baskets to a manifold where it is directed through one (1) 750-barrel desander tank. The fluids will then be sent through one (1) of three (3) 1,000-barrel fiberglass surge tanks for solids separation and some minimal hydrocarbon separation. The fluids will then be transferred via centrifuge pumps through one (1) of two (2) 1,000-barrel fiberglass gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1,000-barrel surge tanks and siphoned from the gun barrels and transferred to two (2) 500-barrel fiberglass oil tanks. Fluid from the gun barrels is directed to one (1) of two (2) series of two (2) 750-barrel fiberglass saltwater tanks for solids separation and some minimal, additional hydrocarbon separation prior to being disposed of in the approved injection wells. There is spacing left for two (2) additional 750-barrel fiberglass saltwater tanks to be placed in the future if the need arises. Fluid from the four (4) 750-barrel saltwater tanks are then transferred via charging pumps to one (1) of the two (2) H-pumps which will be outside of the tank battery and have a 27'x19'3"x4" containment, then transferred to one (1) of the two (2) approved SWD wells. The residual solids from the saltwater tanks will be periodically removed during tank cleaning operations and placed in a lined steel roll-off container temporarily located at The Facility during tank cleaning operations. Solids will not be allowed to accumulate or be stored at The Facility. These solids will be sampled and profiled for disposal at an approved facility. The solids will be transported by an authorized transporter to an approved facility.

**b. Storage**

Approved E and P waste fluids, primarily produced saltwater, will be pumped from the truck unloading area through a closed loop system to the inlet of one (1) 750-barrel desander tank. The fluids will then be sent through one (1) of three (3) 1,000-barrel fiberglass surge tanks for solids separation and some minimal hydrocarbon separation. The fluids will then be transferred via centrifuge pumps through one (1) of two (2) 1,000-barrel fiberglass gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1,000-barrel surge tanks and siphoned from the gun barrels and transferred to two (2) 500-barrel fiberglass oil tanks. Fluid from the gun barrels is directed to one (1) of two (2) series of two (2) 750-barrel fiberglass saltwater tanks for solids separation and some minimal, additional hydrocarbon separation prior to being disposed of in the

approved injection wells. There is spacing left for two (2) additional 750-barrel fiberglass saltwater tanks to be placed in the future if the need arises. Fluid from the four (4) 750-barrel saltwater tanks are then transferred via charging pumps to one (1) of the two (2) H-pumps which will be outside of the tank battery and have a 27'x19'3"x4" containment, then transferred to one (1) of the two (2) approved SWD wells.

An SPCC Plan certified by a Professional Engineer will be implemented and maintained on-site. The Attachment 3 - Facility Diagram shows the layout of The Facility. The tanks, offloading pad, pumps and ancillary equipment will all be placed in bermed seamless/sealed concrete containment areas to prevent releases of approved E and P waste fluids to the surface soils, groundwater and recharge areas of aquifers.

**c. Disposal**

The approved E and P waste fluids, primarily produced saltwater, and pit water, will be injected in the permitted injection well(s). Injection pressures and the casing/tubing annulus pressure will be monitored according to the permit. The residual solids resulting from settling in the saltwater tanks will be periodically removed during tank cleaning operations and placed in a lined steel roll-off container during tank cleaning operations. These solids will be sampled, profiled and manifested for disposal at an approved facility. The solids generated are expected to be less than 0.1 percent of the total throughput handled at The Facility. The solids will be transported by an authorized transporter to an approved facility. Solids will not be stored at The Facility and will be removed as processed.

There will be no discharge of contact storm water at this facility. PA Prospect Corporation anticipates having to clean some of the tanks to remove solids approximately twice per year and estimates no more than twenty (20) cubic yards of solids will be removed from each tank cleaning event. Once in operation, PA Prospect Corporation will evaluate the previous estimations.

**3. Sources of waste**

**a. On-site generation (type and percentage of total handled)**

Solids that are generated from approved E and P waste fluids managed at the facility through accumulation in the bottom of the one (1) 750-barrel desander tank, three (3) 1000-barrel fiberglass surge tanks, two (2) 1000-barrel fiberglass gun barrels, two (2) 500-barrel oil stock tanks, and four (4) 750-barrel fiberglass saltwater tanks (spacing left to add two (2) additional 750-barrel fiberglass saltwater tanks if the need arises) will be removed by periodic cleanouts. During periodic cleaning of these tanks, solids will be removed and placed in a lined steel roll-off container temporarily located at The Facility only during tank cleaning operations. These solids will be sampled, profiled, and manifested for disposal at an approved facility. The solids generated will be less than 0.1 percent of

the total throughput handled at The Facility. The solids will be transported by an authorized transporter to an approved facility.

Normal solid waste will be generated at The Facility. A dumpster will be kept on-site for disposal of trash, debris, and garbage at the local permitted landfill.

**b. Off-site generation (type and percentage of total handled)**

Approved E and P waste fluid is generated off-site as waste generated by the drilling and production of oil and gas. This facility is not expected to generate any form of waste outside The Facility boundaries.

**4. Where will the wastes be shipped if not handled at this site?**

Approved E and P waste fluid not disposed of or treated at The Facility and waste products generated at The Facility from facility operations will be shipped from The Facility to a disposal facility permitted to receive approved E and P waste fluids. Solids from cleaning tanks will be temporarily stored in a steel roll-off container. The roll-off container will only be located at The Facility during temporary routine maintenance, such as cleaning tank bottoms from above-ground storage tanks. Normal solid waste from facility operations will be stored in an on-site dumpster prior to disposal at the local permitted landfill.

**5. What wastes will remain on-site permanently?**

No waste will remain on-site permanently. A closure bond will be obtained as required by LAC 43:XIX.567.

**B. By which of the following potential pathways could releases of hazardous materials from the proposed facility endanger local residents or other living organisms?**

**1. Air**

There is no potential exposure through the air pathway other than from vent lines on the oil/condensate storage tank, the separation tanks, and the temporary storage of solids in roll-off containers on the concrete pad during periodic tank cleaning operations. Preliminary modeling calculations have been done to determine if this facility will require a minor source air permit from DEQ. Based on the maximum anticipated throughput and tankage at this facility it was shown that the threshold for requiring such a permit will be reached and the permit is required (6.10 tons of VOC emissions/0.55 tons of TAP emissions per year). Since this is above the 5 tons per year criteria pollution limit and above the minimum emission rate for the TAPs, there is a need for an air permit at this facility. Altec's modeling results have been submitted to LDEQ for determination and LDEQ determination and/or response will be forwarded to the Environmental Division of DNR upon receipt. This type of facility will emit Volatile Organic Compounds (VOCs) exceeding an LDEQ minimum emission rate or a de minimis rate established pursuant to the Clean Air Act; therefore, an



air permit application was submitted to LDEQ. LDEQ issued Minor Source Air Permit No.: 2420-00657-00 on August 14, 2019. Facility personnel will be monitored for possible Hydrogen Sulfide (H<sub>2</sub>S) exposure using H<sub>2</sub>S personnel monitors.

## 2. Water

The water pathway is protected by a seamless/sealed concrete containment system around the tanks and off-loading areas. The storage tanks at the facility are enclosed by a 186' x 101' x 4' seamless/sealed concrete containment having a spill containment capacity of approximately 13,000 barrels. The tanks within the containment will have a maximum storage of 11,250 barrels of approved E and P waste fluids, consisting primarily of produced saltwater. The floor of the tank containment area will be constructed of seamless/sealed concrete and is sloped slightly towards the integrated concrete trough in the center of the containment floor which flows to a sump to collect any rainwater or spilled E and P Waste Liquids. Fluids collected in this sump will be pumped via an automated submersible pump back through the desander and on through the flow process.

The Facility will implement an approved SPCC Plan certified by a Professional Engineer to prevent and control spills of E and P waste or its recovered materials. The Facility will use secondary containment to ensure that contaminants will not enter the waters of the State of Louisiana. The offloading pad is contained by 6 in. concrete roll over berms and a seamless/sealed concrete floor that slopes to a sump that is automatically emptied by a submersible pump. Valves and hose connections associated with unloading of the skim oil tanks will be contained using 6.5 gallon polyethylene containment units with a cover and locking capabilities. The drinking water aquifers are protected by two (2) strings of steel casing and cement. A cement bond log will be run on the surface casing string and the long string casing string of the well to prove isolation of the Underground Source of Drinking Water (USDW). The injection of fluid will be through steel tubing and a packer, thereby offering a further layer of protection of the USDW. The casing/tubing annulus will be monitored to ensure there are no leaks in the tubing, packer or outer long string casing.

In addition, the surface water pathway is protected through collection of any precipitation that falls on any stored solids or in the contained areas throughout The Facility. These solids are from temporary tank clean outs and are only temporarily stored in a roll-off container until disposal at an authorized disposal facility. These waters will be handled as waste to be injected into the disposal well(s). Thus, there will be no surface discharge of contact storm water at this facility and no LPDES permit is necessary.

## 3. Soil

Contaminants from disposal of the approved E and P waste fluids in the proposed injection well(s) will not come in contact with the soil. The storage tanks at the facility are enclosed by a 186' x 101' x 4' seamless/sealed concrete containment having a spill containment capacity of approximately 13,000 barrels. The tanks within the containment will have a maximum storage of 11,250 barrels of approved E and P waste fluids, consisting primarily of produced saltwater. The

floor of the tank containment area will be constructed of seamless/sealed concrete and is sloped slightly towards the integrated concrete trough in the center of the containment floor which flows to a sump to collect any rainwater or spilled E and P Waste Liquids. Liquids collected in the sump are pumped to the inlet manifold and commingled with other approved E and P waste before being sent back through the flow process. The concrete unloading pad is bermed on four sides with 6-in. roll over berms to prevent runoff of approved E and P waste fluids or run-on of storm water. The E and P waste, primarily produced saltwater, will not come in contact with the soil. Possible minor spills and releases may occur during offloading of approved E and P waste fluids. The spills will be contained on concrete and run-on will be controlled by concrete roll over berms. The unloading pad is slightly sloped towards an integrated concrete sump equipped with a float actuated sump pump to prevent the accumulation of any fluids on the unloading pad. Any fluids from the sump are sent back to the tanks in the containment to be ultimately disposed of in the disposal well. Absorbent materials will be kept on site for further containment in the unlikely event a spill might take place in a place other than the concrete unloading pad.

#### 4. Food

The Facility is located in a rural area of Red River Parish, Louisiana. No risk of significant release to the food chain is expected. The Facility will limit and minimize the risk of any contaminants to enter food or the food chain (i.e. animal, wildlife and related biology) by controlling and preventing air, water, and soil emissions. No emissions to the soil and water are expected because they will be controlled by concrete diked berms and concrete slabs with run-off controls, as noted above.

#### C. What is the likelihood or risk potential of such releases?

As noted above, no risk of significant emissions is expected. There is minimal risk, of potential exposure, to the water or soil through either leakage of containment areas, during the transfer of materials, or by way of the disposal well(s). All containment areas are adequately bermed to contain spills and include sump pumps to prevent accumulation or leakage offsite. Additional protection is being constructed in the form of a seamless/sealed concrete unloading pad with 6 in. roll over berms and a seamless/sealed concrete tank battery with 4' seamless/sealed concrete walls integrated into the seamless/sealed concrete containment floor. The WMOP establishes procedures for proper handling of materials and protection from releases. The Facility will have a SPCC Plan, developed by a professional engineer in accordance with 40 CFR Part 112 and LAC 33:IX.905.B to provide protection against releases as well as containment and regular inspections. In addition, The Facility will be designed and operated to prevent such releases and implement an Emergency Response/Contingency Plan that will help to ensure that any accident or unexpected event will be quickly and effectively controlled and reported, as required. The likelihood or risk potential of releases is minimal.

The likelihood or risk potential of a release from the injection well(s) is considered to be minimal when State imposed regulations are followed. Drinking water aquifers will be protected by two (2) strings of steel casing and cemented to ground surface, providing external cement isolation above and below the proposed injection zone as demonstrated

in Attachment 4A of the UIC-2 Com SWD application. A cement bond log will be ran on both casing strings, in accordance with the LDNR Injection and Mining Divisions (IMD) "Cement Bond Logging Guidelines" and sent to IMD in order to prove sufficient isolation and protection of the Underground Source of Drinking Water (USDW) has been met. Fluids will be injected through steel tubing and a packer, thereby offering a further layer of protection of the USDW. The casing/tubing annulus will be pressure tested, monitored, and recorded in accordance with LAC 43.XIX.Subpart 1. Statewide Order No. 29-B, to ensure there are no leaks in the tubing, packer or outer long string casing. The likelihood or risk potential of releases is minimal.

**D. What are the real adverse environmental impacts of the permittee's proposed facility?**

**1. Short-term effects**

Land area taken out of system

The land for the proposed facility is currently owned by PA Prospect Corporation. The total land area to be used is approximately 7 acres as shown on the plat at the end of Appendix H. The site is located Eleven (11) miles northwest of the town of Coushatta, Louisiana, just to the south of U.S. Highway 84, and east of Interstate 49. The Facility is in the northern part of the Red River – Bull Bayou Field. The present land use is for agricultural purposes. The Haynesville Shale Play extends more than 20 miles in all directions from the proposed facility. Other Fields to be served by this proposed facility include the Red River–Bull Bayou, Clear Lake, Grand Cane, Grand Cane North, Trenton, Trenton East, Mansfield, Buffalo Bayou, Ten Mile Bayou, Spider, Spider East, Kingston, Holly, Holly North, Catuna, Oxford, Brushy Bayou, Grogan, Chemard Lake, Ajax, Bayou Pierre, Gahagan, Red Oak Lake, Lake End, King Hill, Powhatan, Cannisnia Lake, Thorn Lake, Lachute, Chatman Bayou, Williams, Des Arc, Pleasant Hill, Benson, Benson West, Lillie Grove School, Lula, Hunter, Cypress Branch, Kickapoo, Caspiana, Canadian Bayou, Sutherlin, and Gay Island Fields.

**2. Long-term effects**

The Facility is designed and will be operated to minimize potential adverse effects to the environment. The Facility will implement an approved SPCC plan, provided by a Professional Engineer in accordance with 40 CFR Part 112 and LAC33:IX.905.B that will help prevent discharges to any drainage areas. The Facility will have the required closure financing in place to assure that the site is properly closed in accordance with LAC: XIX.567. The financial responsibility for any liability for damages will be in accordance with LAC 43:XIX.511 by obtaining and presenting a certificate of liability insurance in the amount set by the commissioner as documented in Appendix M.

In comparison to long-term waste storage facilities, such as, landfills or treatment systems that discharge to the waters of the State of Louisiana, this facility will not pose any threat for long-term environmental effects. Long-term

environmental impacts are not expected at The Facility. Class II well injection into subsurface reservoirs, is generally considered the safest and most effective method for handling these type fluids" (*Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States, May 2000 API report, section 2.4.2.*). The process of deep well injection is the injection of approved E and P waste fluids, primarily produced saltwater, into porous and permeable formations that already contain saltwater. A simple explanation is: "saltwater will be injected in formations that already contain saltwater". Long term, the bottom hole pressure in the formations where fluid will be injected will dissipate and eventually reach a pressure not much higher than the original bottom hole pressure. The Closure Plan, included in Appendix N, details the method of plugging and abandoning the well(s) and closure of The Facility. Financial assurance in accordance with LAC: XIX.567, will be in place before construction and before approved E and P waste fluids are injected in any well(s). This closure funding helps to insure that the facility operator is responsible and cognizant of any potential contamination and the ensuing long-term effects. The well and facility will be constructed and operated in a manner that protects surface waters, recharge areas of aquifers, groundwater and drinking water aquifers. Permits and plans will be in place to provide further protection of the environment. All of the reasons above and, others contained in the permit application and elsewhere herein, provide levels of protection to ensure there will be no long term impact to human health and the environment.

**II. Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?**

Yes. A cost benefit analysis of the environmental impact costs balanced against the socio-economic benefit of the proposed facility indicates the latter outweighs the former.

**A. How was it determined that this facility was needed?**

PA Prospect and ALTEC Environmental Consulting, LLC, researched available information at the Department of Natural Resources and surveyed the need for commercial saltwater disposal well with oil and gas operators in the area. There are 90 wells currently permitted (2/2020) within a 20 mile radius of the proposed facility, and there are currently over 4,224 wells that are actively producing or shut-in waiting for completions or future utilization within a 20 mile radius of the proposed facility. There are currently only three (3) operational commercial E and P disposal facilities in Caddo Parish; one facility is operated by Key Energy Services, LLC (K087), the second is operated by Republic EES, LLC (R5445), and the third is the Woolworth Landfill (Site Code 0903) which is a LADEQ Landfill able to accept solid E and P waste only. There are currently four (4) operational commercial E and P disposal facilities in DeSoto Parish to serve the entire Haynesville Shale Play in this region; one facility is operated by Southern Water Disposal, LLC (S430), the second is operated by Pinnergy, LTD (P308), the third is operated by Bulldog Oilfield Services, Inc. (B3920), and the fourth is operated by Brumley Investments, LLC (B2920). There are also two (2) transfer stations

in DeSoto Parish; Heckman Transfer Station (Site Code 1603) which receives approved liquid E and P waste fluids generated in Louisiana, and transfers across state lines to Texas, and Pinnergy Transfer Station (Site Code 1607), which receives approved liquid E and P waste fluids generated in Louisiana, and transfers to the Pinnergy, LTD (P308, Site Code 1604) commercial E and P disposal facility next door. There are currently only two (2) operational commercial E and P disposal facilities in Bienville Parish; one facility is operated by Bear Creek Services, LLC (B320) and the second is operated by Sugar Creek Environmental, LLC (S2740). There are currently only two (2) operational commercial E and P disposal facilities in Webster Parish; one facility is operated by Nelson Energy, Inc (N054) and the second is operated by Bigfoot Energy Services, LLC (B2240). There is currently only one (1) operational commercial E and P disposal facility in Sabine Parish; operated by Basic Energy Services, L.P. (B272). There is currently only one (1) operational commercial E and P disposal facility in Bossier Parish; operated by R360 Environmental Solutions of LA, LLC (R244). There is currently only one (1) operational commercial E and P disposal facility in Claiborne Parish; operated by Key Energy Services, LLC (K087). There is currently only one (1) operational commercial E and P disposal facility in Red River Parish; operated by Pinnergy, LTD (P308).

There is currently only one commercial SWD facility in Red River Parish and no commercial SWD facilities in Natchitoches Parish and with further development of the Haynesville Shale Play, as well as additional plays in the Cotton Valley and Hosston formations, PA Prospect is of the opinion that a commercial E and P waste disposal facility will benefit the oil and gas operators in the Anticipated Market Range that surrounds the proposed Facility's location. In particular, it is known that horizontal wells in the Cotton Valley Formation and vertical wells in the Hosston, produce a large amount of water during production, and Haynesville Shale wells produce large amounts of water when drilled near faults or in highly fractured areas. Additionally, once a well is drilled it will continue to produce water for the life of the well. Further stated, PA Prospect has numerous contacts within the Oil & Gas Industry, Water Disposal Industry, and with numerous Producer/Operators in North Louisiana. This has provided them with insider knowledge of the relatively new and continuing exploration and production activities in Northwest Louisiana. With information provided by numerous Oil and Gas Producers within the anticipated market range, PA Prospect fully expects this facility will receive an average of 15,000 barrels to a maximum of 25,000 barrels of approved E and P waste fluids each day and with other commercial facility options and their locations to producing oil and gas fields, it would likely reduce the overall number of large trucks and travel distances for operators on U.S., State, and Parish roads, as well as the bridges that lay between these active fields and commercial disposal facilities on the east side of the Red River.

#### **1. Local or regional survey**

The Facility's chosen location is near the oil and gas drilling and production industry's major operations in Northwest Louisiana where E and P waste is created. The Facility is centrally located in North Louisiana approximately 5 miles east of Interstate 49 to provide a location in a rural area, but centralized to provide an environmentally safe means for disposal of produced fluids, primarily saltwater, from oil and gas wells in the region. The Facility is in the Red River - Bull Bayou Field. The proposed facility has easy access for truck traffic from U.S. Highway 84. There are currently no similar facilities within seven (7) road miles of the proposed facility location.

**2. On-site or off-site needs**

The Facility will be fenced and gated with access only by entrance through a locked gate. As mentioned above, the source of approved E and P waste fluids, primarily produced saltwater, is near the majority of oil and gas wells drilling and production operations in the eastern part of the Haynesville Shale play. The approved E and P waste fluids that meet the requirements and are accepted at the proposed facility will be disposed of in the proposed injection well(s). The solids that accumulate in the separation and holding tanks will be removed, sampled and analyzed, then disposed of at an approved E and P solid waste facility.

PA Prospect Corporation anticipates having to clean some of the tanks to remove solids approximately twice per year and estimates no more than twenty (20) cubic yards of solids will be removed from each cleaning event.

**3. Regional solid waste management benefit**

The Facility will not accept solid wastes for disposal. Small amounts of solid E and P waste will be generated at The Facility during tank cleaning operations. These solids will be properly sampled, profiled and disposed of at an approved solid waste facility. Therefore, there is no regional solid waste management benefit.

**4. Generic survey of solid waste needs (compatibility with master plan)**

The Facility will not accept solid wastes for disposal.

**B. What will be the positive economic effects on the local community?****1. How many permanent jobs will be created?**

The operation of The Facility will create approximately ten (10) positions at The Facility. Six (6) jobs will be created for operation of The Facility, plus two (2) positions for management, one (1) position for clerical assistance and quality control, and one (1) position for maintenance of The Facility. Additional positions will be created for truck drivers transporting approved E and P waste fluids to The Facility, and regulatory consultants to maintain regulatory requirements.

**2. What is the expected annual payroll?**

The expected annual payroll is estimated to be \$500,000.00.

**3. What is the expected economic multiplier from item B2?**

The expected multiplier, i.e., increase in local business activity, is three (3). This multiplier has been previously accepted in prior similar commercial SWD applications at LADNR and is also supported by a 2011 report that indicates an average multiplier for value added, employment, and labor income of 3.18 (*Macroeconomic Impacts of the Domestic Oil & Gas Industry, Working*

*Document of the NPC North American Resource Development Study, September 15, 2011).*

**4. What is the expected tax base and who will receive benefits?**

The proposed facility would be subject to ad valorem taxes by Red River Parish. The ad valorem taxes will be based on the value of The Facility once it is in place, and will be assessed by the local tax assessor. Taxes will be paid on diesel fuel purchased to power the trucks transporting approved E and P waste fluids. The recipients of these taxes will be state and federal governing bodies.

**C. What will be the potential negative economic effects on the local community?**

**1. What are the possible effects on property values?**

There have been no formal impact studies done on nearby property values, but based on the current usage of the property and the rural location of the proposed facility, it is not expected that the proposed facility will have any adverse impact on local property values. The nearest residence to the subject facility is +/-2197 feet northeast of the northeast corner of the facility boundary. The nearest community is Grand Bayou, Louisiana, where the proposed facility is located. The proposed facility should have no adverse impact on adjacent or nearby property values.

**2. Will public costs rise for:**

**a. Police protection**

No significant increase in police protection cost should arise from the construction and operation of this facility. The proposed facility will operate 24 hours, seven days per week. The facility will be manned during these hours and any time injection of waste is occurring. When the subject facility is closed, a locked gate, and chain-link fencing, and a security system will secure the property. The proposed facility is to be located just off U. S. Highway 84.

**b. Fire protection**

The flammability of E and P waste at this facility is based mainly on the flammability of small amounts of fuel and oils within the E and P waste and the skimmed oil within the two (2) 500-barrel fiberglass oil tanks. The Facility will have fire protection equipment to handle less significant emergencies. The Facility will develop an Emergency Response Plan that will allow quick and effective action during emergency situations. The nearest Fire Station is located approximately 11.5 miles to the south in Coushatta, Louisiana. The Red River Parish Fire District, located at 205 Ringgold Avenue, Coushatta, Louisiana provides fire protection for the proposed facility. There will be no significant increase in public cost due to the subject facility being installed.

**c. Medical facilities**

Public costs for medical facilities will not increase due to the construction and operation of the proposed facility. The nearest medical facilities are located approximately 11.5 miles to the southeast in Coushatta, Louisiana. The medical facility is known as CHRISTUS Coushatta Health Care Center located at 1635 Marvel St, Coushatta, Louisiana. The materials handled at The Facility are in similar nature as the oil and condensate produced in oil fields in the area. The majority of the liquids handled at the proposed E and P waste facility will be produced saltwater, which is non-hazardous and non-flammable. There should be no new additional threats to human health.

**d. Schools**

Public costs for schools will not rise as a result of the construction and operation of the proposed facility. The nearest school is the Red River High School system located approximately 11.5 miles southeast of the proposed facility. No adverse effect to the local schools is expected, based on the limited potential of environmental concerns and the distance to the schools.

**e. Roads**

The public costs for roads are not anticipated to increase as a result of the proposed facility. The proposed development will service existing facilities by providing a centralized location for the area, and the overall impact and miles driven by E&P waste trucks is expected to be reduced. A Traffic Impact Analysis was performed for the service area to indicate whether or not this new facility would have any impact on the surrounding transportation network. Based on the traffic impact analysis it was determined that the new saltwater disposal facility would have minimal impact on the surrounding transportation network. See Attachment 12 – Traffic Impact Analysis.

- The proposed facility is located off U.S. Highway 84 approximately 5 road miles to the east of Interstate 49. The facility location does not have posted weight restrictions on U.S. Highway 84. The positioning of the proposed facility is anticipated to reduce the truck impact for roadways within the Anticipated Market Range as the existing truck traffic will utilize the proposed facility, reducing overall miles traveled on public roadways.

- Heavy vehicles accessing the proposed site are already operating on Parish roadways; utilizing existing facilities located further from source locations. Operators currently have to transport E&P waste from well locations near the proposed facility to one of the following Commercial SWD Facilities; **1)** Southern Water Disposal, LLC SWD Commercial Facility, Site code 1606 approximately 31.5 miles to the west; **2)** Pinnergy, LTD SWD Commercial Facility, site code 1604 approximately 7 miles to the west; **3)** Basic Energy Services SWD Commercial Facility, site code 4304 approximately 34.5 miles to the south/southwest; **4)** Republic EES, LLC SWD Commercial Facility, site code 904 approximately 23 miles to the north; **5)** R360 Environmental Solutions of LA, LLC SWD Commercial facility, site code 801 approximately 43.5 miles to the north; **6)** Nelson Energy SWD Commercial Facility, site code 6006 approximately 52.7 miles to the north; **7)** Sugar Creek Environmental, LLC SWD Commercial Facility, site code 703, approximately 56.2 miles to the north; **8)**



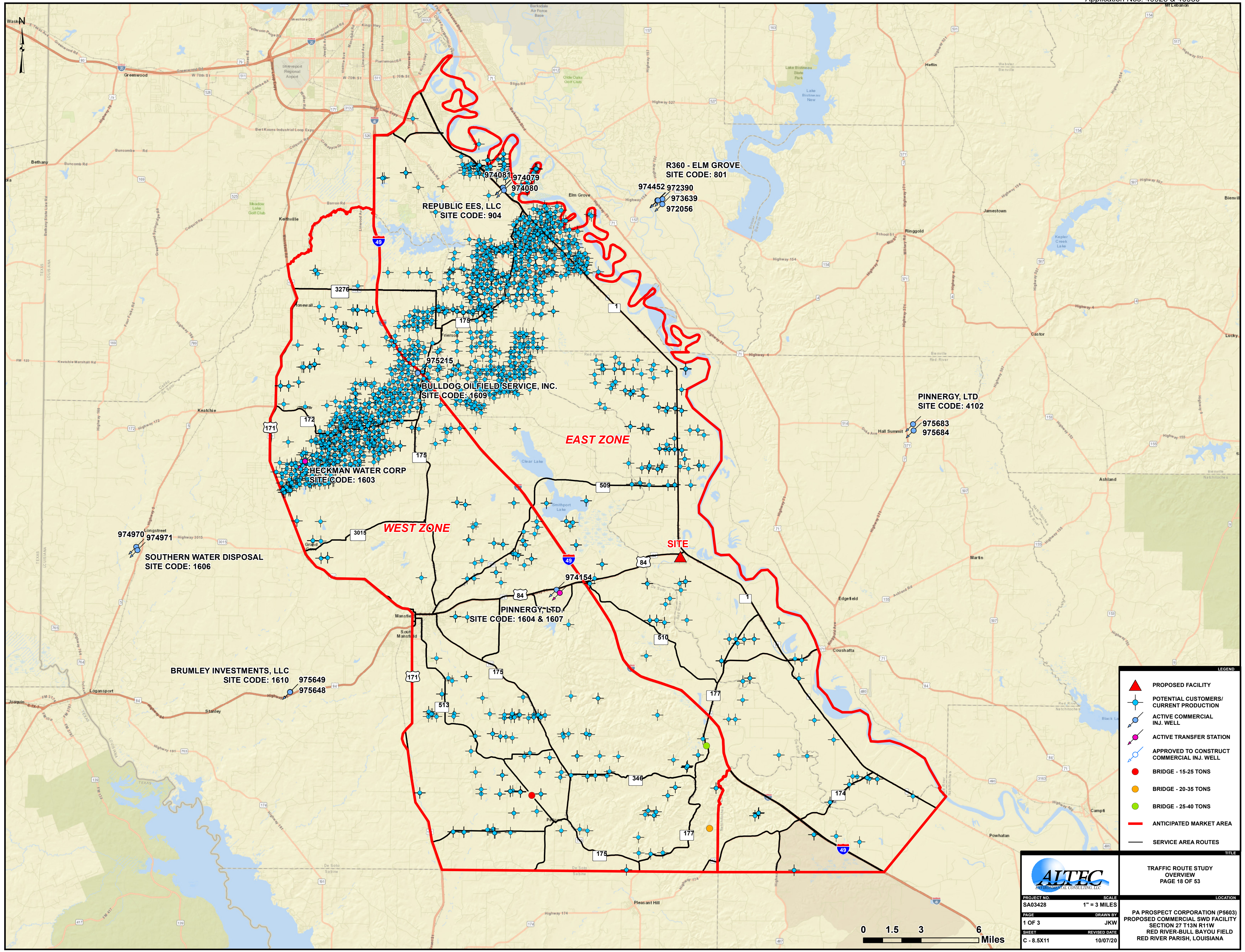
Bear Creek Env. Systems, LLC SWD Commercial SWD Facility, site code 701 approximately 57.1 miles to the northeast; **9)** Key Energy Services – Oil City SWD Commercial Facility, site code 901 approximately 59.9 miles northwest; **10)** Key Energy Services – Athens SWD Commercial Facility, site code 1401 approximately 61.4 miles northeast; **11)** Bigfoot Energy Services, LLC SWD Commercial Facility, site code 6001 approximately 88 miles north; **12)** Brumley Commercial Facility, site code 1610 approximately 23 miles west; **13)** Bulldog Oilfield Services Commercial Facility, site code 1609 approximately 20 miles northwest; **14)** Pinnergy, LTD SWD Commercial Facility, site code 4102 approximately 24 miles north. Providing a facility closer to sources will reduce the overall truck mileage for the existing E & P waste, see page 23 (II.D.3.a) for additional information.

- It is anticipated that heavy vehicle traffic of the Red River Bridge at Armistead-Coushatta and the Jimmie Davis Bridge at Shreveport-Bossier City will be reduced to a minimal impact. Based on PA Prospect's evaluation of current market conditions it is expected the waste generated west of the Red River will be received by the proposed facility. Waste generated to the east of the Red River will utilize one of the Commercial E & P waste facilities on that side of the river, this evaluation was performed considering all E & P Waste Hauling Companies.

- A Road Access Permit was applied for with the Louisiana Department of Transportation and Development (LA DOTD) for purposes of providing access to the Facility from U.S. Highway 84. The LA DOTD Road Access Permit was issued on March 19, 2020. Parish road permits will not be required, as PA Prospect only operates the disposal facility and does not operate any E and P waste hauling trucks or any heavy vehicles that will utilize parish roads. E and P Waste Haulers will meet Parish Road Permit requirements for the roads traveled in the parishes the PA Prospect facility will serve.

- Transporters that transport E & P waste to the proposed facility, prior to accepting the E & P waste, training will be provided regarding transportation, such as acceptable routes, bridge postings, parish road permit requirements, weight limits, and school zones.

Please refer to the Traffic Impact Analysis maps on pages 18-20 and the Attachment 12 - Traffic impact Analysis Report.



