Arizona Public Service
Four Corners Power Plant

Return Water Pond

Location Restrictions Demonstration Report

Prepared for :
Arizona Public Service

AECOM Job No. 60596770
March 31, 2020

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Certification Statement

Certification Statement for Location Restrictions:

- **40 CFR § 257.60 – Placement above the uppermost aquifer**
- **40 CFR § 257.61 – Wetlands**
- **40 CFR § 257.62 – Fault areas**
- **40 CFR § 257.63 – Seismic impact zones**
- **40 CFR § 257.64 – Unstable Areas**

CCR Unit: Arizona Public Service Company; Four Corners Power Plant; Return Water Pond

I, David Mickanen, being a Registered Professional Engineer in good standing in the State of New Mexico, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above-referenced CCR unit, that the demonstration regarding the location of the CCR unit less than 1.52 meters (5 feet) above the upper limit of the uppermost aquifer, the demonstration regarding the location of the CCR unit in the wetlands, the demonstration regarding the location of the CCR unit within 60 meters (200 feet) of the outermost damage zone of a fault that has had a displacement in Holocene time, the demonstration regarding the location of the CCR unit in a seismic impact zone, and the demonstration that the location of the CCR unit is not in an unstable area, as included in the Location Restrictions Demonstration Report dated March 31, 2020 meets the requirements of 40 CFR § 257.60(a), § 257.61(a), § 257.62(a), § 257.63(a), and § 257.64(a).

David E. Mickanen, P.E.

Printed Name

March 31, 2020

Date

1 Introduction

Arizona Public Service Company (APS) contracted AECOM to assist in the location restrictions demonstrations of the Return Water Pond (RWP), a new coal combustion residual (CCR) surface impoundment facility at the Four Corners Power Plant (FCPP, the Plant) within the Navajo Nation, near Fruitland, New Mexico. The RWP consists of two cells – the Flue Gas Desulfurization (FGD) cell and the Return Water Pond cell – collectively referred to as the "RWP." Figure 1-1 shows the location of the RWP at the FCPP. This Location Restrictions Demonstration Report documents location-specific conditions relevant to the RWP.

1.1 Report Purpose and Description

The purpose of this report is to document the location restrictions demonstration for the RWP. The RWP is a new CCR surface impoundment APS constructed in 2019. In 2015, the United States Environmental Protection Agency (EPA) finalized a rule (Rule) regulating CCRs under subtitle D of the Resource Conservation and Recovery Act (RCRA). As part of this Rule, owners and operators of new CCR surface impoundments must obtain a certification from a qualified professional engineer stating that the demonstrations for the CCR unit meet the requirements relative to the uppermost aquifer, wetlands, fault areas, seismic impact zones, and unstable areas.

1.2 EPA Regulatory Requirements

On April 17, 2015 the United States Environmental Protection Agency issued 40 CFR Part 257 Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule (the Rule). Sections 257.60 through 257.64 define location restriction criteria for new CCR surface impoundments and require the owner or operator of the CCR unit to demonstrate that the unit meets minimum requirements for:

a) Placement above the uppermost aquifer (§ 257.60);
b) Location outside wetlands (§ 257.61);
c) Location more than 60 meters (200 feet) from the outermost damage zone of a fault that has had displacement in Holocene time (§ 257.62);
d) Location outside seismic impact zones (§ 257.63);
e) Location away from unstable areas (§ 257.64).

New CCR surface impoundments, such as the RWP, are required to demonstrate compliance with the location restrictions no later than the date of initial receipt of CCR in the CCR unit. An owner or operator who fails to make the demonstration showing compliance with the requirements under 40 CFR § 257.60(a), § 257.61(a), § 257.62(a), § 257.63(a), or § 257.64(a) is prohibited from placing CCR in the CCR unit.

