2015 AS BUILT REPORT FOR INFRASTRUCTURE REPAIRS AND MAINTENANCE

FORMER LOS ANGELES LANDFILL

Prepared for:

City of Albuquerque
Environmental Health Department
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May 5, 2016

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ACRONYMS AND ABBREVIATIONS

AEHD	Albuquerque Environmental Health Department
AIBF	Albuquerque International Balloon Fiesta
COA	City of Albuquerque
GCCS	gas collection and control system
INTERA	INTERA Incorporated
LALF	former Los Angeles Landfill
LFG	landfill gas
O&M	operation and maintenance
RV	recreational vehicle
SEM	surface emission monitoring
SVE	Soil Vapor Extraction
Tyco	Tyco Integrated Security

1.0 INTRODUCTION

INTERA Incorporated (INTERA) is pleased to submit this report to the City of Albuquerque (COA) Environmental Health Department (AEHD) for large-scale repair services completed at the former Los Angeles Landfill (LALF), Albuquerque, New Mexico. This report describes the repairs that were completed by INTERA, or under INTERA's supervision, at the LALF in 2015. These repairs included modifications and improvements to the landfill gas collection and control system (GCCS) and the soil vapor extraction (SVE) system.

As a result of dynamic stresses caused from the decomposition of trash and the subsidence of the landfill surface, the infrastructure in and over the LALF requires frequent maintenance and repairs to keep it operating properly. INTERA identified several areas that needed attention beyond what would be considered routine maintenance. The following summary of activities describes the identified problems and the steps that were taken by INTERA to repair the affected portions of the GCCS and SVE system in 2015.

As built drawings are provided in **Appendix A** for COA records, a photographic log of key improvements is presented in **Appendix B**, product information and a waste ticket are included in **Appendix C**, and an updated utilities plate is provided in **Appendix D**.

This report excludes routine operation and maintenance (O&M) activities that INTERA performs at the landfill under established fixed-fee project tasks.

2.0 LANDFILL GAS EXTRACTION SYSTEM REPAIRS

2.1 Wellhead Repairs and Lateral Piping Realignments

The GCCS has been subjected to the effects of differential settlement. Evidences of these effects are wide-ranging and include condensate accumulation in the header/lateral piping and dynamic stresses on piping and wellhead assemblies. Continual monitoring of the GCCS infrastructure is necessary to identify compromised piping, wellheads, and condensate management devices. In 2015, there were four landfill gas (LFG) extraction wells and two condensate sumps that required significant repairs. "Significant" in this context describes a repair or modification that resulted in changes to the wellhead or sump causing the need to revise record drawing details. Additional work was performed on other system infrastructure which will be summarized below. System maintenance that resulted in the excavation of lateral piping and realignment of the pipe's slope with no changes to the wellhead plumbing are not included in the record drawing set provided in **Appendix A**. GCCS well and condensate sump repairs were performed in April and October.

IW05/IW17: LFG extraction wells IW05 and IW17 are located on the south end of the landfill in an area where subsidence is occurring at a greater rate than other areas. Both wells are connected to the header by the same lateral. This section of lateral was occluded by condensate, and its entire length was excavated and exposed. Several low points in the pipeline were observed, and it was determined that it would be infeasible to obtain and maintain a constant slope from the header to the most distal well, IW17. To address these issues, a passive condensate sump was fabricated and installed between IW05 and IW17. The lateral from the header was realigned to the new sump (identified as IW05 Sump). A high point in the lateral was maintained between IW05 and IW17, with the intent of splitting condensate recovery between the new IW05 sump and the existing passive sump adjacent to IW17. A drawing of the new IW05 sump is provided in **Appendix A**, and photographs of the sump are provided in Appendix B.

Concurrent with realignment of the lateral to IW05/IW17, the lateral was relocated from north of IW05 to south of the well. The original design had the lateral running from the header directly to IW05. The continuing lateral to IW17 teed off of the lateral to IW05 with a 90-degree elbow after the tee (see Photograph No. 1 in **Appendix B**). This configuration made it difficult to realign the lateral and ensure that condensate drained to the new sump. The tee and elbow were removed and the lateral was placed directly south of IW05 with a new tee connecting the wellhead directly to the lateral (see the record drawing for IW05 in **Appendix A** and Photograph No. 2 in **Appendix B**).

The excavation of the hole for the IW05 condensate sump and the excavation for pipeline realignment resulted in approximately 10 tons of waste being removed from the landfill for disposal at the Cerro Colorado Landfill. The waste ticket is included in **Appendix C**.

IW09: The lateral to extraction well IW09 was excavated and realigned to return a constant grade toward the existing condensate sump south of the well and address the occlusion of the pipe by condensate (see Photograph No. 5 in **Appendix B**). To complete the realignment, the vaults were removed from the passive sump and wellhead. The as built condition after the vaults were reinstalled is shown on the record drawings provided in **Appendix A**.

PW20: Extraction well PW20 is connected to the same lateral that extends from the header to IW09. The adjustments made to the lateral (described above) required that the vaults at PW20 be removed and corrections made to the plumbing to the well. The resulting minor changes in the wellhead configuration in the vault are shown in the drawings in **Appendix A** and a photograph of the final wellhead configuration is shown on Photograph No. 6 in **Appendix B**.

PW36: Flow control of LFG at extraction well PW36 was enhanced by the installation of a new Landtech ExactFlo®. A drawing of the resulting modifications is provided in **Appendix A**, a photograph is provided in **Appendix B**, and product information is provided in **Appendix C**.

CS09: Condensate sump CS09 is located at the north end of the landfill. Improvements to the landfill prior to 2006 had resulted in the pump vault for the sump being several feet below grade. To account for this condition, a large timber and plywood vault with a hinged wooden lid had been constructed around the sump. This vault was designated as a permit confined space, meaning entry could only be conducted with special planning and only by personnel with confined space training. The AEHD had requested that measures be taken to eliminate the confined space issues. In October, the timber vault was removed, an extension to the sump body was installed at the existing flange, the plumbing and pump were relocated to near ground surface, and a new vault was installed at grade. Photograph Nos. 8 through 12 in **Appendix B** show the progression of the repairs, and an as built drawing is provided in **Appendix A**. Approximately 0.75 tons of waste material from excavate trash and debris from the former timber vault were removed from the LALF.

CS10: The vaults at passive condensate sump CS10 (located on the west end of the crossing lateral from isolation valve IV08 to isolation valve IV04) were excavated and realigned. Settlement had caused the vaults to shift. This improvement was not considered "significant," and no drawings or photos of the work are provided.

2.2 Offsite Probe Repairs/Modifications

In 2014, the AEHD directed that improvements be made to LFG probes associated with the routine (every other week) off-site gas readings. These improvements were extended in 2015 to probes measured quarterly in the Alameda Business Park. Improvements included digging out loose soil in vaults, cutting the casing of the probes down to facilitate modification, installation of schedule 80 polyvinyl chloride ¼-inch labcock sample ports, and labeling of the valves. To avoid the introduction of volatiles into the vapors in the probes, the slip fittings were "dry fit," meaning that the fittings were not solvent-welded to the probe casing. The probes that were modified included the shallow, medium, and deep probes at locations AM12, AM14, AM16, AM18, AM19, AM28, AM30, AM33, AM34, AM35, AM57, AM58, and AM59. A photo from the 2014 improvements is provided in **Appendix B** (Photograph No. 13) to show typical wellhead conditions after the work.

2.3 GCCS Flare Skid Repairs

In December, the pressure relief valve on the air compressor at the enclosed ground flare malfunctioned. It was replaced with a part from the compressor's manufacturer (Quincy). The specifications for the safety valve were:

- Part No. QUI 111089-215.
- ⅛-inch male National Pipe Thread connector.
- Set pressure 215 pounds per square inch.
- Rated flow = 190 standard cubic feet per minute.

A product information sheet is provided in **Appendix C** and a photograph of the new part is provided as Photograph No. 14 in **Appendix B**.

2.4 LALF Surface Improvements

Surface improvements to the LALF's cap were performed during 2015. The tasks that were completed addressed the areas of the landfill that were critical for public access during the Albuquerque International Balloon Fiesta (AIBF). The following surface improvements were performed:

- In May, the COA Solid Waste Management Department performed weed control spraying on select areas of the LALF.
- In August, approximately 50 tons of base course material were imported to the site and used to fill in erosion damage on both sides of the northern perimeter fence that bounds Alameda Boulevard NE. The base course material was spread to grade and compacted

using heavy equipment. Several tons of base course were not used and were stockpiled on site for future needs.

- In August, approximately 333 tons of soil fill were imported. Most of the fill was placed in multiple locations to promote storm water drainage and prevent standing water/muddy areas in the portions of the LALF used for recreation vehicle (RV) parking during the AIBF. Some of the fill was used to backfill the excavations discussed in Section 2.1.
- In August, approximately 700 yards of asphalt millings were relocated from the COA's Parks and Recreation Department stockpile maintained at the Balloon Fiesta Park to the LALF. Most of the millings were used to fill in settlement areas on the southeast end of the landfill to minimize standing water. The rest of the millings were spread where needed in traffic/parking areas. Because the importing of millings was a transfer of a COA resource over a short distance, no bills of lading or other formal records were developed.
- In September, portions of the LALF with an earthen cap were prepared for RV parking. This included blading of weeds and rocks and smoothing of erosion features. Heavy equipment was used to close and compact surface cracks that had opened up in the cap at the landfill edges and in areas of acute subsidence. Crack sealer materials were used to address openings in areas covered by asphalt millings, both at LALF and the former Nazareth Landfill.
- During and after the AIBF, penetrations of the LALF cap were plugged with powdered bentonite and hydrated with potable water. Penetrations included deliberate placement of tent stakes for event tents and grounding rods for generators.
- Performed surface emission monitoring (SEM) on the LALF and former Nazareth Landfills in September. The SEM readings are intended to detect for flammable compounds (e.g. methane) that could be escaping the landfill cap and posing a hazard to the public. The timing of the SEM readings coincided with the use of the two landfills for RV parking during the AIBF. The results of the SEM events were transmitted to AEHD under a separate cover.

2.5 Miscellaneous Repairs and Improvements

The following miscellaneous maintenance activities were also performed in 2015:

- In February, the LALF was vandalized and burglarized. Repairs included replacing a section of cut chain link fence by the enclosed flare station and replacing a lock and chain on a pedestrian gate at the southwest corner of the landfill.
- In March, Tyco Integrated Security (Tyco) serviced the burglar alarm system installed to protect against copper theft in the RV parking area. New batteries were installed throughout the system and the contact switch at the Gate 8 transformer was returned to

service after being repaired in February. Faulty contact switches were also addressed under separate service calls by Tyco in April.

- Graffiti cleanup was required around the flare station in response to vandalism in March.
- Select wind screen panels were replaced on the boundary fence on the north end of the landfill during the last quarter of the year.
- During preparation for the AIBF, the COA repaired several leaks in the buried water line used by RV campers during the event. Initial attempts to repair the water line at one location on the south end of the LALF were unsuccessful, which resulted in a new section of water line being installed in a separate trench. The new pipeline alignment is shown in the revised utilities plate included in **Appendix D**.
- The COA's on-call fencing contractor was used by the AEHD to repair damage to the main gate off of Alameda Boulevard NE. The damaged was sustained during the AIBF in October.
- In December, the pneumatic diaphragm pump at condensate sump CS08 was malfunctioning. The pump was disassembled and repaired without replacing any parts.

3.0 REPAIRS TO SOIL VAPOR EXTRACTION SYSTEM INFRASTRUCTURE

Landfill differential settlement has the same effects on the SVE system as it does on the GCCS. Occasionally, non-routine repairs to wells, wellheads, sumps, the building, and other SVE infrastructure is required. During 2015, several wells required maintenance and the SVE building required an extensive effort to re-level the structure. The SVE repairs and improvements are summarized in this section.

3.1 SVE Building

The portion of the LALF around the SVE building is one of the most active with regards to the amount of differential settlement that occurs. In 2011, a major effort was initiated to address a significant tilt in the building toward the west. During that event, the building (which has no floor) was lifted off of the original piers that were supporting it at points at the corners and along the edges. More robust piers were installed outside of the footprint of the building, and steel beams were run between the new piers. The building was then set on the beams, and the SVE equipment skid, which had been sitting directly on the ground, was placed on beams that were tied into the outside beams. The ends of the main perimeter beams were bolted to the footings in a manner that would allow the building to be raised (or lowered) on the bolts (jacking studs) to account for future settlement.

In the spring of 2015, it was determined that the building needed another leveling event. The jacking stud and beam system worked very well, and the adjustments to the building were easily accomplished. The southwest corner of the building had settled so significantly that the jacking studs had to be lengthened and an extension spacer installed in order to facilitate the leveling of the building. The west side of the building was raised so much that approximately 30- to 40-inch vertical lengths of pipe were needed to make up the space created in the plumbing between the skid equipment and where the plumbing exited under the floor on the west side of the building. These pipe sections represent the amount of settlement that has occurred since the original building-leveling event in 2011. The floor (comprised of crushed gravel between the beams) was leveled by importing over 13 tons of crushed ¾-inch gravel, adding it to the existing material to raise the floor to the level of the top of the beams.

As built drawings of the building-leveling system and the topography of the gravel in and around the building are provided in **Appendix A**. Photographs showing the leveling work are included in **Appendix B**.

3.2 SVE Well Repairs

Repairs were made to several SVE wells in 2015.

SVE01: This well was significantly impacted by the effect of landfill settlement. The concrete vault rings were not level and were in contact with the plumbing, which was placing stress on the pipes. The wellhead infrastructure was excavated and the top concrete vault ring was raised by fabricating and installing a spacer made of 2-inch by 6-inch (nominal) pressure-treated timbers. This timber spacer was installed on top of a timber spacer that had been installed during previous repairs to this well (see Photograph No. 19 in **Appendix B**).

SVE08: Millings placed around this well in August had resulted in the vault being below the new grade. A concrete vault ring removed from SVE09 (see below) was installed to raise the hot box enclosure over the well. Plumbing extensions were added to raise the wellhead manifolds to account for the new vault elevation. The SVE08 probe was also extended, and its vault was raised to the new millings elevations.

SVE09: This extraction well is located outside the LALF boundary on the south side of the North Domingo Baca Arroyo. The well is not impacted by the settlement, as it is not installed through the waste prism. The original construction had placed the manifold for the wellheads at a depth that was challenging to reach from the ground surface. The AEHD had requested that the plumbing be raised to facilitate greater ease of access to the valves. To accomplish this, the rings were removed and extensions were added to the wells and the plumbing back to the SVE building. To eliminate some of the resulting void between the new manifold elevation and the original elevation of the bottom of the vault, one of the vault rings was removed, and imported soil was used to fill in areas around the plumbing extensions. The removed vault ring was used to raise SVE08, as described above (see Photograph Nos. 20 and 21 in **Appendix B**).