- LEGEND**
- PROPOSED FACILITY
  - POTENTIAL CUSTOMERS/ CURRENT PRODUCTION
  - ACTIVE COMMERCIAL INJ. WELL
  - ACTIVE TRANSFER STATION
  - APPROVED TO CONSTRUCT COMMERCIAL INJ. WELL
  - BRIDGE - 15-25 TONS
  - BRIDGE - 20-35 TONS
  - BRIDGE - 25-40 TONS
  - ANTICIPATED MARKET AREA
  - SERVICE AREA ROUTES

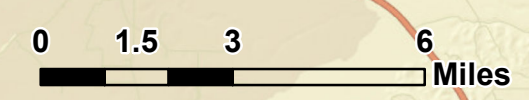
**ALTEC**  
ENVIRONMENTAL CONSULTING, LLC

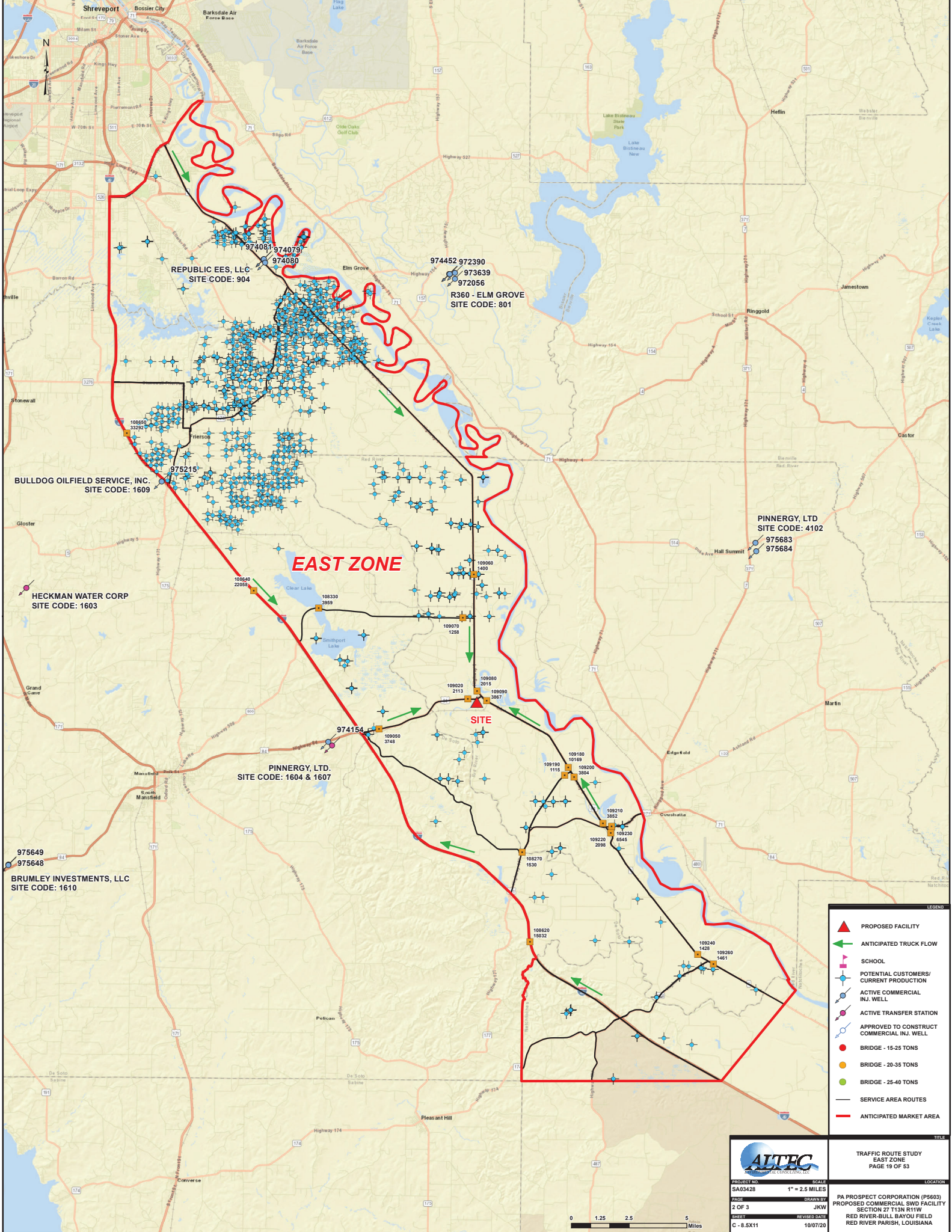
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PAGE 1 OF 3  
DRAWN BY JKW  
SHEET C - 8.5X11  
REVISED DATE 10/07/20

**TITLE**

TRAFFIC ROUTE STUDY  
OVERVIEW  
PAGE 18 OF 53

LOCATION  
PA PROSPECT CORPORATION (P5603)  
PROPOSED COMMERCIAL SWD FACILITY  
SECTION 27 T13N R11W  
RED RIVER-BULL BAYOU FIELD  
RED RIVER PARISH, LOUISIANA





**EAST ZONE**

REPUBLIC EES, LLC  
SITE CODE: 904

R360 - ELM GROVE  
SITE CODE: 801

BULLDOG OILFIELD SERVICE, INC.  
SITE CODE: 1609

HECKMAN WATER CORP  
SITE CODE: 1603

PINNERGY, LTD.  
SITE CODE: 1604 & 1607

BRUMLEY INVESTMENTS, LLC  
SITE CODE: 1610

PINNERGY, LTD  
SITE CODE: 4102

**SITE**

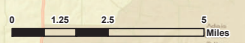
- LEGEND**
- PROPOSED FACILITY
  - ANTICIPATED TRUCK FLOW
  - SCHOOL
  - POTENTIAL CUSTOMERS/  
CURRENT PRODUCTION
  - ACTIVE COMMERCIAL  
INJ. WELL
  - ACTIVE TRANSFER STATION
  - APPROVED TO CONSTRUCT  
COMMERCIAL INJ. WELL
  - BRIDGE - 15-25 TONS
  - BRIDGE - 20-35 TONS
  - BRIDGE - 25-40 TONS
  - SERVICE AREA ROUTES
  - ANTICIPATED MARKET AREA

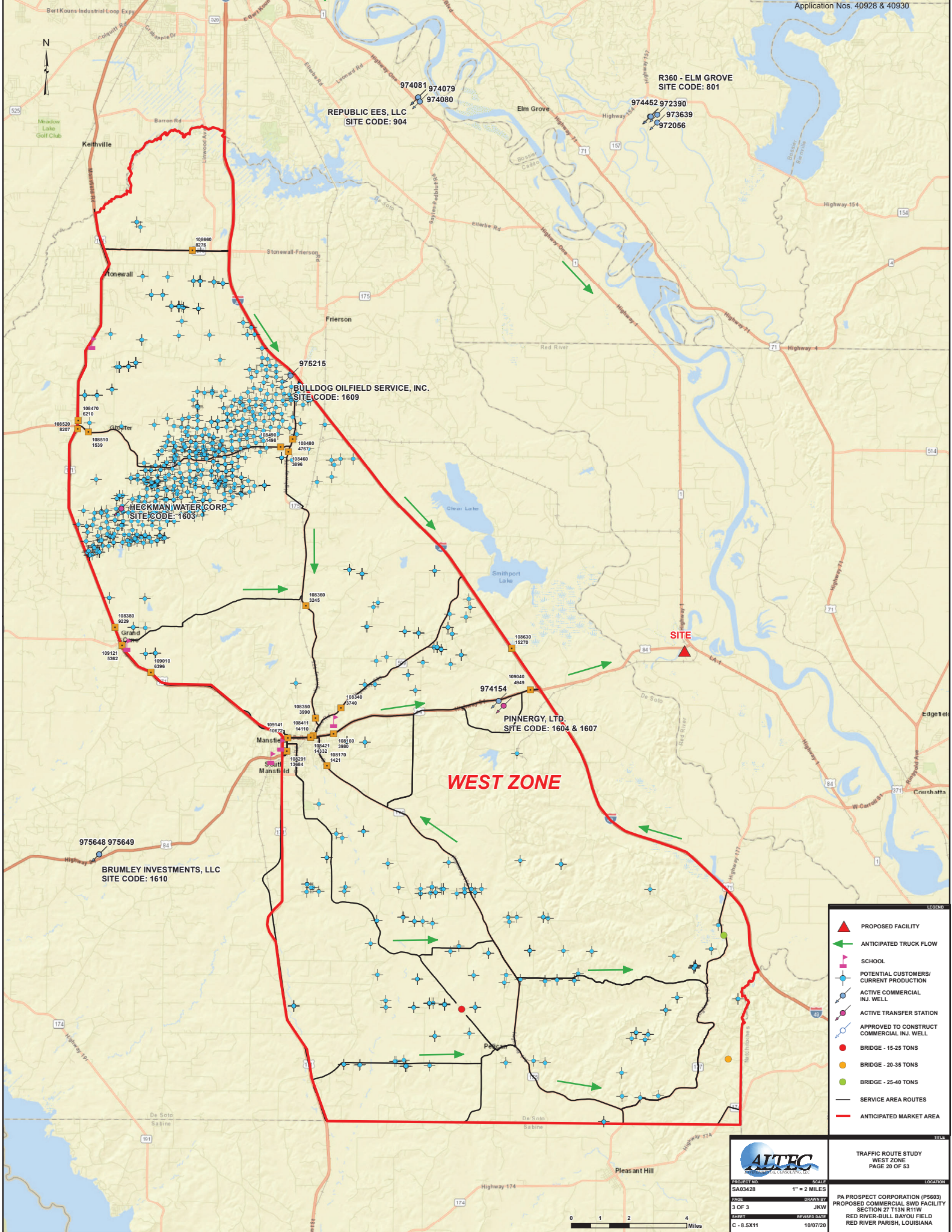
**ALTEC**  
ANALYTICAL & TECHNICAL CONSULTANTS

PROJECT NO. SA03428 SCALE 1" = 2.5 MILES  
PAGE 2 OF 3 DRAWN BY JKW  
SHEET C - 8.5X11 REVISED DATE 10/07/20

TITLE  
TRAFFIC ROUTE STUDY  
EAST ZONE  
PAGE 19 OF 53

LOCATION  
PA PROSPECT CORPORATION (P5603)  
PROPOSED COMMERCIAL SWD FACILITY  
SECTION 27 T13N R11W  
RED RIVER-BULL BAYOU FIELD  
RED RIVER PARISH, LOUISIANA





**WEST ZONE**

- LEGEND**
- PROPOSED FACILITY
  - ANTICIPATED TRUCK FLOW
  - SCHOOL
  - POTENTIAL CUSTOMERS/ CURRENT PRODUCTION
  - ACTIVE COMMERCIAL INJ. WELL
  - ACTIVE TRANSFER STATION
  - APPROVED TO CONSTRUCT COMMERCIAL INJ. WELL
  - BRIDGE - 15-25 TONS
  - BRIDGE - 20-35 TONS
  - BRIDGE - 25-40 TONS
  - SERVICE AREA ROUTES
  - ANTICIPATED MARKET AREA

**ALTEC**  
ANALYTICAL & TECHNICAL CONSULTANTS

PROJECT NO. SA03428 SCALE 1" = 2 MILES  
PAGE 3 OF 3 DRAWN BY JKW  
SHEET C - 8.5X11 REVISION DATE 10/07/20

**TITLE**

TRAFFIC ROUTE STUDY  
WEST ZONE  
PAGE 20 OF 53

**LOCATION**

PA PROSPECT CORPORATION (P5603)  
PROPOSED COMMERCIAL SWD FACILITY  
SECTION 27 T13N R11W  
RED RIVER-BULL BAYOU FIELD  
RED RIVER PARISH, LOUISIANA



**3. Does the prospective site have the potential for precluding economic development of the area by business or industries because of risk associated with establishing such operations adjacent to the proposed facility?**

The proposed facility is located in a rural part of Red River Parish, which is one of the reasons why it was chosen. The property is currently used for agricultural purposes. It is not anticipated the prospective site will preclude economic development of the area by business or industry due to risks associated with the proposed facility. The operation of a commercial SWD facility at this location would generate a significant increase in local tax revenues to the parish as compared to the current use. Future drilling activity in the area, not only for Haynesville, but also other producing targets in the area would generate additional disposal requirements for this area. The risk associated with operations of the proposed facility is negligible to non-existent due to the WMOP and monitoring set in place to ensure there is no harm to human health and the environment. The injection well(s) are monitored daily for pressure variances in the casing/tubing annulus. The underground sources of drinking water are protected by two (2) strings of steel casing and cement. Cement bond logs are run to prove isolation of the injection interval and the underground source of drinking water.

The proposed facility poses no risk to prevent economic development in the area by other industries or businesses. The reason for this rationale is the risk associated with the proposed facility is mitigated by operating the facility in compliance with applicable rules and regulations, as discussed above on page 11 (I.D.2).

**D. Was transportation a factor in choosing the proposed site?**

Yes, access to transportation was a primary factor in choosing the proposed site. Transportation of the approved E and P waste fluids by truck and the close proximity of the proposed location to the source of the E and P waste being generated in the Haynesville Shale play, Red River–Bull Bayou, Clear Lake, Grand Cane, Grand Cane North, Trenton, Trenton East, Mansfield, Buffalo Bayou, Ten Mile Bayou, Spider, Spider East, Kingston, Holly, Holly North, Catuna, Oxford, Brushy Bayou, Grogan, Chemard Lake, Ajax, Bayou Pierre, Gahagan, Red Oak Lake, Lake End, King Hill, Powhatan, Cannisnia Lake, Thorn Lake, Lachute, Chatman Bayou, Williams, Des Arc, Pleasant Hill, Benson, Benson West, Lillie Grove School, Lula, Hunter, Cypress Branch, Kickapoo, Caspiana, Canadian Bayou, Sutherlin, and Gay Island Oil & Gas Fields provides the most practical and economical means of transportation and disposal of the approved E and P waste fluids from these fields. This location is located to take advantage of active development in the Hosston, Cotton Valley, and Haynesville plays, as well as help reduce truck traffic across state lines and bridges. Please refer to the Traffic Impact Analysis maps on pages 18-20, the Attachment 12 - Traffic impact Analysis Report, and page 23 (II.D.3.a) for additional information.

**1. What mode(s) of transportation will be used for the site?**

**a. Truck**

Truck will be the only mode of transportation of approved E and P waste fluids to The Facility.

**b. Rail**

Rail transportation is not currently being considered at the subject location.

**c. Barge**

Barge transportation is not available to the subject location.

**d. Other**

Pipeline transportation is a future possibility for this site. PA Prospect would not utilize the pipeline until approved by LDNR and will comply with the requirements of LAC 43:XIX.571.

**2. What geographical area will it serve?**

This facility will serve the oil and gas production region in Northwest Louisiana, specifically Red River and surrounding parishes in Louisiana. If approved, and E and P waste fluids are received from out-of-state generators, the Manifest system shall be followed in accordance with LAC 43:XIX.545.

**3. By how much will local road traffic volume increase?**

The maximum expected operating capacity of the proposed PA Prospect facility is 25,000 barrels of saltwater, pit liquid, and other associated approved E and P waste fluids per day. Each truck servicing the facility can transport approximately 130 barrels which equates to 192 trucks per day at maximum capacity. See Attachment 12 – Traffic Impact Analysis for more figures on the traffic volume increase estimates. For the Generated Peak Hour Volume calculation it is assumed that the facility will accommodate the maximum of 192 trucks per day. While the facility is anticipated to operate 24 hours per day, it is assumed that the trucks will arrive within a 20 hour period; therefore a rate of ten (10) trucks per hour were used for the peak hour calculation. A summary of the generated peak hour trips is shown below.

Daily Peak Hour Trip Generation	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
Trucks per hour	10	10	10	10

It is anticipated that the actual operation of the facility will be around 70-80 trucks per day; however, the maximum rate is considered for purposes of this analysis. The majority of the heavy vehicle trips to and from the proposed facility currently exist on Parish roadways. The following table is an evaluation of the traffic volumes on existing major routes, also refer to pages 18 through 20 for Traffic Route Study maps and Attachment 12 – Traffic Impact Analysis.

Generated Peak Hour Volume			
Service Area	Route	AM	PM
East	LA 1 North to US 84 West	2	5
	LA 1 South to US 84 West	6	4
	US 84 West to Site	8	9
West	US 84 East to Site	2	1
Total Trucks Per Peak Hour (6:00-7:00 AM / 3:30-4:30 PM)		<b>10</b>	<b>10</b>

Route volumes are approximate estimations based on the existing facilities serviced. Routes are on a demand basis and regular hourly traffic will vary based on source sites being utilized. The existing processing facilities for the area is summarized in the Roads section on pages 16 and 17.

There are minor increases and decreases in the study area due to the re-routing of trips from existing facilities to the proposed facility. The main noticeable changes are the increases for the sections on LA 1 and US 84 West directly accessing the proposed development.

As mentioned previously the heavy vehicle trips are already present on Parish roadways and bridges servicing the existing E&P source sites. The proposed development provides a centralized location, reducing overall impact to Parish roadways that heavy vehicles are utilizing

**a. Can local roads handle the traffic volume expected?**

Local roads can handle the increased traffic without negatively affecting other users based on the following:

- 1) E and P Waste Haulers will meet Parish Road Permit requirements for the roads traveled in the parishes the PA Prospect facility will serve. Please refer to the following section B and Appendix P of the application for additional information.
- 2) A Road Access Permit was applied for with the Louisiana Department of Transportation and Development (LA DOTD) for purposes of providing access to the Facility from U.S. Highway 84. The LA DOTD Road Access Permit was issued on March 19, 2020.
- 3) A Traffic Impact Analysis was performed and showed that the facility would have minimal impact to the surrounding transportation infrastructure. See Attachment 12 – Traffic Impact Analysis.

4) LA DOTD average daily traffic count data along the anticipated traffic routes were reviewed at <http://www.apps.dotd.la.gov/engineering/tatv/>. Following is a summary of the data nearest the proposed facility.

LA DOTD Traffic Counts for Hwys Nearest the Proposed Facility			
Vehicles Per Day			
	Station # 109020	Station # 109090	Station # 109080
YEAR	US Hwy 84 West of LA 1	LA 1 South of US Hwy 84	LA 1 North of US Hwy 84
2017	2113	3867	2015
2014	2984	5183	2675
2011	5104	7759	3323
2008	3645	6123	3376
2005	2842	4847	2283
2002	2453	4216	1870

**b. Can local roads handle the weight of trucks?**

The Facility is located immediately south of U.S. Highway 84, west of LA Highway 1 and is east of Interstate 49. A detailed evaluation of the roads and bridges along the anticipated routes was conducted using bridge data provided by the LA DOTD. The weight of the trucks will be no more than 80,000 pounds (40 Tons) and is dependent on many variables, such as how much E & P waste is being transported, the type of tires on the truck, and how much fuel is in the truck. These highways currently handle this kind of truck traffic with this kind of weight on a daily basis. The evaluation indicated the proposed routes are equipped with roads and bridges capable of handling the weight of the trucks, see pages 18-20 – Traffic Route Study Maps. It should be noted, that Bridge Postings on the Traffic Route Study Maps will be adhered to; routes are available that avoid these posted bridges and drivers that will be hauling to PA Prospect are trained to adhere to such restrictions. Additionally, a LA DOTD Road Access Permit has been applied for, for purposes of providing the facility access from U.S. Highway 84 and E and P waste haulers will meet parish road permits for the roads to be traveled in the parishes PA Prospect will serve. Prior to accepting the E & P waste, Transporters hauling E & P waste to the proposed PA Prospect facility, will be provided training regarding transportation, such as acceptable routes, bridge postings, parish road permit requirements, weight limits, and school zones. LA DOTD representatives have previously encouraged site development where the site is in close proximity to a major Interstate and a U.S. Highway. Please refer to the Traffic Impact Analysis maps on pages 18-20, the Attachment 12 - Traffic impact Analysis Report, and page 23 (II.D.3.a) for additional information.

**4. What are the long-term expectations of the proposed site?**

**1. Longevity of the facility?**



Based on the average life of similar facilities, this Facility is estimated to operate at this location for roughly twenty (20) years. The length of time The Facility operates is also based on the time frame in which oil and gas is produced in the area.

**2. Who owns the facility?**

The property is owned by PA Prospect Corporation

**3. Are the owners financially backed by others?**

The owners are not financially backed by others.

**4. When is closure anticipated?**

Closure is expected to be 20 years from the date noted on the approval of this application. (Anticipated closure to be in 2040).

**5. Who is responsible for the site after closure?**

PA Prospect Corporation is responsible for the site after closure of The Facility.

**6. What assurances will there be that the site will be closed in accordance with the plan?**

Financial assurances will be in place as noted in Appendix N of this application, according to regulations (LAC 43:XIX.567) to fund closure prior to issuance of the permit.

**7. What financial assurances will be established to demonstrate the ability to handle problems after closure?**

Financial assurances will be provided and in place according to regulations (LAC 43:XIX.567) to assure that proper closure is funded and attained.

- A.** PA Prospect Corporation will follow all applicable local, state, and federal financial assurance requirements. Closure bond and/or letter of credit will be in place as required by regulatory statutes, and reviewed annually. The requirements of the permit for the well and facility limit environmental concerns after The Facility is closed.

**1. Who certifies that the site is properly closed?**

The site will be closed according to LAC 43:XIX.567. The Department of Natural Resources (DNR) Office of Conservation will certify that the site is properly closed. Closure of the site will be performed under DNR's supervision.

**2. How are people protected from unwittingly buying land after closure?**

A deed recordation describing the operation to be located on the site along with the closure documents will be filed in the conveyance records at the Red River Parish Courthouse.

**a. Is the closed facility recorded in the deed?**

The closed facility will be recorded in the records of the Red River Parish Courthouse.

**b. What future uses are possible?**

The future uses of the property will most likely be agricultural or timberland.

**III. Are there alternative projects, which would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits?**

No. The facility is located in a remote area and provides limited exposure to the public. The proposed location is strategically located to serve the oil and gas industry in the area with a means of disposal of E and P waste that is protective to the environment and provides an economical means of disposal of the E and P waste. Other alternative projects are not believed to be economically viable for disposal of approved E and P waste fluids in this area. Costs, practicality, and suitability of various alternative means of disposal are noted in a 2006, *Argonne National Laboratory report available through the US Department of Energy (Offsite Commercial Disposal of Oil and Gas Exploration and Production Waste; Availability, Options, and Costs)*. Most other alternatives cannot handle the volumes required at an economically viable cost and as safely and effectively as disposal by deep well injection for the conditions found in Louisiana. A survey noted in this report indicates that injection was almost exclusively used to manage approved E and P waste fluids. The Facility is a closed loop system designed to minimize emissions and exposure of contaminants to the environment compared to other methods. It is located in a rural area and provides limited exposure to the public. Alternatives to deep well injection may be recycling, or the treatment of the produced saltwater to remove impurities. There is not a current need for additional sources of salt water in the area, so recycling is not a viable alternative. Land treatment of approved E and P waste fluids or gas plant waste fluids is not an acceptable means of disposal of E and P waste fluids per LAC 43:XIX.549.C.7.f. Land treatment is typically utilized for solids and sludges with relatively low levels of hydrocarbons and salts. Salt, unlike hydrocarbons cannot biodegrade, but may accumulate in soils. Treatment and discharge of the approved E and P waste fluids to the surface poses additional risk to the environment, including risk of contaminating surface or ground water. Regarding treatment and surface discharge, reliable technologies have not been developed to effectively treat large volumes of approved E and P waste fluids for discharge to the waters of the State of Louisiana. Thermal treatment is another option that has been tried in rare instances, but has the highest associated cost for disposal. No thermal treatment facilities for approved E and P waste fluids are believed to have been permitted in Louisiana. Burial in landfills for approved E and P waste fluids has been tried, but the requirement for solidification, which is generally required, drives up the costs.

The socio-environmental benefits of deep well injection far outweigh other methods of treatment and disposal of approved E and P waste fluids that includes land farming, land treatment, or incineration. Class II injection wells have been used to dispose of produced fluids since the 1930's and, today, there are over 170,000 such wells located in 31 states (Groundwater Protection Council, *Injection Wells: An Introduction to Their Use, Operation and Regulation, August 2005*). The Groundwater Protection Council and many others consider underground injection of produced fluids to be a safe technology. This method has been substantially improved, since the 1930's.

1. Waste water is injected into the ground between impermeable layers of rocks to avoid polluting fresh water supplies or adversely affecting quality of receiving waters. Injection wells are usually constructed of solid walled pipe cemented to a deep elevation in order to prevent injectate from mixing with the surrounding environment (*U.S. Environmental Protection Agency (EPA). Washington, DC. "Basic Information about Injection Wells." Updated 2010-01-22*).

Injection wells are widely considered to be the best method for disposal of treated waste water. (*Argonne National Laboratory, Offsite Commercial Disposal of Oil and Gas Exploration and Production Waste", 2006*). Unlike outfalls or other direct disposal techniques, injection wells utilize the earth as a filter to further clean the treated wastewater before it reaches the receiving water. This method of waste water disposal also serves to spread the injectate over a wide area, further decreasing environmental impacts.

Underground injection is a safe way to dispose of approved E and P waste fluids and LDNR regulations governing construction and operation of commercial SWDs, as well as The Facility's WMOP, help ensure protection of the environment (*Overview of Exploration and Production Waste Volumes and Waste management Practices in the United States, May 2001 API report*).

**A. Why was this technology chosen (e.g., incineration over landfilling?)**

Other technologies are available, such as landfilling, water treatment, and incineration, but none of the other alternatives are as protective of the environment as deep well injection. Deep well injection is also the most environmentally effective means of disposal of approved E and P waste fluids.

**1. Are other technologies available?**

Other technologies are available, water treatment and discharge, and incineration, but none of the other alternatives are as protective of the environment as deep well injection as an economically viable alternative as noted in the Argonne National Laboratory report noted previously in this appendix.

A 2000 API report (*Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States*) indicates that approximately 92% of approved E and P waste fluids is managed through Class II well injection into subsurface reservoirs, generally considered the safest and most effective method for handling these type fluids. Deep well injection is also noted as the most cost-effective means of disposal of approved E and P waste fluids in the previously referenced Argonne National Laboratory report. Deep well injection is a process of pumping approved E and P waste fluids into a well and injecting into porous, subsurface rock or sand formations bounded by impermeable bounding beds. Deep well injection is the primary method of disposal of

approved E and P waste fluids from oil and gas exploration. *(Statements in this section also supported by a presentation available online at [http://www2.epa.gov/sites/production/files/documents/21\\_McCurdy\\_UIC\\_Disposal\\_508.pdf](http://www2.epa.gov/sites/production/files/documents/21_McCurdy_UIC_Disposal_508.pdf).)* The Operators will often own Class II disposal wells for their operations. There are a number of operator-owned Class II disposal wells in Red River Parish. When these operator-owned Class II disposal wells go down or require workover operations to remediate them, Operators need another means to dispose of approved E and P waste fluids.

Due to the continued development of the Haynesville Shale and Cotton Valley Play, the demand exists for a commercial SWD facility in the area. Only nine (9) active commercial liquid E and P waste disposal facilities and two (2) active E and P waste receiving and storage facilities are operating in the core areas of the Haynesville Shale and Cotton Valley Play. Three (3) of these commercial E & P disposal facilities just became operational this year, two (2) are in Desoto Parish; one facility (Site Code 1609) is operated by Bulldog Oilfield Services, Inc. (B3920) and the second facility (Site Code 1610) is operated by Brumley Investments, LLC (B2920). The other is located in Red River Parish; operated by Pinnergy, LTD (P308). Continued development of these formations will generate significant quantities of produced saltwater. Discussions with industry personnel, familiar with operations in the area, indicate that many of the current facilities available nearby for disposal of approved E and P waste fluids may be approaching disposal capacity. Approved E and P waste fluid from Northwest Louisiana is piped and trucked daily across the state line to Texas, damaging Louisiana roads, risking a spill or release in environmentally sensitive areas, and further justifying the need for this commercial SWD facility.

Deep well injection is one of the most effective and environmentally sound methods for disposal of approved E and P waste fluids. Approved E and P waste fluids generated from oil and gas production is injected in porous formations already containing saltwater. These beds are bounded above and below by confining impermeable beds to prevent the vertical migration of the injected fluids. Injection pressures are limited below the fracture pressure of the rocks, as stated in Policy No. IMD 1999-03.

Approved E and P waste fluids are injected through 4-1/2-in. tubing and a packer, which allows for the first layer of protection of the USDW. The packer is set in the longstring 7-in. casing, at a depth that is equal to or deeper than the cement in the wellbore that is bonded to the first isolating shale formation immediately above the approved injection zone, to ensure the approved E and P waste fluids are migrating via the perforations within the approved injection zone. These pressures are monitored for integrity of the tubing, casing, and packer, so that the well can be shut down immediately in event of failure. This provides the first layer of protection of the USDW.

The second layer of protection of the USDW is the tested 7-in. steel casing and the cement pumped between the 7-in. casing and the 8 3/4-in. open hole all the way to the surface. A cement bond log is then run to provide evidence of proper isolation of the injection interval for the protection of the USDW. Logs are submitted to the Injection and Mining Division for approval prior to injecting the approved E and P waste fluids.

The third layer of protection of the USDW is the 9 5/8-in. steel surface casing. The surface casing is set at a minimum of 100-ft. below the base of the USDW and cemented back to surface. A cement bond log is then run to provide evidence of cement between the outside of the 9 5/8-in. casing and the drilled 12 1/4-in open hole, for protection of the USDW.

The IMD limits injection pressure below the fracture gradients of the confining zones, thereby eliminating the risk of vertical migration of fluids. In addition, an area of review evaluation is performed as part of the application preparation to determine if any artificial penetrations exist, that could potentially allow for approved E and P waste fluids to escape from the permitted formations. There were no artificial penetrations within the area of review for the proposed well locations. The confining zones, shales, multiple strings of tubing, casing, cement, and monitoring of injection pressure ensures that the injected approved E and P waste fluids stay within the permitted formations.

Approved E and P waste fluids or gas plant waste fluids may not be disposed of by land treatment in accordance with LAC 43:XIX.549.C.7.f.

Treatment of approved E and P waste fluids at the surface or waste water treatment is an option, but because of the high chloride content of the produced water, treatment is very costly; and if treatment is not managed and controlled, then impacts to the surface water could occur via the discharge of the treated approved E and P waste fluids.

Evaporation and incineration are other options to dispose of approved E and P waste fluids. Evaporation can cost as much as \$84.00 per barrel, while incineration of E and P waste liquids, which typically does not have high flammability characteristics, can be more expensive. Thermal treatment can range from \$10.50 to \$105.00 per barrel.

*Ref: Technical Assessment of Produced Water Treatment Technologies, 1<sup>st</sup> Ed., RPSEA Project 07122-12, Colorado School of Mines, November 2009.*

**2. Describe the engineering design and operating techniques used to compensate for any site deficiencies.**

The permitting procedures help ensure the integrity of the injection well, including casing and cement protection of the USDW and isolation of the injection interval. Procedures will be in place for monitoring the integrity of the casing strings, tubing strings, and packer. Injection pressures will be monitored and recorded daily to help ensure compliance with the permit. Each of these design and operational parameters and controls help ensure confinement of injected fluids to the authorized injection zone.

Secondary containment will be in place to help ensure containment of approved E and P waste fluids in the event of a spill, release, or rupture. A secondary defense against spills or release is the bermed, sealed/seamless concrete unloading pad, and the sealed/seamless concrete containment area. These areas will be constructed of sealed/seamless concrete with appropriately sized berms to assure appropriate containment in the event of a spill. There will be no

accumulation of fluids within the containment areas under normal operating conditions. Slightly sloped floors of the unloading and containment areas towards automated sump pumps are additional added measures to assure that no accumulation of fluids will occur in these areas. Facility personnel will supervise unloading and disposal operations and discontinue operations if any problems are noted until the problem is resolved. The offloading area will be contained to prevent run-on and run-off, and for containment of minor spills that might occur during offloading procedures. Absorbent pads will be available at the unloading and offloading areas in the event of minor spills.

Once the oil in the 500-barrel fiberglass oil tanks is deemed in condition to be sold, an approved transporter will be notified to pick up the oil. When the transporter arrives on-site he will be directed to the oil load out unloading area on the southwest side of the containment wall by a trained PA Prospect Employee, a sample of the oil will be collected and the water percentage will be determined. If the oil is deemed acceptable, the driver will gauge the tank to determine the volume of oil in the tank. The oil will be transferred from the two (2) 500-barrel oil tanks to the load out line. The load out line has a polypropylene containment around the unloading valve to prevent any spills during the unloading process. The driver will then connect the suction hose to the loading valve in the polypropylene containment. The loading valve will be opened, the tank valve will be opened and the valve at the truck will be opened with the vacuum pump running. The driver will monitor the truck compartment with the site gauge and the tank the driver is pulling from with the gauge line. The onsite personnel for PA Prospect will be monitoring all activities and assisting the driver. Once the tanker is near capacity the driver will slow the vacuum pump down reducing the vacuum being pulled to move oil. The tank valve will be closed then the loading valve in the polyethylene container will be closed. The valve at the truck will be closed and disconnected. A five (5) gallon bucket will be placed beneath the hose and truck connection. The hose will then be disconnected at the loading valve in the polypropylene containment. Any spilled product in the five (5) gallon bucket or the polypropylene containment at the loading valve will be returned to the oil storage tank. Absorbent pads will be in place to absorb any minor amounts of oil that may be spilled.

A Spill Prevention, Control, and Countermeasure Plan will be developed by a Professional Engineer and put in place in the event of a spill or release.

**B. Is the proposed technology an improvement over that presently available?**

The proposed technology is deep well injection of approved E and P waste fluids generated from the oil and gas industry. Improvements are made to the casing design to allow for increased volumes of fluid to be injected with less injection pressure at the surface. Improved separation and increased retention time at the surface will allow for "cleaner" approved E and P waste fluids to be injected that will not have an adverse effect on the formation where the fluid is injected. The injection of oils, sludges, mud, and freshwater often create a swelling effect on the clays in the formations and create impermeable barriers that eventually increase injection pressures. Improved monitoring of the types of fluids accepted, increased separation and retention time at the surface, and the mixing of freshwater with approved E and P waste fluids will help the

operations at The Facility, specifically the injection pressure at the wellhead, to stay within the guidelines of the permit.

**C. Describe the reliability of technology chosen.**

The technology chosen provides an environmentally safe and economical method of disposal of approved E and P waste fluids with little or no harm to human health and the environment.