1.3 Report Organization

This Demonstration Report is organized into the following sections:

Report Section	Applicable CFR 40 Part 257 Citation
• Section 1 – Introduction	
• Section 2 – Placement Above the Uppermost Aquifer	§ 257.60 Placement above the uppermost aquifer
• Section 3 – Location Relative to Wetlands	§ 257.61 Wetlands
• Section 4 – Location Relative to Fault Areas	§ 257.62 Fault areas

- Section 5 – Location Relative to Seismic Impact Zones — § 257.63 Seismic impact zones
- Section 6 – Location Relative to Unstable Areas — § 257.64 Unstable areas
- Section 7 – Conclusions
- Section 8 – Limitations
- Section 9 – References
- Figure
- Appendix A – Original Construction Plans and Boring Logs
- Appendix B – Wetlands Map
- Appendix C – Unified Hazard Tool Summary

1.4 Facility Description

The FCPP is an electric generating station located within the Navajo Nation, near Fruitland, New Mexico. The FCPP is operated by APS and owned by a consortium of utility companies. The FCPP consists of two coal-fired electrical generating units, Units 4 and 5. Units 1, 2, and 3 ceased generation in 2013 and were then decommissioned. The two generating units are cooled by water from Morgan Lake, a man-made reservoir located immediately north of the Plant. Five existing CCR units are located at the FCPP: the Combined Waste Treatment Pond (CWTP) located immediately east of the Plant, the Lined Ash Impoundment (LAI) located approximately 1 mile west of the Plant, the Lined Decant Water Pond (LDWP) located approximately 1.5 miles west of the Plant and adjacent to the LAI, the Return Water Pond (RWP) located between the LAI and the Plant, and the Dry Fly Ash Disposal Area (DFADA), a landfill located approximately 2 miles southwest of the Plant and south of the LAI. A sixth CCR unit, the Upper Retention Sump, was decommissioned and permanently closed in 2018. Figure 1-1 shows the locations of these units.

The RWP was constructed in 2019. Inflow to the RWP is managed by four distinct pumping stations, which are manually operated by plant personnel. Outflow from the RWP is managed by a dedicated pumping station, which is manually operated by plant personnel. Water in the RWP is pumped back to the plant and used as process makeup water.

The RWP is a geosynthetic-lined dike with 3 horizontal : 1 vertical (3H:1V) upstream and downstream slopes constructed using processed weathered shale and sandstone material from the excavation footprint. The dike crest width is 20 feet and the maximum height is approximately 13 feet. The RWP liner system consists of a primary 60-mil HDPE geomembrane liner, a drainage geonet, a secondary 60-mil HDPE geomembrane liner, a geosynthetic clay liner (GCL), and a prepared subgrade (scarified, proof-rolled, and compacted). The RWP has a surface area of 5.1 acres and a storage capacity of 38.6 ac-ft (at elevation 5379 feet).

2 Placement Above the Uppermost Aquifer

40 CFR § 257.60 requires that new CCR surface impoundments must be constructed with a base that is located no less than 1.52 meters (5 feet) above the upper limit of the uppermost aquifer, unless the owner or operator demonstrates that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevation (including the seasonal high water table).

Uppermost aquifer is defined by the Rule to mean the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

2.1 Methodology

The following information was reviewed to assess the vertical location of the RWP relative to the uppermost aquifer:

- Preconstruction topographic conditions shown on construction plans (included in Appendix A)
- As-built drawings for the RWP (APS 2020)
- CCR Monitoring Well Network Report and Certification (AECOM 2017)
- Annual Groundwater Monitoring and Corrective Action Report for 2017 (Amec Foster Wheeler 2018), 2018 (wood. 2019), and 2019 (wood. 2020)

2.2 Discussion and Conclusion

2.2.1 Base Elevation of the CCR Unit

The base elevation (EL) of the RWP is EL 5362.61 feet, the lowest elevation at the bottom of the pond and the location of the leachate collection and recovery system (LCRS). This elevation is called out on Sheet 14 of the FC45CM-C-65-WP-AP-200485 drawing set (Appendix A).

2.2.2 Groundwater Elevations

APS will install groundwater monitoring wells around the RWP prior to the initial receipt of CCR. Until the new wells are installed, the closest groundwater monitoring wells to the RWP are MW-12R1 and MW-50A based on figures presented in the 2019 Annual Groundwater Monitoring and Corrective Action Report (wood. 2020). The water elevations in wells LS-1 and LS-2 are completed in the unweathered portion of the Lewis Shale (wood. 2019) and the depth to water in these wells is not regularly measured.