SVE05 Probe: The vault protecting the soil gas probe at SVE05 was damaged during earthwork performed around the well. The vault was repaired and reinstalled over the probe.

3.3 SVE Blower Motor and Electrical Repairs

Improvements were made on the SVE blower and blower motor in January, following shutdown of the system resulting from electrical issues in the control panel and at the SVE blower motor. An electrician upgraded the wiring connections to the SVE blower motor.

To reduce the load on the SVE blower motor, the sheaves on both the blower and the motor were switched out and new belts were installed. The following parts were installed:

- Motor sheave – 8.35-inch Dodge Model 2A7.6B8.0-SK, SN AV08140741; replaced a 7.15-inch sheave (Dodge 2A6.4B6.8-SDS)
- Blower sheave – 11.35-inch Dodge Model 2A10.6B11.0-SK, SN AV09130079; replaced a 9.35-inch sheave (Browning 2TB90)
- Motor bushing – Dodge Model SKX1-3/8-KW, Part No. 120427, Bore size = 1-⅜-inch.
- Blower bushing – Dodge Model SKX1-5/8-KW, Part No. 120431, Bore size = 1-⅝-inch.
- New belts (2) – Gates Model BX81, 84-inch outer circumference.

The resulting change in load was a reduction of about 4 Amps, from approximately 27 Amps to approximately 23 Amps.

Product information for the sheaves, bushings, and belts are included in **Appendix C**.

3.4 Miscellaneous SVE Repairs and Improvements

In February, a leak was observed in the condensate knock-out vessel on the blower skid. The vessel was opened and it was determined that debris had circulated in the bottom of the vessel, and with time had worn a hole in the metal. The vessel was cleaned and dried, and an epoxy seal was applied to the hole. A photograph of the epoxy repair is included as Photograph 22 in **Appendix B**.

Appendix A

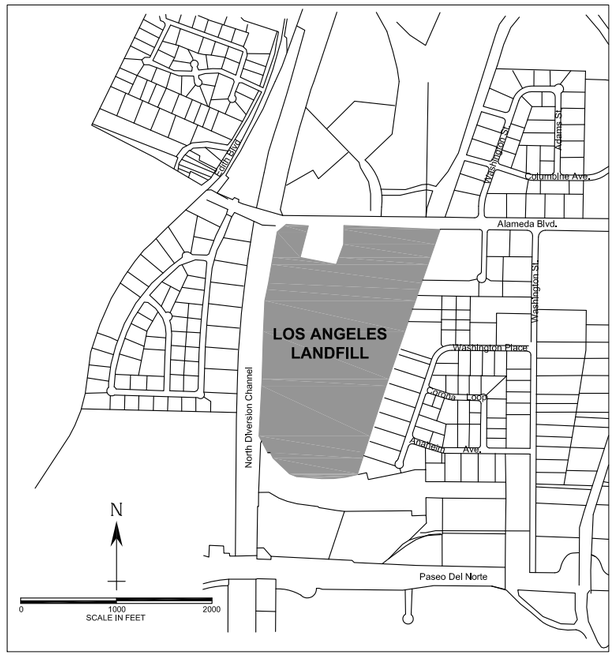
As Built Drawings

2015 AS BUILT PLANS FOR REPAIRS TO LANDFILL GAS EXTRACTION AND VAPOR EXTRACTION SYSTEMS

LOS ANGELES LANDFILL

ALBUQUERQUE, NEW MEXICO

MARCH 2016



SHEET INDEX:

SHEET NO.	TITLE
01	AS BUILT PLANS COVER SHEET 2015 SYSTEM REPAIRS
02	LOS ANGELES LANDFILL SITE MAP
03	SVE BUILDING FOUNDATION REPAIR PLAN
04	AS BUILT FOR IW05, 2015 SYSTEM REPAIRS
05	AS BUILT FOR IW05 SUMP, 2015 SYSTEM REPAIRS
06	AS BUILT FOR IW09 / SUMP, 2015 SYSTEM REPAIRS
07	AS BUILT FOR PW20, 2015 SYSTEM REPAIRS
08	AS BUILT FOR PW32, 2015 SYSTEM REPAIRS
09	AS BUILT FOR CS09 IMPROVEMENTS

CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL SERVICES DIVISION
1 Civic Plaza NW
3rd Floor, Room 3023
Albuquerque, NM 87103

CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT

LOS ANGELES LANDFILL

NO.	DATE	APPR.	REVISION
0	10/12	JPJ	AS BUILT REPAIRS
1	03/16	JPJ	2015 AS BUILTS

AS BUILT PLANS COVER SHEET
2015 SYSTEM REPAIRS

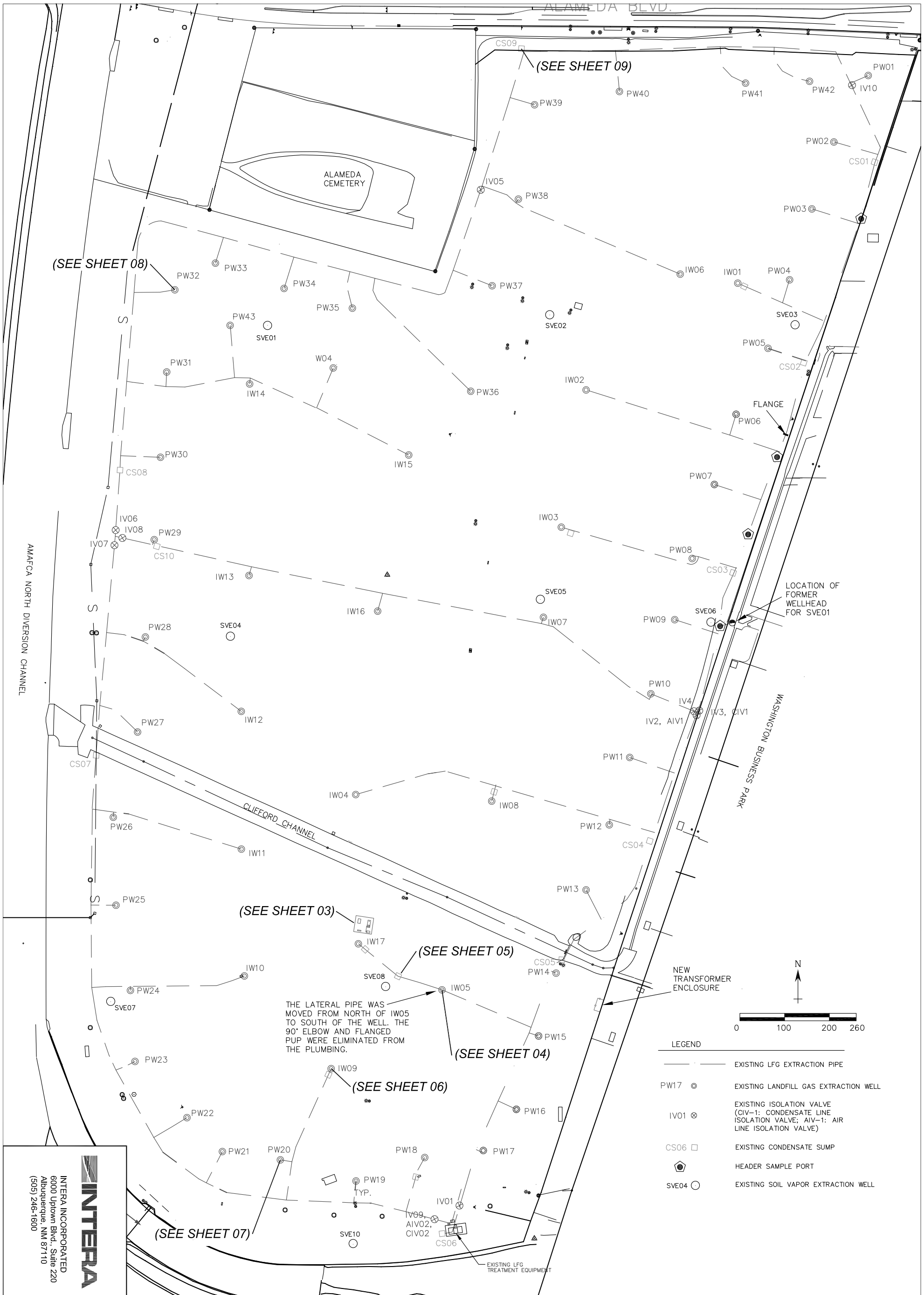
INTERA
INTERA INCORPORATED
6000 Uptown Blvd., Suite 220
Albuquerque, NM 87110
(505) 246-1600

DATE: 03/14/16

FILE: 2015_01_COVER.dwg

SHEET 01

COVER SHEET



INTERA
INTERA INCORPORATED
6000 Uptown Blvd., Suite 220
Albuquerque, NM 87110
(505) 246-1600

SITE MAP

SHEET 02

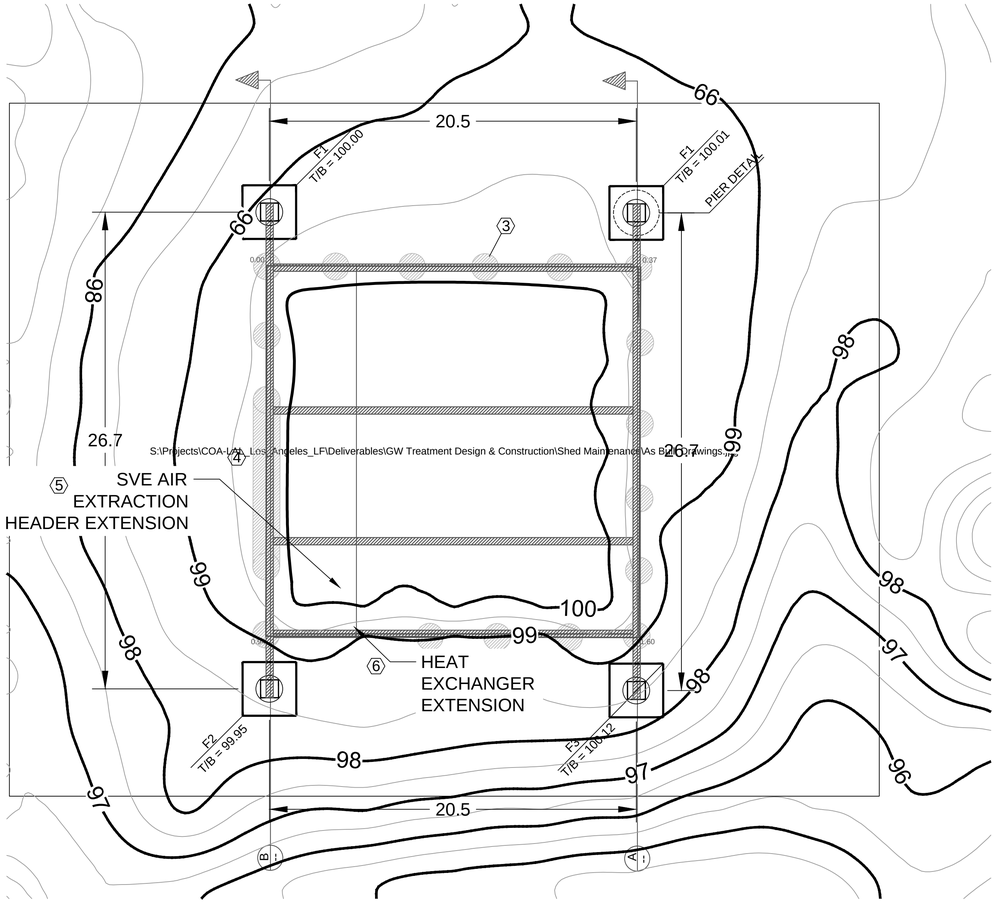
FILE:2015_02_SITEMAP.dwg

DATE: 03/14/16

LOS ANGELES LANDFILL SITE MAP

NO.	DATE	APPR.	REVISION
0	07/14	JPJ	AS BUILT REPAIRS
1	03/16	JPJ	2015 AS BUILTS

CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT
LOS ANGELES LANDFILL



PLAN

SCALE

4 0 8 12

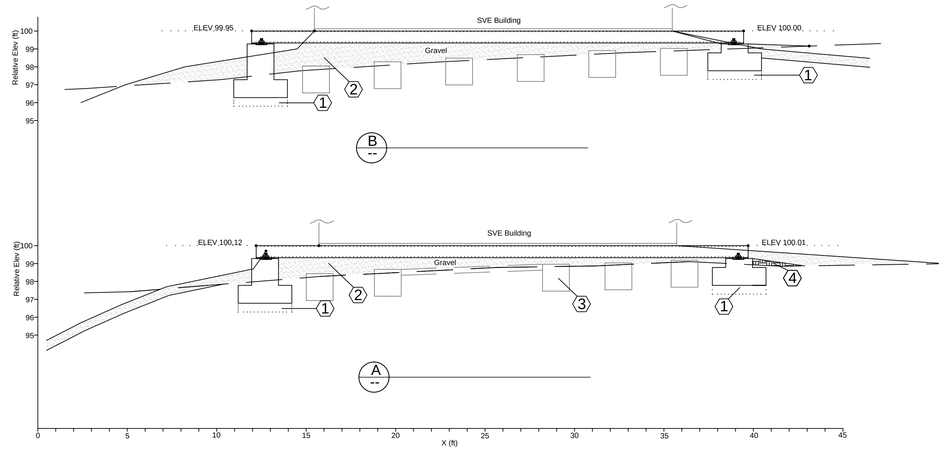
FEET

KEYED NOTES

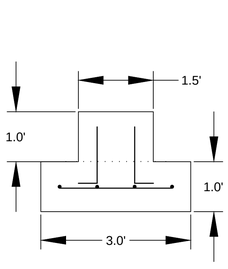
1. PREPARE SUBGRADE BY COMPACTING FIRM WITH EQUIPMENT APPROVED BY ENGINEER. DO NOT ADD MOISTURE FOR COMPACTION UNLESS DIRECTED BY ENGINEER.
2. CRUSHED GRAVEL TO BE USED TO BRING INTERIOR FLOOR LEVEL TO TOP OF I-BEAM INSIDE OF BUILDING.
3. ORIGINAL PIER FOOTINGS WERE DISCONNECTED FROM THE BUILDING AND LEFT IN PLACE.
4. ASPHALT MILLINGS PLACED ON APPROACH TO BOTH DOORS
5. A 31.75-INCH SECTION OF PVC EXTRACTION HEADER PIPE (FLANGED BOTH ENDS) WAS INSTALLED TO MAKE UP DISTANCE RESULTING FROM LEVELING THE BUILDING.
6. A 39.75-INCH SECTION OF GALVANIZED HEAT EXCHANGER PIPE ON THE AIR INJECTION LINE WAS INSTALLED TO MAKE UP PIPE LENGTH RESULTING FROM BUILDING LEVELING.