**1. Past experiences**

Approved E and P waste fluids managed through Class II well injection into subsurface reservoirs is generally considered the safest and most effective method for handling these types of fluids (*Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States, API, May 2000*). The approved E and P waste fluids are injected back in saltwater-bearing formations. Deep well injection has been proven effective in thousands of Class II injections wells across Louisiana. The surface facility designs, multiple casing and cement designs and tubing and packer designs provide multiple layers of protection to the surface environment and the USDW. By injecting the brine, Class II wells prevent surface contamination of soil and water. ([http://dnr.louisiana.gov/assets/OC/im\\_div/uic\\_sec/EPAposterofwells.pdf](http://dnr.louisiana.gov/assets/OC/im_div/uic_sec/EPAposterofwells.pdf))

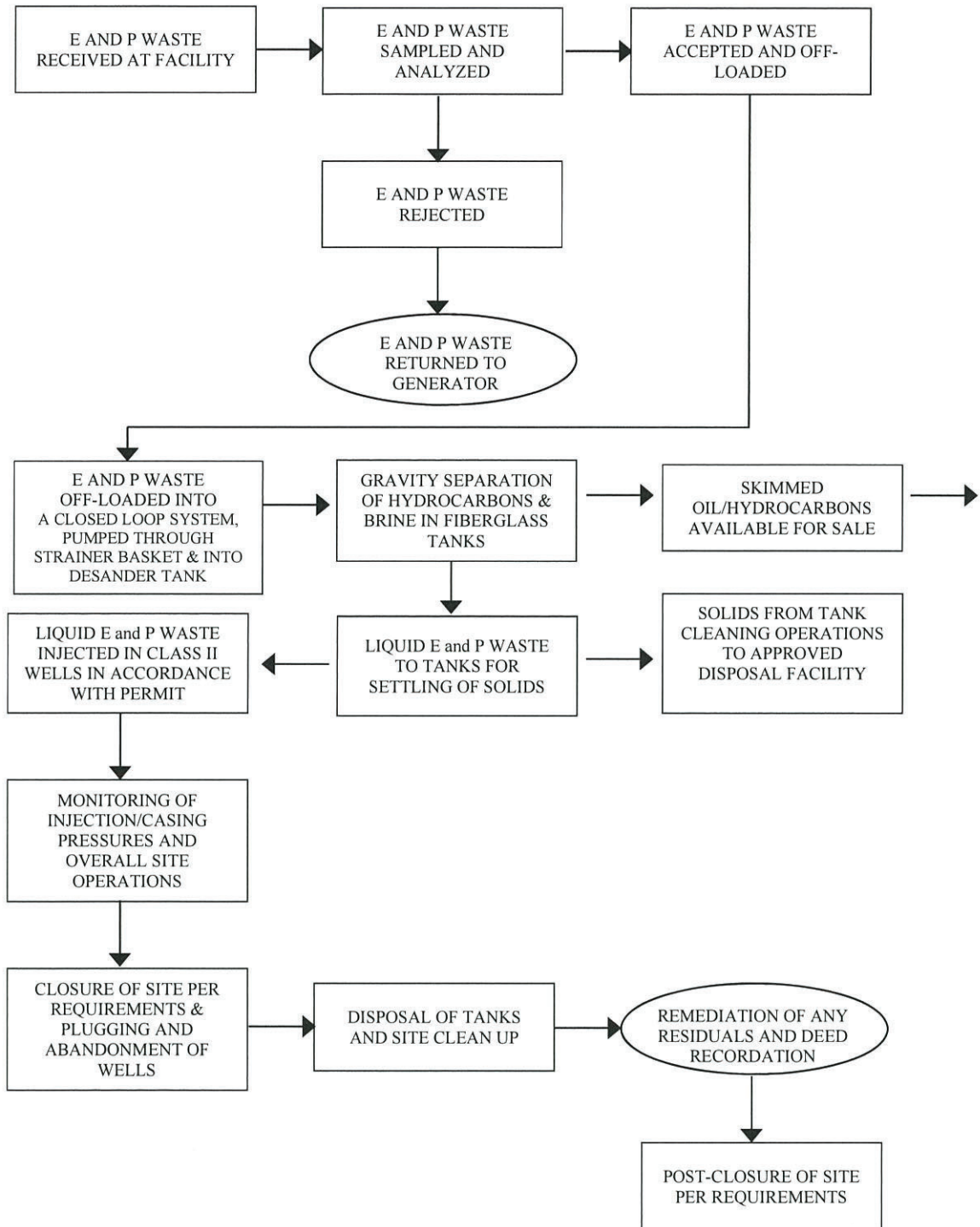
**2. Environmental impacts**

The environmental impacts to the community and the area are minimal to none. The secondary containment, also constructed of sealed/seamless concrete and the sealed/seamless concrete containment areas, will prevent spills, releases, and ruptures of approved E and P waste fluids from entering the environment. The casing, tubing, packer, and cement requirements established by the DNR protect the USDW. The monitoring programs established and issued along with the permit for the proposed facility ensure compliance during operations, and virtually eliminate any possible release to the environment. The socio-environmental benefits of deep well injection over other technologies, such as land farming, landfilling, or surface treatment, include the fact that Class II well injection into subsurface reservoirs is generally considered the safest and most effective method for handling these types of fluids (*Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States, API, May 2000*) and can virtually eliminate any contact or exposure to the communities such as Grand Bayou and Coshatta since environmental impacts are typically identified and remediated promptly. This is based on common industry information and EPA document, EPA816-H-10-001 ([http://dnr.louisiana.gov/assets/OC/im\\_div/uic\\_sec/EPAposterofwells.pdf](http://dnr.louisiana.gov/assets/OC/im_div/uic_sec/EPAposterofwells.pdf)).

**D. Describe the sequence of technology used from arrival of wastes to the end process at The Facility (flow chart).**

See flow chart on the following page.

## PROCESS FOR THE ARRIVAL OF NEW WASTE





**1. Analysis of waste**

Upon the truck arriving at The Facility location, the site operator will take a sample of the fluid and inspect it for percent solids, and analyzed for pH, conductivity, chlorides and consistency with the waste type on the manifest. The E and P waste fluids will either be accepted or refused.

**2. Unloading**

Before unloading, the regulatory required testing will be performed and the reviewed manifest will be completed and given to the transporter. The approved E and P waste fluids will be unloaded from the tanker trucks through a closed loop system via hoses at the unloading rack. These hoses will pump the fluids through a strainer basket, into the inlet manifold, into the desander, and then on to the fiberglass surge tanks, gun barrels, and water tanks for separation.

**3. Storage**

A load of approved "Types" of E and P waste fluids enters The Facility through a security gate and is directed to an 8-in. thick cement unloading slab with 6-in. berms that is sloped towards an integrated concrete sump to prepare for the unloading procedures. After taking a sample of the tank truck's contents, a 4-in. hose will be connected to the tail end of the tank truck to allow the contents to be pumped via centrifugal pumps through a closed loop system to the inlet of one (1) 750-barrel desander tank. The fluids will then be sent through one (1) of three (3) 1,000-barrel fiberglass surge tanks for solids separation and some minimal hydrocarbon separation. The fluids will then be transferred via centrifuge pumps through one (1) of two (2) 1,000-barrel fiberglass gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1,000-barrel surge tanks and siphoned from the gun barrels and transferred to two (2) 500-barrel fiberglass oil tanks. Fluid from the gun barrels is directed to one (1) of two (2) series of two (2) 750-barrel fiberglass saltwater tanks for solids separation and some minimal, additional hydrocarbon separation prior to being disposed of in the approved injection wells. There is spacing left for two (2) additional 750-barrel fiberglass saltwater tanks to be placed in the future if the need arises. Fluid from the four (4) 750-barrel saltwater tanks are then transferred via charging pumps to one (1) of the two (2) H-pumps which will be outside of the tank battery and have a 27'x19'3"x4" containment, then transferred to one (1) of the two (2) approved SWD wells.

The storage area will have a spill containment capacity, in accordance with the requirements of NFPA, EPA and LDEQ. A SPCC Plan, developed and certified by a Professional Engineer will be maintained on-site. Solids generated from the separation process in the tanks will be profiled and disposed at a permitted facility. No solid E and P waste will be stored on site. The Facility Diagram (Attachment 3) depicts the layout of The Facility.

**4. Treatment**

The approved E and P waste fluids are treated physically by gravity methods in the tanks on-site to separate the brine, hydrocarbons and settle solids.

**5. Monitoring**

Trained PA Prospect Corporation employees will be at The Facility during all operating hours and will monitor and assist during unloading operations. When The Facility is not open, the front gate will be locked and the security system activated. Inspections of the tanks and lines will be performed daily. The site will be maintained at all times to prevent approved E and P waste fluids from contacting surface soils and entering the environment. The injection pressures on the injection wells will be monitored and recorded on a daily basis and reported on Form UIC-21. The pressure on the casing/tubing annuluses will be monitored and recorded on a daily basis and reported on Form UIC-21. Unloading operations will be monitored so that appropriate action can be taken to prevent spills.

**6. Closure**

Closure of The Facility will be in accordance with the closure plan included in the permit application. The injection well will be plugged and abandoned according to the Department of Natural Resources requirements. The solids and sludge in the tanks will be sampled, manifested, and properly disposed at an E and P waste facility permitted and approved to handle these materials. The tanks will be cleaned and the metal recycled. The concrete will be removed from the site and recycled. The site will be returned as close as practicable to its original condition. In the event that future events or environmental concerns require closure confirmation samples, the cost of such sampling will be included in subsequent annual closure costs estimates and such samples will be collected to assure compliance and to ensure that remediation efforts are complete.

**7. Post-closure**

After closure of The Facility, inspections will be made to ensure that no contamination remains in place. There should be no reason for any post-closure after the well are properly plugged and abandoned and the site equipment and concrete are removed.

**8. Disposal**

Solids and sludges generated in the bottom of the tanks will be properly profiled (as required) and disposed at an E and P waste disposal facility. The concrete at the offloading area, berms and tank containment area will be removed and properly disposed or recycled.

**9. Any residuals requiring further handling**

Any residual materials will be characterized and properly disposed or recycled.

**E. Will this facility replace an outmoded/worse polluting one?**

No, the proposed facility is a new facility with all new equipment and two (2) new wells to be drilled. It is designed to provide a safe means of disposal of approved E and P waste fluids in accordance with the regulations stated in LAC 43, Chapters 4 & 5.

**F. What consumer products are generating the waste to be disposed? Are there alternative products that would entail less hazardous waste generation?**

Approved E and P activities associated with the production of oil and gas in North Louisiana generate the waste. This waste is a significant byproduct of area oil and gas production which necessitates additional disposal facilities be permitted to properly dispose of this E and P liquid waste product.

**IV. Are there alternative sites that would offer more protection to the environment than the proposed facility site without unduly curtailing non-environmental benefits?****A. Why was this site chosen?**

The primary reasons this site was chosen is because the site meets the criteria, including the environmental criteria, necessary for the construction and operation of injection wells for produced fluids. The more significant criteria this site meets are strategic location to oil and gas production, zoning, proper subsurface geology and surface conditions, avoidance of a floodplain, lack of groundwater contamination, avoidance of wetlands, availability of the site and the LDNR location criteria. The location also reduces the trucking time that is charged to the oil and gas operators that utilize local disposal means as opposed to trucking elsewhere in the state or across state lines, thereby reducing traffic on some Louisiana highways. The location is in a remote area of the parish and will have no adverse effect to the public.

**1. Specific advantages of the site:**

Based on oil & gas data available on the LDNR website SONRIS (Strategic Online Natural Resources Information System), the location of the site will provide a central location for oil and gas operators to properly dispose of approved E and P waste fluids.

The subsurface geology is appropriate for injection of approved E and P waste fluids. The subsurface geology is consistent and without any faulting within a two (2) mile radius.

Based on oil & gas production data available on SONRIS, The proposed injection formation is not productive in the area.

The site provides for avoidance of wetlands and floodplains, according to the Wetlands Study in Appendix G.

The rural area in which the site is located will not adversely affect the public.

The site is near the intersection of two primary roads, U.S. Hwy 84 and LA Hwy 1.

A U. S. highway is adjacent to The Facility. The location is 5 mile east of a major interstate.

There is a fire department within approximately 11.5 miles of The Facility in Coshatta, Louisiana.

The site is not located in a hurricane prone area.

**2. Is the location of the site irrevocable; i.e., would denial of permit based on site preclude the project?**

Denial of the permit based on the site location would prevent the project from being completed.

**3. Were other sites considered and rejected?**

Other sites were evaluated and considered. Each alternative site was evaluated based on the following criteria.

- a. Strategic location near oil and gas operations generating non-hazardous oilfield waste, liquids, as previously defined
- b. Zoning
- c. Land Use
- d. Proper Subsurface Geology and Surface Conditions
- e. Avoidance of Floodplain
- f. Ready Access
- g. Lack of Groundwater Contamination
- h. Greenfield
- i. Wetlands
- j. Infrastructure
- k. Availability
- l. Minimum Size and Configuration
- m. Location criteria of the regulations.

Several criteria were evaluated for each site. Naturally, the location must be strategically located near oil and gas exploration and production activities. An injection well may also only be located where proper subsurface geology and surface conditions exist. Both local zoning and land uses should also suit the intended use. The preferred location avoids wetlands and floodplains or its size and shape allow for avoidance of wetlands and floodplains. The chosen site should be free of groundwater contamination. The site must meet the LDNR location criteria as defined in LAC 43:XIX.507 which states that a site cannot be located as follows:

*(1. within 1/4 mile of a public water supply water well or within 1,000 feet of a private water supply well for facilities permitted after January 1, 2002;*

*2. where type A and B facilities and transfer stations, class II disposal wells, storage containers and E and P waste treatment systems and related equipment are located within 500 feet of a residential, commercial, or public building, church, school or hospital or for any proposed new commercial facility or transfer station where publication of the notice of intent or date of the permit application filed with the Office of Conservation is dated after the promulgation date of this rule, where type A and B facilities and transfer stations, class II disposal wells, storage containers and E and P waste treatment systems and related equipment are located within 1,250 feet of a school, hospital, or public park;)*

It must also include the thickness and aerial extent of the proposed injection zone and adequate clay confining beds, avoidance of floodplains and wetlands, and be a location which does not pose a substantial, adverse threat to public health or safety. To ensure The Facility maximizes trucking use of established roadways, The Facility should have ready access to appropriate highways. All facilities require access to infrastructure as this facility does also. Infrastructure includes water, electrical and roadways. It is preferred to avoid Greenfields though often impossible. In addition, the property must be available. In very recent times, it has been quite difficult to purchase property suitable for injection wells or most uses in North Louisiana given that landowners have received lucrative lease revenues and the fear of losing minerals by prescription if a property is sold. Therefore PA Prospect Corporation had to diligently seek properties that were not on the market to finally locate a suitable site. This is further discussed below. Each of the sites considered are discussed below.

**Site No. 1:** This site is located in Section 41, Township 12 North, Range 10 West, Red River Parish, Louisiana. The site comprises approximately 1.5 acres. Site No. 1 is located on the north side of U.S. Highway 84/LA Highway 371, east of Coushatta, Louisiana.

- a. Strategic location near oil and gas operations generating non-hazardous oilfield waste – liquids as previously defined: The location of the site was acceptable.
- b. Zoning: Rural, no zoning.
- c. Land Use: Rural, agricultural.
- d. Subsurface Geological conditions exist for disposal of approved E and P waste fluids as previously defined.
- e. Avoidance of Floodplain: This site falls with Zone C of the FEMA Flood Zone Map.
- f. Ready Access: Access is available via Louisiana U.S. Highway 84/LA 371.
- g. Lack of Groundwater Contamination: There is believed to be no groundwater contamination at the Site No. 1.
- h. Greenfield: The site is a Greenfield Site, i.e., agricultural land that is undeveloped.
- i. Wetlands: There are no wetlands on the property.
- j. Infrastructure: Infrastructure is available including water, electrical power and a U.S./Louisiana State Highway located in close proximity to Interstate 20.

- k. Availability: The property was available, but due to the size a purchase was not attempted.
- l. Minimum Size and Configuration: The size and configuration of Site No. 1 is not adequate.
- m. Location criteria of regulations: Portions of the site met the location criteria as required in the regulations.

Site No. 1 meets some of the criteria appropriate for the proposed project. The site was considered after reviewing geological characteristics of the area. The site is a Greenfield and contains both wetlands and floodplain. Though this site was not on the market, an effort was made to obtain the property. Ultimately, however, it was determined that the site was too small for a SWD facility. Therefore, the site was determined unsuitable.

**Site No. 2:** This site is located in Section 26 of Township 13 North, Range 11 West of Red River Parish, Louisiana. The site comprises approximately 2.837 acres. Site No. 2 is located on the west side of U.S. Highway 84/LA 1, between Coushatta, Louisiana and Mansfield, Louisiana.

- a. Strategic location near oil and gas operations generating non-hazardous oilfield waste – liquids as previously defined: The location of site was acceptable.
- b. Zoning: Rural, no zoning.
- c. Land Use: Rural, Commercial/Agricultural.
- d. Proper Subsurface Geology and Surface Conditions: Subsurface Geological conditions exist for disposal of E & P waste liquids as previously defined.
- e. Avoidance of Floodplain: This site falls with Zone C of the FEMA Flood Zone Map.
- f. Ready Access: Access via U. S. Highway 84/LA 1.
- g. Lack of Groundwater Contamination: There is believed to be no groundwater contamination at the Site No. 2.
- h. Greenfield: The site is a Greenfield Site, i.e., agricultural land that is undeveloped.
- i. Wetlands: There is a .4 acre scrub-shrub wetland on the northwest side of the adjacent property, which will not be disturbed.
- j. Infrastructure: Infrastructure is available including water, electrical power and U. S. Highway 84/LA 1, located in close proximity to Interstate 49.
- k. Availability: A lease and disposal agreement has not been made with the landowner.
- l. Minimum Size and Configuration: The size and configuration of Site No. 2 are inadequate.
- m. Location criteria of regulations: Site No. 2 met the location criteria as required in the Office of Conservation regulations.

Site No. 2, was considered based on the proven and appropriate subsurface geology and surface conditions, ability to obtain an acceptable lease and disposal agreement with the landowner, and conformity with the Office of Conservation's commercial facility permit regulations and location criteria. In addition, and significantly, though the site lies within a Flood Zone C, it has a scrub-shrub wetland on the northwest side of the adjacent property, and it is surrounded by Flood Zone A. Site No. 2 is protected from Flood Zone A by U.S. Highway

84/LA 1 to the north and east and a Railroad bed to the west providing opportunity to protect and not affect either floodplain or wetlands. This site, like all of the remaining sites is a Greenfield, it contains a commercial building, i.e., an out of business store, which is not pristine in any manner. The site has good infrastructure, including direct access to U. S. Highway 84/LA 1 and is within approximately 6 miles of Interstate 49. Thus, the site has the benefit of good highways suitable for trucking while also being strategically located within an area of high levels of exploration and production. This close proximity of the site to the location of generation of the E&P fluids will equate to fewer truck miles driven, increased safety on the highways and savings in fuel consumption and costs and associated air emissions from the trucks. In addition, though the site is located within an area considered to contain the Red River Alluvial Aquifer, it is not located within a recharge zone. The casing and cement designed for the injection well and required by LDNR combined with the WMOP and LDNR requirements for operations will ensure no impact on the Red River Alluvial Aquifer. Given the protection of the floodplain and wetlands on site, as well as protection of the Red River Alluvial Aquifer, Site No. 2 offers the highest level of protection of the environment. Moreover, given its remote nature, no site offers greater protection of public health and welfare. Although Site No. 2 is a suitable site for the proposed project, it is not owned by PA Prospect Corporation. Ultimately, however, it was determined that the site was too small for a SWD facility. Therefore, the site was determined unsuitable.

**Site No. 3, the Proposed Site:** This site is located in Section 27 of Township 13 North, Range 11 West of Red River Parish, Louisiana. The site comprises approximately 7 acres. Site No.3 is located on the south side of U.S. Highway 84, between Coushatta, Louisiana and Mansfield, Louisiana.

- n. Strategic location near oil and gas operations generating non-hazardous oilfield waste – liquids as previously defined: The location of site was acceptable.
- o. Zoning: Rural, no zoning.
- p. Land Use: Rural, Agricultural.
- q. Proper Subsurface Geology and Surface Conditions: Subsurface Geological conditions exist for disposal of E & P waste liquids as previously defined.
- r. Avoidance of Floodplain: This site falls with Zone A of the FEMA Flood Zone Map.
- s. Ready Access: Access via U. S. Highway 84/LA 1.
- t. Lack of Groundwater Contamination: There is believed to be no groundwater contamination at the Site No. 3.
- u. Greenfield: The site is a Greenfield Site, i.e., agricultural land that is undeveloped.
- v. Wetlands: There are no wetlands on the property.
- w. Infrastructure: Infrastructure is available including water, electrical power, and U. S. Highway 84/LA 1, located in close proximity to Interstate 49.
- x. Availability: A lease and disposal agreement has been made with the landowner.
- y. Minimum Size and Configuration: The size and configuration of Site No. 3 are adequate.
- z. Location criteria of regulations: Site No. 3 met the location criteria as required in the Office of Conservation regulations.

Site No. 3, the proposed site, was selected based on the proven and appropriate subsurface geology and surface conditions, ability to obtain an acceptable lease and disposal agreement with the landowner, and conformity with the Office of Conservation's commercial facility permit regulations and location criteria. In addition, and significantly, though the site lies within a Flood Zone A, it is in an area that base elevations and flood hazards factors have not been determined. If and when flood base elevations are determined, a levee will be built to protect and not affect either floodplain or wetlands. The site has good infrastructure, including direct access to U. S. Highway 84/LA 1 and is within approximately 5 miles of Interstate 49. Thus, the site has the benefit of good highways suitable for trucking while also being strategically located within an area of high levels of exploration and production. This close proximity of the site to the location of generation of the E&P fluids will equate to fewer truck miles driven, increased safety on the highways and savings in fuel consumption and costs and associated air emissions from the trucks. In addition, though the site is located within an area considered to contain the Red River Alluvial Aquifer, it is not located within a recharge zone. The casing and cement designed for the injection well and required by LDNR combined with the WMOP and LDNR requirements for operations will ensure no impact on the Red River Alluvial Aquifer. Given the protection of the floodplain and wetlands on site, as well as protection of the Red River Alluvial Aquifer, Site No. 3 offers the highest level of protection of the environment. Moreover, given its remote nature, no site offers greater protection of public health and welfare. Site No. 3 is the most suitable site for the proposed project and is owned by PA Prospect Corporation.

**B. Is the chosen site in or near environmentally sensitive areas?**

The subject property is not located in or near environmentally sensitive areas.

**1. Wetlands**

An onsite review of the property by a wetlands consultant was done during the fatal flaw process and was found not to have wetlands on the property the facility will be built on. The proposed construction of the commercial saltwater facility and disposal well will not impact any wetlands or pose an adverse impact to the wetlands in the area. The Army Corps of Engineers wetlands determination can be found in Appendix G – Flood Zone and Wetland Location Compliance.

**2. Estuaries**

The proposed facility is not located in an estuary.

**3. Critical habitat**

The proposed facility is not located in an area considered a critical habitat. This is supported by documents from a site assessment and review by Castilaw Environmental Services and the LNHP (Appendix G). The letter Dated December 27, 2018 from the Louisiana Department of Culture, Recreation & Tourism stated that they recommend a Phase 1 Cultural Resources Survey be performed. After talking with them on several occasions it was decided that since



no other permitting is required they will not require us to perform a Phase I Cultural Resources Survey.

**4. Historic or culturally significant areas**

The subject property is not located on property that is considered historic or culturally significant. This is supported by documents from a site assessment and review by Castilaw Environmental Services and the LNHP (Appendix G).

**a. Indian mounds**

There are no Indian mounds on or near the subject site.

**b. Antebellum houses**

There are no antebellum houses near the subject site.

**c. Tourist attractions or facilities (e.g., bed and breakfast inns)**

There are no tourist attractions near the subject property.

**d. Campgrounds or parks**

There are no campgrounds or parks on or near the proposed facility.

**C. What is the zoning and existing land use of the prospective site and nearby area?**

The property is not within the bounds of a zoning authority. And the existing land is used for agriculture.

**1. Is the site located near existing heavy industrial, chemical process or refinery operations?**

There are none, as defined in Appendix D – Location Criteria.

**2. Is there a precedent for chemical contamination near the site or is the soil and water pristine?**

There is no precedent for chemical contamination on or near the site. To the knowledge of the applicant, the soil at the site has no contamination.

**3. Is the area particularly noted for its esthetic beauty?**

The proposed location is in an open field, therefore it is not noted for its esthetic beauty.

**D. Is the site flood prone?**

According to FEMA Flood Maps in Appendix G - CES Wetlands Investigation Report the 7 acre tract is not flood prone, but the location of the permitted facility and the permitted injection well will be located in a Flood Zone A (Areas of 100-year flood: base elevations and flood hazards factors not determined) area. The Permitted Facility Boundary encompasses this 7 acre tract and includes the aboveground storage tanks, office/lab buildings, and injection well.

**1. Is the site in a flood plain?**

Yes. It lies within Flood Zone A (Areas of 100-year flood: base elevations and flood hazards factors not determined)

**a. How current are the maps used to make flood plain determinations?**

Flood plains maps are available from the Federal Emergency Management Agency as recent as 1985.

**b. What is the elevation of the site?**

The elevation of the site ranges from approximately 135 feet to 141 feet above mean sea level.

**c. Is diking required or desired to provide flood protection?**

No diking will be required for flood protection.

- a. What is the design height of the dike?** N/A
- b. How is the dike protected from erosion?** N/A
- c. What frequency and design storm was used?** N/A
- d. Is the access to the site over or through dikes?** N/A

**2. Is the site hurricane vulnerable?**

The proposed site is located in North Louisiana and is not vulnerable to strong hurricanes as facilities closer to the gulf coast are.

- a. Is the site in an area subject to storm surge?** No
- b. What are the design storm specifications?** Weather conditions, such as wind and rain, were taken into account when designing the facility, as thunderstorms are common in the area. The tanks used in the facility will be constructed of fiberglass or steel, placed in a sealed/seamless concrete containment area and tanks that are wider than they are tall will be at least half filled with fluid and tanks that are taller than they are wide will be anchored with guide wires to minimize wind effects during storms.
- c. Should damage from wave action be considered?** No
- d. For what levels of wind speed is the facility designed?** 100 mph – This is the wind speed that offshore/onshore production facilities are designed

for utilizing the above method of keeping tanks at least half filled with fluid and anchoring tanks that are taller than they are wide.

**E. Is groundwater protected?**

Groundwater will be protected by the 6-in. drive over berms around the four sides of the concrete unloading pad, which is constructed of sealed/seamless concrete. The 4-ft. tank containment wall will be constructed of sealed/seamless concrete and will have a spill capacity of approximately 13,000 barrels within containment. The floor of the tank containment area will be constructed of sealed/seamless concrete and is sloped slightly towards the integrated concrete trough in the center of the containment floor which flows to a sump to collect any rainwater or spilled E and P waste liquids. Liquids collected in the sump are transferred to the inlet manifold and commingled with other approved E and P waste. Groundwater will also be protected by steel 9 5/8-in. surface casing set at a minimum of 100-ft. below the base of the USDW and cemented back to surface. A cement bond log will be run to verify cement behind the 9 5/8-in. surface casing. The steel 7-in. longstring casing will be set to total depth of the well and will be cemented back to the surface. A cement bond log will be run to verify cement bonding isolating the USDW from the injection zones. Inside the longstring casing will be an injection string which will be steel 4-1/2-in. tubing. The tubing will be set with a packer just above the injection zone. The tubing and the packer guarantees the injected fluids are going out only into the permitted zone or perforations. All of the casing strings mentioned ensures the protection of the USDW. Once the oil in the 500-barrel fiberglass oil tanks is deemed in condition to be sold, an approved transporter will be notified to pick up the oil. When the transporter arrives on-site he will be directed to the oil load out unloading area on the southwest side of the containment wall by a trained PA Prospect Employee, a sample of the oil will be collected and the water percentage will be determined. If the oil is deemed acceptable, the driver will gauge the tank to determine the volume of oil in the tank. The oil will be transferred from the two (2) 500-barrel oil tanks to the load out line. The load out line has a polypropylene containment around the unloading valve to prevent any spills during the unloading process. The driver will then connect the suction hose to the loading valve in the polypropylene containment. The loading valve will be opened, the tank valve will be opened and the valve at the truck will be opened with the vacuum pump running. The driver will monitor the truck compartment with the site gauge and the tank the driver is pulling from with the gauge line. The onsite personnel for PA Prospect will be monitoring all activities and assisting the driver. Once the tanker is near capacity the driver will slow the vacuum pump down reducing the vacuum being pulled to move oil. The tank valve will be closed then the loading valve in the polyethylene container will be closed. The valve at the truck will be closed and disconnected. A five (5) gallon bucket will be placed beneath the hose and truck connection. The hose will then be disconnected at the loading valve in the polypropylene containment. Any spilled product in the five (5) gallon bucket or the polypropylene containment at the loading valve will be returned to the oil storage tank. Absorbent pads will be in place to absorb any minor amounts of oil that may be spilled. Injection pressures will be below fracture pressure of the injection zone and confining zones to prevent vertical migration of injected fluids; each of these factors, along with the WMOP, help to ensure protection of the Red River Alluvial Aquifer formation.

**1. Are aquifers or recharge areas underlying the site used for drinking water?**

There are aquifers/recharge areas underlying the site that are used for drinking water. The Red River Alluvial Aquifer underlies the site and is the primary source of drinking water in the immediate area. The Red River Alluvial Aquifer is found below the Natural Levees that lie within the Red River Valley, which is where the proposed site is located. Surface sealed/seamless concrete containment of the tank area will help protect the Red River Alluvial Aquifer from coming in contact with approved E and P waste fluids. Steel casing and cement, as described above, will help protect the approved E and P waste fluids from coming in contact with underground sources of drinking water. Sealed/seamless concrete containment walls, berms, and floors around tanks and offloading areas will help prevent the E and P waste from coming in contact with surface soils.

**2. What is the relationship of the site to the water table?**

Shallower, perched groundwater aquifers are encountered from 4 to 6 feet below ground surface (*USDA, Soil Survey of Red River Parish, pg 13, Caspiana Soils*). The first major aquifer is the Red River Alluvial Aquifer and is encountered at approximately 56 feet below ground surface and other aquifers extend to the base of the USDW (Wilcox Aquifer) at approximately 245 feet (Oil/Gas Well Serial No. 73726) below ground surface (review of DNR water well records and logs through the USDW).

**3. What wells exist in the area?**

There are no active freshwater wells within 1,000-ft. of The Proposed Facility.

**4. What is the flow rate and direction of the groundwater flow?**

The direction of groundwater flow generally follows topography, which would be to the west-southwest. The estimated average groundwater velocity (Flow Rate) for the Red River Alluvial Aquifer is 185.3 ft./yr., According to <https://www.deq.louisiana.gov/assets/docs/Water/SWAPdocument.pdf>.

**5. What is the groundwater quality in the underlying aquifers?**

The groundwater quality in the shallow aquifers is unknown. The water quality in the first drinking water aquifer (Red River Alluvial Aquifer) is generally considered good for irrigation in a nearby sampled unregistered well. The first good Red River Alluvial Aquifer sand is located approximately 50-56 ft. below ground surface with the Base of the USDW (Wilcox Aquifer) at approximately 245 feet (Oil/Gas Well Serial No. 73726) below ground surface in the immediate area. The Red River Alluvial Aquifer typically contains higher than normal levels of TDS, mainly due to iron content. (Review of area freshwater well data from USGS & DNR).

**6. Is there a hydraulic connection between the aquifers?**

Yes, the Red River Alluvial aquifer is hydraulically connected with the shallow perched groundwater aquifers and the Red River and its major streams. Recharge

is accomplished by direct infiltration of rainfall in the river valley, lateral and upward movement of water from adjacent and underlying aquifers (Upland Terrace and Wilcox aquifers), and overbank stream flooding.

[https://deq.louisiana.gov/assets/docs/Water/Triennial\\_reports/AquiferSummaries\\_2004-2006/03RedRiverAlluvialAquiferSummary06.pdf](https://deq.louisiana.gov/assets/docs/Water/Triennial_reports/AquiferSummaries_2004-2006/03RedRiverAlluvialAquiferSummary06.pdf)

According to the USGS, there is a hydraulic connection between the Upland Terrace water-bearing zones and the Wilcox Aquifer.

**F. Does the prospective site pose potential health risks as defined by proximity to:**

No. The proposed site does not pose a potential health risk as defined by proximity to:

**1. Prime agricultural area (crop or pasture land)**

The proposed location is currently used for agricultural purposes.

**2. Residential area**

The nearest residence to the subject facility is +/-2197 feet northeast of the northeast corner of the facility boundary. The nearest community is Grand Bayou, Louisiana, where the proposed facility is located.

**3. Schools or daycare centers**

There are no schools or daycare centers located within 1 mile of the subject facility. There are no known health risks posed to schools or daycare centers.

**4. Hospitals or prisons**

There are no hospitals or prisons located within 1 mile of the subject facility. There are no known health risks posed to hospitals or prisons.

**5. Public buildings or entertainment facilities**

There are no public buildings or entertainment facilities located within 500-ft. of the subject facility. There are no known health risks posed to public buildings or entertainment facilities. Oil and gas production facilities posing a far greater hazard are located within a shorter distance than the proposed commercial SWD facility.

**6. Food storage area**

There are no food storage areas located within 1-mile of the subject facility. There are no known health risks posed to food storage areas.

**7. Existing community health problems that may be aggravated by operation of additional hazardous waste disposal capacity**

There are no known existing community health problems that may be intensified by the operation of the proposed facility. This facility will not handle hazardous waste and no emissions or discharges are anticipated to occur from this facility into the environment, with the exception of an insignificant amount of emissions that may be released through the vent lines to the tanks. Air emission quantities were calculated based on the proposed tankage and the anticipated maximum throughput of the facility, indicating that such emissions will exceed the threshold that DEQ requires for a permit. Therefore a minor source air permit from LDEQ was applied for and obtained. See Appendix P for LDEQ Air Permit Number.

**G. Is air quality protected?**

This facility handles approved E and P waste fluids through a closed loop system. There is no potential exposure through the air pathway other than the vent lines on the oil/condensate storage tanks, the separation tanks, and the temporary storage of solids in rolloff containers on the concrete pad during periodic tank cleaning operations. Based on air emissions estimates that have been calculated for this facility the anticipated operations will require a Minor Source Oil and Gas General Air permit to be obtained from LDEQ, this permit was obtained in August 2019. See Appendix P for LDEQ Air Permit Number. Anticipated operations will emit more than 5 tons per year Volatile Organic Compounds (VOCs) exceeding an LDEQ minimum emission rate or a de minimis rate established pursuant to the Clean Air Act.

**1. Is the site within an ozone or non-attainment area?**

No. Red River Parish has been determined to be an attainment parish by LDEQ. <https://www.epa.gov/sites/production/files/2016-11/documents/la-rec.pdf>

**2. What contaminants are likely to be generated at the site?**

Common emissions occurring from venting storage tanks are minimal amounts of VOCs.

**3. What protection is afforded from each contaminant generated by the site?**

Other than the LDEQ Minor Source Air Permit, there will be no protection necessary based on the calculated emissions rates.

**4. What is the potential for unregulated emissions?**

There is no potential for unregulated emissions.

**5. What plans are implemented to provide for odor control?**

There is no need for odor control at the proposed facility based on the calculated emissions projected from the proposed facility. If odor becomes an issue or if applicable air regulations change, necessary steps will be taken to stay within compliance of applicable rules and regulations. Please refer to Appendix P to see the Minor Source Air Permit No.: 2420-00657-00 and calculations.

**6. Who will be affected by emissions?**

There will be no one affected by the emissions due to the rural location of The Facility.

**a. What is the direction of the prevailing winds?**

The direction of the prevailing winds varies throughout the year, but is generally southerly. This Information can be found at the following site [https://www.ncdc.noaa.gov/climate normals/clim60/states/Clim\\_LA\\_01.pdf](https://www.ncdc.noaa.gov/climate normals/clim60/states/Clim_LA_01.pdf)

**b. Describe the expected frequency of "bad air" conditions.**

There should be no "bad air" conditions caused from the operation of this facility. See statement above on page 46 (IV.G.5).