Monitoring well MW-12R1 was constructed in 2018 and is screened in the weathered Lewis Shale between 22 feet (EL 5246.23 feet) and 32 feet (EL 5236.23 feet NAVD88) below ground surface (EL 5268.23 feet NAVD83) (AECOM 2017). No water was encountered during drilling. MW-12R1 was dry during the first reading event in November 2018 (wood. 2019) and dry in the subsequent reading event in November/December 2019 (wood. 2020).

Monitoring well MW-49A was constructed in 2013 and is screened in the weathered Lewis Shale between 50 feet (EL 5231.38 feet NAVD88) and 65 feet (EL 5216.38 feet NAVD88) below ground surface (EL 5281.38 feet NAVD83) (AECOM 2017). No water was encountered during drilling. The highest water elevation measured is EL 5241.73 feet (NAVD88) during the January/February 2017 reading event.

Monitoring well MW-50A was constructed in 2013 and is screened in the weathered Lewis Shale between 28 feet (EL 5305.2 feet NAVD88) and 43 feet (EL 5290.2 feet NAVD88) below ground surface (EL 5333.2 feet NAVD83) (AECOM 2017). No water was encountered during drilling. The highest water elevation measured is EL 5292.60 feet (NAVD88) during the October 2016 reading event.

Monitoring well MW-73 was constructed in 2017 and is screened in poorly graded sand with silt and clayey sand between 28.8 feet (EL 5323.10 feet NAVD88) and 43.8 feet (EL 5308.10 feet NAVD88) below ground surface (EL 5351.90 feet NAVD83) (AECOM 2017). Water was encountered at a depth of 22 feet (EL 5329.90 feet NAVD88) during drilling and was observed to be at a depth of 21.80 feet (EL 5330.10 feet NAVD88) after drilling; this is also the highest water elevation measured.

Table 1 presents well data and the water level elevations in the wells monitored near the RWP (AECOM 2017, AECOM 2018, Amec Foster Wheeler 2018, wood. 2019, and wood. 2020).

Table 1 – Well Data and Groundwater Elevations (ft)[1]

	Well Name			
	MW-12R1	**MW-49A**	**MW-50A**	**MW-73**
Location Relative to the RWP	West	West	North	North
Surface Elevation (ft)	5268.23	5281.38	5333.2	5351.90
Bottom of Screen (ft)	5236.23	5216.38	5290.2	5308.10
Screened In	Weathered Shale	Weathered Shale	Weathered Shale	Sand
Measurement Date	**MW-12R1**	**MW-49A**	**MW-50A**	**MW-73**
11/3-11/9, 11/14/2015	NI[2]	5229.25	5291.83	NI[2]
4/25/2016	NI[2]	5240.79	5292.44	NI[2]
9/12/2016	NI[2]	5240.56	5292.49	NI[2]
10/19-10/20/2016	NI[2]	5241.06	5292.60	NI[2]
1/31-2/1/2017	NI[2]	5241.73	5292.29	5329.96
5/1/2017	NI[2]	5240.98	5292.43	5329.67
9/9/2017	NI[2]	5240.64	5292.16	5328.63
10/11/2017	NI[2]	5240.62	5292.15	5329.36
3/15/2018	NI[2]	5236.73	5292.21	5330.05
5/31/2018	NM[3]	5240.54	Dry	5329.09
11/2/2018	Dry	5240.67	Dry	5329.06
March/April 2019	NM[3]	5239.42	5292.05	5329.61
May 2019	NM[3]	5239.34	NM[3]	5328.64
November/December 2019	Dry	5238.88	5292.58	5329.22
Highest Recorded Groundwater Elevation (ft)	<5236.23	5241.73	5292.60	5330.10 (after installation)

1) Elevations are presented in NAVD88.
2) NI = Not installed.
3) NM = The groundwater elevation was not measured on the date shown.

2.2.3 Separation from the Uppermost Aquifer

Groundwater elevations recorded in the weathered shale underlying the RWP are historically below EL 5330.10 feet (NAVD88) approximately 1,500 feet north of the pond and below EL 5241.73 feet (NAVD88) approximately 2,200 feet west of the pond. Assuming the water elevation measured in monitoring well MW-73 after installation (EL 5330.10 feet, NAVD88) is the same as the water elevation beneath the RWP, the base elevation of the RWP at EL 5362.61 feet (NAVD88) is approximately 32.5 feet higher than the highest recorded groundwater elevation at monitoring well MW-50A.