GENERAL NOTES

1. BASE PLAN BY HYDRO GEO CHEM, INC. 2004
2. ORIGINAL BUILDING LEVELING WAS COMPLETED IN OCTOBER 2011; AND A SECOND LEVELING WAS PERFORMED IN APRIL/MAY 2015.
3. GROUND SURFACE CONTOURS WERE SURVEYED ON JUNE 19, 2015 AFTER THE SECOND BUILDING LEVELING EVENT. THE LOCAL DATUM (100.0) WAS ESTABLISHED AS THE EAST DOOR THRESHHOLD.
4. T/B = TOP OF BEAM ELEVATION
5. THE BUILDING AND EQUIPMENT SKID WERE RAISED OFF OF THE EXISTING GRADE TO INSTALL THE NEW FOOTINGS AND I-BEAM STRUCTURE. THE BUILDING IS WELDED TO THE I-BEAM STRUCTURE.
6. AIRLOC LOW FREQUENCY VIBRATION ISOLATION PADS (MODEL B25) INSTALLED BETWEEN THE I-BEAM STRUCTURE AND THE EQUIPMENT SKID.



SECTIONS



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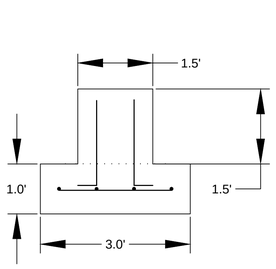

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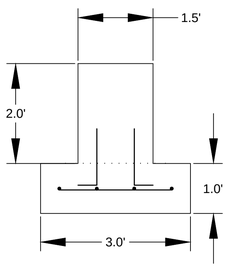

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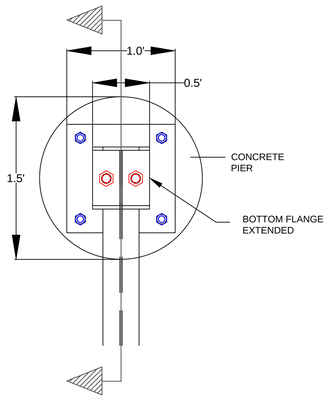
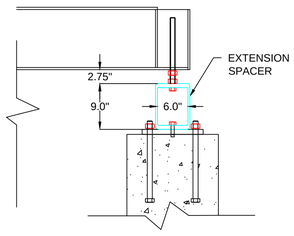


CONCRETE PIER DETAIL - NO SCALE



SW CORNER CONCRETE PIER
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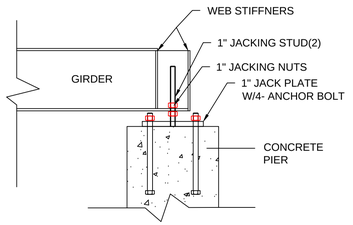
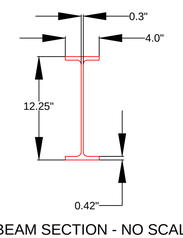


TYPICAL
CONCRETE PIER SECTION - NO SCALE



I-BEAM SECTION - NO SCALE

REVISIONS

NO.	DATE	AS BUILTS
001	7/21/15	AS BUILTS

DESIGNED BY: JPJ / LMC
DRAWN BY: AEA
CHECKED BY: JPJ

REMARKS	BY	DATE
		DATE: 8/22/2011
		DATE: 8/22/2011
		DATE: 8/22/2011

DESIGN

SURVEY INFORMATION / BENCH MARKS

NO.	COMMENTS	DATE

ENGINEER SEAL

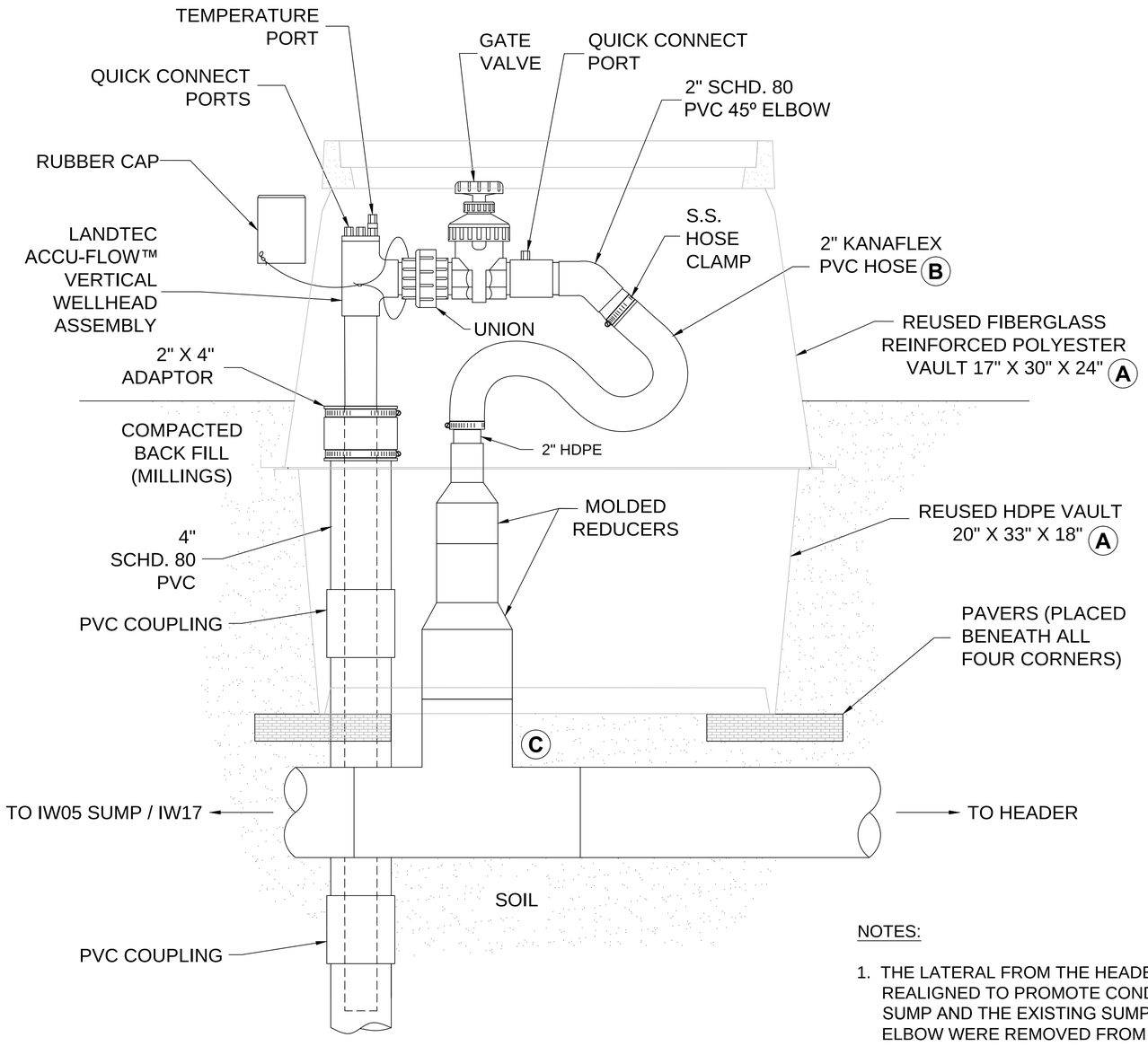
CITY OF ALBUQUERQUE
FORMER LOS ANGELES LANDFILL

SVE BUILDING FOUNDATION REPAIR PLAN

INTERA INCORPORATED
6000 Uptown Boulevard, Suite 220
Albuquerque, NM 87110
(505) 246-1600

FILE:
D:\AcadDwgs\Intera\Temp\ForED\SVE_AsBuilts_8-3-15.dwg

PROJECT NO:	DRAWING:	SHEET NO:
COALB.C002.LALF	SVE BUILDING	3



SCALE

10 8 6 4 2 0 5

INCHES

SIGNIFICANT REPAIRS/MODIFICATIONS

KEYED NOTES:

A THE VAULTS WERE REMOVED TO COMPLETE IMPROVEMENTS TO THE LATERAL. THEY WERE RAISED AND LEVELED WHEN REINSTALLED.

B LENGTH OF KANAFLEX TUBING NOT TO SCALE.

C THE CONNECTION TO THE LATERAL WAS MODIFIED FROM THE ORIGINAL DESIGN. THE FLANGED PUP WAS REMOVED AND THE WELL NOW CONNECTS DIRECTLY TO THE LATERAL PIPE.

NOTES:

1. THE LATERAL FROM THE HEADER TO IW17 WAS EXCAVATED AND REALIGNED TO PROMOTE CONDENSATE DRAINAGE TO THE NEW IW05 SUMP AND THE EXISTING SUMP AT IW17. THE T-CONNECTION AND 90° ELBOW WERE REMOVED FROM THE LATERAL AND THE PIPE WAS REALIGNED TO PASS DIRECTLY ADJACENT TO IW05.
2. FOR WELL CONSTRUCTION DETAILS, SEE: *AS-BUILT FOR THE LANDFILL GAS EXTRACTION SYSTEM LOCATED AT THE FORMER LOS ANGELES LANDFILL,* IT CORPORATION, JULY 1998.
3. HDPE FITTING SIZES MAY VARY. DIMENSIONS ARE APPROXIMATE.

CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT

LOS ANGELES LANDFILL

NO.	DATE	APPR.	REVISION
0	07/09	JPJ	AS BUILT REPAIRS
1	12/10	JPJ	AS BUILT REPAIRS
2	03/16	JPJ	2015 AS BUILTS

AS BUILT FOR IW05 2015 SYSTEM REPAIRS

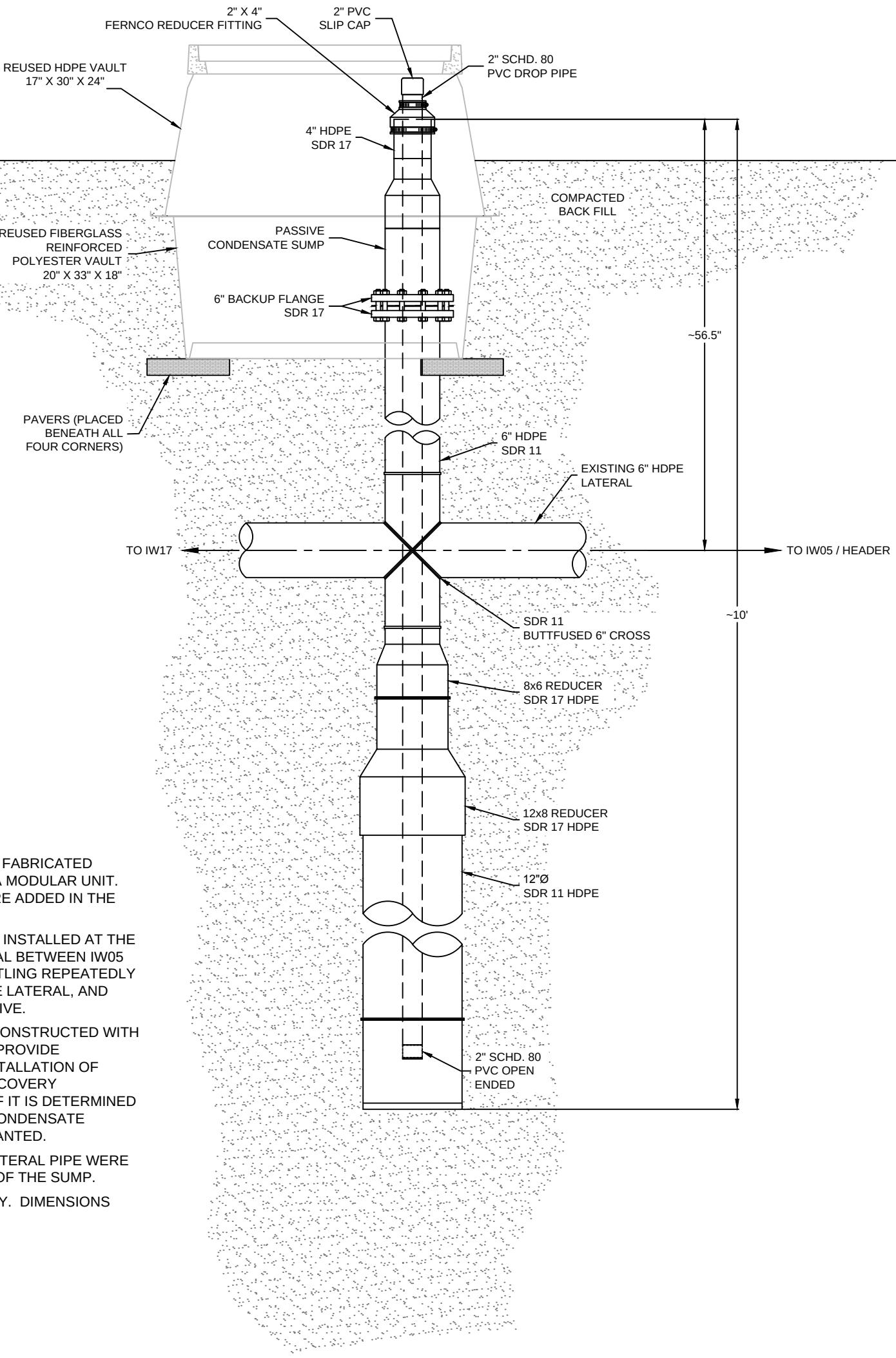
INTERA
INTERA INCORPORATED
6000 Uptown Blvd., Suite 220
Albuquerque, NM 87110
(505) 246-1600

DATE: 13/14/16

FILE: 2015_04_IWO5.DWG

SHEET 04

IW05



NOTES:

1. THE CONDENSATE SUMP WAS FABRICATED OFFSITE AND DELIVERED AS A MODULAR UNIT. THE DROP PIPE AND CAP WERE ADDED IN THE FIELD.
2. THE CONDENSATE SUMP WAS INSTALLED AT THE LOWEST POINT IN THE LATERAL BETWEEN IW05 AND IW17. DIFFERENTIAL SETTLING REPEATEDLY CREATED A LOW POINT IN THE LATERAL, AND REALIGNMENT WAS INEFFECTIVE.
3. THE TOP OF THE SUMP WAS CONSTRUCTED WITH A FLANGED CONNECTION TO PROVIDE OPPORTUNITIES FOR THE INSTALLATION OF PNEUMATIC CONDENSATE RECOVERY EQUIPMENT IN THE FUTURE, IF IT IS DETERMINED THAT A MORE AGGRESSIVE CONDENSATE REMOVAL PROCESS IS WARRANTED.
4. SECTIONS OF 6-INCH HDPE LATERAL PIPE WERE BUTT-FUSED TO BOTH SIDES OF THE SUMP.
5. HDPE FITTING SIZES MAY VARY. DIMENSIONS ARE APPROXIMATE.