**7. Describe the control of vapors at various stage of process.**

Control of vapors is provided by keeping tanks closed. There should be no need for the control of vapors generated from this facility. This facility will operate a closed loop system (with the exception of vent lines on the tanks). Vent lines will exceed twenty feet above ground surface and will extend outside the tank containment walls.

**H. Have physical site characteristics been studied; what has been done in terms of a geotechnical investigation?**

There has been no geotechnical investigation at the subject property since there will be no land treatment of E and P waste at the proposed facility.

**1. Site geology**

The Site consists of rural pasture land currently being utilized for agricultural purposes. The Site is characterized by subtle hills and gently rolling topography. According to the USGS Topographic Map, Harmon Quadrangle (Figure 3) and a review of the available LiDAR data, the elevation of the Site ranges from approximately 135 feet to 141 feet above mean sea level. The Site is bordered to the north by U. S. Highway 84, to the east by Jenkins Lease Road, and to the west by the Boggy Bayou.

**2. Hydrology**

Natural surface drainage is generally to the west-southwest on the subject property. Boggy Bayou drains to the south on the west of the subject site. Local groundwater flow in the area of the site appears to follow surface topography primarily toward the west-southwest. Water levels are generally within 30 to 40 feet of the land surface and movement is downgradient and toward rivers and streams. Natural discharge occurs by seepage of water into the Red River and its streams, but some

water moves into the aquifer when stream stages are above aquifer water levels. (LDEQ, *Red River Alluvial Aquifer Summary, Baseline Monitoring Program, FY 2004, Appendix 3 of the triennial Summary report, 2006*)

### 3. Topography

According to the USGS Topographic Map, and a review of the available LiDAR data, the elevation of the Site ranges from approximately 135 feet to approximately 141 feet above mean sea level. The southwest corner of the site slopes southwest. Storm water run-off drains to unnamed tributaries to the south, southwest, and northwest.

### 4. Soil

According to the published NRCS Soil Survey data for Red River Parish, the soils mapped on the Site are of the Caspiana series. The Caspiana series Cn – silty clay loam – less than 1 percent slopes are present.

The soils on these uplands are identified as the Caspiana Series. The Caspiana series consists of well drained, moderately permeable soils that are loamy throughout. These soils formed in loamy alluvium sediment. These soils are on older natural levees on the Red River alluvial plain. Slopes are less than 1 percent.

#### TAXONOMIC CLASS:

Caspiana Series – Fine-silty, mixed, thermic, Typic Argiudolls, Mollisols.

According to the U. S. Department of Agriculture Natural Resources Conservation Service website (<http://websoilsurvey.nrcs.usda.gov/>, access date 11/20/2018, the underlying soils at the proposed facility consist of the Caspiana silty clay loam (Cn). The Caspiana (Cn) series have slopes of less than 1 percent.

Caspiana (Cn) silty clay loam, 0-1 percent slope. The Caspiana (Cn) component makes up approximately 100 percent of the PA Prospect Corporation property boundary and the majority of the well pad boundary. This component is found on older natural levees and has slopes that are typically less than 1 percent. Depth to a root restrictive layer is greater than 80 inches. The natural drainage class is well drained with moderately high to high water movement in the most restrictive layers. Available water storage in profile is high, about 11.1 inches. This soil is not flooded nor is it ponded. This soil does not meet hydric criteria.

### 5. Aquifer Location

The Red River Alluvial Aquifer underlies the site and is the main groundwater aquifer in the immediate area around the proposed facility according to LDNR - GIS Aquifer Information. Within a 2 mile radius of the proposed facility there are 28 water wells registered with LDNR. Of these 28 water wells, 21 are listed as being completed within the Red River Alluvial Aquifer, 1 is listed as being completed in the Wilcox Aquifer, 3 are listed as Aquifer To Be Determined



(Depths correlate to the Red River Alluvial Aquifer), and 2 are listed as No Well Made. According to LDNR water well information the wells completed within the Red River Alluvial Aquifer have Well Depths ranging from 32 feet to 100 feet. Of the 21 water wells listed as being completed within the Red River Alluvial Aquifer 9 are active water wells, 6 are plugged and abandoned, 5 are inactive, and 2 are destroyed. The first major drinking water zone is encountered at approximately 60 feet below ground surface (Water Well No. 081-5799Z) in the immediate area and multiple sands can be found to the base of the USDW (Wilcox Aquifer) at approximately 245 feet (Oil/Gas Well Serial No. 73726) below ground surface in the immediate area. Other shallow perched groundwater aquifers may exist above the Red River Alluvial sands. A seasonal high water table is typically below a depth of 6 feet, but in places it is at a depth of 4 to 6 feet from December to April (*USDA, Soil Survey of Red River Parish, pg 13, Caspiana Series Soils*) (*Review of electrical logs in the area, DNR groundwater information & USGS groundwater information*). The bermed seamless/sealed concrete unloading area and seamless/sealed concrete containment wall and floor will protect the surface soils and shallow groundwater aquifers from spills and releases of saltwater. Surface casing and cement, longstring casing and cement and the injection tubing and packer will protect the Red River Alluvial Aquifer.

**6. Subsidence problems**

There is no known surface evidence or historical evidence of subsidence problems in this area (web search review of historical data from authenticated sources).

**7. Climatic conditions**

Climatic conditions include annual average air temperature of 66 degrees Fahrenheit. The average annual precipitation is 52.5 in. (U.S. Climate Data, 2017). <https://www.usclimatedata.com/climate/shreveport/louisiana/united-states/usla0426>

**V. Are there mitigating measures that would offer more protection to the environment than the facility as proposed without unduly curtailing non environmental benefits?**

No. There are no mitigating measures that would offer more protection to the environment than The Facility as proposed without unduly curtailing non environmental benefits.

**A. Is this facility part of a master plan to provide waste management? Whose plan?**

The Facility is part of a master plan or objective by PA Prospect Corporation to provide environmental services to the oil and gas industry in Northwest Louisiana. PA Prospect Corporation will invest over three (3) million dollars in permitting, equipment, land acquisition, tanks and pumps, facility construction and drilling and completion of injection well in order to inject approved E and P waste fluids at this site. Licenses are being obtained to operate the equipment. In order to meet the needs of the oil and gas operators in North Louisiana, the proposed site was selected to provide an environmentally safe means of disposal of approved E and P waste fluids. The proposed

facility will provide an economical alternative that will not adversely impact the environment. The proposed facility will provide a cost saving alternative to oil and gas operators and reduce traffic of Louisiana highways.

PA Prospect Corporation developed this plan and is pursuing the permit for this facility to continue the plan.

**1. How does it fit into the plan?**

The proposed injection wells and associated facility is a portion of the plan. This facility compliments trucking operations, and provides the oil and gas operators a one-stop location for disposal of approved E and P waste fluids.

**2. What geographical area is served by the plan?**

The Facility will serve the oil and gas production region in North Louisiana, specifically the parishes shown within the Anticipated Market Range on pages 18-20. At this time it is not anticipated that any waste will be received from outside of the market range. Circumstances in which the E & P waste fluids would come from outside of the anticipated market range would be if an in-state or out-of-state Commercial Facility was shut down or unable to receive waste and this facility was the only one open to receive waste. In this case it is anticipated that 98% of E&P Waste will come from within the Anticipated Market Range and 2% will come from outside of the Anticipated Market Range. If approved, and E and P waste fluids are received from out-of-state generators, the Manifest system shall be followed in accordance with LAC 43:XIX.545.

**B. Does this facility fit into an integrated waste management system? (reduction, recovery, recycling, sales tax, exchange, storage, treatment, disposal).**

The Facility is considered a disposal facility by deep well injection.

**1. On-site**

The deep well injection will occur on-site at the proposed location. There will be no off-site disposal, except when tanks are cleaned and solid E and P waste is generated.

**2. Regional**

The Facility will serve the oil and gas operators in Northwest Louisiana.

**C. Can E and P Waste fluids be disposed by some other means?**

The waste can be disposed of in other methods. A 2000 API report on the Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States indicates that Class II well injection is generally considered the safest and most effective method for handling these types of fluids.

**1. Technology limitations**

The E and P waste fluids accepted at this facility will be limited to approved E and P waste fluids associated with the drilling and production of oil and gas. These liquids will be primarily produced saltwater and pit fluids. Fluids with high contents of solids, such as drilling mud and tank bottoms, cannot be accepted at this facility.

**2. Cost factors**

Deep well injection is one of the most economical methods of disposal of approved E and P waste fluids (*Argonne National Laboratory/USDOE Report: Offsite Commercial Disposal of Oil and Gas Exploration and Production Waste: Availability, Options, and costs, 2006*). Other methods would not be cost-effective for oil and gas operators, and eventually would not allow a certain portion of the oil and gas reserves to be economically produced.

**3. Other reasons**

Class II well injection into subsurface reservoirs, is generally considered the safest and most effective method for handling these type fluids" (*Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States, May 2000 API report, section 2.4.2.*). In actuality, produced saltwater is being injected in a saltwater-bearing formation, and not adversely impacting the environment.

**D. What quality assurance control will be utilized to protect the environment?**

**1. Plans for lab work**

A sample of each load of approved E and P waste fluids will be inspected for percent solids and analyzed prior to acceptance. The sample will be analyzed for pH, conductivity, and chloride.

**2. How are out-of-spec E and P waste fluids handled?**

Out-of-spec E and P waste fluids will be rejected.

**3. What happens to rejected E and P waste fluids?**

The rejected E and P waste fluids are the responsibility of the owner or generator. However, PA Prospect Corporation will follow the rejection regulations on documentation and notification according to LAC Title 43, Part XIX, Subpart 1, Chapter 5 Statewide Order 29-B. Should the facility refuse to accept a load of unauthorized E and P waste fluids, the Office of Conservation shall be notified immediately by electronic submission with the completed Form UIC-26, the manifest that accompanied the shipment, and identification of the generator and transporter of the shipment.

**4. Treatment stabilization**

The only stabilization expected at this facility will be of the settled solids periodically cleaned from the settling tanks of The Facility. These solids will be profiled, manifested and transported to a facility permitted and approved to accept this type of waste.

**5. Segregation of non-compatible E and P waste fluids**

There will be no non-compatible E and P waste fluids accepted at the proposed facility.

**6. Handling of containerized wastes**

There will be no containerized E and P waste fluids handled at this facility.

**E. Innovative techniques used to control release of E and P waste fluids or waste constituents into the environment.**

The entire facility will be constructed with concrete pads, with concrete walls providing containment in the unloading and tank battery areas of The Facility and will prevent releases to the environment. Unloading takes place directly from the incoming trucks through a closed loop system to the tanks. All tanks, piping, pumps, well, and other related equipment will be checked daily for leaks and corrosion.

**1. Surface impoundment**

There will be no surface impoundments at this facility.

**2. Land application treatment**

There will be no land treatment at the subject facility.

**3. Landfill (burial)**

There will be no burial or landfilling of E and P waste at the subject facility.

**4. Incinerator**

There will be no incineration of materials at the subject facility.

**5. Container storage**

There will be no means of container storage at the subject facility.

**6. Tanks**

The approved E and P waste fluids will be offloaded from the trucks using a 4-in. flexible hose that is connected to the tail end of the tank truck to allow the

contents to be pumped by centrifugal pumps through screen baskets to a manifold where it is directed through the inlet of one (1) 750-barrel desander tank. The fluids will then be sent through one (1) of three (3) 1,000-barrel fiberglass surge tanks for solids separation and some minimal hydrocarbon separation. The fluids will then be transferred via centrifuge pumps through one (1) of two (2) 1,000-barrel fiberglass gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1,000-barrel surge tanks and siphoned from the gun barrels and transferred to two (2) 500-barrel fiberglass oil tanks. Fluid from the gun barrels is directed to one (1) of two (2) series of two (2) 750-barrel fiberglass saltwater tanks for solids separation and some minimal, additional hydrocarbon separation prior to being disposed of in the approved injection wells. There is spacing left for two (2) additional 750-barrel fiberglass saltwater tanks to be placed in the future if the need arises. Fluid from the four (4) 750-barrel saltwater tanks are then transferred via charging pumps to one (1) of the two (2) H-pumps which will be outside of the tank battery and have a 27'x19'3"x4" containment, then transferred to one (1) of the two (2) approved SWD wells. The tanks storage area will have a spill containment capacity exceeding requirements and guidelines of the NFPA, EPA and LDEQ. A SPCC Plan, developed and certified by a Professional Engineer will be maintained on-site. Solids generated from the separation process in the settling and cleaning tanks will be profiled and disposed at a permitted facility.

# Commercial Salt Water Disposal Facility

## Traffic Impact Analysis

NSI Project Number 15699

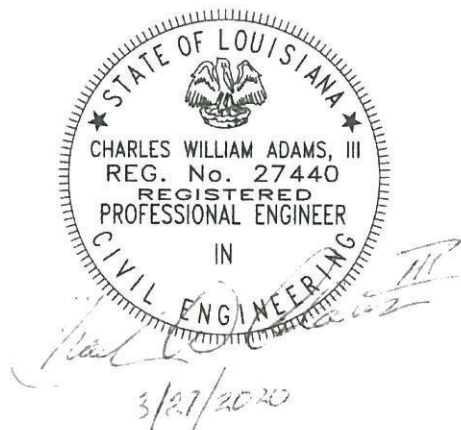
Red River Parish

Louisiana



Prepared for

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**March 2020**

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## *Executive Summary*

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PA Prospect Corporation is proposing to construct a new commercial saltwater disposal facility along the south side of US 84 approximately 0.43 miles west of LA 1 in Grand Bayou Louisiana. It is estimated that the proposed facility will handle approximately 25,000 barrels of waste fluid per day equating to approximately 192 trucks a day.

The analyses performed in this study indicate that the new saltwater disposal facility will have a minimal impact on the surrounding transportation network. In addition, no turn lanes were found to be warranted along US 84 and studies showed there to be adequate sight distance to and from the proposed entrance road. Therefore, no improvements are warranted for this development.



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## Introduction

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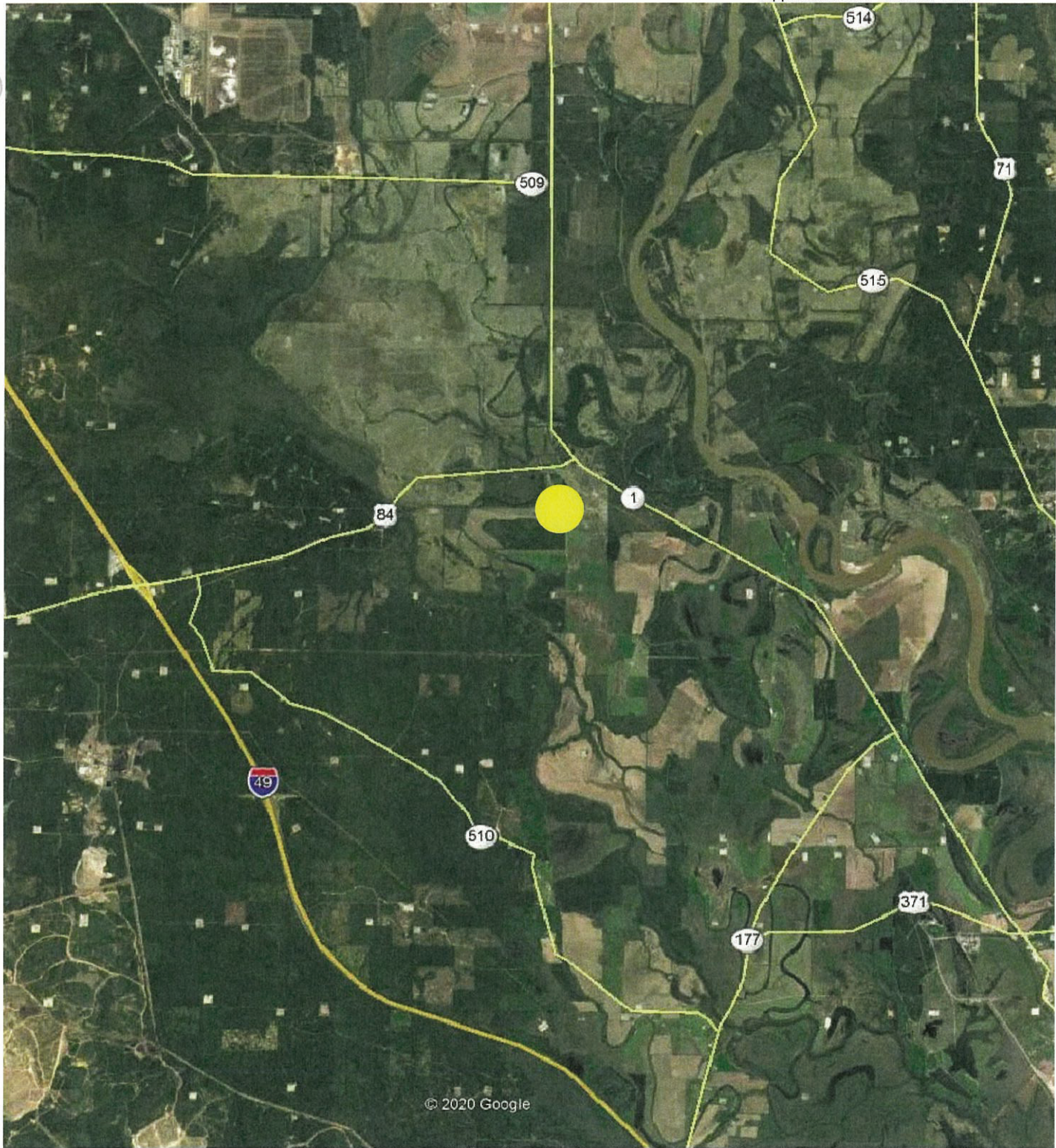
PA Prospect Corporation is proposing to construct a new commercial saltwater disposal facility along the south side of US 84 approximately 0.43 miles west of LA 1 in Grand Bayou Louisiana. A vicinity map of the surrounding area is shown in **Figure 1**.

The purpose of this study is to evaluate the impact of the new facility on the flow of traffic along US 84 and LA 1.

### **Methodology**

The analyses performed include the following elements:

- Collect 48-hour volumes along US 84 and LA 1.
- Perform sight distance studies at the proposed intersection.
- Generate future trips for the proposed saltwater disposal facility were calculated based on truck size and expected operating capacity.
- Distribute generated volumes along US 84 and LA 1.
- Determined the capacity and Levels of Service (LOS) of unsignalized intersections using the *HCS7 Software*.
- Determined right and left turn lane requirements along US 84 at the proposed entrance in accordance with *NCHRP Report 457*.



VICINITY MAP  
Saltwater Disposal Well

LEGEND  
● SITE LOCATION

FIGURE 1

RED RIVER PARISH

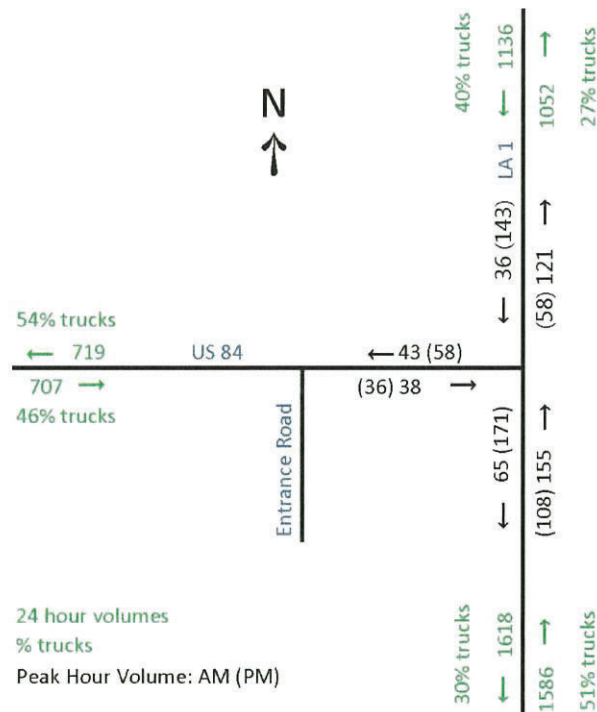
## Existing Conditions and Traffic Volumes

The entrance road to the saltwater disposal facility will be located along US 84 approximately 0.43 miles west of LA 1. US 84 is a two-lane asphaltic roadway extending generally east and west with a posted speed limit of 55 mph. LA 1 is a two-lane asphaltic roadway extending generally north and south with a posted speed limit of 55 mph.

The intersection of US 84 and LA 1 is a three-legged intersection with stop control on the US 84 approach. The intersection is supplemented by a flashing beacon which flashes yellow to the LA 1 approaches and red to the US 84 approach.

Intersection sight distance was checked from the entrance road at US 84 and from US 84 at LA 1 on March 18, 2020. First the sight distance was measured from a point located 10' from the edge line of US 84 from the entrance road. From this location, looking west the sight distance was observed to be in excess of 1,200'. Looking east, the sight distance was observed to be in excess of 800'. Sight distance was then measured from a point located 10' from the edge line of LA 1. From this location, looking north the sight distance was observed to be in excess of 2,000' and looking south the sight distance was observed to be in excess of 1,600'.

48-hour classification counts were collected along US 84 and LA 1 between March 17-18, 2020. Based on these counts, it was determined that the peak hours occur between 6-7 am and 3:30-4:30 pm. The existing 24 hour volumes and peak hour volumes are shown in **Figure 2**.



**Figure 2: Existing Volumes**

## Future Volumes

Projected truck traffic generated by this development was determined using a maximum daily production rate of 25,000 barrels and a typical truck size of 130 barrels. A summary is provided in Table 1.

**Table 1: Projected Number of Trucks Per Day**

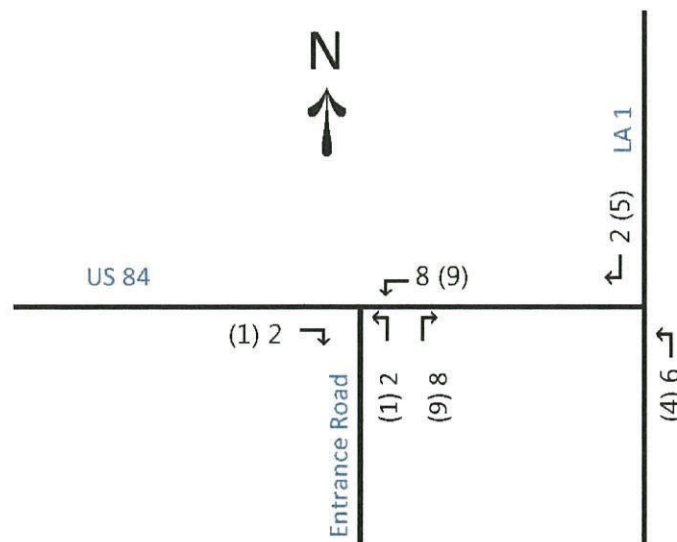
Anticipated Land Use	Estimated Units
Commercial Saltwater Disposal Facility	192

It is assumed that the facility will accommodate a maximum of 192 trucks a day. While the facility will be open 24 hours a day, it is assumed that the trucks will arrive within a 20-hour period; therefore, a rate of 10 trucks per hour will be used for the peak hour calculation. A summary of the generated peak hour trips is shown in Table 2.

**Table 2: Peak Hour Trip Generation**

Phase	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
Phase 1	10	10	10	10

Utilizing the existing volumes from Figure 2, peak hour distributions were developed for the proposed saltwater disposal facility. The projected peak hour volumes are shown in **Figure 3**.



Generated Peak Hour Volume: AM (PM)

**Figure 3: Generated Peak Hour Volumes**

## Analyses

### Turn Lane Analyses

Utilizing the existing plus generated volumes for the proposed facility, left and right turn lane warrant analyses were performed for US 84 at the proposed entrance road. The turn-lane warrants analyses were performed using the National Cooperative Highway Research Program (NCHRP) Report Number 457 entitled "Evaluating Intersection Improvements." The results indicate that turn lanes are not warranted along US 84.

### Un-signalized Analyses

The two way stop control analyses were then performed for US 84 and the entrance road and US 84 at LA 1 using the HCS7 software. A summary of the analyses is shown in Tables 3 and 4 with detailed results in the Appendix.

**Table 3: US 84 at Entrance Road**

Hour	Scenario	WBL Approach		NB Approach	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
AM Peak	build	A	8.3	A	9.8
PM Peak	build	A	8.3	A	9.7

The results show that the new intersection of US 84 at the entrance road will perform at an acceptable level-of-service.

**Table 4: US 84 at LA 1**

Hour	Scenario	EBL Approach		NBL Approach	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
AM Peak	Existing	A	9.3	A	7.8
	Build	A	9.6	A	7.9
PM Peak	Existing	B	10.2	A	8.2
	Build	B	10.7	A	8.3

The results show that the proposed development will have a negligible impact on the intersection of US 84 and LA 1.

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## *Conclusions*

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The analyses performed in this study indicate that the proposed commercial saltwater disposal facility located off US 84 in Grand Bayou will not have a significant impact on the flow of traffic along US 84 or LA 1. The analyses further revealed that turn lanes are not warranted along US 84 and that there is plenty of sight distance to and from the proposed entrance road along US 84.

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*Appendix*

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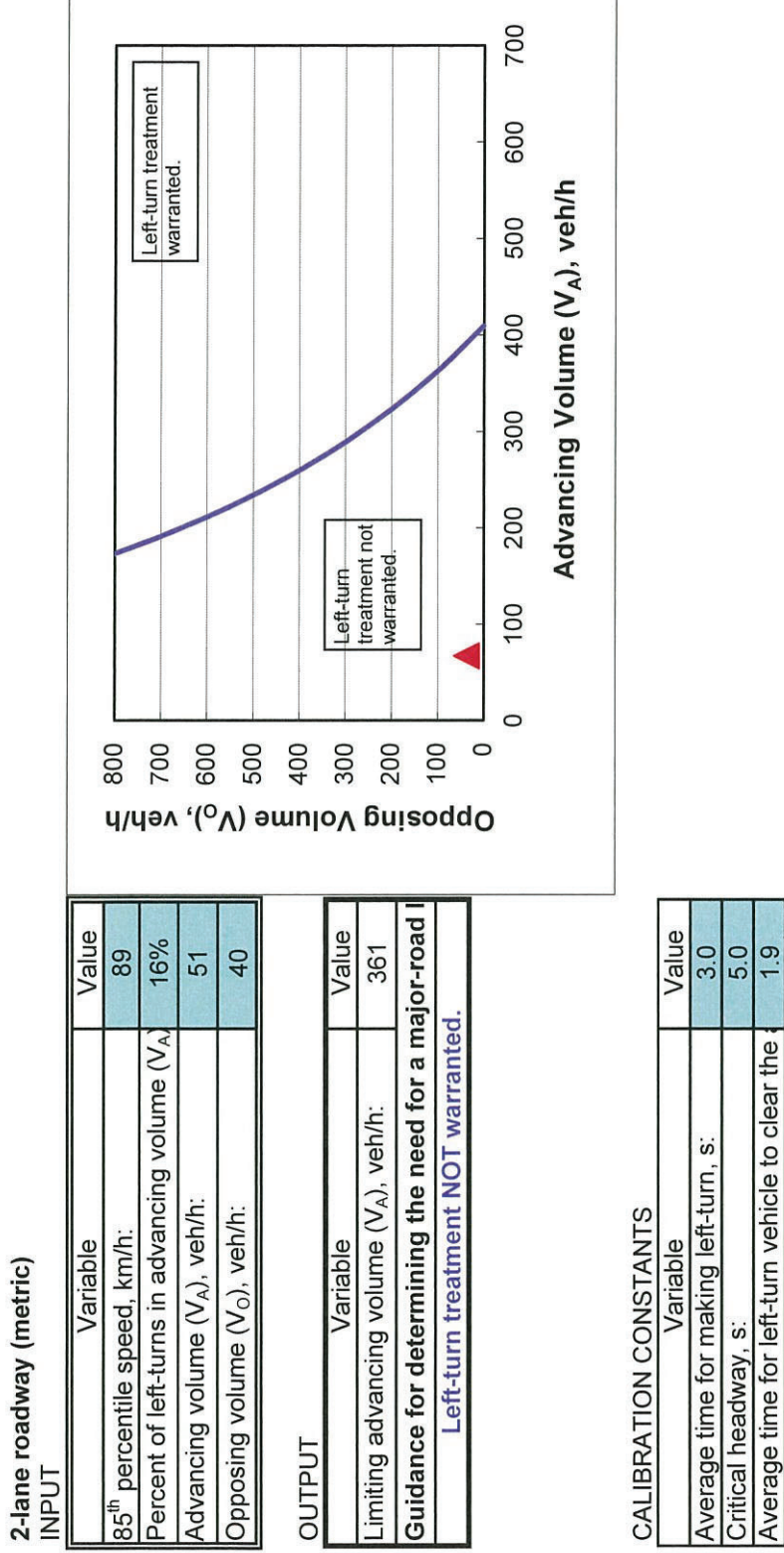
*Turn Lane Analyses*

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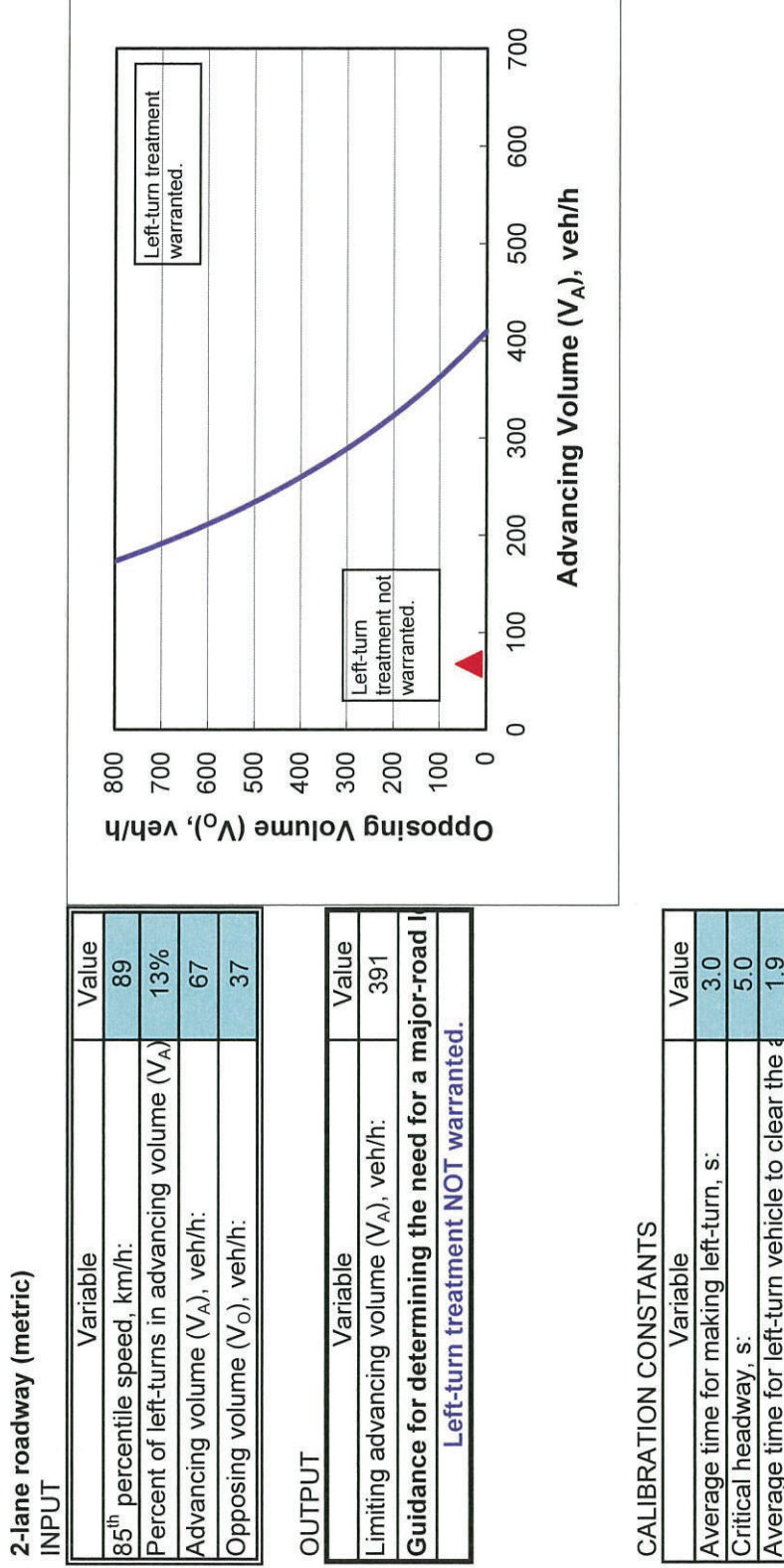
Saltwater Disposal Facility  
AM Peak