Conclusion: The base of the RWP is located greater than 1.52 meters (5 feet) above the groundwater level in the uppermost aquifer.

3 Location Relative to Wetlands

40 CFR § 257.61 requires that new CCR surface impoundments are not to be located in wetlands. Wetlands are defined in 40 CFR § 232.2 as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

3.1 Methodology

A wetland delineation was performed in April 2012 and jurisdictional determinations of the wetlands identified have been reviewed and accepted by the U.S. Army Corps of Engineers and the Environmental Protection Agency (United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement 2015). A map of wetlands identified at the FCPP in this study is presented in Appendix B.

3.2 Discussion and Conclusion

No wetlands were identified in the footprint of the RWP. One 0.07-acre wetland is located approximately 6,500 feet from the RWP. The wetland drains into a concrete-lined detention pond upstream of the Pond 3 pump house.

Conclusion: The RWP is not located in wetlands.

4 Location Relative to Fault Areas

40 CFR § 257.62 requires that new CCR surface impoundments are not to be located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time (beginning 11,700 years before present (BP)) unless the owner or operator demonstrates the an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR unit.

4.1 Methodology

AECOM reviewed the Quaternary Faults and Folds database maintained by the United States Geological Survey (USGS) as part of the Holocene fault search (USGS 2019b). The Holocene epoch is the most recent subdivision of the Quaternary period and therefore any faults that have had displacement in the Holocene would also be included in the Quaternary period database. The Quaternary Faults and Folds database is the source for the faults used in the National Seismic Hazard Maps and contains information on faults and associated folds that are believed to be sources of M > 6 earthquakes during the Quaternary Period. AECOM searched the USGS Quaternary Fault and Fold Database for Category A and Category B faults in San Juan County, New Mexico. Fault categories are defined in Table 2. Fault categories A and B relate to the Rule; fault categories C and D describe less defined or non-tectonic features.

Table 2 – Fault Categories

Category	Definition
A	Geologic evidence demonstrates the existence of a Quaternary fault of tectonic origin, whether the fault is exposed by mapping or inferred from liquefaction or other deformational features.
B	Geologic evidence demonstrates the existence of Quaternary deformation, but either (1) the fault might not extend deeply enough to be a potential source of significant earthquakes, or (2) the currently available geologic evidence is too strong to confidently assign the feature to Class C but not strong enough to assign it to Class A.
C	Geologic evidence is insufficient to demonstrate (1) the existence of tectonic faulting, or (2) Quaternary slip or deformation associated with the feature.
D	Geologic evidence demonstrates that the feature is not a tectonic fault or feature; this category includes features such as joints, landslides, erosional or fluvial scarps, or other landforms resembling scarps but of demonstrable non-tectonic origin.

4.2 Discussion and Conclusion

The USGS Quaternary Faults and Folds Database of the United States does not contain any Class A or Class B faults in San Juan County.

Conclusion: No faults with displacement in Holocene time are present within 200 feet of the RWP.

5 Location Relative to Seismic Impact Zones

40 CFR § 257.63 requires new CCR surface impoundments are not to be located in seismic impact zones unless the owner or operator demonstrates that all structural components, including liners, leachate collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. *Seismic impact zone* is defined by the Rule as an area having a 2 percent or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 50 years.

5.1 Methodology

The USGS maintains the Unified Hazard Tool website to provide access to the source and attenuation models for locations within the United States. AECOM utilized version 4.0.x of the 2014 Unified Hazard Tool to calculate the peak horizontal ground acceleration (PGA) with a 2 percent probability of exceedance in 50 years (USGS 2019a) for the RWP location. The Unified Hazard Tool result is presented in Appendix C.

5.2 Discussion and Conclusion

The PGA with a 2 percent probability of exceedance in 50 years for the RWP is 0.0747g. This value is less than the Rule-required maximum value of 0.10 g in 50 years.