SCALE

15 12 9 6 3 0 7.5

INCHES

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AS BUILT FOR IW05 SUMP
2015 SYSTEM REPAIRS

NO.	DATE	APPR.	REVISION
0	03/16	JPJ	AS BUILT

CITY OF
ALBUQUERQUE
ENVIRONMENTAL
HEALTH DEPARTMENT

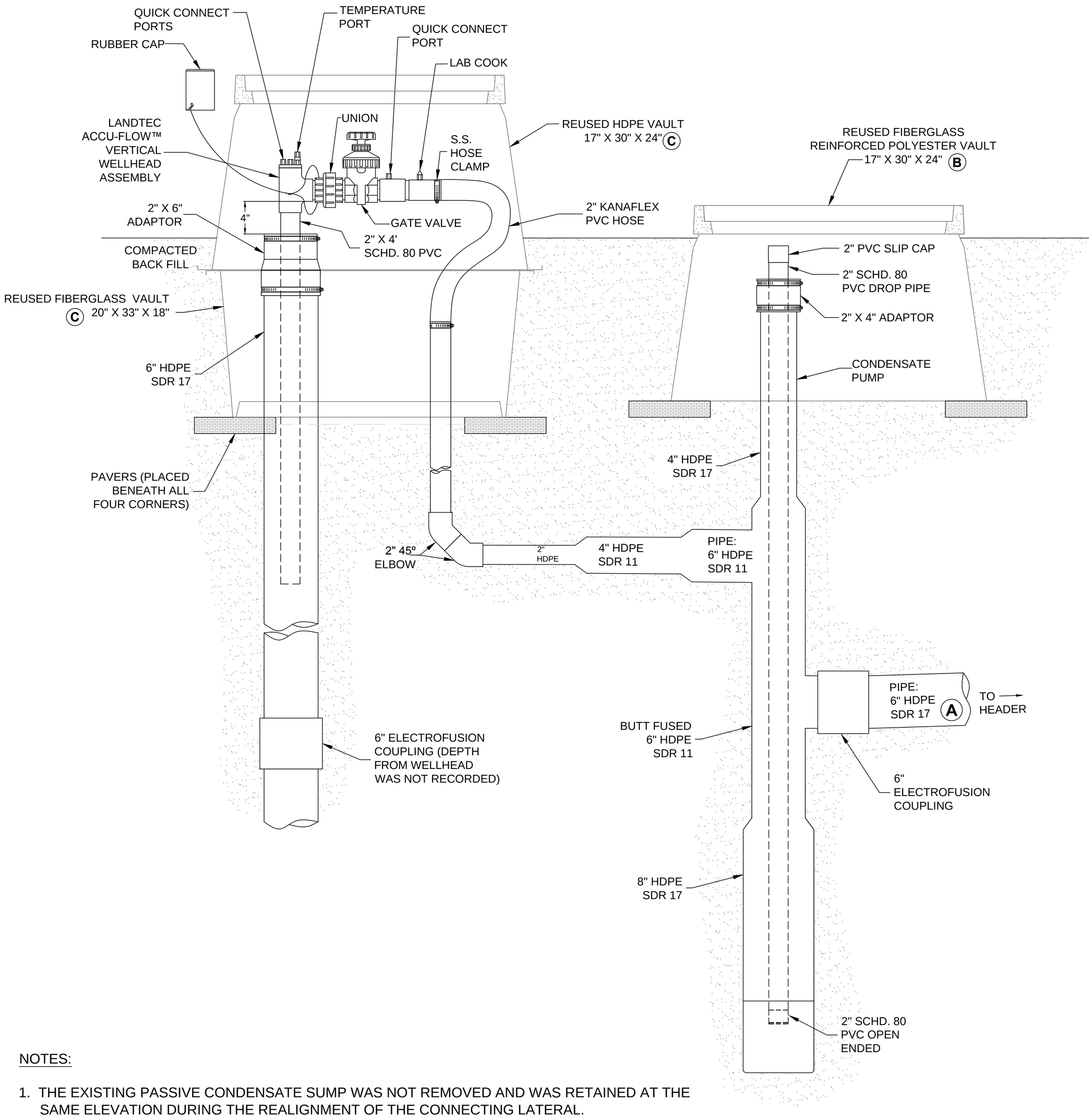
LOS ANGELES
LANDFILL

DATE: 03/14/16

FILE: 2015_05_IW05_SUMP.DWG

SHEET 05

IW05 SUMP



NOTES:

1. THE EXISTING PASSIVE CONDENSATE SUMP WAS NOT REMOVED AND WAS RETAINED AT THE SAME ELEVATION DURING THE REALIGNMENT OF THE CONNECTING LATERAL.
2. FOR WELL CONSTRUCTION DETAILS, SEE: *AS-BUILTS FOR THE PHASE II EXPANSION OF THE LANDFILL GAS EXTRACTION SYSTEM LOCATED AT THE FORMER LOS ANGELES LANDFILL,* IT CORPORATION, APRIL 2000.
3. LENGTH OF KANAFLEX HOSE AND CONNECTING NIPPLE ARE NOT SHOWN TO SCALE.

SCALE

15 12 9 6 3 0 7.5

INCHES

SIGNIFICANT REPAIRS/MODIFICATIONS

KEYED NOTES:

A THE LATERAL TO IW09 WAS EXCAVATED AND REALIGNED TO ABATE OCCLUSIONS TO FLOW.

B THE VAULT ON THE PASSIVE SUMP WAS REMOVED TO ACCESS THE LATERAL. IT WAS ADJUSTED WHEN REINSTALLED TO ACCOUNT FOR CHANGES IN GROUND SURFACE ELEVATION.

C SETTLEMENT AROUND WELL IW09 RESULTED IN THE VAULT LID RESTING ON THE KEY TO THE GATE VALVE. THE EXISTING VAULTS WERE EXCAVATED, ADJUSTED, LEVELED, AND SECURED WITH BACKFILL MATERIAL.

INTERA

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DATE: 03/14/16

FILE: 2015_00_IW09.DWG

SHEET 06

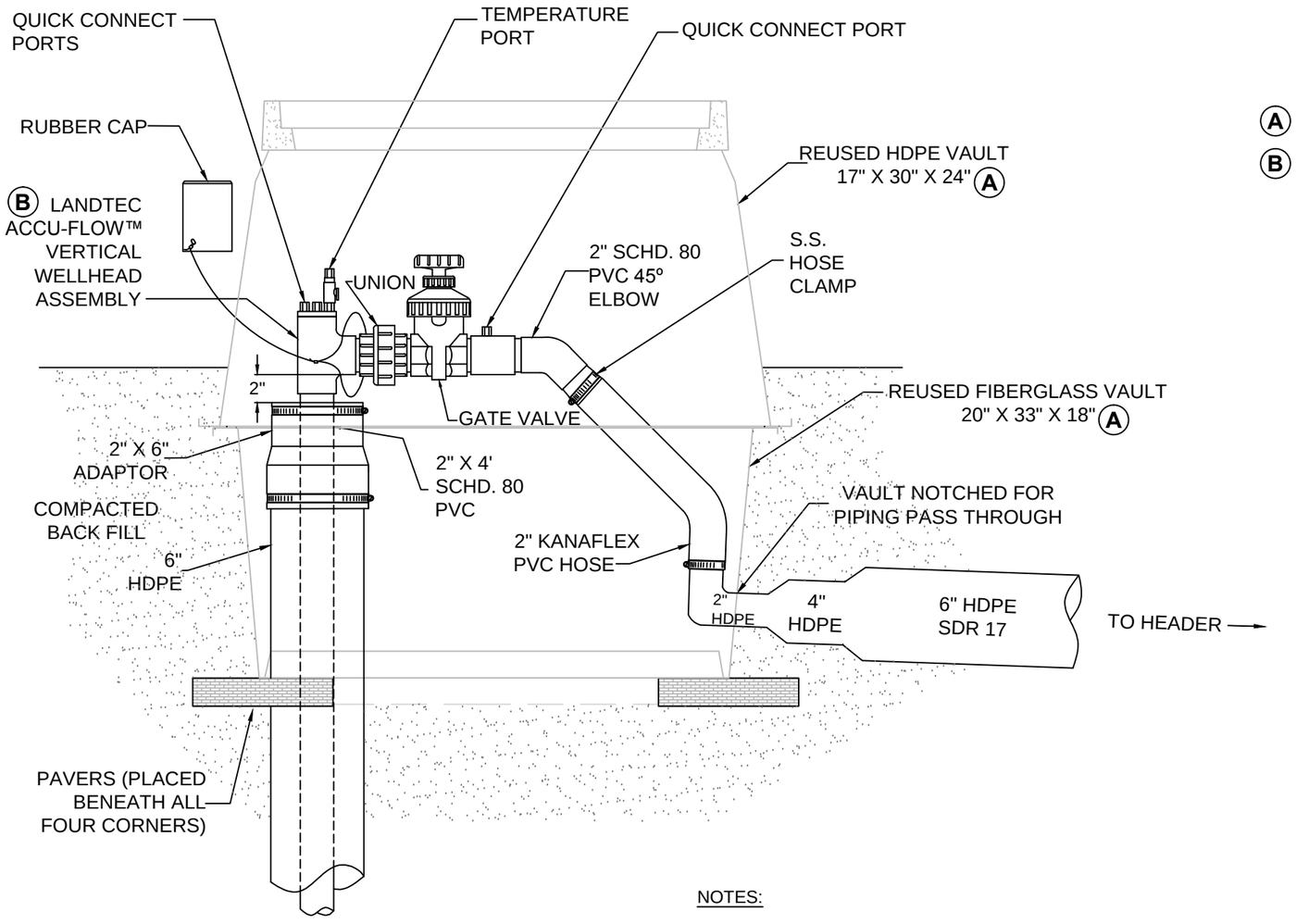
IW09/SUMP

AS BUILT FOR IW09/SUMP 2015 SYSTEM REPAIRS

NO.	DATE	APPR.	REVISION
0	06/12	JPJ	AS BUILT REPAIRS
1	03/16	JPJ	2015 AS BUILTS

CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT

LOS ANGELES LANDFILL



SCALE

10 8 6 4 2 0 5

INCHES

SIGNIFICANT REPAIRS/MODIFICATIONS

KEYED NOTES:

A RAISED AND LEVELED VAULTS.

B ADJUST LANDTEC ACCU-FLOW™ VERTICLE WELLHEAD ASSEMBLY USING 2" X 6" FLEXIBLE ADAPTOR.

NOTES:

1. ADJUSTMENTS TO THE PLUMBING AND WELLHEAD WERE REQUIRED DUE TO ADJUSTMENTS TO THE ELEVATION OF THE LATERAL PIPE BETWEEN THE HEADER AND WELL IW09. THE ADJUSTMENTS TO THE LATERAL WERE NECESSARY TO REMOVE LOW POINTS IN THE PIPELINE AND THE OCCLUSION OF FLOW FROM IW09. PW20 AND IW09 SHARE A COMMON LATERAL, AND ANY ADJUSTMENTS TO THE LATERAL PIPELINE IMPACTS WELLHEAD CONNECTION.

2. FOR WELL CONSTRUCTION DETAILS, SEE: *AS-BUILTS FOR THE PHASE II ESPANSION OF THE LANDFILL GAS EXTRACTION SYSTEM LOCATED AT THE FORMER LOS ANGELES LANDFILL,* IT CORPORATION, APRIL 2000.

CITY OF ALBUQUERQUE ENVIRONMENTAL HEALTH DEPARTMENT

LOS ANGELES LANDFILL

NO.	DATE	APPR.	REVISION
0	07/09	JPJ	AS BUILT REPAIRS
1	03/16	JPJ	2015 AS BUILTS

AS BUILT FOR PW-20 2015 SYSTEM REPAIRS

INTERA

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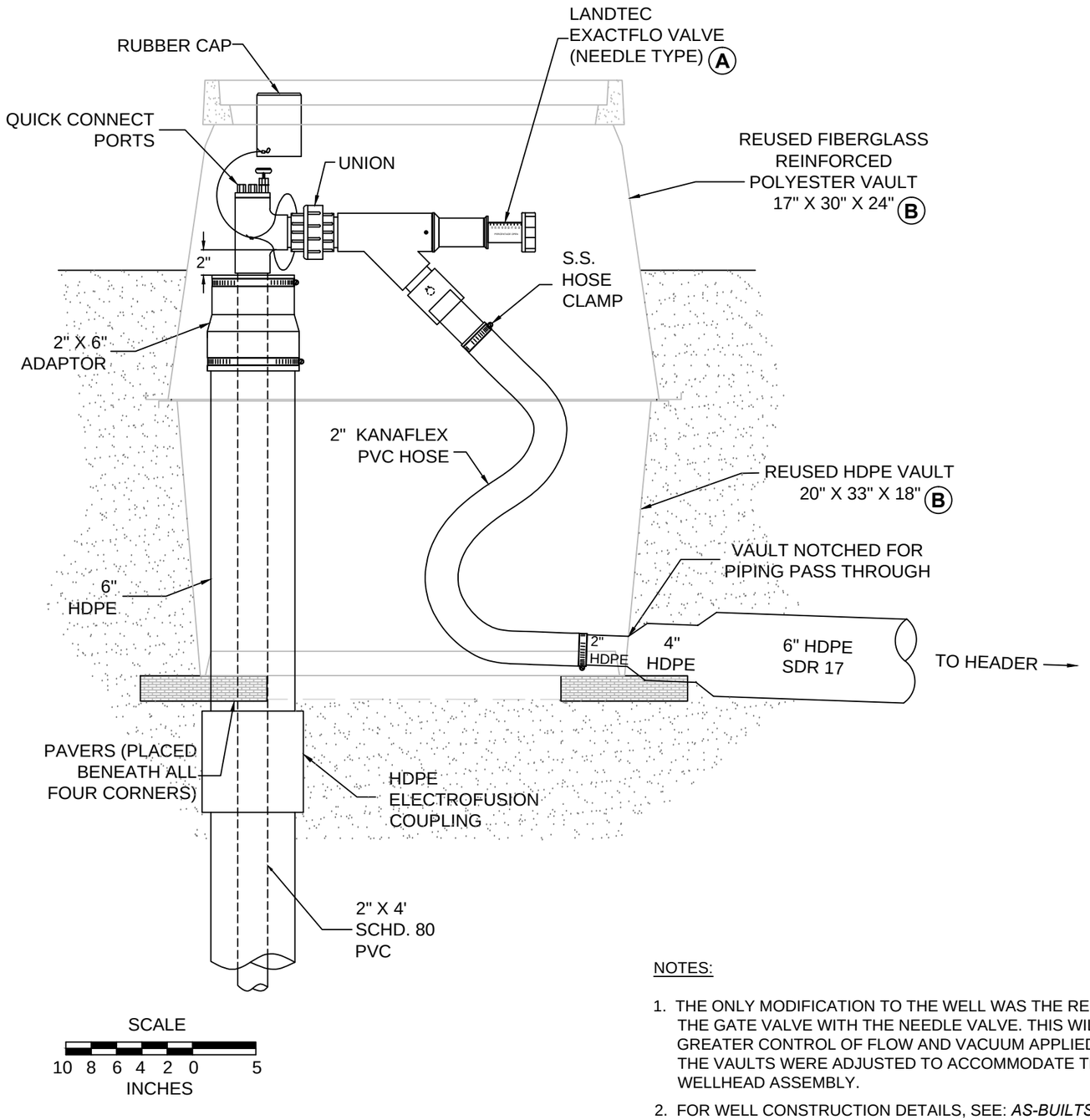
6000 Uptown Blvd., Suite 220
Albuquerque, NM 87110
(505) 246-1600