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

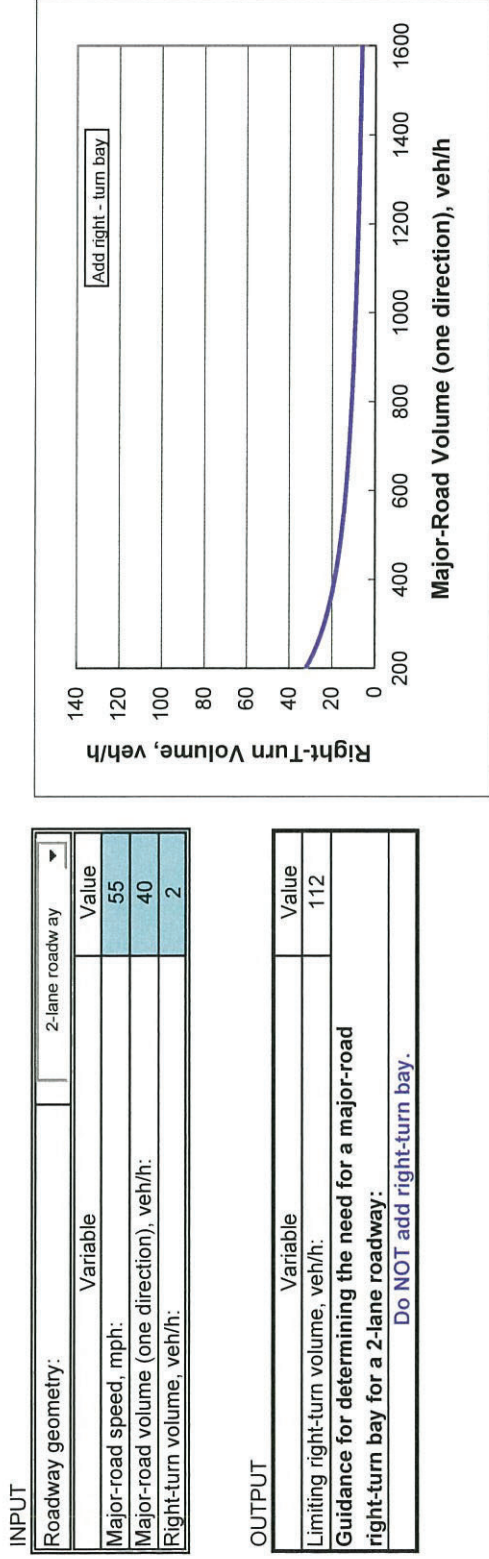


## Saltwater Disposal Facility PM Peak

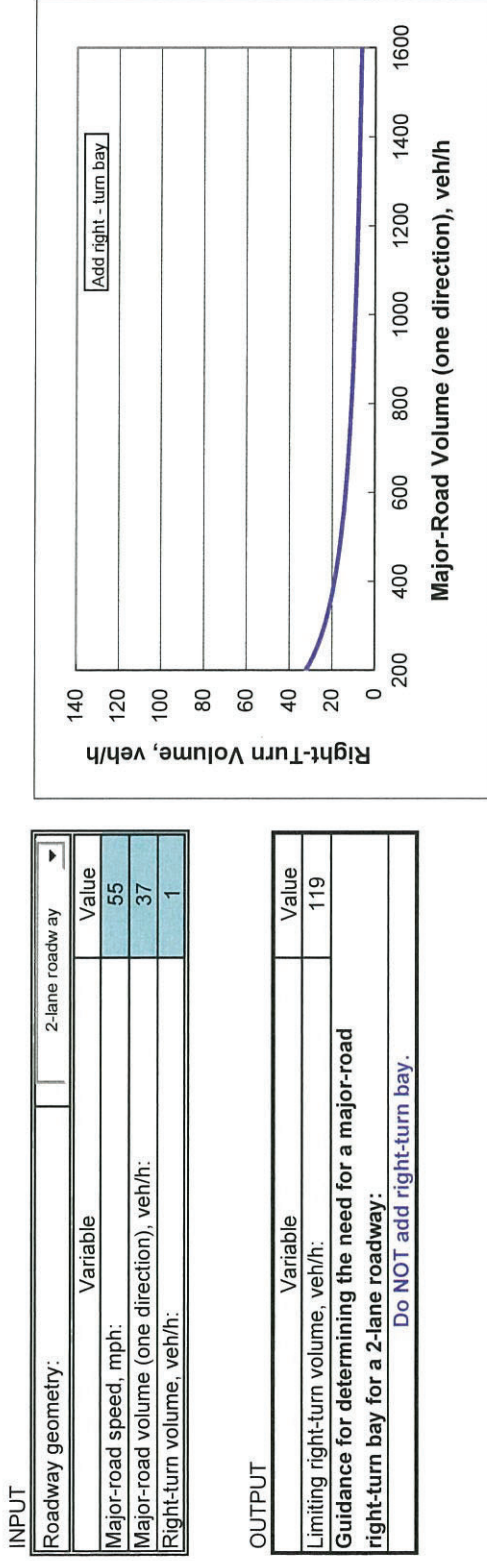
**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**



**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**



**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**



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*Intersection Analyses*

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# HCS7 Two-Way Stop-Control Report

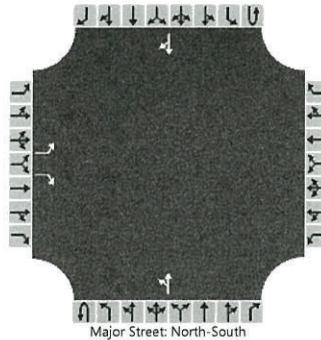
Application Nos. 40928 & 40930

## General Information

## Site Information

Analyst	C Adams	Intersection	US 84 at LA 1
Agency/Co.	NSI	Jurisdiction	Red River
Date Performed	3/25/2020	East/West Street	US 84
Analysis Year	2020	North/South Street	LA 1
Time Analyzed	AM Peak Existing	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Saltwater Disposal Facility		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0		0	1	0		0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		4		34						38	117				31	5
Percent Heavy Vehicles (%)		25		50						40						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type   Storage		Undivided														

## Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.65		6.70						4.50						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.73		3.75						2.56						

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5		43						48						
Capacity, c (veh/h)		636		908						1351						
v/c Ratio		0.01		0.05						0.04						
95% Queue Length, Q <sub>95</sub> (veh)		0.0		0.1						0.1						
Control Delay (s/veh)		10.7		9.2						7.8						
Level of Service (LOS)		B		A						A						
Approach Delay (s/veh)		9.3								2.1						
Approach LOS		A														

# HCS7 Two-Way Stop-Control Report

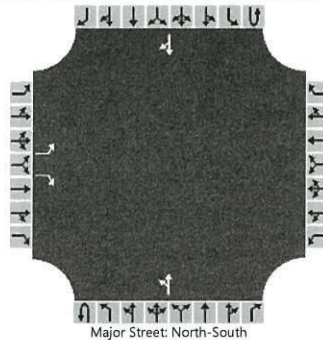
Application Nos. 40928 & 40930

## General Information

## Site Information

Analyst	C Adams	Intersection	US 84 at LA 1
Agency/Co.	NSI	Jurisdiction	Red River
Date Performed	3/25/2020	East/West Street	US 84
Analysis Year	2020	North/South Street	LA 1
Time Analyzed	PM Peak Existing	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Saltwater Disposal Facility		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0		0	1	0		0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		3		33						53	55				138	5
Percent Heavy Vehicles (%)		25		50						40						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type   Storage		Undivided														

## Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.65		6.70						4.50						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.73		3.75						2.56						

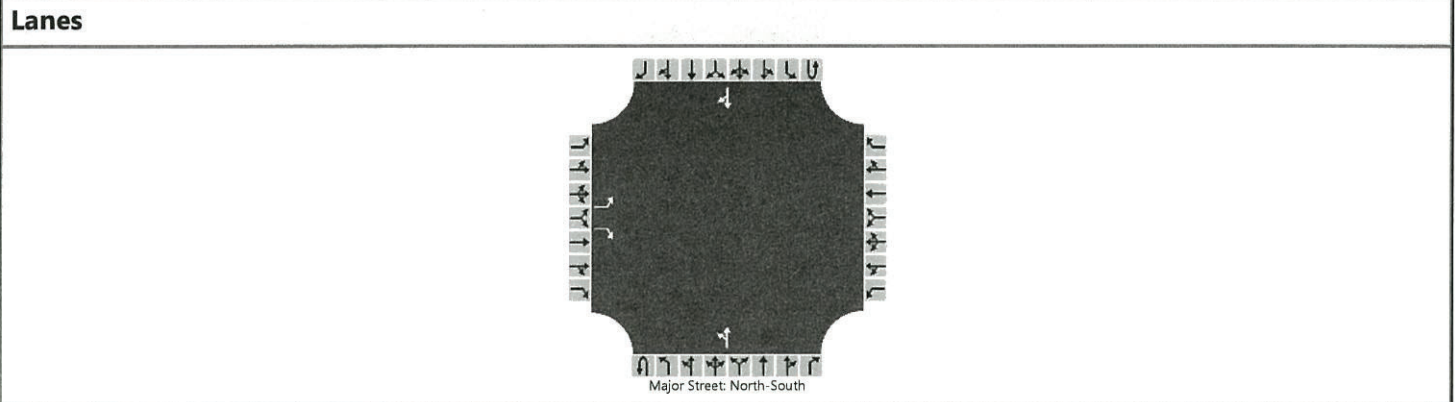
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4		41						66						
Capacity, c (veh/h)		548		758						1198						
v/c Ratio		0.01		0.05						0.06						
95% Queue Length, Q <sub>95</sub> (veh)		0.0		0.2						0.2						
Control Delay (s/veh)		11.6		10.0						8.2						
Level of Service (LOS)		B		B						A						
Approach Delay (s/veh)		10.2								4.3						
Approach LOS		B														

# HCS7 Two-Way Stop-Control Report

Application Nos. 40928 & 40930

General Information		Site Information	
Analyst	C Adams	Intersection	US 84 at LA 1
Agency/Co.	NSI	Jurisdiction	Red River
Date Performed	3/25/2020	East/West Street	US 84
Analysis Year	2020	North/South Street	LA 1
Time Analyzed	AM Peak Build	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Saltwater Disposal Facility		



**Vehicle Volumes and Adjustments**

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		1	0	1		0	0	0		0	1	0		0	1	0	
Configuration		L		R						LT						TR	
Volume (veh/h)		6		40						44	117				31	7	
Percent Heavy Vehicles (%)		80		50						50							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized		No															
Median Type   Storage		Undivided															

**Critical and Follow-up Headways**

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		7.20		6.70						4.60						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		4.22		3.75						2.65						

**Delay, Queue Length, and Level of Service**

Flow Rate, v (veh/h)		8		50						55						
Capacity, c (veh/h)		530		906						1301						
v/c Ratio		0.01		0.06						0.04						
95% Queue Length, Q <sub>95</sub> (veh)		0.0		0.2						0.1						
Control Delay (s/veh)		11.9		9.2						7.9						
Level of Service (LOS)		B		A						A						
Approach Delay (s/veh)		9.6										2.4				
Approach LOS		A														



# HCS7 Two-Way Stop-Control Report

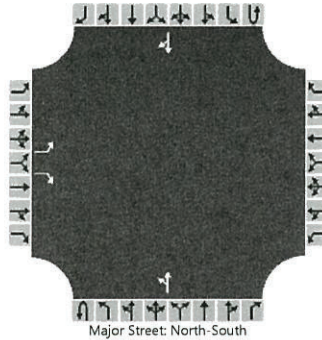
Application Nos. 40928 & 40930

## General Information

## Site Information

Analyst	C Adams	Intersection	US 84 at LA 1
Agency/Co.	NSI	Jurisdiction	Red River
Date Performed	3/25/2020	East/West Street	US 84
Analysis Year	2020	North/South Street	LA 1
Time Analyzed	PM Peak Build	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Saltwater Disposal Facility		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0		0	1	0		0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		8		37						57	88				138	10
Percent Heavy Vehicles (%)		80		50						50						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type   Storage		Undivided														

## Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		7.20		6.70						4.60						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		4.22		3.75						2.65						

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10		46						71						
Capacity, c (veh/h)		428		754						1147						
v/c Ratio		0.02		0.06						0.06						
95% Queue Length, Q <sub>95</sub> (veh)		0.1		0.2						0.2						
Control Delay (s/veh)		13.6		10.1						8.3						
Level of Service (LOS)		B		B						A						
Approach Delay (s/veh)		10.7										3.6				
Approach LOS		B														

# HCS7 Two-Way Stop-Control Report

Application Nos. 40928 & 40930

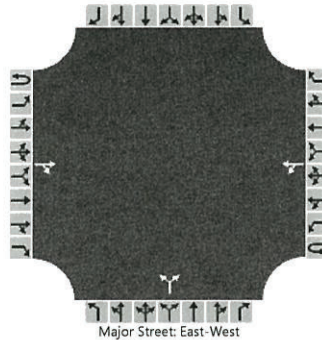
## General Information

Analyst	C Adams
Agency/Co.	NSI
Date Performed	3/25/2020
Analysis Year	2020
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	Saltwater Disposal Facility

## Site Information

Intersection	US 84 at Drive
Jurisdiction	Red River
East/West Street	US 84
North/South Street	Drive
Peak Hour Factor	0.77
Analysis Time Period (hrs)	0.25

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			38	2		8	43			2		8				
Percent Heavy Vehicles (%)						100				100		100				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1			6.2		
Critical Headway (sec)						5.10					7.40			7.20		
Base Follow-Up Headway (sec)						2.2					3.5			3.3		
Follow-Up Headway (sec)						3.10					4.40			4.20		

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						10					13					
Capacity, c (veh/h)						1103					769					
v/c Ratio						0.01					0.02					
95% Queue Length, Q <sub>95</sub> (veh)						0.0					0.1					
Control Delay (s/veh)						8.3					9.8					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						1.4					9.8					
Approach LOS											A					

# HCS7 Two-Way Stop-Control Report

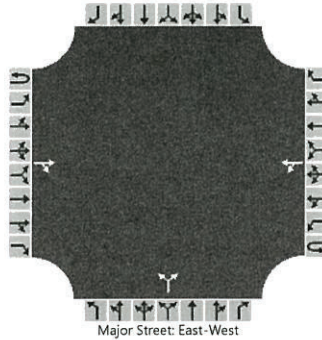
Application Nos. 40928 & 40930

## General Information

## Site Information

Analyst	C Adams	Intersection	US 84 at Drive
Agency/Co.	NSI	Jurisdiction	Red River
Date Performed	3/25/2020	East/West Street	US 84
Analysis Year	2020	North/South Street	Drive
Time Analyzed	PM Peak	Peak Hour Factor	0.77
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Saltwater Disposal Facility		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	0	0	
Configuration				TR		LT					LR					
Volume (veh/h)			36	1		9	58			1		9				
Percent Heavy Vehicles (%)						100				100		100				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						5.10				7.40		7.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						3.10				4.40		4.20				

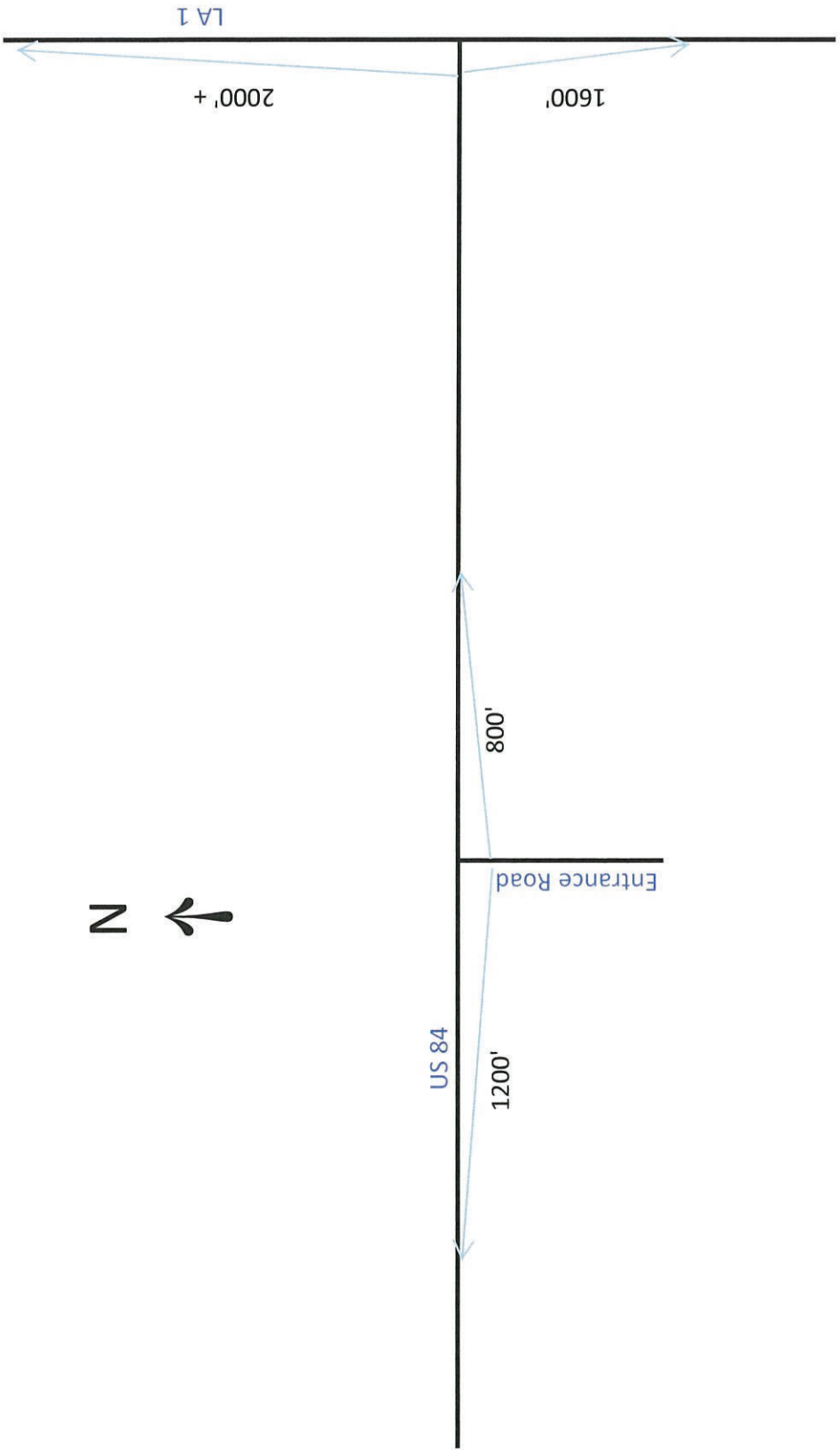
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						12					13					
Capacity, c (veh/h)						1107					784					
v/c Ratio						0.01					0.02					
95% Queue Length, Q <sub>95</sub> (veh)						0.0					0.1					
Control Delay (s/veh)						8.3					9.7					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.2				9.7							
Approach LOS									A							

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*Sight Distance Analyses*

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*48 Hour Volumes*

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# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 north of US 84  
Grand Bayou, LA  
Red River Parish

Start Time	3/17/2020 Tue		NB		SB		Combined		3/18/20 Wed		NB		SB		Combined	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	2	20	1	20	3	40	1	26	1	21	2	47				
12:15	0	15	2	20	2	35	2	15	4	17	6	32				
12:30	0	10	0	11	0	21	1	12	2	16	3	28				
12:45	0	23	1	19	1	42	2	18	2	12	4	30				
01:00	2	10	0	20	2	30	3	14	1	20	4	34				
01:15	0	13	0	20	0	33	3	18	1	9	4	27				
01:30	1	21	1	17	2	38	1	16	1	26	2	42				
01:45	0	17	3	19	3	36	0	20	2	17	2	37				
02:00	0	13	0	19	0	32	3	20	0	19	3	39				
02:15	0	18	1	21	1	39	6	20	0	18	6	38				
02:30	0	19	2	33	2	52	1	14	1	27	2	41				
02:45	1	15	1	26	2	41	2	12	0	25	2	37				
03:00	7	28	0	22	7	50	3	21	0	15	3	36				
03:15	2	15	2	25	4	40	1	18	1	32	2	50				
03:30	3	9	0	44	3	53	5	15	4	44	9	59				
03:45	2	16	7	43	9	59	4	7	2	27	6	34				
04:00	3	14	1	26	4	40	1	11	4	16	5	27				
04:15	4	19	4	30	8	49	4	20	2	30	6	50				
04:30	4	16	0	24	4	40	4	17	1	18	5	35				
04:45	11	27	0	28	11	55	9	19	1	28	10	47				
05:00	10	10	8	19	18	29	15	21	1	16	16	37				
05:15	19	22	11	27	30	49	24	14	9	27	33	41				
05:30	23	8	5	30	28	38	30	14	8	29	38	43				
05:45	24	13	7	14	31	27	18	9	6	18	24	27				
06:00	38	8	8	18	46	26	33	9	14	25	47	34				
06:15	40	6	6	17	46	23	34	8	8	8	42	16				
06:30	25	6	9	21	34	27	28	8	9	20	37	28				
06:45	17	6	13	13	30	19	15	2	11	12	26	14				
07:00	12	2	10	12	22	14	18	9	8	12	26	21				
07:15	17	5	12	5	29	10	12	4	7	10	19	14				
07:30	14	7	11	8	25	15	14	4	14	7	28	11				
07:45	21	4	10	5	31	9	27	6	7	9	34	15				
08:00	13	7	8	2	21	9	20	5	14	9	34	14				
08:15	21	3	20	7	41	10	21	1	16	2	37	3				
08:30	18	8	17	8	35	16	17	4	5	7	22	11				
08:45	15	10	12	8	27	18	16	1	10	3	26	4				
09:00	9	2	13	5	22	7	10	1	12	3	22	4				
09:15	24	4	13	2	37	6	21	6	12	5	33	11				
09:30	27	1	11	6	38	7	17	1	17	2	34	3				
09:45	13	1	18	2	31	3	16	0	25	0	41	0				
10:00	15	4	28	1	43	5	11	1	16	2	27	3				
10:15	22	3	17	7	39	10	14	2	17	1	31	3				
10:30	13	0	20	2	33	2	18	5	27	2	45	7				
10:45	13	0	16	0	29	0	13	1	15	3	28	4				
11:00	10	1	14	1	24	2	19	2	25	2	44	4				
11:15	18	3	12	3	30	6	19	1	12	0	31	1				
11:30	16	3	28	0	44	3	12	1	15	3	27	4				
11:45	17	1	21	2	38	3	17	0	20	4	37	4				
Total	566	486	404	732	970	1218	585	473	390	678	975	1151				
Day Total	1052		1136		2188		1058		1068		2126					
% Total	25.9%	22.2%	18.5%	33.5%			27.5%	22.2%	18.3%	31.9%						
Peak	-	05:45	02:15	09:45	03:30	05:45	03:00	-	05:30	04:15	09:45	03:15	06:00	02:45		
Vol.	-	127	80	83	143	157	202	-	115	77	85	119	152	182		
P.H.F.		0.794	0.714	0.741	0.813	0.853	0.856		0.846	0.917	0.787	0.676	0.809	0.771		
ADT	ADT 2,157	AADT 2,157														

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6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 north of US 84  
Grand Bayou, LA  
Red River Parish

NB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/17/2																
0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
01:15	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	1	0	0	0	0	1	0	0	0	0	0	3	2
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:00	3	1	1	0	0	1	0	0	0	0	0	0	0	1	7	1
03:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
03:30	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
03:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
04:00	3	6	2	0	0	1	0	0	1	0	0	0	0	1	14	2
04:00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3	1
04:15	0	0	0	0	1	0	0	1	2	0	0	0	0	0	4	4
04:30	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	0
04:45	0	3	6	0	0	0	0	1	1	0	0	0	0	0	11	2
05:00	0	8	7	1	1	0	0	2	3	0	0	0	0	0	22	7
05:15	0	4	5	1	0	0	0	0	0	0	0	0	0	0	10	1
05:15	0	4	12	0	1	0	0	1	1	0	0	0	0	0	19	3
05:30	0	13	9	0	1	0	0	0	0	0	0	0	0	0	23	1
05:45	0	11	10	0	2	0	0	0	1	0	0	0	0	0	24	3
06:00	0	32	36	1	4	0	0	1	2	0	0	0	0	0	76	8
06:00	0	15	12	0	5	0	0	1	4	0	0	0	0	1	38	10
06:15	0	18	13	0	5	0	0	1	1	0	0	0	0	2	40	7
06:30	0	15	9	0	1	0	0	0	0	0	0	0	0	0	25	1
06:45	0	9	3	0	2	0	0	0	2	0	0	0	0	1	17	4
07:00	0	57	37	0	13	0	0	2	7	0	0	0	0	4	120	22
07:15	1	7	2	0	0	1	0	0	1	0	0	0	0	0	12	2
07:15	1	6	6	0	2	1	0	1	0	0	0	0	0	0	17	4
07:30	0	7	5	0	0	0	0	1	1	0	0	0	0	0	14	2
07:45	2	7	3	0	3	1	0	0	3	0	0	0	0	2	21	7
08:00	4	27	16	0	5	3	0	2	5	0	0	0	0	2	64	15
08:00	1	4	2	0	1	1	0	1	2	0	0	0	0	1	13	5
08:15	2	9	1	0	1	0	0	0	5	0	0	0	0	3	21	6
08:30	3	3	4	0	1	1	0	0	4	0	0	0	0	2	18	6
08:45	0	8	3	0	1	0	0	0	3	0	0	0	0	0	15	4
09:00	6	24	10	0	4	2	0	1	14	0	0	0	0	6	67	21
09:15	1	0	5	0	1	1	0	0	1	0	0	0	0	0	9	3
09:15	4	4	5	0	2	2	0	2	4	0	0	0	0	1	24	10
09:30	3	11	5	1	1	1	0	1	2	1	0	0	0	1	27	7
09:45	1	5	2	0	1	0	0	1	1	0	0	0	0	2	13	3
10:00	9	20	17	1	5	4	0	4	8	1	0	0	0	4	73	23
10:00	0	5	5	0	1	0	0	1	1	0	0	0	0	2	15	3
10:15	1	7	4	0	1	1	0	0	7	0	0	0	0	1	22	9
10:30	0	3	3	0	2	1	0	0	3	0	0	0	0	1	13	6
10:45	4	2	1	0	0	2	0	1	1	0	0	0	0	2	13	4
11:00	5	17	13	0	4	4	0	2	12	0	0	0	0	6	63	22
11:00	0	5	1	0	0	0	0	1	2	0	0	0	0	1	10	3
11:15	4	2	2	1	0	2	0	0	0	0	0	0	0	7	18	3
11:30	2	2	2	0	2	1	0	1	1	0	0	0	0	5	16	5
11:45	2	6	2	1	2	0	0	0	2	0	0	0	0	2	17	5
Total	8	15	7	2	4	3	0	2	5	0	0	0	0	15	61	16
Percent	35	209	146	6	40	17	0	16	58	1	0	0	0	38	566	138
Percent	6.2%	36.9%	25.8%	1.1%	7.1%	3.0%	0.0%	2.8%	10.2%	0.2%	0.0%	0.0%	0.0%	6.7%		24.4%



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NB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	1	4	6	0	1	1	0	1	3	0	0	0	0	3	20	6
12:15	0	7	4	0	3	0	0	0	1	0	0	0	0	0	15	4
12:30	1	1	1	0	3	1	0	0	1	0	0	0	0	2	10	5
12:45	2	8	5	0	1	1	0	1	0	1	0	0	0	4	23	4
13:00	4	20	16	0	8	3	0	2	5	1	0	0	0	9	68	19
13:15	0	4	2	0	1	0	0	0	1	0	0	0	0	2	10	2
13:30	0	6	2	0	1	0	0	1	2	0	0	0	0	1	13	4
13:45	1	10	2	1	2	0	0	1	3	0	0	0	0	1	21	7
14:00	3	4	2	0	4	2	0	0	0	0	0	0	0	2	17	6
14:15	4	24	8	1	8	2	0	2	6	0	0	0	0	6	61	19
14:30	0	3	2	0	2	0	0	0	5	0	0	0	0	1	13	7
14:45	0	7	5	0	2	0	0	1	0	1	0	0	0	2	18	4
15:00	4	4	2	1	3	0	0	0	4	0	0	0	0	1	19	8
15:15	4	1	2	0	1	0	1	0	3	0	0	0	0	3	15	5
15:30	8	15	11	1	8	0	1	1	12	1	0	0	0	7	65	24
15:45	1	13	5	1	0	1	0	2	2	0	0	0	0	3	28	6
16:00	2	2	2	1	1	1	0	0	2	1	0	0	0	3	15	6
16:15	1	3	0	0	1	1	0	1	1	0	0	0	0	1	9	4
16:30	2	4	2	0	2	1	0	1	1	1	0	0	0	2	16	6
16:45	6	22	9	2	4	4	0	4	6	2	0	0	0	9	68	22
17:00	0	5	2	0	2	0	0	0	5	0	0	0	0	0	14	7
17:15	2	7	3	0	0	0	0	1	3	0	0	0	0	3	19	4
17:30	0	7	4	0	0	0	0	1	3	0	0	0	0	1	16	4
17:45	3	7	5	0	2	2	0	2	3	0	0	0	0	3	27	9
18:00	5	26	14	0	4	2	0	4	14	0	0	0	0	7	76	24
18:15	0	6	2	0	1	0	0	0	1	0	0	0	0	0	10	2
18:30	2	9	2	0	2	0	0	2	3	0	0	0	0	2	22	7
18:45	0	4	2	0	1	0	0	0	1	0	0	0	0	0	8	2
19:00	0	7	2	0	0	1	0	1	1	0	0	0	0	1	13	3
19:15	2	26	8	0	4	1	0	3	6	0	0	0	0	3	53	14
19:30	0	3	3	0	1	0	0	0	1	0	0	0	0	0	8	2
19:45	0	1	1	0	2	0	0	0	1	0	0	0	0	1	6	3
20:00	0	3	0	0	3	0	0	0	0	0	0	0	0	0	6	3
20:15	2	0	2	0	0	0	0	0	1	0	0	0	0	1	6	1
20:30	2	7	6	0	6	0	0	0	3	0	0	0	0	2	26	9
20:45	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
21:00	1	1	2	0	0	1	0	0	0	0	0	0	0	0	5	1
21:15	1	3	2	0	0	1	0	0	0	0	0	0	0	0	7	1
21:30	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4	0
21:45	2	6	8	0	0	2	0	0	0	0	0	0	0	0	18	2
22:00	0	4	0	0	0	0	0	1	2	0	0	0	0	0	7	3
22:15	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0
22:30	4	0	2	0	0	0	0	0	0	0	0	0	0	2	8	0
22:45	2	3	0	0	1	2	0	0	1	0	0	0	0	1	10	4
23:00	6	9	3	0	1	2	0	1	3	0	0	0	0	3	28	7
23:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
23:30	0	2	1	0	0	0	0	0	0	0	0	0	0	1	4	0
23:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
24:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
24:15	0	5	2	0	0	0	0	0	0	0	0	0	0	1	8	0
24:30	2	1	0	0	0	0	0	0	0	0	0	0	0	1	4	0
24:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
25:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26:00	2	4	0	0	0	0	0	0	0	0	0	0	0	1	7	0
26:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
26:30	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0
26:45	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0
27:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
27:15	2	3	1	0	1	0	0	0	0	0	0	0	0	1	8	1
<b>Total</b>	<b>43</b>	<b>167</b>	<b>86</b>	<b>4</b>	<b>44</b>	<b>16</b>	<b>1</b>	<b>17</b>	<b>55</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>486</b>	<b>141</b>
<b>Percent</b>	<b>8.8%</b>	<b>34.4%</b>	<b>17.7%</b>	<b>0.8%</b>	<b>9.1%</b>	<b>3.3%</b>	<b>0.2%</b>	<b>3.5%</b>	<b>11.3%</b>	<b>0.8%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>10.1%</b>	<b>486</b>	<b>29.0%</b>

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03/18/2																
0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
00:15	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	1
00:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
00:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0
01:00	0	3	1	0	0	0	0	1	0	0	0	0	0	1	6	1
01:15	0	0	0	0	1	0	0	0	2	0	0	0	0	0	3	3
01:30	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	2	0	0	1	0	0	0	3	0	0	0	0	1	7	4
02:30	1	1	0	0	0	0	0	0	0	0	0	0	0	1	3	0
02:45	3	0	0	0	0	1	0	0	1	0	0	0	0	1	6	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
03:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:30	3	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0
03:45	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	2
04:00	2	0	0	0	0	2	0	0	1	0	0	0	0	0	13	3
04:15	3	3	3	0	0	3	0	0	0	0	0	0	0	1	13	3
04:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
04:45	0	1	0	0	1	0	0	0	0	0	0	0	0	2	4	1
05:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4	0
05:15	0	2	4	0	1	0	0	0	0	0	0	0	0	2	9	1
05:30	0	6	6	0	2	0	0	0	0	0	0	0	0	4	18	2
05:45	0	7	8	0	0	0	0	0	0	0	0	0	0	0	15	0
06:00	0	9	13	0	2	0	0	0	0	0	0	0	0	0	24	2
06:15	1	12	13	0	2	0	0	0	1	0	0	0	0	1	30	3
06:30	0	8	9	0	0	0	0	0	1	0	0	0	0	0	18	1
06:45	1	36	43	0	4	0	0	0	2	0	0	0	0	1	87	6
07:00	0	15	10	0	5	0	0	1	2	0	0	0	0	0	33	8
07:15	0	20	11	0	3	0	0	0	0	0	0	0	0	0	34	3
07:30	2	10	13	0	2	0	0	0	0	0	0	0	0	1	28	2
07:45	1	7	2	0	4	1	0	0	0	0	0	0	0	0	15	5
08:00	3	52	36	0	14	1	0	1	2	0	0	0	0	1	110	18
08:15	0	11	6	0	1	0	0	0	0	0	0	0	0	0	18	1
08:30	0	6	6	0	0	0	0	0	0	0	0	0	0	0	12	0
08:45	0	5	3	0	4	1	0	0	1	0	0	0	0	0	14	6
09:00	3	12	4	0	2	4	0	0	1	0	0	0	0	1	27	7
09:15	3	34	19	0	7	5	0	0	2	0	0	0	0	1	71	14
09:30	2	3	5	0	3	1	0	3	3	0	0	0	0	0	20	10
09:45	1	9	4	1	2	0	0	0	4	0	0	0	0	0	21	7
10:00	3	2	6	0	0	1	0	0	4	0	0	0	0	1	17	5
10:15	2	4	2	0	2	2	0	2	1	0	0	0	0	1	16	7
10:30	8	18	17	1	7	4	0	5	12	0	0	0	0	2	74	29
10:45	0	2	2	0	0	0	0	1	3	0	0	0	0	2	10	4
11:00	0	5	8	0	2	1	0	2	1	0	0	0	0	2	21	6
11:15	3	3	5	0	1	2	0	0	1	0	0	0	0	2	17	4
11:30	1	5	2	0	3	1	0	1	3	0	0	0	0	0	16	8
11:45	4	15	17	0	6	4	0	4	8	0	0	0	0	6	64	22
12:00	0	4	2	0	4	0	0	0	0	0	0	0	0	1	11	4
12:15	2	2	0	0	3	2	0	0	4	0	0	0	0	1	14	9
12:30	4	5	1	2	1	4	0	0	0	0	0	0	0	1	18	7
12:45	0	3	4	0	1	0	0	0	5	0	0	0	0	0	13	6
13:00	6	14	7	2	9	6	0	0	9	0	0	0	0	3	56	26
13:15	1	4	6	0	1	1	0	0	5	1	0	0	0	0	19	8
13:30	2	5	3	0	1	2	0	2	2	0	0	0	1	1	19	8
13:45	3	3	2	0	1	3	0	0	0	0	0	0	0	0	12	4
14:00	3	3	1	0	2	1	0	0	3	2	0	0	0	2	17	8
Total	9	15	12	0	5	7	0	2	10	3	0	0	1	3	67	28
Percent	42	199	161	3	55	32	0	13	49	3	0	0	1	27	585	156
Percent	7.2%	34.0%	27.5%	0.5%	9.4%	5.5%	0.0%	2.2%	8.4%	0.5%	0.0%	0.0%	0.2%	4.6%	26.7%	