Conclusion: The RWP is not located in a seismic impact zone.

6 Location Relative to Unstable Areas

40 CFR § 257.64 requires that new CCR surface impoundments are not to be located in an unstable area unless the owner or operator demonstrates that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted. The following factors must be considered when determining whether the area is unstable:

1) On-site or local soil conditions that may result in significant differential settling;
2) On-site or local geologic or geomorphologic features; and
3) On-site or local human-made features or events (both surface and subsurface).

Structural components means liners, leachate collection and removal systems, final covers, run-on and run-off systems, inflow design flood control systems, and any other component used in the construction and operation of the CCR unit that is necessary to ensure the integrity of the unit and that the contents of the unit are not released into the environment.

Unstable area means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

6.1 Methodology

The location of the RWP relative to unstable areas was assessed by reviewing design and construction documentation, historic geological and geotechnical investigations, and engineering analyses (safety factor calculations). Information was reviewed to assess: 1) whether poor foundation conditions may exist which could result in inadequate foundation support for structural components of the RWP, and 2) whether areas susceptible to mass movement (such as subsidence, landslides, avalanches, debris slides and flows, block sliding, or rock falls) capable of impairing the integrity of the structural components of the RWP are present.

6.2 Discussion and Conclusion

6.2.1 Geologic Setting

The FCPP is located on the western flank of the San Juan Basin, in the Colorado Plateau physiographic province in northwestern New Mexico. The San Juan Basin is a structural basin approximately 100 miles from north to south and 90 miles from east to west underlain by laterally extensive, gently dipping to flat-lying sedimentary rocks of Late Cretaceous age. The northwestern boundary of the San Juan Basin is defined by the Hogback Monocline. The Hogback Monocline is a structural monocline where the generally horizontal to gently dipping Cretaceous sedimentary rock units in the area are uplifted into a one-sided fold which dips steeply (approximately 38 degrees) to the east. The resulting bedrock ridge approximately 3 miles west of the Plant is composed of younger rock units on the eastern flank and progressively older units exposed in the central and western portions of the Hogback.

Karst terrain is not known to be present beneath the FCPP or RWP footprint based on the predominance of shale and sandstone in the area.

6.2.2 Foundation Conditions

The RWP is founded on native soil primarily consisting of hard weathered shale and sandstone. The native soils and shale underlying the RWP appear to be competent materials based on test pits excavated within the RWP footprint prior to construction, nearby well logs for LS-1, LS-2, and MW-50A (AECOM 2017), and observations

during construction. Based on knowledge of the site and available geologic information, AECOM does not believe that the presence of the RWP will cause significant differential settling across the weathered shale or sandstone underlying the site.

Conditions Associated with Unstable Areas: The Rule identifies three conditions that must be considered when determining whether the area is unstable:

1. On-site or local soil conditions that may result in significant differential settling:

   The RWP was constructed by excavating the existing weathered shale and sandstone from the pond footprint and using a portion of the excavated material to construct the perimeter embankment. The maximum excavation for the RWP is approximately 12 feet in the vicinity of the LCRS risers in both cells. The maximum embankment height, measured from EL 5381 feet at the crest to EL 5368 at the toe on the north side of the impoundment, is 13 feet. This relatively short embankment height applies approximately 1,500 psf to the underlying shale and sandstone. Based on AECOM's experience at the FCPP, this additional overburden stress is not expected to cause the weathered shale and sandstone to experience significant differential settling.

2. On-site or local geologic or geomorphologic features:

   There are no identified geologic or geomorphologic features that could cause the area of the RWP to become unstable.

3. On-site or local human-made features or events (both surface and subsurface):

   The impounded water level in the RWP is monitored by APS personnel and APS has the ability to reduce the impounded water level if required to maintain the safe operation of the CCR unit.

6.2.3 Areas Susceptible to Mass Movement

The RWP is constructed on top of an area of relatively higher topography. Topographic and geologic conditions in the area do not indicate the potential for landslides, avalanches, debris slides, debris flows, block sliding, rock falls, or other mass movements which could impact the structural components of the RWP.

Conclusion: The RWP is not located in an unstable area.