DATE: 03/14/16

FILE: 2015_07_PW20.DWG

SHEET 07

PW-20



SIGNIFICANT REPAIRS/MODIFICATIONS

KEYED NOTES:

(A) THE EXISTING LANDTEC ACCU-FLOW ™ VERTICAL WELLHEAD ASSEMBLY WAS REPLACED WITH A LANDTEC EXACTFLO VALVE WELLHEAD ASSEMBLY. THE VALVES WERE SWITCHED AT THE EXISTING UNION AND THE PITOT TUBE AND QUICK CONNECT PORTS FROM THE ORIGINAL WELLHEAD WERE RETAINED.

(B) THE VAULTS WERE RMOVED AND RESET TO ACCOMMODATE THE NEW WELLHEAD CONFIGURATION.

NOTES:

1. THE ONLY MODIFICATION TO THE WELL WAS THE REPLACEMENT OF THE GATE VALVE WITH THE NEEDLE VALVE. THIS WILL ALLOW FOR GREATER CONTROL OF FLOW AND VACUUM APPLIED TO THE WELL. THE VAULTS WERE ADJUSTED TO ACCOMMODATE THE NEW WELLHEAD ASSEMBLY.
2. FOR WELL CONSTRUCTION DETAILS, SEE: *AS-BUILTS FOR THE PHASE II EXPANSION OF THE LANDFILL GAS EXTRACTION SYSTEM LOCATED AT THE FORMER LOS ANGELES LANDFILL,* IT CORPORATION, APRIL 2000.

CITY OF
ALBUQUERQUE
ENVIRONMENTAL
HEALTH DEPARTMENT

LOS ANGELES
LANDFILL

NO.	DATE	APPR.	REVISION
0	07/09	JPJ	AS BUILT REPAIRS
1	03/16	JPJ	2015 AS BUILTS

AS BUILT FOR PW-32
2015 SYSTEM REPAIRS

INTERA INCORPORATED
6000 Uptown Blvd., Suite 220
Albuquerque, NM 87110
(505) 246-1600

DATE: 03/14/16

FILE: 2015_08_PW32.DWG

SHEET 08

PW-32

SIGNIFICANT REPAIRS/MODIFICATIONS

KEYED NOTES:

(A) 6" HDPE FLANGE (ORIGINAL INFRASTRUCTURE)

(B) 6" PVC FLANGE (NEW INFRASTRUCTURE)

(C) TOP OF ORIGINAL VAULT CUT OFF AT BASE AND BURIED IN PLACE. THE REMOVED SECTION WAS DISPOSED OF OFFSITE.

(D) A SECTION OF 6-INCH, SCHEDULE 40 POLYVINYL CHLORIDE (PVC) PIPE WITH PVC FLANGED ENDS WAS INSTALLED BETWEEN THE ORIGINAL SUMP BODY AND THE CONDENSATE PUMP AND CONTROL VALVES.

(E) SECTIONS OF SCHEDULE 40 PVC PIPE WERE ADDED USING PVC SOCKET X SOCKET COUPLINGS.

(F) ALL THREAD WAS USED TO SECURE THE NEW PVC FLANGE TO THE ORIGINAL CONDENSATE SUMP BODY.

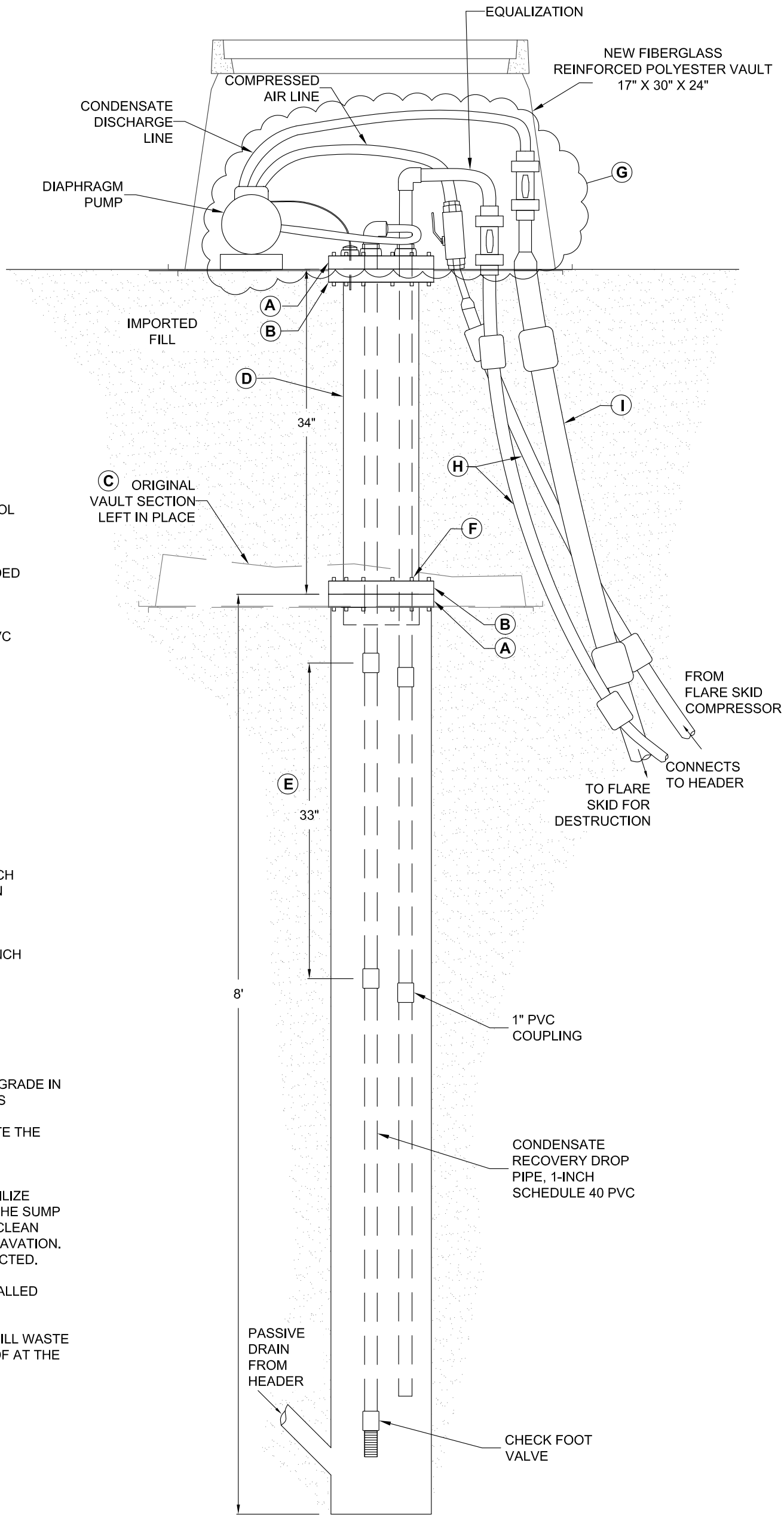
(G) THE ORIGINAL CONDENSATE SUMP PUMP AND CONTROL VALVES WERE RETAINED. THEY WERE DISCONNECTED FROM THE SUMP BODY AND RAISED TO GROUND LEVEL. THE RETAINED INFRASTRUCTURE WAS INSTALLED IN A NEW, ABOVE-GROUND VAULT.

(H) 1-INCH DIAMETER HDPE PIPE EXTENSIONS WERE ADDED TO THE EQUALIZATION LINE (39-INCH LENGTH) AND THE COMPRESSED AIR LINE (36-INCH LENGTH) USING ELECTROFUSION COUPLINGS ON BOTH ENDS.

(I) A 2-INCH DIAMETER HDPE PIPE EXTENSION (34-INCH LENGTH) WAS INSTALLED ON THE CONDENSATE DISCHARGE LINE USING ELECTROFUSION COUPLINGS ON BOTH ENDS.

NOTES:

1. PRIOR TO THE APPLIED IMPROVEMENTS, THE CONDENSATE SUMP WAS ABOUT 3 FEET BELOW GRADE IN A TIMBER-CONSTRUCTED VAULT. THE VAULT WAS IDENTIFIED AS A PERMIT CONFINED SPACE. THE IMPROVEMENTS WERE PERFORMED TO ELIMINATE THE CONFINED SPACE.
2. THE ORIGINAL TIMBER VAULT WAS REMOVED BY EXCAVATING THE SURROUNDING SOILS TO STABILIZE SLOPES AND EXTRACT VAULT MATERIAL. ONCE THE SUMP BODY AND PIPE EXTENSIONS WERE INSTALLED, CLEAN IMPORTED FILL WAS USED TO BACKFILL THE EXCAVATION. THE SOIL WAS PLACED IN THE LIFTS AND COMPACTED.
3. FOUR STEEL / CONCRETE BOLLARDS WERE INSTALLED AROUND THE NEW VAULT.
4. ALL GENERATED WASTE AND EXCAVATED LANDFILL WASTE WAS REMOVED FROM THE SITE AND DISPOSED OF AT THE CERRO COLORADO LANDFILL.



SCALE

12 9 6 3 0 5

INCHES

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6000 Uptown Blvd., Suite 220
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(505) 246-1600

AS BUILT FOR CS09 IMPROVEMENTS

NO.	DATE	APPR.	REVISION
0	11/15	JPJ	AS BUILT REPAIRS

CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT
LOS ANGELES LANDFILL

DATE: 3/8/2016

FILE: 2015_03_CS09.DWG

SHEET 09

CS09

Appendix B
Photographic Log

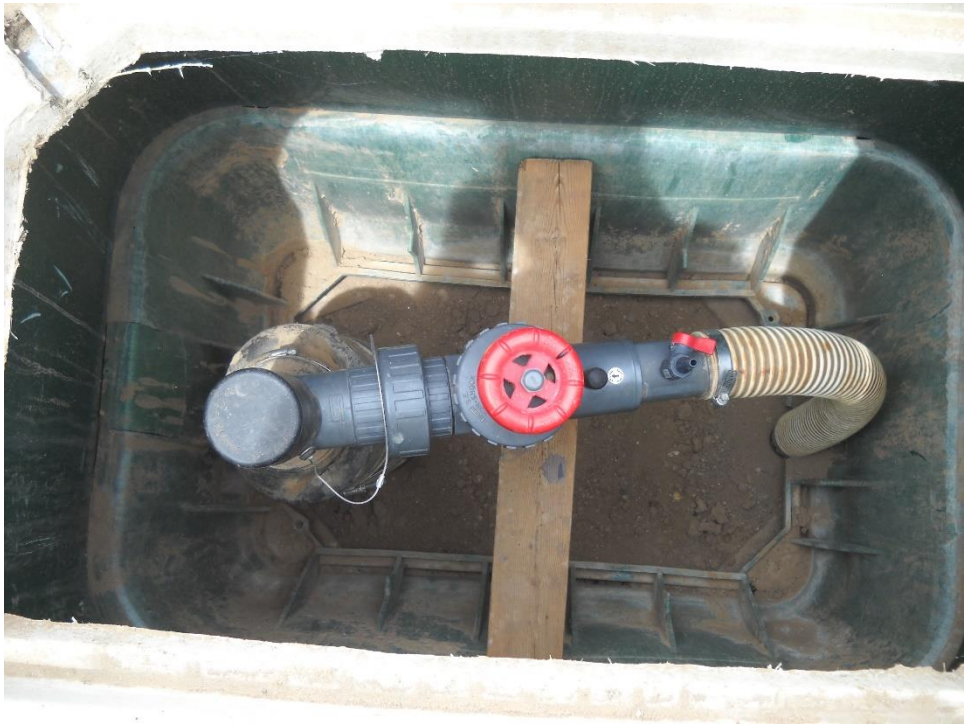
No. 1 – Former lateral pipe showing the configuration of the tee and elbow in the lateral between IW05 (left of worker) and IW17 (located out of site at top of photo). Photo looking west.

No. 2 – Modified IW05/IW17 lateral alignment from April 2015. The lateral now passes directly south of IW05 (center of photo). Photo looking west.

No. 3 – IW05 Sump being butt-fused to lateral pipe. Photo looking northwest.

No. 4 – IW05 Sump installed at lowest point in the lateral. The water in the excavation was draining from the surrounding soil into the trench. Photo looking north.

No. 5 – Excavation of the lateral from the header to IW09. Photo looking south.



No. 6 – Wellhead at extraction well PW20 after repairs to the well.

No. 7 – New Landtec e-flo needle valve installed at PW32.

No. 8 – CS09 condensate sump – Timber vault over the subgrade pump system prior to demolition. Photo looking northeast.

No. 9 – CS09 condensate sump – demolition of timber vault over the condensate pump skid.

No. 10 – CS09 condensate sump – extension of the sump body and connecting pipes were required to eliminate subgrade infrastructure.

No. 11 – CS09 condensate sump – as built condition after raising infrastructure and installing surface vault over the pump.

No. 12 – CS09 condensate sump – interior of the new condensate sump vault that houses the plumbing and the double diaphragm pump.