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 north of US 84  
Grand Bayou, LA  
Red River Parish

NB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	4	2	9	1	0	1	0	2	2	0	0	0	0	5	26	6
12:15	4	4	3	0	0	2	0	1	0	0	0	0	0	1	15	3
12:30	1	6	1	0	1	0	0	1	0	1	0	0	0	1	12	3
12:45	0	6	4	0	4	0	0	1	2	0	0	0	0	1	18	7
13:00	9	18	17	1	5	3	0	5	4	1	0	0	0	8	71	19
13:15	0	8	2	0	1	0	0	0	1	0	0	0	0	2	14	2
13:30	1	4	2	0	3	1	0	1	3	0	0	0	0	3	18	8
13:45	1	7	1	0	0	3	0	0	2	0	0	0	0	2	16	5
14:00	3	4	2	1	1	2	0	1	3	0	0	0	0	3	20	8
14:15	5	23	7	1	5	6	0	2	9	0	0	0	0	10	68	23
14:30	4	6	3	0	3	0	0	0	1	0	0	0	0	3	20	4
14:45	1	3	3	1	4	1	0	2	3	0	0	0	0	2	20	11
15:00	2	4	0	0	2	1	0	1	1	0	0	0	0	3	14	5
15:15	0	2	3	0	1	0	0	1	3	1	0	0	0	1	12	6
15:30	7	15	9	1	10	2	0	4	8	1	0	0	0	9	66	26
15:45	3	6	5	0	1	2	0	1	0	0	0	0	0	3	21	4
16:00	0	4	4	0	2	2	0	3	1	0	0	0	0	2	18	8
16:15	0	7	3	0	0	1	0	0	1	1	0	0	0	2	15	3
16:30	0	4	0	0	1	0	0	0	0	0	0	0	0	2	7	1
16:45	3	21	12	0	4	5	0	4	2	1	0	0	0	9	61	16
17:00	0	6	2	0	0	0	0	0	3	0	0	0	0	0	11	3
17:15	1	6	5	1	1	1	0	2	1	0	0	0	0	2	20	6
17:30	0	6	7	0	0	1	0	0	2	0	0	0	0	1	17	3
17:45	0	8	3	0	3	0	0	0	4	0	0	0	0	1	19	7
18:00	1	26	17	1	4	2	0	2	10	0	0	0	0	4	67	19
18:15	0	13	3	0	2	0	0	1	2	0	0	0	0	0	21	5
18:30	0	6	5	0	1	0	0	0	0	0	0	0	0	2	14	1
18:45	2	4	2	0	2	0	0	1	1	0	0	0	0	2	14	4
19:00	0	5	1	0	2	0	0	0	0	0	0	0	0	1	9	2
19:15	2	28	11	0	7	0	0	2	3	0	0	0	0	5	58	12
19:30	2	2	0	0	1	0	0	2	0	0	0	0	0	2	9	3
19:45	0	4	2	0	2	0	0	0	0	0	0	0	0	0	8	2
20:00	1	2	3	0	0	1	0	1	0	0	0	0	0	0	8	2
20:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
20:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
21:00	1	1	7	0	0	1	0	0	0	0	0	0	0	1	11	1
21:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
21:30	2	2	1	0	0	0	0	0	0	0	0	0	0	1	6	0
21:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	2	3	2	0	0	0	0	0	0	0	0	0	0	1	8	0
22:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
22:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
23:00	1	3	0	0	0	1	0	0	0	0	0	0	0	0	5	1
23:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4	0
Percent	36	164	93	4	38	21	0	24	39	3	0	0	0	51	473	129
Grand Total	7.6%	34.7%	19.7%	0.8%	8.0%	4.4%	0.0%	5.1%	8.2%	0.6%	0.0%	0.0%	0.0%	10.8%		27.3%
Percent	156	739	486	17	177	86	1	70	201	11	0	0	1	165	2110	564
Percent	7.4%	35.0%	23.0%	0.8%	8.4%	4.1%	0.0%	3.3%	9.5%	0.5%	0.0%	0.0%	0.0%	7.8%		26.7%

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SB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/17/2																
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
00:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
01:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	4	2
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
01:45	0	0	2	0	0	0	0	1	0	0	0	0	0	0	3	1
02:00	0	0	2	0	0	0	0	1	0	0	0	0	0	1	4	1
02:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
02:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
02:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
03:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4	1
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
03:45	1	1	1	0	1	1	0	1	0	0	0	0	0	1	7	3
04:00	1	1	3	0	1	1	0	1	0	0	0	0	0	1	9	3
04:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
04:30	0	0	2	1	0	0	0	0	0	0	0	0	0	1	4	1
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	2	1	0	0	0	1	0	0	0	0	0	1	5	2
05:15	0	3	2	0	0	0	0	3	0	0	0	0	0	0	8	3
05:30	3	0	4	0	2	0	0	1	0	0	0	0	0	1	11	3
05:45	0	1	2	0	0	0	0	1	0	0	0	0	0	1	5	1
06:00	1	0	3	0	2	1	0	0	0	0	0	0	0	0	7	3
06:15	4	4	11	0	4	1	0	5	0	0	0	0	0	2	31	10
06:30	0	1	2	1	4	0	0	0	0	0	0	0	0	0	8	5
06:45	0	1	0	1	2	0	0	0	0	0	0	0	0	2	6	3
07:00	2	0	0	0	4	1	0	0	0	0	0	0	0	2	9	5
07:15	1	1	2	0	3	1	0	3	0	0	0	0	0	2	13	7
07:30	3	3	4	2	13	2	0	3	0	0	0	0	0	6	36	20
07:45	1	1	2	0	1	1	0	2	0	0	0	0	0	2	10	4
08:00	1	3	2	0	3	2	0	1	0	0	0	0	0	0	12	6
08:15	4	1	4	0	0	0	0	0	0	0	0	0	0	2	11	0
08:30	0	1	4	0	3	0	0	1	0	0	0	0	0	1	10	4
08:45	6	6	12	0	7	3	0	4	0	0	0	0	0	5	43	14
09:00	0	1	1	1	3	0	0	0	0	0	0	0	0	2	8	4
09:15	2	4	1	1	4	2	0	2	0	1	0	0	0	3	20	10
09:30	1	1	3	0	5	1	0	3	0	0	0	0	0	3	17	9
09:45	2	2	0	0	2	3	0	1	0	0	0	0	0	2	12	6
10:00	5	8	5	2	14	6	0	6	0	1	0	0	0	10	57	29
10:15	0	1	4	1	3	2	0	0	0	0	0	0	0	2	13	6
10:30	0	1	5	1	1	0	0	3	0	0	0	0	0	2	13	5
10:45	0	4	2	1	1	0	0	2	0	0	0	0	0	1	11	4
11:00	1	1	0	3	4	1	0	3	1	0	0	0	1	3	18	13
11:15	1	7	11	6	9	3	0	8	1	0	0	0	1	8	55	28
11:30	1	4	8	1	5	1	0	6	0	0	0	0	0	2	28	13
11:45	2	2	1	1	4	2	0	4	0	0	0	0	0	1	17	11
12:00	1	3	4	3	3	2	0	1	0	0	0	0	0	3	20	9
12:15	1	2	3	0	4	1	0	2	0	0	0	0	0	3	16	7
12:30	5	11	16	5	16	6	0	13	0	0	0	0	0	9	81	40
12:45	1	1	4	0	0	1	0	3	0	0	0	0	0	4	14	4
13:00	0	2	4	0	0	1	0	4	0	0	0	0	0	1	12	5
13:15	1	6	5	0	5	1	0	3	0	0	0	0	0	7	28	9
13:30	1	4	6	0	3	1	0	2	1	0	0	0	0	3	21	7
13:45	3	13	19	0	8	4	0	12	1	0	0	0	0	15	75	25
Total	28	55	88	16	75	26	0	54	2	1	0	0	1	58	404	175
Percent	6.9%	13.6%	21.8%	4.0%	18.6%	6.4%	0.0%	13.4%	0.5%	0.2%	0.0%	0.0%	0.2%	14.4%		43.3%

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Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	0	4	5	3	3	0	0	3	0	0	0	0	0	2	20	9
12:15	0	4	5	0	4	0	0	2	1	0	0	0	0	4	20	7
12:30	0	3	2	1	2	0	0	2	1	0	0	0	0	0	11	6
12:45	1	2	5	1	5	2	0	3	0	0	0	0	0	0	19	11
13:00	1	13	17	5	14	2	0	10	2	0	0	0	0	6	70	33
13:15	1	8	1	2	2	2	0	1	1	0	0	0	0	2	20	8
13:30	3	7	0	1	3	4	0	1	0	0	0	0	0	1	20	9
13:45	0	3	5	0	6	1	0	0	0	0	0	0	0	2	17	7
14:00	1	0	2	0	4	4	0	3	0	0	0	0	0	5	19	11
14:15	5	18	8	3	15	11	0	5	1	0	0	0	0	10	76	35
14:30	0	4	4	1	3	1	0	4	0	1	0	0	0	1	19	10
14:45	0	4	6	0	5	0	0	4	1	0	0	0	0	1	21	10
15:00	0	9	5	1	10	3	0	0	0	0	0	0	0	5	33	14
15:15	1	5	6	1	6	2	0	2	0	0	0	0	0	3	26	11
15:30	1	22	21	3	24	6	0	10	1	1	0	0	0	10	99	45
15:45	5	1	4	1	2	6	0	2	0	0	0	0	0	1	22	11
16:00	1	7	4	1	8	1	0	2	0	0	0	0	0	1	25	12
16:15	1	16	9	1	10	0	0	4	0	0	0	0	0	3	44	15
16:30	0	10	10	3	9	4	0	1	0	0	0	0	0	6	43	17
16:45	7	34	27	6	29	11	0	9	0	0	0	0	0	11	134	55
17:00	1	9	5	0	5	1	0	1	1	0	0	0	0	3	26	8
17:15	1	8	8	1	7	1	1	1	1	0	0	0	0	1	30	12
17:30	5	8	4	0	3	1	0	0	0	1	0	0	0	2	24	5
17:45	0	11	4	0	6	0	0	2	2	0	0	0	0	3	28	10
18:00	7	36	21	1	21	3	1	4	4	1	0	0	0	9	108	35
18:15	0	8	5	0	6	0	0	0	0	0	0	0	0	0	19	6
18:30	0	13	6	0	4	0	0	2	0	0	0	0	0	2	27	6
18:45	0	13	8	1	6	0	0	0	0	0	0	0	0	2	30	7
19:00	0	2	5	1	2	1	0	2	0	0	0	0	0	1	14	6
19:15	0	36	24	2	18	1	0	4	0	0	0	0	0	5	90	25
19:30	0	6	3	0	6	0	0	1	0	0	0	0	0	2	18	7
19:45	1	4	3	1	4	0	0	0	1	0	0	0	0	3	17	6
20:00	0	6	7	0	4	1	0	0	1	0	0	0	0	2	21	6
20:15	0	4	5	0	3	0	0	0	1	0	0	0	0	0	13	4
20:30	1	20	18	1	17	1	0	1	3	0	0	0	0	7	69	23
20:45	0	8	2	0	0	0	0	1	1	0	0	0	0	0	12	2
21:00	0	2	1	0	1	1	0	0	0	0	0	0	0	0	5	2
21:15	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8	0
21:30	0	1	1	0	3	0	0	0	0	0	0	0	0	0	5	3
21:45	0	16	7	0	4	1	0	1	1	0	0	0	0	0	30	7
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
22:15	1	2	2	0	0	1	0	1	0	0	0	0	0	0	7	2
22:30	0	5	1	0	2	0	0	0	0	0	0	0	0	0	8	2
22:45	0	2	4	1	1	0	0	0	0	0	0	0	0	0	8	2
23:00	1	11	7	1	3	1	0	1	0	0	0	0	0	0	25	6
23:15	1	1	0	0	2	1	0	0	0	0	0	0	0	0	5	3
23:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	1
23:45	0	2	1	0	2	1	0	0	0	0	0	0	0	0	6	3
24:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
24:15	2	4	2	0	4	2	0	1	0	0	0	0	0	0	15	7
24:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
24:45	1	4	1	0	0	1	0	0	0	0	0	0	0	0	7	1
25:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
25:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	1
26:00	0	3	1	0	2	0	0	0	0	0	0	0	0	0	6	2
<b>Total</b>	<b>26</b>	<b>219</b>	<b>155</b>	<b>22</b>	<b>151</b>	<b>40</b>	<b>1</b>	<b>46</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>58</b>	<b>732</b>	<b>274</b>
<b>Percent</b>	<b>3.6%</b>	<b>29.9%</b>	<b>21.2%</b>	<b>3.0%</b>	<b>20.6%</b>	<b>5.5%</b>	<b>0.1%</b>	<b>6.3%</b>	<b>1.6%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>7.9%</b>		<b>37.4%</b>

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Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/18/20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
00:15	1	0	0	0	1	1	0	0	0	0	0	0	0	1	4	2
00:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	1
00:45	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2
01:00	1	2	0	0	2	1	0	1	1	0	0	0	0	1	9	5
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
01:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
01:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
01:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	1
02:00	0	0	2	0	0	0	0	2	0	0	0	0	0	1	5	2
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
03:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	2	1	0	0	0	1	0	0	0	0	0	0	0	0	4	1
03:45	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1
04:00	3	1	1	0	0	2	0	0	0	0	0	0	0	0	7	2
04:15	1	2	0	0	0	1	0	0	0	0	0	0	0	0	4	1
04:30	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
04:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
05:00	3	2	0	0	0	2	0	0	0	0	0	0	0	1	8	2
05:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
05:15	0	2	3	0	2	0	0	1	1	0	0	0	0	0	9	4
05:30	0	2	2	1	1	0	0	0	0	0	0	0	0	2	8	2
05:45	0	2	2	0	2	0	0	0	0	0	0	0	0	0	6	2
06:00	0	7	7	1	5	0	0	1	1	0	0	0	0	2	24	8
06:15	1	2	4	1	3	0	0	1	0	0	0	0	0	2	14	5
06:15	1	2	2	0	0	1	0	1	0	0	0	0	0	1	8	2
06:30	1	2	1	0	2	1	0	2	0	0	0	0	0	0	9	5
06:45	0	3	1	0	6	1	0	0	0	0	0	0	0	0	11	7
07:00	3	9	8	1	11	3	0	4	0	0	0	0	0	3	42	19
07:00	2	1	2	0	0	2	0	1	0	0	0	0	0	0	8	3
07:15	1	2	1	0	2	0	0	0	0	0	0	0	0	1	7	2
07:30	1	7	2	0	1	1	0	2	0	0	0	0	0	0	14	4
07:45	0	2	1	0	2	0	0	2	0	0	0	0	0	0	7	4
08:00	4	12	6	0	5	3	0	5	0	0	0	0	0	1	36	13
08:00	2	4	2	1	1	2	0	1	0	0	0	0	0	1	14	5
08:15	1	1	3	0	5	1	1	0	0	0	0	0	0	4	16	7
08:30	0	0	0	1	2	1	0	0	0	1	0	0	0	0	5	5
08:45	1	2	0	1	3	0	0	0	1	0	0	0	0	2	10	5
09:00	4	7	5	3	11	4	1	1	1	1	0	0	0	7	45	22
09:00	0	1	4	0	3	0	0	2	1	0	0	0	0	1	12	6
09:15	1	2	0	1	5	1	0	1	1	0	0	0	0	0	12	9
09:30	1	2	2	2	2	2	0	2	1	1	0	0	0	2	17	10
09:45	3	6	3	0	3	5	0	2	0	0	0	0	0	3	25	10
10:00	5	11	9	3	13	8	0	7	3	1	0	0	0	6	66	35
10:00	3	2	1	0	2	3	0	2	0	0	0	0	0	3	16	7
10:15	0	0	3	1	4	1	0	5	1	1	0	0	0	1	17	13
10:30	5	6	1	1	4	5	0	2	1	0	0	0	0	2	27	13
10:45	1	3	5	0	3	1	0	2	0	0	0	0	0	0	15	6
11:00	9	11	10	2	13	10	0	11	2	1	0	0	0	6	75	39
11:00	2	6	7	2	3	3	0	0	1	0	0	0	0	1	25	9
11:15	0	5	0	0	1	0	0	3	0	0	0	0	0	3	12	4
11:30	2	1	2	0	0	3	0	1	1	0	0	0	0	5	15	5
11:45	1	2	3	0	5	1	0	3	0	0	0	0	0	5	20	9
Total	5	14	12	2	9	7	0	7	2	0	0	0	0	14	72	27
Percent	37	76	60	12	70	40	0.3%	39	10	3	0.0%	0.0%	0.0%	42	390	175
Percent	9.5%	19.5%	15.4%	3.1%	17.9%	10.3%	0.3%	10.0%	2.6%	0.8%	0.0%	0.0%	0.0%	10.8%	44.9%	

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 north of US 84  
Grand Bayou, LA  
Red River Parish

SB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	0	7	7	0	5	0	0	0	1	0	0	0	1	0	21	7
12:15	0	3	2	1	6	1	0	0	2	0	0	0	0	2	17	10
12:30	1	3	3	2	2	1	0	1	2	0	0	0	0	1	16	8
12:45	0	1	2	2	5	0	0	1	0	0	0	0	0	1	12	8
	1	14	14	5	18	2	0	2	5	0	0	0	1	4	66	33
13:00	2	5	1	2	4	2	0	1	1	0	0	0	0	2	20	10
13:15	0	2	1	2	4	0	0	0	0	0	0	0	0	0	9	6
13:30	3	5	3	1	5	8	0	0	0	0	0	0	0	1	26	14
13:45	2	3	2	1	4	1	0	1	3	0	0	0	0	0	17	10
	7	15	7	6	17	11	0	2	4	0	0	0	0	3	72	40
14:00	0	7	4	0	1	2	0	2	0	2	0	0	0	1	19	7
14:15	1	3	4	0	3	2	0	4	0	0	0	0	0	1	18	9
14:30	2	6	2	2	12	2	0	1	0	0	0	0	0	0	27	17
14:45	2	5	6	0	6	2	0	0	1	0	0	0	0	3	25	9
	5	21	16	2	22	8	0	7	1	2	0	0	0	5	89	42
15:00	0	3	3	0	7	0	0	2	0	0	0	0	0	0	15	9
15:15	2	6	6	0	7	4	0	1	1	0	0	0	1	4	32	14
15:30	0	14	14	0	10	0	0	3	2	0	0	0	1	0	44	16
15:45	0	8	7	0	7	1	0	2	1	0	0	0	0	1	27	11
	2	31	30	0	31	5	0	8	4	0	0	0	2	5	118	50
16:00	0	3	6	0	3	0	0	2	0	1	0	0	0	1	16	6
16:15	3	10	5	0	0	4	0	3	1	0	0	0	0	4	30	8
16:30	0	6	5	0	4	1	0	1	0	0	0	0	0	1	18	6
16:45	1	8	8	0	6	1	0	2	0	0	0	0	0	2	28	9
	4	27	24	0	13	6	0	8	1	1	0	0	0	8	92	29
17:00	0	6	9	0	1	0	0	0	0	0	0	0	0	0	16	1
17:15	0	9	8	2	2	1	1	0	0	0	0	0	0	4	27	6
17:30	0	7	14	0	4	1	0	2	0	0	0	0	0	1	29	7
17:45	1	3	7	2	1	0	0	0	2	0	0	0	1	1	18	6
	1	25	38	4	8	2	1	2	2	0	0	0	1	6	90	20
18:00	0	6	8	0	5	1	0	2	0	0	0	0	0	3	25	8
18:15	0	3	3	0	0	0	0	0	1	0	0	0	0	1	8	1
18:30	1	9	6	0	2	1	0	0	1	0	0	0	0	0	20	4
18:45	0	4	7	0	1	0	0	0	0	0	0	0	0	0	12	1
	1	22	24	0	8	2	0	2	2	0	0	0	0	4	65	14
19:00	0	7	2	0	2	0	0	1	0	0	0	0	0	0	12	3
19:15	0	4	1	0	3	0	0	1	0	0	0	0	0	1	10	4
19:30	0	4	1	0	2	0	0	0	0	0	0	0	0	0	7	2
19:45	0	5	1	0	1	1	0	0	1	0	0	0	0	0	9	3
	0	20	5	0	8	1	0	2	1	0	0	0	0	1	38	12
20:00	0	4	2	0	1	0	0	1	1	0	0	0	0	0	9	3
20:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
20:30	0	4	2	0	1	0	0	0	0	0	0	0	0	0	7	1
20:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0
	0	11	6	0	2	0	0	1	1	0	0	0	0	0	21	4
21:00	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
21:15	1	2	0	0	0	1	0	1	0	0	0	0	0	0	5	2
21:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	3	3	0	0	1	0	1	1	0	0	0	0	0	10	3
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
22:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
22:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
22:45	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3	1
	1	5	1	0	0	1	0	0	0	0	0	0	0	0	8	1
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3	1
23:45	1	0	1	0	1	1	0	0	0	0	0	0	0	0	4	2
	1	3	2	0	2	1	0	0	0	0	0	0	0	0	9	3
Total	24	197	170	17	129	40	1	35	22	3	0	0	4	36	678	251
Percent	3.5%	29.1%	25.1%	2.5%	19.0%	5.9%	0.1%	5.2%	3.2%	0.4%	0.0%	0.0%	0.6%	5.3%		37.0%
Grand Total	115	547	473	67	425	146	3	174	46	9	0	0	5	194	2204	875
Percent	5.2%	24.8%	21.5%	3.0%	19.3%	6.6%	0.1%	7.9%	2.1%	0.4%	0.0%	0.0%	0.2%	8.8%		39.7%

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 south of US 84  
Grand Bayou, LA  
Red River Parish

Start Time	3/17/2020 Tue		NB		SB		Combined		3/18/2020 Wed		NB		SB		Combined	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	1	27	1	19	2	46	4	25	2	42	6	67				
12:15	2	26	4	30	6	56	6	16	4	21	10	37				
12:30	3	15	3	18	6	33	2	15	3	27	5	42				
12:45	0	29	2	25	2	54	3	34	2	19	5	53				
01:00	6	19	3	28	9	47	5	18	0	25	5	43				
01:15	0	16	0	21	0	37	3	27	0	11	3	38				
01:30	4	35	0	18	4	53	1	25	4	18	5	43				
01:45	3	29	3	18	6	47	1	23	3	23	4	46				
02:00	1	25	2	24	3	49	0	26	3	21	3	47				
02:15	2	28	2	36	4	64	2	33	3	29	5	62				
02:30	1	29	7	31	8	60	1	19	5	32	6	51				
02:45	3	20	2	41	5	61	1	20	2	25	3	45				
03:00	4	36	2	25	6	61	2	21	0	22	2	43				
03:15	5	17	7	27	12	44	2	29	2	36	4	65				
03:30	6	18	1	53	7	71	7	26	2	57	9	83				
03:45	2	27	3	48	5	75	5	18	0	40	5	58				
04:00	9	35	4	32	13	67	8	23	5	26	13	49				
04:15	10	28	6	37	16	65	5	30	12	36	17	66				
04:30	7	23	7	31	14	54	7	22	5	32	12	54				
04:45	16	39	3	38	19	77	13	42	3	41	16	83				
05:00	16	16	12	42	28	58	19	35	7	33	26	68				
05:15	26	26	9	40	35	66	33	20	15	36	48	56				
05:30	31	22	13	36	44	58	38	21	22	37	60	58				
05:45	30	18	17	33	47	51	25	11	15	30	40	41				
06:00	51	17	14	27	65	44	43	12	21	28	64	40				
06:15	44	16	15	30	59	46	42	15	22	16	64	31				
06:30	36	16	16	32	52	48	36	15	24	32	60	47				
06:45	24	7	18	16	42	23	30	9	22	18	52	27				
07:00	19	6	14	17	33	23	31	14	20	18	51	32				
07:15	21	11	17	8	38	19	23	6	16	13	39	19				
07:30	29	9	11	12	40	21	28	11	20	12	48	23				
07:45	30	7	17	13	47	20	48	6	10	20	58	26				
08:00	25	15	15	6	40	21	19	6	15	17	34	23				
08:15	27	9	22	10	49	19	29	9	16	7	45	16				
08:30	23	5	21	10	44	15	24	7	12	8	36	15				
08:45	16	9	22	17	38	26	24	4	20	12	44	16				
09:00	13	4	9	8	22	12	15	2	22	5	37	7				
09:15	24	11	22	7	46	18	21	5	20	4	41	9				
09:30	34	7	14	8	48	15	14	2	23	2	37	4				
09:45	14	1	38	3	52	4	18	5	22	1	40	6				
10:00	18	4	30	5	48	9	21	1	18	5	39	6				
10:15	29	3	36	10	65	13	18	5	19	6	37	11				
10:30	25	5	21	8	46	13	27	4	34	5	61	9				
10:45	16	4	20	3	36	7	26	3	20	2	46	5				
11:00	21	1	20	3	41	4	25	3	30	4	55	7				
11:15	21	4	20	7	41	11	30	4	20	9	50	13				
11:30	36	0	34	5	70	5	20	2	23	10	43	12				
11:45	25	3	21	2	46	5	20	1	28	3	48	4				
Total	809	777	600	1018	1409	1795	825	730	616	976	1441	1706				
Day Total	1586		1618		3204		1555		1592		3147					
% Total	25.2%	24.3%	18.7%	31.8%			26.2%	23.2%	19.6%	31.0%						
Peak	-	05:45	04:00	09:45	03:30	05:45	03:30	-	06:00	04:15	10:30	03:15	06:00	04:15		
Vol.	-	161	125	125	170	223	278	-	151	129	104	159	240	271		
P.H.F.	-	0.789	0.801	0.822	0.802	0.858	0.927	-	0.878	0.768	0.765	0.697	0.938	0.816		
ADT	ADT 3,176		AADT 3,176													



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6425 Youree Drive, Suite 210  
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NS.15699  
LA 1 south of US 84  
Grand Bayou, LA  
Red River Parish

NB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/17/20	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
00:15	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	1
00:30	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	3	0	0	0	0	0	2	0	0	0	0	0	6	2
01:15	1	1	1	0	0	1	0	0	2	0	0	0	0	0	6	3
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	1	0	1	1	0	0	0	1	0	0	0	0	0	4	3
02:00	1	0	0	0	0	1	0	0	1	0	0	0	0	0	3	2
02:15	2	2	1	1	1	2	0	0	4	0	0	0	0	0	13	8
02:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
02:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
03:00	0	0	2	1	0	1	0	0	3	0	0	0	0	0	7	5
03:15	0	0	3	0	1	0	0	0	0	0	0	0	0	0	4	1
03:30	1	2	1	0	0	1	0	0	0	0	0	0	0	0	5	1
03:45	0	1	2	3	0	0	0	0	0	0	0	0	0	0	6	3
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
04:15	1	3	8	3	1	1	0	0	0	0	0	0	0	0	17	5
04:30	0	0	3	1	0	0	0	0	3	0	0	0	0	2	9	4
04:45	1	0	1	0	3	1	0	1	3	0	0	0	0	0	10	8
05:00	1	1	2	0	1	1	0	0	0	0	0	0	0	1	7	2
05:15	0	0	3	1	9	0	0	0	1	1	0	0	0	1	16	12
05:30	2	1	9	2	13	2	0	1	7	1	0	0	0	4	42	26
05:45	1	3	5	3	3	0	0	0	1	0	0	0	0	0	16	7
06:00	0	1	9	1	14	0	0	1	0	0	0	0	0	0	26	16
06:15	1	8	10	0	10	1	0	0	0	0	0	0	0	1	31	11
06:30	0	4	10	0	15	0	0	0	1	0	0	0	0	0	30	16
06:45	2	16	34	4	42	1	0	1	2	0	0	0	0	1	103	50
07:00	3	9	10	1	17	3	0	0	8	0	0	0	0	0	51	29
07:15	1	4	16	1	16	0	0	2	2	0	0	0	0	2	44	21
07:30	0	3	16	0	16	0	0	1	0	0	0	0	0	0	36	17
07:45	1	5	8	1	7	1	0	0	0	0	0	0	0	1	24	9
08:00	5	21	50	3	56	4	0	3	10	0	0	0	0	3	155	76
08:15	0	2	7	0	9	0	0	0	1	0	0	0	0	0	19	10
08:30	0	5	8	0	7	0	0	1	0	0	0	0	0	0	21	8
08:45	2	4	7	0	7	2	0	3	4	0	0	0	0	0	29	16
09:00	0	3	12	1	8	0	0	2	3	0	0	0	0	1	30	14
09:15	2	14	34	1	31	2	0	6	8	0	0	0	0	1	99	48
09:30	1	6	2	3	5	1	0	1	2	0	0	0	0	4	25	12
09:45	1	2	10	2	6	0	0	3	1	0	0	0	0	2	27	12
10:00	1	3	4	2	5	1	0	2	4	0	0	0	0	1	23	14
10:15	0	2	8	1	2	0	0	2	1	0	0	0	0	0	16	6
10:30	3	13	24	8	18	2	0	8	8	0	0	0	0	7	91	44
10:45	0	0	4	0	4	0	0	2	3	0	0	0	0	0	13	9
11:00	0	3	7	2	7	0	0	1	4	0	0	0	0	0	24	14
11:15	0	3	12	3	9	2	0	0	2	0	0	0	0	3	34	16
11:30	0	3	4	0	3	0	0	0	2	0	0	0	0	2	14	5
11:45	0	9	27	5	23	2	0	3	11	0	0	0	0	5	85	44
12:00	0	2	4	2	8	0	0	1	1	0	0	0	0	0	18	12
12:15	1	3	7	1	8	1	0	1	7	0	0	0	0	0	29	18
12:30	2	1	6	1	5	2	0	1	3	0	0	0	0	4	25	12
12:45	0	3	4	2	1	0	0	1	3	0	0	0	0	2	16	7
13:00	3	9	21	6	22	3	0	4	14	0	0	0	0	6	88	49
13:15	0	3	5	1	4	0	0	2	1	0	0	0	0	5	21	8
13:30	3	4	0	3	5	1	0	0	4	0	0	0	0	1	21	13
13:45	3	3	10	1	6	4	0	3	1	0	0	0	0	5	36	15
14:00	2	1	7	2	8	1	0	0	2	0	0	0	0	2	25	13
14:15	8	11	22	7	23	6	0	5	8	0	0	0	0	13	103	49
Total	28	100	235	41	230	26	0	31	77	1	0	0	0	40	809	406
Percent	3.5%	12.4%	29.0%	5.1%	28.4%	3.2%	0.0%	3.8%	9.5%	0.1%	0.0%	0.0%	0.0%	4.9%		50.2%

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 south of US 84  
Grand Bayou, LA  
Red River Parish

NB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	1	4	6	0	11	0	0	1	4	0	0	0	0	0	27	16
12:15	0	3	6	0	7	1	0	2	3	0	0	0	0	4	26	13
12:30	0	0	3	0	8	0	0	1	3	0	0	0	0	0	15	12
12:45	2	3	9	3	5	1	0	2	2	0	0	0	0	2	29	13
	3	10	24	3	31	2	0	6	12	0	0	0	0	6	97	54
13:00	2	3	3	0	5	2	0	0	3	0	0	0	0	1	19	10
13:15	0	0	7	0	4	0	0	0	3	1	0	0	0	1	16	8
13:30	3	7	8	2	5	2	0	3	3	0	0	0	0	2	35	15
13:45	2	3	4	1	8	2	0	1	5	0	0	0	0	3	29	17
	7	13	22	3	22	6	0	4	14	1	0	0	0	7	99	50
14:00	1	6	2	1	7	1	0	2	5	0	0	0	0	0	25	16
14:15	2	4	6	1	5	4	1	2	0	1	0	0	0	2	28	14
14:30	4	1	4	1	5	3	0	1	7	0	0	0	0	3	29	17
14:45	2	1	4	1	2	2	1	1	3	0	0	0	0	3	20	10
	9	12	16	4	19	10	2	6	15	1	0	0	0	8	102	57
15:00	0	5	15	5	4	0	0	1	3	0	0	0	0	3	36	13
15:15	1	3	3	3	3	0	0	3	1	0	0	0	0	0	17	10
15:30	1	1	7	0	3	1	0	1	1	0	0	0	0	3	18	6
15:45	3	4	4	3	5	3	0	1	2	1	0	0	0	1	27	15
	5	13	29	11	15	4	0	6	7	1	0	0	0	7	98	44
16:00	1	2	12	0	12	1	0	2	5	0	0	0	0	0	35	20
16:15	0	2	7	4	7	1	0	0	2	0	0	0	0	5	28	14
16:30	0	2	8	0	7	0	0	3	2	0	0	0	0	1	23	12
16:45	3	3	10	2	12	2	0	3	2	1	0	0	0	1	39	22
	4	9	37	6	38	4	0	8	11	1	0	0	0	7	125	68
17:00	1	1	7	1	4	1	0	1	0	0	0	0	0	0	16	7
17:15	0	2	12	1	6	0	0	2	3	0	0	0	0	0	26	12
17:30	0	2	6	1	7	0	0	2	1	0	0	0	0	3	22	11
17:45	1	2	5	0	5	1	0	1	2	0	0	0	0	1	18	9
	2	7	30	3	22	2	0	6	6	0	0	0	0	4	82	39
18:00	1	0	5	0	7	1	0	2	1	0	0	0	0	0	17	11
18:15	0	0	6	1	6	0	0	0	1	0	0	0	0	2	16	8
18:30	0	0	3	3	6	0	0	1	2	0	0	0	0	1	16	12
18:45	0	0	3	0	2	0	0	1	0	0	0	0	0	1	7	3
	1	0	17	4	21	1	0	4	4	0	0	0	0	4	56	34
19:00	0	0	0	0	4	0	0	0	2	0	0	0	0	0	6	6
19:15	0	0	6	0	5	0	0	0	0	0	0	0	0	0	11	5
19:30	0	1	3	0	4	0	0	1	0	0	0	0	0	0	9	5
19:45	0	0	3	0	2	0	0	0	2	0	0	0	0	0	7	4
	0	1	12	0	15	0	0	1	4	0	0	0	0	0	33	20
20:00	2	1	4	1	2	2	0	0	3	0	0	0	0	0	15	8
20:15	0	0	4	0	2	0	0	0	3	0	0	0	0	0	9	5
20:30	1	0	1	0	3	0	0	0	0	0	0	0	0	0	5	3
20:45	0	1	4	0	1	0	0	3	0	0	0	0	0	0	9	4
	3	2	13	1	8	2	0	3	6	0	0	0	0	0	38	20
21:00	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	1
21:15	2	0	2	1	2	1	0	0	1	0	0	0	0	2	11	5
21:30	0	1	1	0	4	0	0	0	0	0	0	0	0	1	7	4
21:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	2	1	7	1	6	1	0	0	2	0	0	0	0	3	23	10
22:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4	1
22:15	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3	1
22:30	1	0	1	0	1	0	0	0	2	0	0	0	0	0	5	3
22:45	0	0	1	0	1	0	0	0	2	0	0	0	0	0	4	3
	1	2	5	0	4	0	0	0	4	0	0	0	0	0	16	8
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
23:15	0	0	3	0	1	0	0	0	0	0	0	0	0	0	4	1
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	1	0	1	0	0	0	1	0	0	0	0	0	3	2
	0	0	5	0	2	0	0	0	1	0	0	0	0	0	8	3
Total	37	70	217	36	203	32	2	44	86	4	0	0	0	46	777	407
Percent	4.8%	9.0%	27.9%	4.6%	26.1%	4.1%	0.3%	5.7%	11.1%	0.5%	0.0%	0.0%	0.0%	5.9%	77.7%	52.4%