No. 13 – Typical landfill gas probe in the Alameda Business Park where ¼-inch labcock valves were installed on the probe casings. Note the section of casing that was cut off of the probe to facilitate fitting the valves in the vault.

No. 14 – Pressure relief valve replaced on the compressor at the enclosed flare station.

No. 15 – Prior to leveling the SVE building, the existing gravel was excavated from around the piers and supporting beams. Additional gravel was imported to raise the level of the gravel in and around the building after leveling. Photo looking northwest.

No. 16 – Leveling of the SVE building was accomplished by raising the beam on the jacking lug. Photo taken of the southwest corner, looking northwest.

No. 17 – The settlement on the southwest corner of the SVE building was so great that a steel extension spacer and new jacking studs (shown) were needed to achieve level. Photo taken looking southeast.

No. 18 – Interior of the SVE building showing the section of vertical polyvinyl chloride pipe added between the equipment skid (right) and the pipe leaving the building through the floor. The section of galvanized pipe with the blue mark was also added to make up the difference in the air injection pipe. Photo taken looking north.

No. 19 – SVE well vault at SVE01. Note the timber spacer installed below the top concrete vault ring. Photo taken looking north.

No. 20 – SVE09 before improvements. The wellhead manifold was several feet below grade and inconvenient to reach. Photo taken looking south.

No. 21 – SVE09 during repairs. Note that two butt-fusion elbows were installed on the extraction pipe to raise the wellhead plumbing in the vault. Photo taken looking south.

No. 22 – Epoxy patch to inside of the moisture knock-out vessel on the SVE blower skid.

Appendix C

Product Information and Waste Disposal Tickets

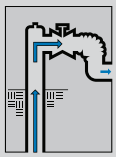
Landtec ExactFlo® Needle Valve

LANDTEC

LFG EC ADG

e.FLO XACT™

Exact-Flo Valve



MADE IN USA

U.S. Patent No. 8,678,348

REDEFINING FLOW CONTROL WITH AN e.FLO XACT™ VALVE

LANDTEC, an experienced manufacture of landfill gas products now introduces the e.FLO valve. The e.FLO valve presents a new generation of flow control devices. The conical tip design provides more linear flow adjustment positions than conventional valves giving you increased control to maximize your well-field tuning.

- **Greater flow control**
- **Proprietary tip for linear flow**
- **Easily retrofitted to existing Wellheads**
- **Easy to disassemble and maintain**

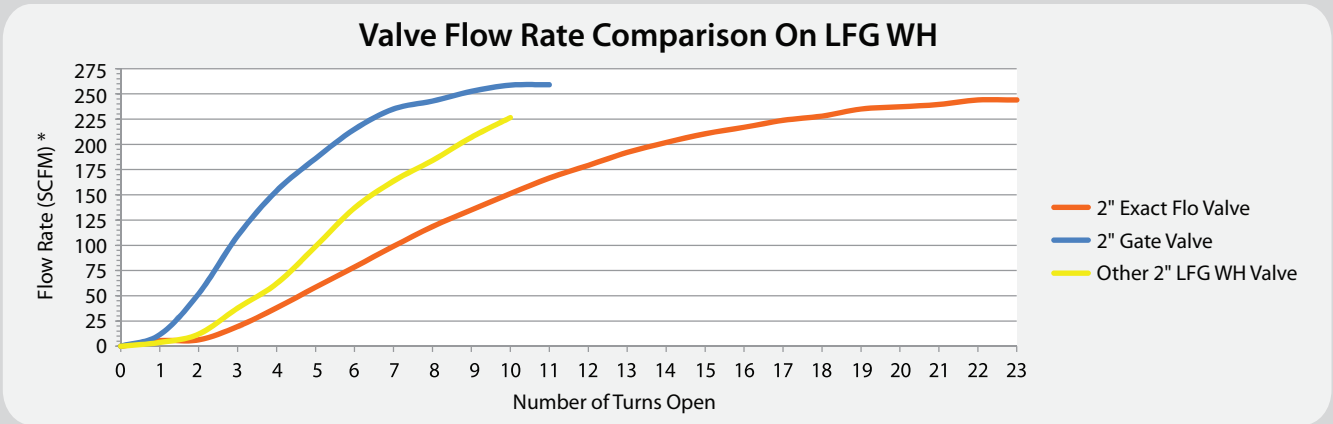
Used For

Wellhead fine tuning

WWW.LANDTECNA.COM

Exact-Flo Valve

U.S. Patent No. 8,678,348



*Based on 40"W.C. vacuum

Technical Specifications

Model	Exact Flo
Size	2" Valve
Materials	Solid SCH 80 PVC body
	Stainless steel 304 stem
	Viton® O-rings
	Proprietary custom tip
	Label UV resistant

Key Features & Benefits

- Stainless steel stem
- Durable PVC SCH 80 handle
- Proprietary tip for linear flow
- Position valve indicator
- Low flow capability
- Valve allows for 23 turns for increased control
- Retrofitting made effortless

Associations

SWANA MEMBER

ISWA International Solid Waste Association

The Climate Registry

American biogas Council

Contacts

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Colton, CA 92324

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(800) 390-7745 • Fax (301) 391-6546

LANDTEC South America
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www.LANDTEC.com.br

LANDTEC

Pressure Relief Valve for Flare Station Compressor

Pressure - Relief Valves

- Brass body for pressures less than 300 psig
- Steel body for pressures above 300 psig
- Available in a wide variety of pressure settings
- ASME certified
- National Board certified

Part Number	Inlet size	Outlet Size	Set Pressure	Rated SCFM	Special Notes
111089-100	1/8"	Drilled Port	100	95	Brass Body / Soft Seat
111089-140	1/8"	Drilled Port	140	128	Brass Body / Soft Seat
111089-150	1/8"	Drilled Port	150	136	Brass Body / Soft Seat
111089-165	1/8"	Drilled Port	165	149	Brass Body / Soft Seat
111089-175	1/8"	Drilled Port	175	147	Brass Body / Soft Seat
111089-200	1/8"	Drilled Port	200	178	Brass Body / Soft Seat
111089-215	1/8"	Drilled Port	215	190	Brass Body / Soft Seat
3767-90	1/4"	Drilled Port	90	122	Brass Body / Metal Seat
3767-100	1/4"	Drilled Port	100	133	Brass Body / Metal Seat
3767-200	1/4"	Drilled Port	200	251	Brass Body / Metal Seat
2961-55	1/4"	Drilled Port	55	37	Brass Body / Metal Seat
2961-65	1/4"	Drilled Port	65	42	Brass Body / Metal Seat
2961-90	1/4"	Drilled Port	90	56	Brass Body / Metal Seat
2961-100	1/4"	Drilled Port	100	63	Brass Body / Metal Seat
2961-120	1/4"	Drilled Port	120	73	Brass Body / Metal Seat
2961-125	1/4"	Drilled Port	125	77	Brass Body / Metal Seat
2961-150	1/4"	Drilled Port	150	90	Brass Body / Metal Seat
2961-160	1/4"	Drilled Port	160	85	Brass Body / Metal Seat
2961-165	1/4"	Drilled Port	165	98	Brass Body / Metal Seat
2961-185	1/4"	Drilled Port	185	109	Brass Body / Metal Seat
2961-200	1/4"	Drilled Port	200	118	Brass Body / Metal Seat
2961-215	1/4"	Drilled Port	215	128	Brass Body / Metal Seat
2961-225	1/4"	Drilled Port	225	132	Brass Body / Metal Seat
2961-250	1/4"	Drilled Port	250	145	Brass Body / Metal Seat
2961-275	1/4"	Drilled Port	275	159	Brass Body / Metal Seat

#111089-215

#3767-200

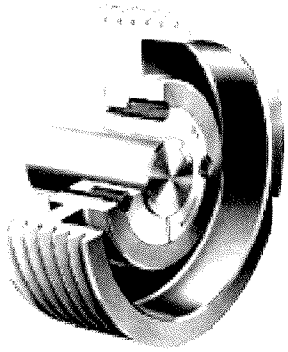
#2961-90

SVE Blower and Blower Motor
Sheaves, Bushings, and Belts

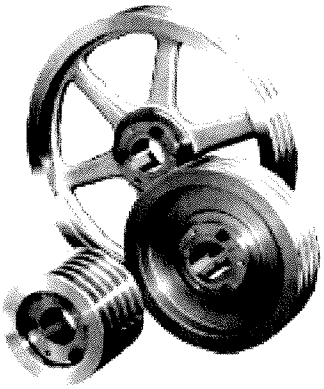
FEATURES/BENEFITS

DODGE®

TAPER-LOCK and QD Sheaves



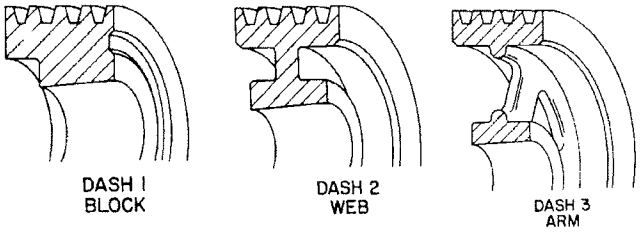
TAPER-LOCK Sheaves



QD Sheaves

Sheaves are manufactured in DODGE plants under strict quality control assurances. Precision machining meets or exceeds joint RMA/MPTA industry standards for smooth operation plus extended belt life. DODGE manufactures all sheaves in plants certified to ISO 9002 Quality Standards.

Sheave Construction



DODGE stock sheaves are manufactured from high quality gray iron. They are given a corrosion-resistant finish before packaging and shipping. Sheave construction follows the general format illustrated above: smaller sheaves are of the block construction, intermediate sizes of the web type, and large sheaves of the arm- type construction.

Sheave Balance

Balance of stock sheaves is suitable for most applications up to a rim speed of 6500 FPM. Dynamic (two-plane) balance is available at extra charge for applications that are more sensitive to vibration. Dynamic balance is recommended for operation above 6500 FPM.

V-Drive Advantages

- Isolates shock loads and vibration.
- Minor misalignment capability.
- Drive ratios of 6:1 or more possible.
- Stock drive selections up to:

  1100 design HP at 1180 RPM
  800 design HP at 1770 RPM
- Long life: 3-5 years is typical.
- Low maintenance.
- No lubrication required.
- Quiet operation: Motors, etc. are normally at a higher db level than V-Drives.
- Efficiency of 95% is typical.

Computer Selection

For fast, accurate evaluation of viable V-Drive alternatives, use the DODGE VIA-VISA software program for your PC. Just type the required information on the user-friendly input screen and let the computer do the rest. All the significant data on the drive combinations is presented: Cost, RPM, shaft loading, installation tension, face width and diameter, etc. This is shown in a format that allows you to select the best drive for the application. See page PT7–123 for complete information on VIA-VISA.

WARNING

Stock sheaves are manufactured from gray iron, which is suitable for operation up to 6500 feet per minute rim speed (e.g. 14″ max. dia. on a 1750 RPM motor). Operation above this rim speed may cause sheave failure resulting in personnel and/or equipment damage.

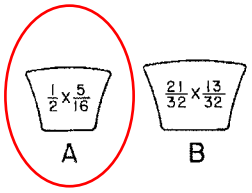
Refer to the Made-To-Order sheave section for constructions that are suitable for operation at higher rim speeds.

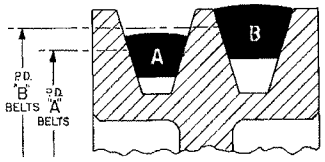
MPTA MECHANICAL POWER TRANSMISSION ASSOCIATION

Dodge is a founding member of MPTA.

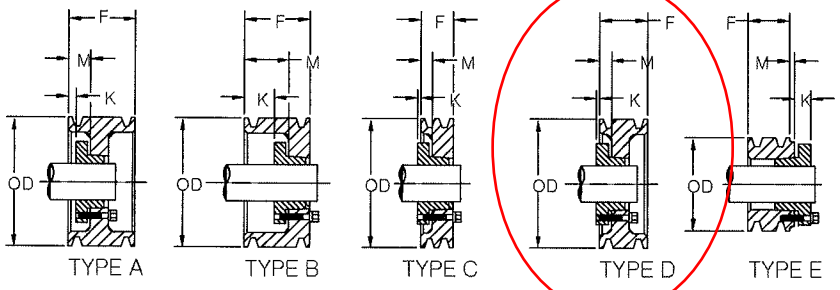
DODGE®

A/B QD SHEAVES





Drawing illustrates how either A or B belts may be used with combination groove sheaves.



1-Groove			F=.84 A3.2 B3.6 thru A4.0 B4.4 Balance F=1			
O.D.▲	Part No.	Description	Wt.	Type†	M	K
3.75	**118283**	1A3.0B3.4-SH	2.0	E1	0.44	0.68
3.95	**118284**	1A3.2B3.6-SH	2.2	D1	0.05	0.63
4.15	**118285**	1A3.4B3.8-SH	2.4	D1	0.05	0.63
4.35	**118286**	1A3.6B4.0-SH	2.7	D1	0.05	0.63
4.55	**455550**	1A3.8B4.2-SH	2.9	D1	0.05	0.63
4.75	**455551**	1A4.0B4.4-SH	3.4	D1	0.05	0.63
4.95	**455552**	1A4.2B4.6-SDS	4.0	D1	0.14	0.55
5.15	**455553**	1A4.4B4.8-SDS	4.0	D1	0.14	0.55
5.35	**455554**	1A4.6B5.0-SDS	4.0	D1	0.14	0.55
5.55	**455555**	1A4.8B5.2-SDS	5.0	D1	0.14	0.55
5.75	**455556**	1A5.0B5.4-SDS	5.0	D1	0.14	0.55
5.95	**455557**	1A5.2B5.6-SDS	6.0	C1	0.25	0.45
6.15	**455558**	1A5.4B5.8-SDS	6.0	C1	0.25	0.45
6.35	**455559**	1A5.6B6.0-SDS	6.0	C1	0.25	0.45
6.55	**455560**	1A5.8B6.2-SDS	6.0	C1	0.25	0.45
6.75	**455561**	1A6.0B6			5	0.45
6.95	**455562**	1A6.2B6			5	0.45
7.15	**455563**	1A6.4B6			5	0.45
7.35	**455564**	1A6.6B7			5	0.57
7.75	**455565**	1A7.0B7			5	0.45
8.35	**455566**	1A7.6B8			3	0.57
8.95	**455567**	1A8.2B8			3	0.57
9.75	**455568**	1A9.0B9.4-SDS	8.0	D2	0.13	0.57
11.35	**455569**	1A10.6B11.0-SDS	10.0	D2	0.13	0.57
12.75	**455570**	1A12.0B12.4-SDS				
13.95	**455571**	1A13.2B13.6-SDS				
15.75	**455572**	1A15.0B15.4-SK				
16.35	**455573**	1A15.6B16.0-SK				
18.75	**455574**	1A18.0B18.4-SK				
20.35	**455575**	1B20.0-SK	18.0	C3	0	0.89

The 2A7.6B8.0-SK was installed on the SVE blower motor.

The 2A10.6B11.0-SK was installed on the SVE blower.

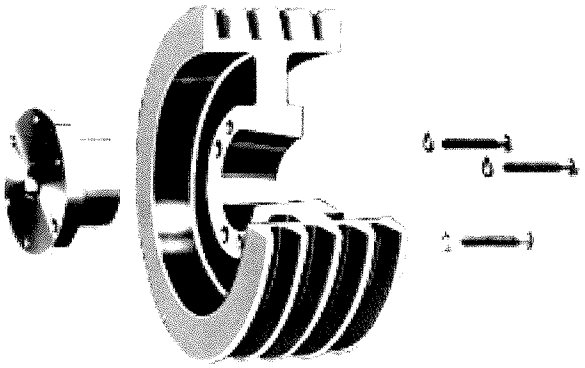
2-Groove					F = 1.75	
O.D.▲	Part No.	Description	Wt.	Type†	M	K
3.75	**455576**	2A3.0B3.4-SH	3.2	E1	0.38	0.68
3.95	**455577**	2A3.2B3.6-SH	3.4	E1	0	0.68
4.15	**455578**	2A3.4B3.8-SH	3.9	E1	0	0.68
4.35	**455579**	2A3.6B4.0-SH	3.8	A1	0.94	0.26
4.55	**455580**	2A3.8B4.2-SH	4.4	A1	0.94	0.26
4.75	**455581**	2A4.0B4.4-SH	4.6	A1	0.94	0.26
4.95	**455582**	2A4.2B4.6-SDS	5.0	A1	1.00	0.30
5.15	**455583**	2A4.4B4.8-SDS	4.1	A1	1.00	0.30
5.35	**455584**	2A4.6B5.0-SDS	6.0	A1	1.00	0.30
5.55	**455585**	2A4.8B5.2-SDS	7.0	A1	1.00	0.30
5.75	**455586**	2A5.0B5.4-SDS	7.0	A1	1.00	0.30
5.95	**455587**	2A5.2B5.6-SDS	7.0	A1	0.81	0.12
6.15	**455588**	2A5.4B5.8-SDS	7.0	D1	0.69	0.01
6.35	**455589**	2A5.6B6.0-SDS	7.0	D1	0.69	0.01
6.55	**455590**	2A5.8B6.2-SDS	6.3	D1	0.69	0.01
6.75	**455591**	2A6.0B6.4-SDS	8.0	D1	0.69	0.01
6.95	**455592**	2A6.2B6.6-SDS	8.2	D1	0.69	0.01
7.15	**455593**	2A6.4B6.8-SDS	9.0	D1	0.69	0.01
7.35	**455594**	2A6.6B7.0-SK	10.0	C1	0.50	0.39
7.75	**455595**	2A7.0B7.4-SK	11.0	C1	0.50	0.39
8.35	**455596**	2A7.6B8.0-SK	11.0	D2	0.44	0.46
8.95	**455597**	2A8.2B8.6-SK	12.0	D2	0.44	0.46
9.75	**455598**	2A9.0B9.4-SK	12.0	D2	0.44	0.46
11.35	**455599**	2A10.6B11.0-SK	14.0	D2	0.44	0.46
12.75	**455600**	2A12.0B12.4-SK	18.0	D3	0.44	0.46
13.95	**455601**	2A13.2B13.6-SK	19.0	D3	0.38	0.52
15.75	**455602**	2A15.0B15.4-SK	24.0	D3	0.44	0.46
16.35	**455603**	2A15.6B16.0-SK	22.0	D3	0.44	0.46
18.75	**455604**	2A18.0B18.4-SK	29.0	D3	0.31	0.58
20.35	**455605**	2B20.0-SF	30.0	D3	0.38	0.57
25.35	**455606**	2B25.0-SF	40.0	D3	0.38	0.57
30.35	**455607**	2B30.0-SF	50.0	D3	0.38	0.57
38.35	**455608**	2B38.0-SF	70.0	D3	0.34	0.60

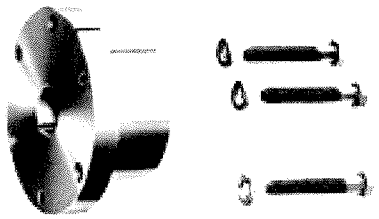
▲ P.D. for "A" Belts = O.D. - .37"
P.D. for "B" Belts = O.D. + .01"

† **Type 1** = **Block Type, 2** = **Web, 3** = **Arm** - See page PT7-2.

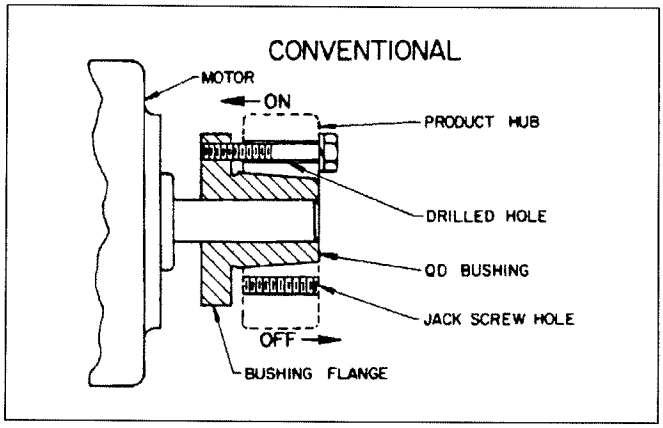
DODGE®

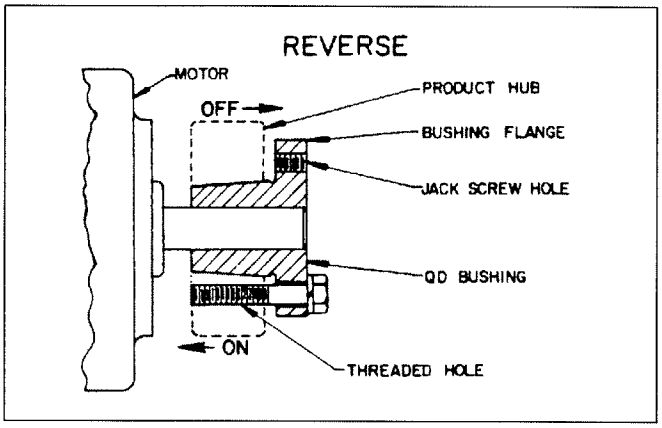
QD Bushings





- Flanged Design
- 4 Degree Taper
- Easy on/Easy off
- Manufactured precisely to industry standards
- Conventional or Reverse Mounting, Including sizes M thru S - DODGE exclusive!





Conventional Mounting

Easy On

- Place bushing in product
- Align clearance holes in product with threaded holes in bushing
- Install screws and lockwashers thru clearance holes, finger tight
- Slide assembly onto shaft, flange first
- Locate assembly on shaft for proper drive alignment
- Tighten cap screws alternately and evenly to specified torque

Easy Off

- Remove cap screws and install in product threaded holes
- Alternately and evenly tighten screws until bushing grip is released

Reverse Mounting

Easy On

- Place bushing in product
- Align clearance holes in product with threaded holes in bushing
- Install screws and lockwashers thru clearance holes, finger tight
- Slide assembly onto shaft, flange outward
- Locate assembly on shaft for proper drive alignment
- Tighten cap screws alternately and evenly to specified torque

Easy Off

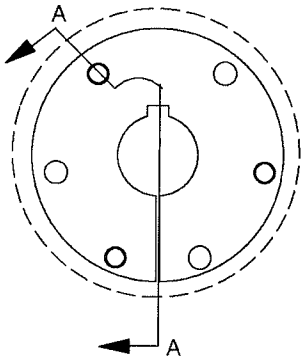
- Remove cap screws and reinstall in flange threaded holes
- Alternately and evenly tighten screws until bushing grip is released

IMPORTANT! Do not use lubricants or anti-seize compounds on tapered bore or bushing surfaces. For complete installation instructions, refer to the sheet packaged with each bushing.

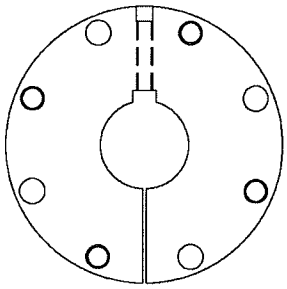
SPECIFICATION

DODGE®

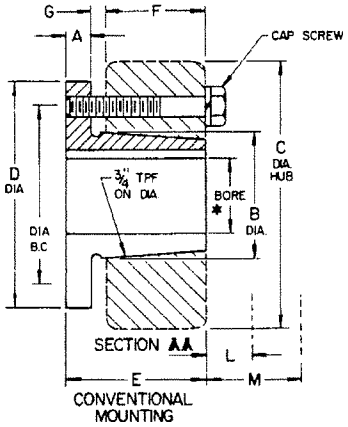
QD Bushing Dimensions



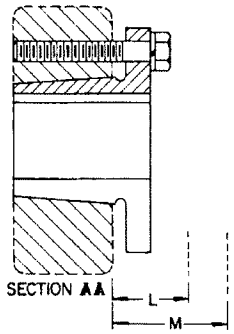
Sizes JA – J



Sizes M – W



CONVENTIONAL MOUNTING



REVERSE MOUNTING

QD BUSHING RATINGS AND DIMENSIONS

Bush. Symb.	Ratings (Lb-in)	Bore Range				Dimensions							
	Bush. Torque Cap.*	Min.	Max. Bore for: Full KW	Shallow KW	No KW	A	B Dia.	C Hub Dia. CI 30 Iron	C Hub Dia. Steel	D Dia.	E	F	G
H	1,000	3/8	1-1/4	1-1/2	1-9/16	0.25	1.625	3.00	2.375	2.50	1.25	0.87	0.12
JA	1,000	1/2	1	1-3/16	1-1/4	0.31	1.38	3.93	2.25	2.00	1.00	0.56	0.12
SH	3,500	1/2	1-3/8	1-5/8	1-11/16	0.43	1.88	4.75	3.00	2.63	1.31	0.81	0.12
SDS	5,000	1/2	1-5/8	1-15/16	2	0.43	2.18	4.75	3.50	3.18	1.31	0.75	0.12
SD	5,000	1/2	1-5/8	1-15/16	2	0.43	2.18	3.81	3.50	3.18	1.81	1.25	0.12
SK	7,000	1/2	2-1/8	2-1/2	2-5/8	0.56	2.81	4.75	4.50	3.88	1.93	1.25	0.22
SF	11,000	1/2	2-5/16	2-15/16	...	0.63	3.13	6.38	5.50	4.63	2.06	1.25	0.22
E	20,000	7/8	2-7/8	3-1/2	...	0.88	3.83	7.50	6.50	6.00	2.75	1.63	0.25
F	30,000	1	3-1/4	3-15/16	4	1.00	4.43	7.75	7.25	6.63	3.75	2.50	0.34
J	45,000	1-1/2	3-3/4	4-1/2	...	1.13	5.14	9.00	8.00	7.25	4.63	3.18	0.38
M	85,000	2	4-3/4	5-1/2	...	1.25	6.50	11.38	10.00	9.00	6.75	5.18	0.41
N	150,000	2-7/16	5	6	...	1.50	7.00	12.00	...	10.00	8.12	6.25	0.56
P	250,000	2-15/16	5-15/16	7	...	1.75	8.25	14.00	...	11.75	9.38	7.25	0.63
W	375,000	4	7-1/2	8-1/2	...	2.00	10.42	17.00	...	15.00	11.38	9.00	0.50
S	625,000	5-1/2	9	10	...	2.75	12.13	19.00	...	17.75	15.25	12.00	0.75

* Torque ratings apply when bushing installation screws are tightened to listed torque. Important: Do not over-torque screws. This can lead to hub damage.

INSTALLATION INFORMATION

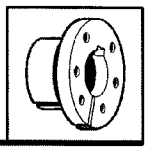
Bush. Sym.	Installation Screws				Required Wrench Clearance							
					Conventional Mounting				Reverse Mounting			
	B. C. Dia.	Qty.	Size	Screw Torque*	L-Install #	L-Install @	M-Remove #	M-Remove @	L-Install #	L-Install @	M-Remove #	M-Remove @
H	2.00	2	1/4-20 x 7/8	90	0.31	2.43	1.03	3.15	1.03	3.15	1.46	3.58
JA	1.65	3	10-24 x 1	54	0.41	2.53	1.13	3.25	1.13	3.25	1.56	3.68
SH	2.25	3	1/4 x 1-3/8	108	0.59	2.66	1.56	3.63	1.56	3.63	2.13	4.18
SDS	2.69	3	1/4 x 1-3/8	108	0.59	2.66	1.56	3.63	1.56	3.63	2.13	4.18
SD	2.69	3	1/4 x 1-7/8	108	0.66	2.72	2.06	4.13	2.06	4.13	2.63	4.68
SK	3.31	3	5/16 x 2	180	0.78	2.72	2.25	4.25	2.31	4.31	2.38	5.00
SF	3.88	3	3/8 x 2	360	0.91	2.91	2.38	4.36	2.43	4.43	3.32	5.31
E	5.00	3	1/2 x 2-3/4	720	1.25	3.19	3.13	5.06	3.18	5.13	4.43	6.38
F	5.63	3	9/16 x 3-5/8	900	1.28	3.10	4.13	5.94	4.18	6.00	5.50	7.31
J	6.25	3	5/8 x 4-1/2	1,620	1.41	3.22	4.94	6.75	3.93	5.75	5.50	7.31
M	7.88	4	3/4 x 6-3/4	2,700	2.16	4.03	7.69	9.56	...	...	...	...
N	8.50	4	7/8 x 8	3,600	2.28	...	9.25	...	...	...	...	...
P	10.00	4	1 x 9-1/2	5,400	3.13	...	10.88	...	...	...	...	...
W	12.75	4	1-1/8 x 11-1/2	7,200	3.88	...	13.38	...	...	...	...	...
S	15.00	5	1-1/4 x 15	9,000	3.75	...	16.50	...	...	...	...	...