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NB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/18/2																
0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	4	1
00:15	0	0	3	0	0	0	0	1	1	0	0	0	0	1	6	2
00:30	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	1
00:45	0	0	0	0	1	0	0	0	2	0	0	0	0	0	3	3
01:00	1	1	5	0	1	1	0	1	4	0	0	0	0	1	15	7
01:15	0	0	0	1	0	0	0	0	4	0	0	0	0	0	5	5
01:30	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	1
01:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
02:00	0	0	4	2	0	0	0	0	4	0	0	0	0	0	10	6
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0
02:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
03:00	0	0	1	0	0	0	0	2	0	0	0	0	0	1	4	2
03:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	1
03:30	0	3	0	1	1	0	0	0	1	0	0	0	0	0	7	2
03:45	1	0	1	1	0	1	0	1	0	0	0	0	0	0	5	3
04:00	1	3	4	2	3	1	0	1	1	0	0	0	0	0	16	8
04:15	2	0	1	0	1	2	0	0	1	0	0	0	0	1	8	4
04:30	0	0	1	0	0	0	0	0	4	0	0	0	0	0	5	4
04:45	0	0	2	1	3	0	0	0	1	0	0	0	0	0	7	5
05:00	1	1	2	0	7	0	0	0	1	0	0	0	0	1	13	8
05:15	3	1	6	1	11	2	0	0	7	0	0	0	0	2	33	21
05:30	1	1	7	0	8	1	0	0	0	0	0	0	0	1	19	9
05:45	1	1	12	1	16	0	0	0	0	0	0	0	0	2	33	17
06:00	1	2	13	2	17	1	0	1	0	0	0	0	0	1	38	21
06:15	2	3	8	1	7	1	0	0	1	0	0	0	0	2	25	10
06:30	5	7	40	4	48	3	0	1	1	0	0	0	0	6	115	57
06:45	0	4	14	2	17	0	0	2	3	0	0	0	0	1	43	24
07:00	0	4	17	0	19	1	0	0	1	0	0	0	0	0	42	21
07:15	0	1	13	0	20	0	0	1	0	0	0	0	0	1	36	21
07:30	2	1	9	0	9	2	0	1	1	0	0	0	0	5	30	13
07:45	2	10	53	2	65	3	0	4	5	0	0	0	0	7	151	79
08:00	2	2	12	0	13	1	0	0	1	0	0	0	0	0	31	15
08:15	0	1	10	0	9	0	0	1	2	0	0	0	0	0	23	12
08:30	1	1	14	1	5	2	0	1	1	0	0	0	0	2	28	10
08:45	1	4	16	6	9	7	0	0	3	0	0	0	0	2	48	25
09:00	4	8	52	7	36	10	0	2	7	0	0	0	0	4	130	62
09:15	0	1	3	1	7	0	0	2	4	0	0	0	0	1	19	14
09:30	2	2	7	5	7	1	0	0	3	0	0	0	0	2	29	16
09:45	3	1	5	1	5	3	0	2	3	0	0	0	0	1	24	14
10:00	3	0	5	2	7	3	0	1	1	0	0	0	0	2	24	14
10:15	8	4	20	9	26	7	0	5	11	0	0	0	0	6	96	58
10:30	1	0	4	3	5	1	0	1	0	0	0	0	0	0	15	10
10:45	0	3	4	2	6	0	0	2	1	0	0	0	0	3	21	11
11:00	0	0	6	1	5	0	0	0	2	0	0	0	0	0	14	8
11:15	1	1	5	1	2	1	0	3	3	0	0	0	0	1	18	10
11:30	2	4	19	7	18	2	0	6	6	0	0	0	0	4	68	39
11:45	1	3	4	1	6	1	0	1	1	0	0	0	0	3	21	10
12:00	2	0	4	3	1	2	0	1	3	0	0	0	0	2	18	10
12:15	4	1	6	3	3	4	0	2	2	0	0	0	0	2	27	14
12:30	0	0	11	4	6	1	0	0	2	0	0	0	0	2	26	13
12:45	7	4	25	11	16	8	0	4	8	0	0	0	0	9	92	47
13:00	1	2	6	2	7	1	0	0	4	0	0	0	0	2	25	14
13:15	0	0	9	2	9	0	0	5	3	0	0	0	0	2	30	19
13:30	0	1	5	2	7	0	0	1	2	0	0	0	0	2	20	12
13:45	0	1	5	3	6	1	0	0	2	1	0	0	0	1	20	13
Total	1	4	25	9	29	2	0	6	11	1	0	0	0	7	95	58
Percent	34	46	254	54	253	39	0	30	67	1	0	0	0	47	825	444
	4.1%	5.6%	30.8%	6.5%	30.7%	4.7%	0.0%	3.6%	8.1%	0.1%	0.0%	0.0%	0.0%	5.7%		53.8%

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Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	1	1	6	4	7	0	0	2	3	0	0	0	0	1	25	16
12:15	0	0	5	2	6	0	0	2	0	0	0	0	0	1	16	10
12:30	1	0	5	0	4	1	0	2	1	1	0	0	0	0	15	9
12:45	1	1	10	2	11	0	0	2	5	0	0	0	0	2	34	20
	3	2	26	8	28	1	0	8	9	1	0	0	0	4	90	55
13:00	1	1	8	0	3	1	0	2	1	0	0	0	0	1	18	7
13:15	1	1	7	2	8	2	0	3	2	0	0	0	0	1	27	17
13:30	0	2	12	2	3	0	0	0	2	0	0	0	0	4	25	7
13:45	2	1	4	3	5	1	0	1	4	0	0	0	0	2	23	14
	4	5	31	7	19	4	0	6	9	0	0	0	0	8	93	45
14:00	1	2	8	3	5	0	0	3	1	0	0	0	0	3	26	12
14:15	4	2	5	4	7	2	0	2	1	1	0	0	0	5	33	17
14:30	0	1	6	1	6	0	0	0	4	0	0	0	0	1	19	11
14:45	1	1	5	0	5	1	0	1	3	0	0	0	0	3	20	10
	6	6	24	8	23	3	0	6	9	1	0	0	0	12	98	50
15:00	1	2	5	1	9	1	0	1	0	0	0	0	0	1	21	12
15:15	1	2	10	0	5	3	0	3	2	0	0	0	0	3	29	13
15:30	1	4	7	2	5	1	0	1	0	0	0	0	0	5	26	9
15:45	1	0	5	0	6	1	0	2	1	0	0	0	0	2	18	10
	4	8	27	3	25	6	0	7	3	0	0	0	0	11	94	44
16:00	2	0	7	1	6	1	0	1	3	0	0	0	0	2	23	12
16:15	0	1	8	2	11	0	0	3	0	0	0	0	0	5	30	16
16:30	0	2	9	1	5	1	0	1	1	0	0	0	0	2	22	9
16:45	1	5	13	0	14	2	0	5	2	0	0	0	0	0	42	23
	3	8	37	4	36	4	0	10	6	0	0	0	0	9	117	60
17:00	1	4	13	1	10	1	0	2	2	0	0	0	0	1	35	16
17:15	1	3	6	1	8	0	0	0	0	0	0	0	0	1	20	9
17:30	0	1	6	1	10	0	0	2	1	0	0	0	0	0	21	14
17:45	0	0	5	0	6	0	0	0	0	0	0	0	0	0	11	6
	2	8	30	3	34	1	0	4	3	0	0	0	0	2	87	45
18:00	0	0	5	0	3	0	0	2	1	0	0	0	0	1	12	6
18:15	0	1	6	1	7	0	0	0	0	0	0	0	0	0	15	8
18:30	1	2	2	0	6	1	0	2	1	0	0	0	0	0	15	10
18:45	1	1	2	0	2	1	0	1	1	0	0	0	0	0	9	5
	2	4	15	1	18	2	0	5	3	0	0	0	0	1	51	29
19:00	0	1	6	1	2	0	0	2	1	0	0	0	0	1	14	6
19:15	0	1	3	0	1	0	0	0	1	0	0	0	0	0	6	2
19:30	1	0	3	1	4	1	0	0	1	0	0	0	0	0	11	7
19:45	0	1	2	0	3	0	0	0	0	0	0	0	0	0	6	3
	1	3	14	2	10	1	0	2	3	0	0	0	0	1	37	18
20:00	1	1	1	0	3	0	0	0	0	0	0	0	0	0	6	3
20:15	0	0	3	0	2	0	0	0	4	0	0	0	0	0	9	6
20:30	1	0	0	0	3	1	0	1	1	0	0	0	0	0	7	6
20:45	0	1	1	0	1	0	0	0	1	0	0	0	0	0	4	2
	2	2	5	0	9	1	0	1	6	0	0	0	0	0	26	17
21:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
21:15	0	1	1	0	3	0	0	0	0	0	0	0	0	0	5	3
21:30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
21:45	0	0	2	0	2	0	0	0	1	0	0	0	0	0	5	3
	0	2	6	0	5	0	0	0	1	0	0	0	0	0	14	6
22:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
22:15	0	1	2	0	0	0	0	0	2	0	0	0	0	0	5	2
22:30	0	1	2	0	0	0	0	1	0	0	0	0	0	0	4	1
22:45	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3	1
	0	2	7	0	1	0	0	1	2	0	0	0	0	0	13	4
23:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3	1
23:15	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4	1
23:30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
23:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
	0	3	4	0	2	0	0	0	1	0	0	0	0	0	10	3
Total	27	53	226	36	210	23	0	50	55	2	0	0	0	48	730	376
Percent	3.7%	7.3%	31.0%	4.9%	28.8%	3.2%	0.0%	6.8%	7.5%	0.3%	0.0%	0.0%	0.0%	6.6%	730	51.5%
Grand Total	126	269	932	167	896	120	2	155	285	8	0	0	0	181	3141	1633
Percent	4.0%	8.6%	29.7%	5.3%	28.5%	3.8%	0.1%	4.9%	9.1%	0.3%	0.0%	0.0%	0.0%	5.8%	3141	52.0%

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
LA 1 south of US 84  
Grand Bayou, LA  
Red River Parish

SB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/17/20	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
00:15	1	2	0	0	0	1	0	0	0	0	0	0	0	0	4	1
00:30	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
00:45	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	1
01:00	1	4	2	0	0	1	0	0	2	0	0	0	0	0	10	3
01:15	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	1	0	0	0	0	0	3	0	0	0	0	0	6	3
02:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
02:30	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	1
02:45	1	2	0	0	0	1	0	0	3	0	0	0	0	0	7	4
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
03:15	1	3	2	0	0	1	0	0	6	0	0	0	0	0	13	7
03:30	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	2
03:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:00	1	2	1	0	4	2	0	0	3	0	0	0	0	0	13	9
04:15	1	0	1	0	1	0	0	0	1	0	0	0	0	0	4	2
04:30	0	4	0	0	1	0	0	0	1	0	0	0	0	0	6	2
04:45	0	3	1	0	2	0	0	0	1	0	0	0	0	0	7	3
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3	0
05:15	1	9	2	0	4	0	0	0	3	0	0	0	0	1	20	7
05:30	0	4	3	0	2	0	0	0	2	0	0	0	0	0	12	4
05:45	0	4	3	0	1	0	0	0	1	0	0	0	0	0	9	2
06:00	0	6	1	0	2	0	0	2	1	0	0	0	0	1	13	5
06:15	2	6	3	0	0	3	0	0	0	0	0	0	0	3	17	3
06:30	2	20	10	0	5	3	0	2	4	0	0	0	0	5	51	14
06:45	1	2	8	1	0	1	0	0	1	0	0	0	0	0	14	3
07:00	3	2	5	0	0	2	0	0	0	0	0	0	0	3	15	2
07:15	1	3	3	2	3	2	0	2	0	0	0	0	0	0	16	9
07:30	0	1	4	0	3	1	0	1	8	0	0	0	0	0	18	13
07:45	5	8	20	3	6	6	0	3	9	0	0	0	0	3	63	27
08:00	2	4	1	0	0	4	0	0	3	0	0	0	0	0	14	7
08:15	0	6	7	0	1	1	0	2	0	0	0	0	0	0	17	4
08:30	1	6	1	0	2	1	0	0	0	0	0	0	0	0	11	3
08:45	0	4	6	0	5	1	0	0	1	0	0	0	0	0	17	7
09:00	3	20	15	0	8	7	0	2	4	0	0	0	0	0	59	21
09:15	1	4	5	0	2	1	0	1	1	0	0	0	0	0	15	5
09:30	0	7	9	0	1	1	0	1	0	0	0	0	0	3	22	3
09:45	1	4	9	0	4	1	0	0	2	0	0	0	0	0	21	7
10:00	3	4	7	1	1	1	0	1	2	0	0	0	0	2	22	6
10:15	5	19	30	1	8	4	0	3	5	0	0	0	0	5	80	21
10:30	0	3	2	0	2	1	0	1	0	0	0	0	0	0	9	4
10:45	3	5	5	0	2	4	0	0	1	0	0	0	0	2	22	7
11:00	0	5	4	0	0	0	0	1	3	0	0	0	0	1	14	4
11:15	7	7	4	1	1	5	0	4	4	1	0	0	0	4	38	16
11:30	10	20	15	1	5	10	0	6	8	1	0	0	0	7	83	31
11:45	1	8	8	1	2	1	0	2	5	0	0	0	0	2	30	11
12:00	5	6	10	0	4	4	0	3	2	0	0	0	0	2	36	13
12:15	1	5	7	0	1	2	0	1	4	0	0	0	0	0	21	8
12:30	2	7	5	0	1	3	0	0	1	0	0	0	0	1	20	5
12:45	9	26	30	1	8	10	0	6	12	0	0	0	0	5	107	37
13:00	2	3	2	0	3	4	0	3	1	0	0	0	0	2	20	11
13:15	1	8	2	0	2	0	0	1	6	0	0	0	0	0	20	9
13:30	3	10	7	0	3	3	0	3	3	0	0	0	0	2	34	12
13:45	0	10	5	0	2	0	0	1	2	0	0	0	0	1	21	5
Total	6	31	16	0	10	7	0	8	12	0	0	0	0	5	95	37
Percent	44	164	144	6	58	51	0	30	71	1	0	0	0	31	600	217
	7.3%	27.3%	24.0%	1.0%	9.7%	8.5%	0.0%	5.0%	11.8%	0.2%	0.0%	0.0%	0.0%	5.2%		36.2%

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Red River Parish

SB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	0	6	6	0	0	0	0	1	6	0	0	0	0	0	19	7
12:15	2	9	5	0	3	4	0	3	3	1	0	0	0	0	30	14
12:30	2	4	6	0	0	2	0	0	3	0	0	0	0	1	18	5
12:45	1	6	7	1	4	0	0	1	1	0	0	0	0	4	25	7
	5	25	24	1	7	6	0	5	13	1	0	0	0	5	92	33
13:00	1	12	3	0	3	2	0	1	2	1	0	0	1	2	28	10
13:15	2	8	1	2	3	3	0	1	1	0	0	0	0	0	21	10
13:30	1	7	5	1	2	1	0	1	0	0	0	0	0	0	18	5
13:45	3	3	4	1	2	1	0	1	2	0	0	0	0	1	18	7
	7	30	13	4	10	7	0	4	5	1	0	0	1	3	85	32
14:00	1	6	5	0	1	1	0	5	2	0	0	0	0	3	24	9
14:15	3	12	7	0	4	3	0	1	4	0	0	0	0	2	36	12
14:30	1	12	10	1	3	1	0	2	1	0	0	0	0	0	31	8
14:45	4	11	16	0	4	1	0	2	2	0	0	0	0	1	41	9
	9	41	38	1	12	6	0	10	9	0	0	0	0	6	132	38
15:00	4	5	4	1	1	4	0	1	5	0	0	0	0	0	25	12
15:15	1	9	11	0	2	1	0	1	1	0	0	0	0	1	27	5
15:30	3	28	12	0	2	4	0	3	1	0	0	0	0	0	53	10
15:45	2	19	11	2	2	5	0	0	2	1	0	0	1	3	48	13
	10	61	38	3	7	14	0	5	9	1	0	0	1	4	153	40
16:00	0	13	11	0	4	0	0	1	1	0	0	0	0	2	32	6
16:15	0	13	15	1	6	0	1	0	1	0	0	0	0	0	37	9
16:30	2	18	3	0	1	2	0	1	1	0	0	0	0	3	31	5
16:45	0	18	7	1	4	0	0	0	4	0	0	0	0	4	38	9
	2	62	36	2	15	2	1	2	7	0	0	0	0	9	138	29
17:00	4	17	9	1	4	3	0	1	2	1	0	0	0	0	42	12
17:15	1	26	7	0	2	2	0	0	2	0	0	0	0	0	40	6
17:30	1	22	9	0	2	1	0	1	0	0	0	0	0	0	36	4
17:45	3	8	8	0	3	4	0	1	6	0	0	0	0	0	33	14
	9	73	33	1	11	10	0	3	10	1	0	0	0	0	151	36
18:00	2	10	9	0	2	3	0	0	1	0	0	0	0	0	27	6
18:15	4	8	7	0	2	2	0	0	7	0	0	0	0	0	30	11
18:30	1	13	12	0	1	2	0	1	1	0	0	0	0	1	32	5
18:45	0	7	6	0	0	0	0	1	2	0	0	0	0	0	16	3
	7	38	34	0	5	7	0	2	11	0	0	0	0	1	105	25
19:00	0	12	0	0	0	1	0	1	3	0	0	0	0	0	17	5
19:15	0	5	2	0	0	1	0	0	0	0	0	0	0	0	8	1
19:30	1	7	2	0	1	1	0	0	0	0	0	0	0	0	12	2
19:45	0	6	4	0	2	1	0	0	0	0	0	0	0	0	13	3
	1	30	8	0	3	4	0	1	3	0	0	0	0	0	50	11
20:00	1	4	0	0	0	1	0	0	0	0	0	0	0	0	6	1
20:15	1	4	3	0	0	1	0	0	1	0	0	0	0	0	10	2
20:30	0	6	4	0	0	0	0	0	0	0	0	0	0	0	10	0
20:45	3	4	3	0	0	1	0	0	2	0	0	0	0	4	17	3
	5	18	10	0	0	3	0	0	3	0	0	0	0	4	43	6
21:00	1	3	2	0	1	1	0	0	0	0	0	0	0	0	8	2
21:15	1	4	0	0	0	1	0	0	0	0	0	0	0	1	7	1
21:30	1	2	2	0	1	1	0	0	0	0	0	0	0	1	8	2
21:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0
	3	11	5	0	2	3	0	0	0	0	0	0	0	2	26	5
22:00	1	1	1	1	0	0	0	0	0	0	0	0	0	1	5	1
22:15	1	3	1	1	0	1	0	0	2	0	0	0	0	1	10	4
22:30	1	2	3	0	0	1	0	0	0	0	0	0	0	1	8	1
22:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
	3	9	5	2	0	2	0	0	2	0	0	0	0	3	26	6
23:00	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
23:15	2	1	2	0	0	2	0	0	0	0	0	0	0	0	7	2
23:30	1	2	0	0	0	2	0	0	0	0	0	0	0	0	5	2
23:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
	3	6	3	0	0	4	0	0	1	0	0	0	0	0	17	5
Total	64	404	247	14	72	68	1	32	73	4	0	0	2	37	1018	266
Percent	6.3%	39.7%	24.3%	1.4%	7.1%	6.7%	0.1%	3.1%	7.2%	0.4%	0.0%	0.0%	0.2%	3.6%		26.1%

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Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/18/20	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
00:15	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4	1
00:30	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0
00:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
01:00	0	5	2	0	1	0	0	0	3	0	0	0	0	0	11	4
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	1	1	0	0	0	1	0	0	1	0	0	0	0	0	4	2
01:45	1	0	0	0	0	1	0	0	1	0	0	0	0	0	3	2
02:00	2	1	0	0	0	2	0	0	2	0	0	0	0	0	7	4
02:15	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3	2
02:30	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3	1
02:45	1	1	1	0	0	1	0	0	1	0	0	0	0	0	5	2
03:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
03:15	0	3	1	0	0	2	0	0	5	0	0	0	0	0	13	7
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	1
04:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	1
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	3	1	0	0	0	0	0	1	0	0	0	0	0	4	2
04:45	0	3	1	0	0	0	0	0	0	0	0	0	0	1	5	0
05:00	2	2	1	0	3	2	0	0	1	0	0	0	0	1	12	6
05:15	0	0	1	0	1	0	0	1	1	0	0	0	0	1	5	3
05:30	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3	0
05:45	2	6	5	0	4	2	0	1	2	0	0	0	0	3	25	9
06:00	1	3	2	0	0	1	0	0	0	0	0	0	0	0	7	1
06:15	2	3	6	0	0	2	0	0	2	0	0	0	0	0	15	4
06:30	4	8	1	0	3	3	0	1	0	0	0	0	0	2	22	7
06:45	1	4	5	0	2	2	0	0	0	0	0	0	0	1	15	4
07:00	8	18	14	0	5	8	0	1	2	0	0	0	0	3	59	16
07:15	1	5	7	0	1	1	0	1	2	0	0	0	0	3	21	5
07:30	4	3	8	0	1	4	0	0	2	0	0	0	0	0	22	7
07:45	2	6	5	0	3	3	0	1	4	0	0	0	0	0	24	11
08:00	2	4	6	0	6	3	0	0	1	0	0	0	0	0	22	10
08:15	9	18	26	0	11	11	0	2	9	0	0	0	0	3	89	33
08:30	4	4	2	0	3	4	0	1	2	0	0	0	0	0	20	10
08:45	2	5	4	0	1	2	0	2	0	0	0	0	0	0	16	5
09:00	0	11	3	0	2	0	0	2	2	0	0	0	0	0	20	6
09:15	1	3	4	0	0	0	0	2	0	0	0	0	0	0	10	2
09:30	7	23	13	0	6	6	0	7	4	0	0	0	0	0	66	23
09:45	3	5	3	0	0	1	0	0	2	0	0	0	0	1	15	3
10:00	1	5	5	0	1	1	0	1	1	0	0	0	0	1	16	4
10:15	1	1	4	0	3	2	0	0	1	0	0	0	0	0	12	6
10:30	4	2	2	0	3	4	0	1	3	0	0	0	1	0	20	12
10:45	9	13	14	0	7	8	0	2	7	0	0	0	1	2	63	25
11:00	3	4	3	1	2	3	0	0	2	1	0	0	0	3	22	9
11:15	2	4	8	0	3	1	0	0	2	0	0	0	0	0	20	6
11:30	4	4	6	0	1	3	0	1	3	0	0	0	0	1	23	8
11:45	0	11	4	0	3	1	0	2	0	0	0	0	0	1	22	6
12:00	9	23	21	1	9	8	0	3	7	1	0	0	0	5	87	29
12:15	2	4	7	1	1	1	0	2	0	0	0	0	0	0	18	5
12:30	2	0	3	1	3	2	0	4	1	1	0	0	0	2	19	12
12:45	3	9	8	1	2	0	0	2	4	0	0	0	1	4	34	10
13:00	1	5	9	0	1	1	0	2	1	0	0	0	0	0	20	5
13:15	8	18	27	3	7	4	0	10	6	1	0	0	1	6	91	32
13:30	3	9	12	0	0	2	0	1	2	0	0	0	0	1	30	5
13:45	1	8	2	0	1	1	0	4	2	0	0	0	0	1	20	8
14:00	2	8	2	0	3	2	0	2	3	0	0	0	0	1	23	10
14:15	5	3	10	0	2	2	0	0	4	0	0	0	0	2	28	8
14:30	11	28	26	0	6	7	0	7	11	0	0	0	0	5	101	31
Total	67	157	150	4	57	58	0	33	59	2	0	0	2	27	616	215
Percent	10.9%	25.5%	24.4%	0.6%	9.3%	9.4%	0.0%	5.4%	9.6%	0.3%	0.0%	0.0%	0.3%	4.4%		34.9%

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Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	5	18	8	0	4	2	0	0	3	0	0	0	1	1	42	10
12:15	1	6	5	0	3	3	0	0	2	0	0	0	0	1	21	8
12:30	1	9	5	0	4	1	0	1	4	0	0	0	0	2	27	10
12:45	0	3	9	0	4	0	0	0	2	0	0	0	0	1	19	6
13:00	7	36	27	0	15	6	0	1	11	0	0	0	1	5	109	34
13:15	1	10	5	0	2	1	0	0	4	0	0	0	0	2	25	7
13:30	0	5	3	0	1	0	0	0	1	1	0	0	0	0	11	3
13:45	0	7	4	2	1	0	0	0	2	0	0	0	0	2	18	5
14:00	2	7	5	0	2	2	0	0	4	0	0	0	0	1	23	8
14:15	3	29	17	2	6	3	0	0	11	1	0	0	0	5	77	23
14:30	1	11	3	0	1	1	0	2	1	0	0	0	1	0	21	6
14:45	2	11	4	0	2	2	0	2	3	0	0	0	0	3	29	9
15:00	2	12	10	0	3	1	0	0	3	0	0	0	0	1	32	7
15:15	1	10	9	0	1	1	0	1	2	0	0	0	0	0	25	5
15:30	6	44	26	0	7	5	0	5	9	0	0	0	1	4	107	27
15:45	2	5	9	0	2	2	0	1	1	0	0	0	0	0	22	6
16:00	2	11	8	0	4	4	0	3	2	0	0	0	0	2	36	13
16:15	1	31	15	0	4	1	0	2	1	0	0	0	0	2	57	8
16:30	1	18	13	1	2	1	0	0	3	0	0	0	0	1	40	7
16:45	6	65	45	1	12	8	0	6	7	0	0	0	0	5	155	34
17:00	1	8	7	0	4	1	0	1	2	0	0	0	0	2	26	8
17:15	3	16	6	0	5	2	0	0	3	0	0	0	0	1	36	10
17:30	2	12	11	1	3	2	0	0	1	0	0	0	0	0	32	7
17:45	3	15	8	1	3	1	0	1	1	0	0	0	0	8	41	7
18:00	9	51	32	2	15	6	0	2	7	0	0	0	0	11	135	32
18:15	1	17	10	0	2	1	0	1	0	0	0	0	0	1	33	4
18:30	0	14	12	0	2	0	1	1	2	1	0	0	0	3	36	7
18:45	0	16	16	0	2	1	0	1	1	0	0	0	0	0	37	5
19:00	2	8	9	1	1	3	0	0	3	0	0	0	1	2	30	9
19:15	3	55	47	1	7	5	1	3	6	1	0	0	1	6	136	25
19:30	1	9	10	0	1	1	0	0	4	0	0	0	0	2	28	6
19:45	2	6	2	0	1	2	0	1	1	0	0	0	0	1	16	5
20:00	3	15	5	0	1	3	0	0	5	0	0	0	0	0	32	9
20:15	1	11	5	1	0	0	0	0	0	0	0	0	0	0	18	1
20:30	7	41	22	1	3	6	0	1	10	0	0	0	0	3	94	21
20:45	2	9	2	0	1	2	0	0	1	0	0	0	0	1	18	4
21:00	0	6	4	0	1	0	0	1	0	0	0	0	0	1	13	2
21:15	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12	0
21:30	1	8	8	0	1	1	0	0	1	0	0	0	0	0	20	3
21:45	3	33	16	0	3	3	0	1	2	0	0	0	0	2	63	9
22:00	2	7	3	0	2	2	0	0	1	0	0	0	0	0	17	5
22:15	0	4	2	0	0	0	0	0	1	0	0	0	0	0	7	1
22:30	0	5	1	0	0	0	0	0	1	0	0	0	0	1	8	1
22:45	3	5	1	0	0	3	0	0	0	0	0	0	0	0	12	3
23:00	5	21	7	0	2	5	0	0	3	0	0	0	0	1	44	10
23:15	0	2	1	0	0	1	0	0	1	0	0	0	0	0	5	2
23:30	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4	1
23:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
24:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
24:15	0	5	3	0	1	1	0	1	1	0	0	0	0	0	12	4
24:30	0	1	3	0	0	0	0	0	1	0	0	0	0	0	5	1
24:45	0	2	1	0	2	0	0	0	0	1	0	0	0	0	6	3
25:00	1	3	0	0	0	1	0	0	0	0	0	0	0	0	5	1
25:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
25:30	1	8	4	0	2	1	0	0	1	1	0	0	0	0	18	5
25:45	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4	1
26:00	2	2	1	0	1	2	0	0	1	0	0	0	0	0	9	4
26:15	1	3	1	0	0	1	0	0	4	0	0	0	0	0	10	5
26:30	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3	0
26:45	4	7	5	1	1	3	0	0	5	0	0	0	0	0	26	10
Total	54	395	251	8	74	52	1	20	73	3	0	0	3	42	976	234
Percent	5.5%	40.5%	25.7%	0.8%	7.6%	5.3%	0.1%	2.0%	7.5%	0.3%	0.0%	0.0%	0.3%	4.3%		24.0%
Grand Total	229	1120	792	32	261	229	2	115	276	10	0	0	7	137	3210	932
Percent	7.1%	34.9%	24.7%	1.0%	8.1%	7.1%	0.1%	3.6%	8.6%	0.3%	0.0%	0.0%	0.2%	4.3%		29.0%



# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
US 84 west of LA 1  
Grand Bayou, LA  
Red River Parish

Start Time	3/17/2020 Tue		EB		WB		Combined		3/18/20 Wed		EB		WB		Combined	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	0	6	0	12	0	18	1	20	3	11	4	31				
12:15	2	14	3	9	5	23	3	9	5	9	8	18				
12:30	4	8	3	9	7	17	1	11	1	7	2	18				
12:45	1	9	0	10	1	19	0	9	2	12	2	21				
01:00	3	13	3	16	6	29	0	13	1	12	1	25				
01:15	0	9	0	10	0	19	0	3	1	14	1	17				
01:30	0	5	3	10	3	15	1	5	1	19	2	24				
01:45	1	10	2	27	3	37	1	7	1	9	2	16				
02:00	2	12	2	13	4	25	4	9	0	12	4	21				
02:15	1	17	2	14	3	31	4	12	1	13	5	25				
02:30	4	12	1	10	5	22	2	9	1	11	3	20				
02:45	0	15	1	9	1	24	3	9	2	11	5	20				
03:00	4	13	2	16	6	29	1	9	1	7	2	16				
03:15	4	8	2	9	6	17	1	10	1	17	2	27				
03:30	1	12	4	13	5	25	0	13	5	8	5	21				
03:45	0	7	0	10	0	17	3	10	4	10	7	20				
04:00	2	7	5	23	7	30	2	10	5	10	7	20				
04:15	3	10	5	9	8	19	10	10	4	13	14	23				
04:30	7	15	3	10	10	25	3	13	2	5	5	18				
04:45	2	12	4	18	6	30	3	11	3	22	6	33				
05:00	6	23	5	6	11	29	6	15	7	15	13	30				
05:15	5	16	8	8	13	24	8	11	9	7	17	18				
05:30	8	8	5	13	13	21	12	11	7	13	19	24				
05:45	8	18	8	7	16	25	9	12	8	5	17	17				
06:00	7	8	13	10	20	18	11	6	14	7	25	13				
06:15	8	15	4	11	12	26	14	7	10	7	24	14				
06:30	11	11	13	8	24	19	16	9	11	5	27	14				
06:45	12	6	11	6	23	12	11	7	11	10	22	17				
07:00	6	6	10	5	16	11	14	3	14	6	28	9				
07:15	9	4	8	8	17	12	10	5	12	4	22	9				
07:30	5	6	16	3	21	9	10	8	15	6	25	14				
07:45	11	6	15	4	26	10	6	10	28	3	34	13				
08:00	9	3	9	8	18	11	9	10	10	4	19	14				
08:15	10	5	12	7	22	12	5	5	9	8	14	13				
08:30	12	4	10	2	22	6	9	1	10	6	19	7				
08:45	14	8	6	4	20	12	14	6	9	3	23	9				
09:00	6	4	10	3	16	7	9	1	11	1	20	2				
09:15	13	4	7	6	20	10	14	3	8	4	22	7				
09:30	5	2	5	5	10	7	10	0	7	1	17	1				
09:45	18	2	8	1	26	3	11	1	10	5	21	6				
10:00	10	4	5	3	15	7	10	3	15	0	25	3				
10:15	18	4	8	2	26	6	6	5	9	4	15	9				
10:30	9	3	14	4	23	7	16	3	18	2	34	5				
10:45	9	4	12	4	21	8	9	1	15	3	24	4				
11:00	10	2	8	1	18	3	12	2	8	1	20	3				
11:15	12	3	12	1	24	4	10	6	16	2	26	8				
11:30	12	5	18	0	30	5	16	7	17	1	33	8				
11:45	5	0	15	2	20	2	15	1	10	2	25	3				
Total	309	398	320	399	629	797	345	361	372	367	717	728				
Day Total	707		719		1426		706		739		1445					
% Total	21.7%	27.9%	22.4%	28.0%			23.9%	25.0%	25.7%	25.4%						
Peak	-	09:45	04:30	11:00	01:30	10:45	01:45	-	06:15	04:30	07:00	00:45	07:00	04:45		
Vol.	-	55	66	53	64	93	115	-	55	50	69	57	109	105		
P.H.F.	0.764	0.717	0.736	0.593	0.775	0.777	0.859	0.833	0.616	0.750	0.801	0.795				
ADT	ADT 1,436		AADT 1,436													

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NS.15699  
US 84 west of LA 1  
Grand Bayou, LA  
Red River Parish