\# Using Open-End Wrench * Lb – in

QD STOCK SIZES PAGES PT6–15, NO TAG	QD METRIC BORES, REBORABLES PAGE PT6–18	QD HUBS PAGE PT6–22	T-L BUSHINGS, HUBS PAGES PT6–2-PT6–12

SPECIFICATION

DODGE®



QD Bushings - Stock Sizes

STOCK QD BUSHINGS WITH FINISHED BORE AND STANDARD KEYWAY

Bush. Sym./ Avg. Wt..	Bore ★	Part No.	Bushing Keyway	Shaft Keyseat (Ref.)
H .9 Lbs.	3/8	121129	None	None
	7/16	121130		
	1/2	121131	1/8 x 1/16	1/18 x 1/16
	9/16	121133		
	5/8	122050	3/16 x 3/32	3/16 x 3/32
	11/16	121134		
	3/4	122051		
	13/16	121136		
	7/8	122052		
	15/16	121138	1/4 x 1/8	1/4 x 1/8
	1	122053		
	1-1/16	121140		
	1-1/8	122054		
	1-3/16	122055		
	1-1/4	122056		
	1-5/16	121144	5/16 x 1/16 ▲	5/16 x 7/32
	1-3/8	121145		
	1-7/16	121146	3/8 x 1/16#	3/8 x 1/4
	1-1/2■	121147		
JA .4 Lbs.	1/2	120332	1/8 x 1/16	1/8 x 1/16
	9/16	120333		
	5/8	120334	3/16 x 3/32	3/16 x 3/32
	11/16	120335		
	3/4	120336		
	13/16	120337		
	7/8	120338		
	15/16	120339	1/4 x 1/8	1/4 x 1/8
	1	120340		
	1-1/16	120341	1/4 x 1/16▲	1/4 x 1/8
	1-1/8	120342		
	1-3/16	120343		
	1-1/4	120344	None	None
SH .9 Lbs.	1/2	120345	1/8 x 1/16	1/8 x 1/16
	9/16	120346		
	5/8	120347	3/16 x 3/32	3/16 x 3/32
	11/16	120348		
	3/4	120349		
	13/16	120350		
	7/8	120351		
	15/16	120352	1/4 x 1/8	1/4 x 1/8
	1	120353		
	1-1/16	120354		
	1-1/8	120355		
	1-3/16	120356		
	1-1/4	120357		

▲ Key furnished for these sizes only
★ Bores not listed will be priced on application
■ Ductile Iron

Bush. Sym./ Avg. Wt..	Bore ★	Part No.	Bushing Keyway	Shaft Keyseat (Ref.)
SH .9 Lbs. (Con't)	1-5/16	120358	5/16 X 5/32	5/16 X 5/32
	1-3/8	120359		
	1-7/16	120360	3/8 X 1/16 ▲	3/8 X 3/16
	1-1/2	120361		
	1-9/16	120362		
	1-5/8	120363		
	1-11/16	120580	None	None
	1/2	120388	1/8 x 1/16	1/8 x 1/16
	9/16	120389		
	5/8	120390	3/16 x 3/32	3/16 x 3/32
	11/16	120391		
	3/4	120392		
	13/16	120393		
	7/8	120394		
	15/16	120395		
	1	120396		
	1-1/16	120397		
	1-1/8	120398		
	1-3/16	120399		
	1-1/4	120400		
	1-5/16	120401		
SDS 1.3 Lbs.	1-3/8	120402		
	1-7/16	120403	3/8 x 3/16	3/8 x 3/16
	1-1/2	120404		
	1-9/16	120405		
	1-5/8	120406		
	1-11/16	120407		
	1-3/4	120408		
	1-13/16	120409		
	1-7/8	120410		
	1-15/16	120411		
	2	120412	None	None
SD 1.6 Lbs.	1/2	120364	1/8 x 1/16	1/8 x 1/16
	9/16	120365		
	5/8	120366	3/16 x 3/32	3/16 x 3/32
	11/16	120367		
	3/4	120368		
	13/16	120369		
	7/8	120370		
	15/16	120371	1/4 x 1/8	1/4 x 1/8
	1	120372		
	1-1/16	120373		
	1-1/8	120374		
	1-3/16	120375		
	1-1/4	120376		
	1-5/16	120377	5/16 x 5/32	5/16 x 5/32
	1-3/8	120378		
	1-7/16	120379	3/8 x 3/16	3/8 x 3/16
	1-1/2	120380		
	1-9/16	120381		
	1-5/8	120382		

Bush. Sym./ Avg. Wt..	Bore ★	Part No.	Bushing Keyway	Shaft Keyseat (Ref.)
SD 1.6 Lbs (con't)	1-11/16	120383	3/8 x 3/16	3/8 x 3/16
	1-3/4	120384	3/8 x 1/8▲	3/8 x 3/16
	1-13/16	120385	1/2 x 1/16▲	1/2 x 1/4
	1-7/8	120386		
	1-15/16	120387		
	2	120581	None	None
SK 2.7 Lbs.	1/2	120413	1/8 x 1/16	1/8 x 1/16
	5/8	120415	3/16 x 3/32	3/16 x 3/32
	11/16	120416		
	3/4	120417		
	13/16	120418		
	7/8	120419		
	15/16	120420	1/4 x 1/8	1/4 x 1/8
	1	120421		
	1-1/6	120422		
	1-1/8	120423		
	1-3/16	120424		
	1-1/4	120425		
	1-15/16	120426	5/16 x 5/32	5/16 x 5/32
	1-3/8	120427		
	1-7/16	120428	3/8 x 3/16	3/8 x 3/16
	1-1/2	120429		
	1-9/16	120430		
	1-5/8	120431		
	1-11/16	120432		
	1-3/4	120433		
	1-13/16	120434	1/2 x 1/4	1/2 x 1/4
	1-7/8	120435		
	1-15/16	120436		
	2	120437		
	2-1/16	120438		
	2-1/8	120439		
	2-3/16	120440	1/2 x 3/16▲	1/2 x 1/4
	2-1/4	120441		
	2-5/16	120442	5/8 x 1/16▲	5/8 x 5/16
	2-3/8	120443		
	2-7/16	120444		
	2-1/2	120445		
	2-5/8	120447	None	None
SF 3.8 Lbs.	1/2	120448	1/8 x 1/16	1/8 x 1/16
	5/8	120450	3/16 x 3/32	3/16 x 3/32
	11/16	120451		
	3/4	120452		
	13/16	120453		
	7/8	120454		
	15/16	120455	1/4 x 1/8	1/4 x 1/8
	1	120456		
	1-1/8	120458		
	1-3/16	120459		
	1-1/4	120460		
	1-5/16	120461	5/16 x 5/32	5/16 x 5/32

The 1-3/8 bushing was installed on the SVE blower motor.

The 1-5/8 bushing was installed on the SVE blower.

QD DIMENSIONS PAGES PT6-14	QD METRIC BORES, REBORABLES PAGE PT6-18	QD HUBS PAGE PT6-22	T-L BUSHINGS, HUBS PAGES PT6-2-PT6-12

Product Detail

Close

Product ID
90132081

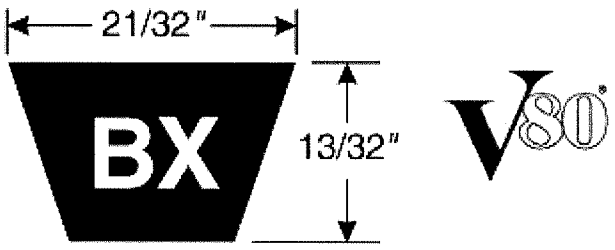
Part #
BX81

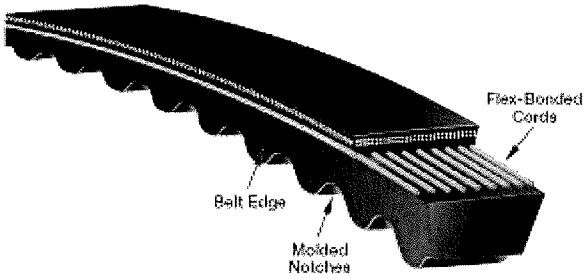
Product Description
BX81 TRI-POWER V BELT

UPC
072053266870

Category Hierarchy
Industrial Power Transmission -> Heavy Duty V-Belts -> Tri-Power® Belts -> BX Section, P.N. Series 9013

Product Images





Product Features

Application	
Category Name Description	Constructed with Gates proprietary construction, this belt has a superior combination of flex and load carrying capacity, as well as less stretch resulting in less maintenance.
Features Advantages	Flex-Bonded Cords are strongly bonded to the body of the belt resulting in equal load distribution and the absorption of bending stress without cord deterioration. Meets ARPM / RMA IP-3-2 oil and heat resistant standards. Meets ARPM / RMA IP-3-3 static conductivity requirements. Notches molded into the belt during manufacturing increase flexibility making this belt well suited for drives with smaller diameter sheaves. Belt Edge is machined for even sheave groove contact resulting in smoother running, less slip and wear. Patented Ethylene Material construction provides -70°F to +250°F temperature range to resist belt cracking.
Markets/Applications	Suitable for all industrial applications, particularly where small or sub-minimal sheave diameters are required.
Belt / Sprocket Specifications	
Outside Circumference (in)	

	84.00
Recommended Sheaves	Multi-Duty® Sheaves
Packaging	
Customer Pack	1.0
Standard Pack	10
Product Attributes	
Section	BX
Weight	
Weight (Lbs.)	.75

This product replaces the following products	
Product ID	**Product Name**
90136081	BX81 TRI-POWER V BELT

Datasheet References

Safety and Usage Disclaimer

Close

Waste Hauling Tickets

#15-36

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 01/30/2015
TIME IN: 07:53:01 AM
TIME OUT: 08:25:05 AM

TICKET#: 1,376,211

CUSTOMER: ENVIROWORES LLC.
ACCOUNT#: 9259718970
BILLTO: ENVIROWORKS LLC.
HAULER: ENVIROWORES LLC.
TRUCK#: DT18
CONTAINER:
PROFILE:
MATERIAL: MUNICIPLE SOLID WASTE
COMMENT: 37109 //

--: Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	44,420	22.21
TARE:	23,740	11.87
NET:	20,680	10.34

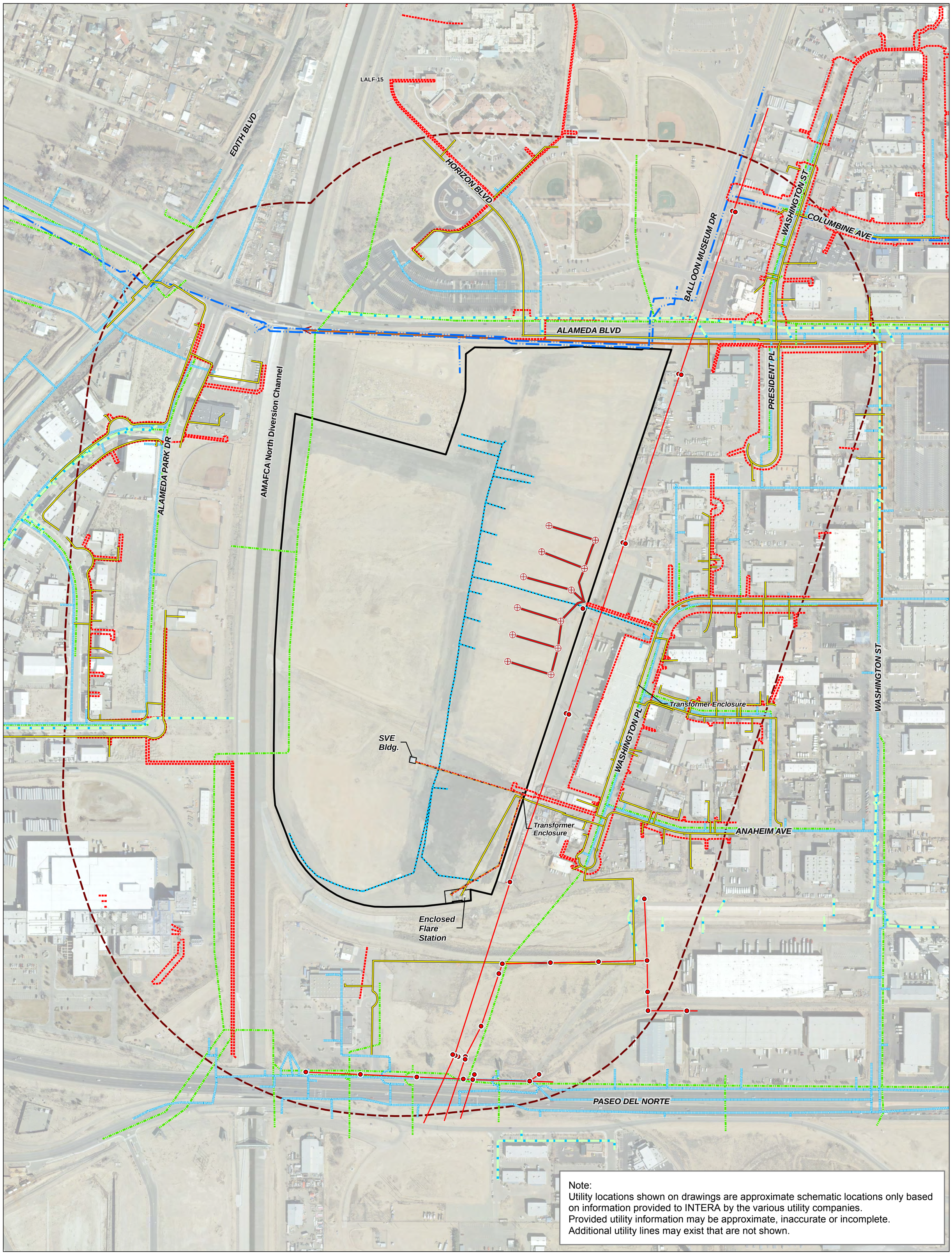
PRODUCT COST: $310.20
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $310.20

WEIGHER: awdadh

DRIVER SIGNATURE:

Appendix D

LALF Utilities Plate



N

0 100 200 400 600 Feet

Legend

- Landfill Extent
- 1000 Feet Buffer Zone
- Underground Telephone Line
- Underground RV Electrical Line
- Fiber Optic Line
- Underground Electric Line
- Storm Sewer Line
- Natural Gas Line
- Non-Potable Water Line
- Potable Water Line for AIBF RVs
- Potable Water Line
- Sanitary Sewer Line
- Overhead Electrical Line
- Electrical Pole
- Electrical Panel

Source(s): Aerial – RGIS GIS website, 2014;
Potable Water – COA, ABCWUA;
Sanitary Sewer and Non-Potable Water – ABCWUA;
Electric Line – PNM and COA;
Gas Line – NM Gas Company

INTERA

Plate 2
Utility Map
COA - Los Angeles Landfill

S:\Projects\COALB_C002_LALF LA Landfill O&M\Deliverables\2015 As Builts\Plate1_utilitiesMapVer2.mxd