EB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/17/2																
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
00:30	1	2	0	0	0	1	0	0	0	0	0	0	0	0	4	1
00:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
01:00	1	3	0	0	0	1	0	0	2	0	0	0	0	0	7	3
01:15	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
02:00	0	1	1	0	0	0	0	0	2	0	0	0	0	0	4	2
02:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
02:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
02:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	4
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	1	0	2	0	0	0	7	0	0	0	0	0	7	7
03:30	0	0	0	0	1	0	0	0	3	0	0	0	0	0	4	4
03:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
04:00	0	0	1	0	3	0	0	0	0	0	0	0	0	0	9	8
04:15	0	0	0	0	0	0	0	0	5	0	0	0	0	0	2	2
04:30	0	2	0	0	1	0	0	0	2	0	0	0	0	0	3	1
04:45	0	3	2	0	1	0	0	0	0	0	0	0	0	0	7	2
05:00	0	2	0	0	0	0	0	0	1	0	0	0	0	0	2	0
05:15	0	7	2	0	2	0	0	0	3	0	0	0	0	0	14	5
05:30	0	1	4	0	1	0	0	0	0	0	0	0	0	0	6	1
05:45	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5	1
06:00	0	3	1	0	2	0	0	2	0	0	0	0	0	0	8	4
06:15	1	3	1	0	0	2	0	1	0	0	0	0	0	0	8	3
06:30	0	10	7	0	4	2	0	2	1	0	0	0	0	0	27	9
06:45	0	1	4	1	0	0	0	0	1	0	0	0	0	0	7	2
07:00	0	1	3	0	0	0	0	0	4	0	0	0	0	0	8	4
07:15	0	3	1	2	3	0	0	1	1	0	0	0	0	0	11	7
07:30	0	0	3	0	3	0	0	1	5	0	0	0	0	0	12	9
07:45	0	5	11	3	6	0	0	2	11	0	0	0	0	0	38	22
08:00	0	1	0	0	0	0	0	0	5	0	0	0	0	0	6	5
08:15	0	1	5	0	0	0	0	1	2	0	0	0	0	0	9	3
08:30	0	2	1	0	1	0	0	0	1	0	0	0	0	0	5	2
08:45	0	1	3	1	3	1	0	0	1	0	0	0	0	1	11	6
09:00	0	5	9	1	4	1	0	1	9	0	0	0	0	1	31	16
09:15	1	2	3	0	0	1	0	1	1	0	0	0	0	0	9	3
09:30	0	2	5	0	2	0	0	0	1	0	0	0	0	0	10	3
09:45	0	1	6	0	1	0	0	2	1	0	0	0	0	1	12	4
10:00	0	3	6	1	0	0	0	1	3	0	0	0	0	0	14	5
10:15	1	8	20	1	3	1	0	4	6	0	0	0	0	1	45	15
10:30	1	1	0	0	2	1	0	1	0	0	0	0	0	0	6	4
10:45	0	2	4	0	1	0	0	0	6	0	0	0	0	0	13	7
11:00	0	1	2	0	0	0	0	0	2	0	0	0	0	0	5	2
11:15	0	6	1	1	1	1	0	3	4	1	0	0	0	0	18	11
11:30	1	10	7	1	4	2	0	4	12	1	0	0	0	0	42	24
11:45	0	4	4	0	0	0	0	1	1	0	0	0	0	0	10	2
Total	6	69	80	6	34	10	0	20	80	1	0	0	1	2	309	152
Percent	1.9%	22.3%	25.9%	1.9%	11.0%	3.2%	0.0%	6.5%	25.9%	0.3%	0.0%	0.0%	0.3%	0.6%	49.2%	

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NS.15699  
US 84 west of LA 1  
Grand Bayou, LA  
Red River Parish

EB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	0	1	4	0	0	0	0	0	1	0	0	0	0	0	6	1
12:15	1	1	4	0	2	2	0	1	2	0	0	0	0	1	14	7
12:30	0	1	4	0	0	0	0	0	3	0	0	0	0	0	8	3
12:45	0	1	4	0	1	0	0	2	1	0	0	0	0	0	9	4
13:00	1	4	16	0	3	2	0	3	7	0	0	0	0	1	37	15
13:15	0	5	3	0	3	0	0	0	2	0	0	0	0	0	13	5
13:30	0	3	1	1	2	0	0	0	2	0	0	0	0	0	9	5
13:45	0	0	2	1	0	0	0	0	2	0	0	0	0	0	5	3
14:00	0	3	1	0	1	0	0	0	5	0	0	0	0	0	10	6
14:15	0	11	7	2	6	0	0	0	11	0	0	0	0	0	37	19
14:30	1	2	1	0	1	1	0	3	1	0	0	0	0	2	12	6
14:45	2	5	2	0	5	2	0	0	0	0	0	0	0	1	17	7
15:00	0	3	1	1	2	0	0	1	3	0	0	0	0	1	12	7
15:15	0	1	7	0	0	0	0	2	4	0	0	0	0	1	15	6
15:30	3	11	11	1	8	3	0	6	8	0	0	0	0	5	56	26
15:45	1	2	3	1	0	1	0	2	3	0	0	0	0	0	13	7
16:00	0	2	1	0	2	0	0	0	3	0	0	0	0	0	8	5
16:15	0	5	0	0	0	0	0	1	6	0	0	0	0	0	12	7
16:30	0	2	1	1	0	0	0	0	3	0	0	0	0	0	7	4
16:45	1	11	5	2	2	1	0	3	15	0	0	0	0	0	40	23
17:00	0	3	3	0	1	0	0	0	0	0	0	0	0	0	7	1
17:15	0	2	6	0	2	0	0	0	0	0	0	0	0	0	10	2
17:30	0	7	2	0	1	1	0	1	3	0	0	0	0	0	15	6
17:45	1	4	2	1	0	1	0	0	1	0	0	0	0	2	12	3
18:00	1	16	13	1	4	2	0	1	4	0	0	0	0	2	44	12
18:15	0	7	6	1	2	0	0	1	4	2	0	0	0	0	23	10
18:30	1	7	4	0	1	1	0	0	2	0	0	0	0	0	16	4
18:45	0	5	0	0	2	0	0	0	1	0	0	0	0	0	8	3
19:00	1	5	2	0	3	2	0	1	4	0	0	0	0	0	18	10
19:15	2	24	12	1	8	3	0	2	11	2	0	0	0	0	65	27
19:30	0	4	0	0	1	1	0	0	2	0	0	0	0	0	8	4
19:45	0	3	5	0	1	0	0	1	5	0	0	0	0	0	15	7
20:00	0	2	7	0	0	0	0	1	1	0	0	0	0	0	11	2
20:15	0	2	1	0	0	0	0	1	2	0	0	0	0	0	6	3
20:30	0	11	13	0	2	1	0	3	10	0	0	0	0	0	40	16
20:45	0	3	0	0	0	1	0	1	1	0	0	0	0	0	6	3
21:00	0	3	0	0	0	1	0	1	1	0	0	0	0	0	6	3
21:15	0	2	1	0	0	1	0	0	0	0	0	0	0	0	4	1
21:30	1	2	0	0	1	1	0	0	1	0	0	0	0	0	6	3
21:45	0	2	3	0	0	0	0	0	1	0	0	0	0	0	6	1
22:00	1	9	4	0	1	3	0	1	3	0	0	0	0	0	22	8
22:15	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
22:30	0	1	2	0	0	0	0	0	1	0	0	0	0	1	5	1
22:45	0	1	1	0	0	0	0	0	2	0	0	0	0	0	4	2
23:00	1	0	0	0	0	1	0	0	4	0	0	0	0	0	8	5
23:15	0	4	3	0	0	1	0	0	8	0	0	0	0	3	20	9
23:30	0	2	1	0	0	0	0	0	1	0	0	0	0	0	4	1
23:45	0	3	0	0	0	0	0	0	1	0	0	0	0	0	4	1
24:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
24:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
24:30	0	6	2	0	0	0	0	0	4	0	0	0	0	0	12	4
24:45	1	0	1	1	0	1	0	0	0	0	0	0	0	0	4	2
25:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	4
25:15	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
25:30	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	0
25:45	1	4	3	1	0	1	0	0	5	0	0	0	0	0	15	7
26:00	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
26:15	0	0	0	0	0	0	0	1	1	0	0	0	0	1	3	2
26:30	0	2	0	0	0	1	0	0	2	0	0	0	0	0	5	3
26:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27:00	0	3	0	0	0	1	0	1	4	0	0	0	0	1	10	6
Total	11	114	89	8	34	18	0	20	90	2	0	0	0	12	398	172
Percent	2.8%	28.6%	22.4%	2.0%	8.5%	4.5%	0.0%	5.0%	22.6%	0.5%	0.0%	0.0%	0.0%	3.0%		43.2%

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

*Solutions you can build upon.*

NS.15699  
US 84 west of LA 1  
Grand Bayou, LA  
Red River Parish

EB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/18/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
00:15	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3	1
00:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	3	0	0	1	0	0	0	1	0	0	0	0	0	5	2
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
01:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
02:00	0	1	0	0	0	0	0	0	3	0	0	0	0	0	2	2
02:15	0	1	0	0	0	0	0	0	3	0	0	0	0	0	4	3
02:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
02:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3
03:00	0	2	0	0	0	0	0	0	11	0	0	0	0	0	13	11
03:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
03:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
03:45	1	0	1	0	0	1	0	0	0	0	0	0	0	0	3	1
04:00	1	0	1	0	0	1	0	0	2	0	0	0	0	0	5	3
04:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
04:30	0	2	1	0	3	0	0	0	4	0	0	0	0	0	10	7
04:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	3	2
05:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3	0
05:15	0	4	5	0	3	0	0	1	5	0	0	0	0	0	18	9
05:30	1	2	3	0	0	0	0	0	1	0	0	0	0	0	6	1
05:45	1	1	4	0	0	1	0	0	1	0	0	0	0	0	8	2
06:00	0	4	1	0	3	0	0	1	3	0	0	0	0	0	12	7
06:15	1	2	3	0	1	1	0	1	0	0	0	0	0	0	9	3
06:30	2	9	11	0	4	2	0	2	5	0	0	0	0	0	35	13
06:45	0	2	5	0	1	0	0	1	1	0	0	0	0	1	11	3
07:00	0	1	5	0	2	0	0	0	4	0	0	0	0	2	14	6
07:15	0	4	5	0	0	0	0	0	7	0	0	0	0	0	16	7
07:30	0	0	2	0	5	0	0	0	4	0	0	0	0	0	11	9
07:45	0	7	17	0	8	0	0	1	16	0	0	0	0	3	52	25
08:00	1	3	2	0	2	2	0	0	4	0	0	0	0	0	14	8
08:15	0	2	3	0	1	0	0	2	2	0	0	0	0	0	10	5
08:30	0	2	4	0	2	0	0	0	2	0	0	0	0	0	10	4
08:45	0	2	1	0	1	0	0	1	1	0	0	0	0	0	6	3
09:00	1	9	10	0	6	2	0	3	9	0	0	0	0	0	40	20
09:15	0	1	2	0	2	0	0	1	3	0	0	0	0	0	9	6
09:30	0	3	1	0	0	0	0	0	1	0	0	0	0	0	5	1
09:45	0	1	2	1	3	0	0	1	1	0	0	0	0	0	9	6
10:00	0	1	1	0	2	0	0	2	7	0	0	0	0	1	14	11
10:15	0	6	6	1	7	0	0	4	12	0	0	0	0	1	37	24
10:30	0	1	1	1	1	0	0	0	4	0	0	0	0	1	9	6
10:45	0	3	6	0	2	0	0	1	2	0	0	0	0	0	14	5
11:00	0	1	3	1	0	1	0	0	4	0	0	0	0	0	10	6
11:15	0	5	2	0	2	0	0	0	2	0	0	0	0	0	11	4
11:30	0	10	12	2	5	1	0	1	12	0	0	0	0	1	44	21
11:45	0	2	5	2	0	0	0	0	1	0	0	0	0	0	10	3
12:00	0	0	1	0	2	0	0	1	2	0	0	0	0	0	6	5
12:15	0	2	7	0	2	0	0	1	3	0	0	0	0	1	16	6
12:30	0	2	4	0	1	0	0	0	2	0	0	0	0	0	9	3
12:45	0	6	17	2	5	0	0	2	8	0	0	0	0	1	41	17
13:00	0	0	7	0	0	0	0	0	5	0	0	0	0	0	12	5
13:15	0	4	0	0	1	0	0	2	3	0	0	0	0	0	10	6
13:30	0	5	2	0	4	0	0	0	4	0	0	0	0	1	16	8
13:45	0	2	5	1	0	0	0	1	5	1	0	0	0	0	15	8
14:00	0	11	14	1	5	0	0	3	17	1	0	0	0	1	53	27
<b>Total</b>	<b>4</b>	<b>67</b>	<b>93</b>	<b>6</b>	<b>44</b>	<b>6</b>	<b>0</b>	<b>17</b>	<b>100</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>345</b>	<b>174</b>
<b>Percent</b>	<b>1.2%</b>	<b>19.4%</b>	<b>27.0%</b>	<b>1.7%</b>	<b>12.8%</b>	<b>1.7%</b>	<b>0.0%</b>	<b>4.9%</b>	<b>29.0%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>2.0%</b>	<b>50.4%</b>	

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EB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	1	5	4	0	1	0	0	1	6	0	0	0	0	2	20	8
12:15	0	2	2	0	1	1	0	0	3	0	0	0	0	0	9	5
12:30	0	4	2	0	4	0	0	1	0	0	0	0	0	0	11	5
12:45	0	1	4	0	2	0	0	0	1	0	0	0	0	1	9	3
	1	12	12	0	8	1	0	2	10	0	0	0	0	3	49	21
13:00	0	7	4	0	1	0	0	0	1	0	0	0	0	0	13	2
13:15	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
13:30	0	1	0	1	1	0	0	0	2	0	0	0	0	0	5	4
13:45	0	1	2	0	0	0	0	0	3	0	0	0	0	1	7	3
	0	11	6	1	2	0	0	0	7	0	0	0	0	1	28	10
14:00	0	3	2	0	1	0	0	1	2	0	0	0	0	0	9	4
14:15	0	6	2	0	1	0	0	0	3	0	0	0	0	0	12	4
14:30	1	4	1	0	0	2	0	0	1	0	0	0	0	0	9	3
14:45	1	2	4	0	0	1	0	0	1	0	0	0	0	0	9	2
	2	15	9	0	2	3	0	1	7	0	0	0	0	0	39	13
15:00	1	1	3	0	0	1	0	0	3	0	0	0	0	0	9	4
15:15	0	2	1	1	2	0	0	1	3	0	0	0	0	0	10	7
15:30	0	5	5	0	0	0	0	1	1	0	0	0	0	1	13	2
15:45	0	4	3	1	1	0	0	0	1	0	0	0	0	0	10	3
	1	12	12	2	3	1	0	2	8	0	0	0	0	1	42	16
16:00	0	3	4	0	2	0	0	0	1	0	0	0	0	0	10	3
16:15	0	5	2	0	2	0	0	0	0	1	0	0	0	0	10	3
16:30	0	4	5	1	2	0	0	0	1	0	0	0	0	0	13	4
16:45	1	4	1	0	0	2	0	0	3	0	0	0	0	0	11	5
	1	16	12	1	6	2	0	0	5	1	0	0	0	0	44	15
17:00	0	9	4	0	1	0	0	1	0	0	0	0	0	0	15	2
17:15	0	7	2	0	1	0	0	0	0	1	0	0	0	0	11	2
17:30	1	2	7	0	0	1	0	0	0	0	0	0	0	0	11	1
17:45	1	3	4	0	1	1	0	0	2	0	0	0	0	0	12	4
	2	21	17	0	3	2	0	1	2	1	0	0	0	0	49	9
18:00	0	2	1	0	0	0	0	0	3	0	0	0	0	0	6	3
18:15	0	2	1	0	1	0	0	1	2	0	0	0	0	0	7	4
18:30	0	1	1	0	0	0	0	0	7	0	0	0	0	0	9	7
18:45	0	5	1	0	0	0	0	0	1	0	0	0	0	0	7	1
	0	10	4	0	1	0	0	1	13	0	0	0	0	0	29	15
19:00	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3	2
19:15	0	2	2	0	1	0	0	0	0	0	0	0	0	0	5	1
19:30	0	6	1	0	0	0	0	0	0	0	0	0	0	1	8	0
19:45	1	3	4	0	1	0	0	0	1	0	0	0	0	0	10	2
	1	12	7	0	2	0	0	0	3	0	0	0	0	1	26	5
20:00	2	2	2	0	2	2	0	0	0	0	0	0	0	0	10	4
20:15	0	3	1	0	0	0	0	0	1	0	0	0	0	0	5	1
20:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
20:45	0	2	1	0	0	0	0	0	3	0	0	0	0	0	6	3
	2	7	4	0	2	2	0	0	5	0	0	0	0	0	22	9
21:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
21:15	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3	2
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
	0	1	0	0	1	0	0	1	2	0	0	0	0	0	5	4
22:00	0	0	2	0	0	0	0	0	1	0	0	0	0	0	3	1
22:15	0	1	1	0	2	0	0	0	0	1	0	0	0	0	5	3
22:30	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3	2
22:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	0	3	3	0	3	0	0	0	2	1	0	0	0	0	12	6
23:00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1
23:15	0	1	1	0	1	0	0	0	3	0	0	0	0	0	6	4
23:30	1	1	0	0	0	1	0	0	4	0	0	0	0	0	7	5
23:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	2	3	1	0	1	2	0	0	7	0	0	0	0	0	16	10
Total	12	123	87	4	34	13	0	8	71	3	0	0	0	6	361	133
Percent	3.3%	34.1%	24.1%	1.1%	9.4%	3.6%	0.0%	2.2%	19.7%	0.8%	0.0%	0.0%	0.0%	1.7%		36.8%
Grand Total	33	373	349	24	146	47	0	65	341	7	0	0	1	27	1413	631
Percent	2.3%	26.4%	24.7%	1.7%	10.3%	3.3%	0.0%	4.6%	24.1%	0.5%	0.0%	0.0%	0.1%	1.9%		44.7%

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WB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/17/2																
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
00:30	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	3	1	0	0	0	0	0	2	0	0	0	0	0	6	2
01:15	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3	2
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3	2
02:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
02:15	0	2	0	0	1	0	0	0	0	0	0	0	0	0	8	6
02:30	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1
02:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	2
03:00	0	1	0	1	0	1	0	0	5	0	0	0	0	0	8	6
03:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
03:30	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
03:45	1	1	0	1	0	1	0	0	0	0	0	0	0	0	4	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	1	3	1	1	0	1	0	0	2	0	0	0	0	0	6	4
04:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
04:45	1	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	2	2	2	0	3	2	0	0	4	0	0	0	0	0	17	11
05:30	0	2	1	1	0	0	0	0	1	0	0	0	0	0	5	2
05:45	0	3	4	0	1	0	0	0	0	0	0	0	0	0	8	1
06:00	0	2	0	0	2	0	0	0	1	0	0	0	0	0	5	3
06:15	0	2	2	0	3	0	0	0	1	0	0	0	0	0	8	4
06:30	0	9	7	1	6	0	0	0	3	0	0	0	0	0	26	10
06:45	1	2	3	1	0	1	0	0	5	0	0	0	0	0	13	7
07:00	0	1	0	0	2	0	0	0	1	0	0	0	0	0	4	3
07:15	0	4	2	0	3	0	0	1	3	0	0	0	0	0	13	7
07:30	0	2	4	0	3	0	0	0	2	0	0	0	0	0	11	5
07:45	1	9	9	1	8	1	0	1	11	0	0	0	0	0	41	22
08:00	0	2	2	0	5	0	0	0	1	0	0	0	0	0	10	6
08:15	0	5	0	0	1	1	0	0	1	0	0	0	0	0	8	3
08:30	1	4	0	0	3	2	0	2	3	0	0	0	0	1	16	10
08:45	0	6	2	0	1	0	0	2	3	0	0	0	0	1	15	6
09:00	1	17	4	0	10	3	0	4	8	0	0	0	0	2	49	25
09:15	0	3	1	1	2	0	0	0	2	0	0	0	0	0	9	5
09:30	0	3	3	0	2	0	0	1	3	0	0	0	0	0	12	6
09:45	0	1	1	0	2	0	0	2	4	0	0	0	0	0	10	8
10:00	0	3	0	0	0	0	0	1	2	0	0	0	0	0	6	3
10:15	0	10	5	1	6	0	0	4	11	0	0	0	0	0	37	22
10:30	1	3	1	1	0	2	0	1	1	0	0	0	0	0	10	5
10:45	0	2	2	0	2	1	0	0	0	0	0	0	0	0	7	3
11:00	0	1	3	0	0	1	0	0	0	0	0	0	0	0	5	1
11:15	0	2	0	0	2	0	0	0	3	0	0	0	0	1	8	5
11:30	1	8	6	1	4	4	0	1	4	0	0	0	0	1	30	14
11:45	0	0	1	0	2	0	0	0	2	0	0	0	0	0	5	4
Total	12	85	52	9	53	17	0	15	72	1	0	0	0	4	320	167
Percent	3.8%	26.6%	16.3%	2.8%	16.6%	5.3%	0.0%	4.7%	22.5%	0.3%	0.0%	0.0%	0.0%	1.3%	52.2%	

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12 PM	0	4	4	0	3	0	0	0	0	0	0	0	0	1	12	3
12:15	1	2	1	0	2	2	0	1	0	0	0	0	0	0	9	5
12:30	0	0	4	0	2	0	0	2	1	0	0	0	0	0	9	5
12:45	0	5	0	0	2	0	0	1	2	0	0	0	0	0	10	5
13:00	1	11	9	0	9	2	0	4	3	0	0	0	0	1	40	18
13:15	1	2	0	1	3	1	0	1	7	0	0	0	0	0	16	13
13:30	0	1	3	0	2	0	0	0	3	1	0	0	0	0	10	6
13:45	0	4	1	1	2	2	0	0	0	0	0	0	0	0	10	5
14:00	1	3	4	0	5	5	0	1	8	0	0	0	0	0	27	19
14:15	2	10	8	2	12	8	0	2	18	1	0	0	0	0	63	43
14:30	0	4	3	0	2	1	0	0	3	0	0	0	0	0	13	6
14:45	2	2	2	0	2	1	1	0	2	0	0	0	0	2	14	6
15:00	0	0	0	0	2	1	0	1	6	0	0	0	0	0	10	10
15:15	0	4	1	0	0	0	0	1	3	0	0	0	0	0	9	4
15:30	2	10	6	0	6	3	1	2	14	0	0	0	0	2	46	26
15:45	0	5	1	0	0	3	0	1	6	0	0	0	0	0	16	10
16:00	1	4	1	1	1	1	0	0	0	0	0	0	0	0	9	3
16:15	1	5	1	0	2	2	0	0	2	0	0	0	0	0	13	6
16:30	1	1	2	1	3	2	0	0	0	0	0	0	0	0	10	6
16:45	3	15	5	2	6	8	0	1	8	0	0	0	0	0	48	25
17:00	0	7	5	0	7	0	0	0	4	0	0	0	0	0	23	11
17:15	0	2	2	0	2	0	0	0	3	0	0	0	0	0	9	5
17:30	0	3	0	0	4	0	0	2	1	0	0	0	0	0	10	7
17:45	1	5	3	1	6	1	0	0	1	0	0	0	0	0	18	9
18:00	1	17	10	1	19	1	0	2	9	0	0	0	0	0	60	32
18:15	0	1	2	0	1	0	0	1	1	0	0	0	0	0	6	3
18:30	0	2	4	0	1	0	0	1	0	0	0	0	0	0	8	2
18:45	0	2	5	1	3	0	0	1	1	0	0	0	0	0	13	6
19:00	1	2	0	0	3	0	0	0	0	0	0	0	0	1	7	3
19:15	1	7	11	1	8	0	0	3	2	0	0	0	0	1	34	14
19:30	1	2	1	0	3	1	0	0	2	0	0	0	0	0	10	6
19:45	1	4	2	1	2	1	0	0	0	0	0	0	0	0	11	4
20:00	0	0	0	1	4	0	0	1	2	0	0	0	0	0	8	8
20:15	0	3	2	0	1	0	0	0	0	0	0	0	0	0	6	1
20:30	2	9	5	2	10	2	0	1	4	0	0	0	0	0	35	19
20:45	1	0	0	0	2	1	0	0	1	0	0	0	0	0	5	4
21:00	0	4	1	0	2	0	0	0	0	0	0	0	0	1	8	2
21:15	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3	1
21:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	3
21:45	0	0	1	0	1	0	0	0	2	0	0	0	0	0	4	3
22:00	1	5	3	0	6	1	0	0	3	0	0	0	0	1	20	10
22:15	2	0	1	0	2	2	0	0	1	0	0	0	0	0	8	5
22:30	0	1	1	0	1	0	0	0	4	0	0	0	0	0	7	5
22:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	1
23:00	0	2	3	0	3	2	0	2	5	0	0	0	0	1	21	12
23:15	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3	2
23:30	2	0	0	0	0	2	0	0	2	0	0	0	0	0	6	4
23:45	0	1	1	0	3	0	0	0	0	0	0	0	0	0	5	3
24:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
24:15	2	2	1	0	3	2	0	0	5	0	0	0	0	0	15	10
24:30	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3	1
24:45	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	2
25:00	0	1	0	0	0	0	0	1	2	0	0	0	0	0	4	3
25:15	1	0	0	0	1	1	0	0	1	0	0	0	0	0	4	3
25:30	1	3	0	0	2	1	0	1	5	0	0	0	0	0	13	9
25:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
26:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
26:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26:30	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
26:45	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1
27:00	0	3	0	0	0	0	0	0	1	0	0	0	0	0	4	1
Total	18	95	61	8	84	30	1	18	77	1	0	0	0	6	399	219
Percent	4.5%	23.8%	15.3%	2.0%	21.1%	7.5%	0.3%	4.5%	19.3%	0.3%	0.0%	0.0%	0.0%	1.5%		54.9%

# Neel-Schaffer, Inc.

6425 Youree Drive, Suite 210  
Shreveport, LA 71105

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US 84 west of LA 1  
Grand Bayou, LA  
Red River Parish

WB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
03/18/20	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3	1
00:15	1	2	0	0	0	1	0	0	1	0	0	0	0	0	5	2
00:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
00:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
01:00	2	3	0	0	0	2	0	0	4	0	0	0	0	0	11	6
01:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
01:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
01:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
02:00	0	1	1	0	0	0	0	0	2	0	0	0	0	0	4	2
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
02:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
03:00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1
03:15	0	1	0	0	0	0	0	0	1	0	0	0	0	0	4	2
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:45	0	2	0	0	0	0	0	0	3	0	0	0	0	0	5	3
04:00	0	1	0	0	0	0	0	1	2	0	0	0	0	0	4	3
04:15	0	4	0	0	0	0	0	1	6	0	0	0	0	0	11	7
04:30	0	0	0	0	1	0	0	0	4	0	0	0	0	0	5	5
04:45	1	0	0	0	0	1	0	0	2	0	0	0	0	0	4	3
05:00	0	2	2	0	2	1	0	0	8	0	0	0	0	0	14	11
05:15	2	0	1	0	1	2	0	0	1	0	0	0	0	0	7	4
05:30	1	2	1	0	4	1	0	0	0	0	0	0	0	0	9	5
05:45	0	3	1	0	3	0	0	0	0	0	0	0	0	0	7	3
06:00	2	1	2	0	0	2	0	0	0	0	0	0	0	1	8	2
06:15	5	6	5	0	8	5	0	0	1	0	0	0	0	0	31	14
06:30	0	3	2	2	3	0	0	1	3	0	0	0	0	0	14	9
06:45	0	0	1	1	5	1	0	0	2	0	0	0	0	0	10	9
07:00	0	2	1	0	6	0	0	1	1	0	0	0	0	0	11	8
07:15	0	2	2	0	3	0	0	0	4	0	0	0	0	0	11	7
07:30	0	7	6	3	17	1	0	2	10	0	0	0	0	0	46	33
07:45	0	3	2	0	3	0	0	1	5	0	0	0	0	0	14	9
08:00	0	5	2	0	1	1	0	1	2	0	0	0	0	0	12	5
08:15	1	9	1	0	1	1	0	1	1	0	0	0	0	0	15	4
08:30	2	6	3	0	3	12	0	0	1	0	0	0	0	1	28	16
08:45	3	23	8	0	8	14	0	3	9	0	0	0	0	1	69	34
09:00	1	3	1	0	1	1	0	0	3	0	0	0	0	0	10	5
09:15	1	1	1	1	3	1	0	0	1	0	0	0	0	0	9	6
09:30	0	2	1	0	1	1	0	1	3	0	0	0	0	1	10	6
09:45	1	0	2	1	2	1	0	1	1	0	0	0	0	0	9	6
10:00	3	6	5	2	7	4	0	2	8	0	0	0	0	1	38	23
10:15	1	1	3	0	4	1	0	0	1	0	0	0	0	0	11	6
10:30	0	1	2	0	3	0	0	0	2	0	0	0	0	0	8	5
10:45	0	1	1	1	1	1	0	0	1	0	0	0	0	1	7	4
11:00	0	1	0	1	1	1	0	3	3	0	0	0	0	0	10	9
11:15	1	4	6	2	9	3	0	3	7	0	0	0	0	1	36	24
11:30	2	2	3	0	2	2	0	0	3	0	0	0	0	1	15	7
11:45	1	3	0	0	2	2	0	0	1	0	0	0	0	0	9	5
Total	24	78	51	13	69	43	0	15	73	0	0	0	0	6	372	213
Percent	6.5%	21.0%	13.7%	3.5%	18.5%	11.6%	0.0%	4.0%	19.6%	0.0%	0.0%	0.0%	0.0%	1.6%		57.3%



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US 84 west of LA 1  
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Red River Parish

WB

Start Time	Bikes	Cars Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Doubl	5 Axle Doubl	>6 Axl Doubl	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Class	Total	Truck Total
12 PM	0	4	4	1	0	0	0	0	1	0	0	0	0	1	11	2
12:15	0	1	3	2	1	1	0	1	0	0	0	0	0	0	9	5
12:30	1	0	1	0	1	1	0	0	3	0	0	0	0	0	7	5
12:45	1	1	3	0	2	1	0	1	3	0	0	0	0	0	12	7
13:00	2	6	11	3	4	3	0	2	7	0	0	0	0	1	39	19
13:15	0	5	2	0	1	1	0	0	3	0	0	0	0	0	12	5
13:30	0	3	6	0	3	1	0	0	1	0	0	0	0	0	14	5
13:30	0	6	1	0	0	5	0	0	7	0	0	0	0	0	19	12
13:45	1	1	1	0	1	0	0	2	2	0	0	0	0	1	9	5
14:00	1	15	10	0	5	7	0	2	13	0	0	0	0	1	54	27
14:15	0	5	3	0	1	2	0	1	0	0	0	0	0	0	12	4
14:15	1	5	1	1	1	2	0	0	2	0	0	0	0	0	13	6
14:30	0	1	1	0	4	1	0	0	4	0	0	0	0	0	11	9
14:45	0	3	4	0	1	0	0	1	2	0	0	0	0	0	11	4
15:00	1	14	9	1	7	5	0	2	8	0	0	0	0	0	47	23
15:00	0	0	4	0	1	0	0	1	1	0	0	0	0	0	7	3
15:15	1	5	2	0	1	3	0	1	1	0	0	0	0	3	17	6
15:30	0	4	1	0	1	0	0	1	1	0	0	0	0	0	8	3
15:45	0	1	2	0	5	0	0	0	2	0	0	0	0	0	10	7
16:00	1	10	9	0	8	3	0	3	5	0	0	0	0	3	42	19
16:00	1	2	1	1	3	0	0	0	2	0	0	0	0	0	10	6
16:15	1	3	2	0	4	0	0	1	2	0	0	0	0	0	13	7
16:30	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5	1
16:45	0	7	4	0	6	0	0	2	2	0	0	0	0	1	22	10
17:00	2	15	8	1	14	0	0	3	6	0	0	0	0	1	50	24
17:00	0	4	3	1	4	0	0	1	2	0	0	0	0	0	15	8
17:15	1	2	1	0	2	0	0	1	0	0	0	0	0	0	7	3
17:30	0	1	4	1	6	0	0	0	1	0	0	0	0	0	13	8
17:45	0	1	1	0	3	0	0	0	0	0	0	0	0	0	5	3
18:00	1	8	9	2	15	0	0	2	3	0	0	0	0	0	40	22
18:00	0	3	1	0	2	0	0	0	1	0	0	0	0	0	7	3
18:15	0	1	4	0	2	0	0	0	0	0	0	0	0	0	7	2
18:30	0	1	1	0	2	0	0	1	0	0	0	0	0	0	5	3
18:45	1	0	2	0	2	1	0	1	3	0	0	0	0	0	10	7
19:00	1	5	8	0	8	1	0	2	4	0	0	0	0	0	29	15
19:00	0	3	0	1	1	0	0	1	0	0	0	0	0	0	6	3
19:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	4	2
19:30	1	0	0	1	3	1	0	0	0	0	0	0	0	0	6	5
19:45	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0
20:00	1	4	4	2	6	1	0	1	0	0	0	0	0	0	19	10
20:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	0
20:15	1	1	1	0	2	0	0	0	3	0	0	0	0	0	8	5
20:30	1	0	1	0	1	1	0	0	2	0	0	0	0	0	6	4
20:45	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1
21:00	2	5	4	0	3	1	0	0	6	0	0	0	0	0	21	10
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
21:15	0	1	1	0	1	0	0	0	1	0	0	0	0	0	4	2
21:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
21:45	0	1	1	0	2	0	0	0	1	0	0	0	0	0	5	3
22:00	0	3	3	0	3	0	0	0	2	0	0	0	0	0	11	5
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	1	1	0	0	0	1	0	0	1	0	0	0	0	0	4	2
22:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0
22:45	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3	2
23:00	1	2	1	0	1	1	0	0	2	0	0	0	0	1	9	4
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
23:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
23:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
Total	13	91	76	9	74	22	0	17	58	0	0	0	0	7	367	180
Percent	3.5%	24.8%	20.7%	2.5%	20.2%	6.0%	0.0%	4.6%	15.8%	0.0%	0.0%	0.0%	0.0%	1.9%		49.0%
Grand Total	67	349	240	39	280	112	1	65	280	2	0	0	0	23	1458	779
Percent	4.6%	23.9%	16.5%	2.7%	19.2%	7.7%	0.1%	4.5%	19.2%	0.1%	0.0%	0.0%	0.0%	1.6%		53.4%