7 Conclusions

Based on the findings and results of the location restrictions demonstrations, AECOM provides the following conclusions for the RWP:

- The base of the RWP is located greater than 1.52 meters (5 feet) above the groundwater level in the uppermost aquifer.
- The RWP is not located in wetlands.
- No faults with Holocene displacement are present within 200 feet of the RWP.
- The RWP is not located in a seismic impact zone.
- The RWP is not located in an unstable area.

8 Limitations

This report is for the sole use of APS on this project only and is not to be used for other projects. In the event that conclusions based upon the data obtained in this report are made by others, such conclusions are the responsibility of others. The Certification of Professional Opinion is limited to the information available to AECOM at the time this report was written. This report was written in accordance with current practice and the standard of care. Standard of care is defined as the ordinary diligence exercised by fellow practitioners in this area performing the same services under similar circumstances during the same period. Professional judgments presented herein are primarily based on information from previous reports that were assumed to be accurate partly based on knowledge of the site and partly based on our general experience with similar evaluations performed for similar structures. No warranty or guarantee, express or implied, is applicable to this work.

The use of the words “certification” and/or “certify” in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not be interpreted or construed as a guarantee, warranty, or legal opinion.

9 References

AECOM, 2017. “CCR Monitoring Well Network Report and Certification, Four Corners Power Plant, Fruitland, New Mexico.” September 18.

AECOM, 2018. “MW-12R1 Well Installation Log.” June.

Amec Foster Wheeler, 2018. “Annual Groundwater Monitoring and Corrective Action Report for 2017.” Prepared for Arizona Public Service. January 29.

Arizona Public Service Company (APS), 2020. “FCPP Return Water Pond.” Record Drawing Set Number FC45CM-C-16-WP-AP-200485. January 17.

United States Department of the Interior Office of Surface Mining Reclamation and Enforcement, 2015. “Final Environmental Impact Statement (EIS) for the Four Corners Power Plant and Navajo Mine Energy Project.” May 1.

United States Geological Survey (USGS), 2019a. *Unified Hazard Tool – Conterminous U.S. 2014 (v4.0.x)*. https://earthquake.usgs.gov/hazards/interactive/. Accessed December 16.

United States Geological Survey (USGS), 2019b. *Quaternary Fault and Fold Database of the United States*. https://earthquake.usgs.gov/hazards/qfaults/. Accessed December 16.

Wood Environment & Infrastructure Solutions, Inc. (wood.), 2019. “Annual Groundwater Monitoring and Corrective Action Report for 2018.” Prepared for Arizona Public Service. January 31.

Wood Environment & Infrastructure Solutions, Inc. (wood.), 2020. “Annual Groundwater Monitoring and Corrective Action Report for 2019.” Submitted to Arizona Public Service. January 31.

Figure

MORGAN LAKE

COMBINED WASTE TREATMENT POND (CWTP)

LINED DECANT WATER POND (LDWP)

RETURN WATER POND (RWP)

LINED ASH IMPOUNDMENT (LAI)

FORMER UPPER RETENTION SUMP (URS)

DRY FLY ASH DISPOSAL AREA (DFADA) SITES 1, 2, 3

N

GRAPHIC SCALE

400 0 400 800

(IN FEET)
1 inch = 800 ft.

AECOM

Figure 1-1

SITE VICINITY MAP

FOUR CORNERS POWER PLANT
RWP LOCATION RESTRICTIONS
ARIZONA PUBLIC SERVICE
Project No.: 60596770

Last saved by: LEE.WRIGHT(2019-12-16) Last Plotted: 2019-12-16
Filename: P:\PROJECTS\ARIZONA_PUBLIC_SERVICE\60596770_FC_RWP_SG3_ENG\900-CAD GIS\910 CAD\25 SKETCHES\60596770-SKE-20-0000-C-FIGURE1-1-RWP.DWG

Project Management Initials: Designer: LMW Checked:DEM Approved:DEM ANSI B 11" x 17"

Appendix A.
As-Built Drawings

FOUR CORNERS POWER PLANT, UNITS 4 AND 5

ARIZONA PUBLIC SERVICE COMPANY

FCPP RETURN WATER POND

WA# FCC06814

DRAWING INDEX

DRAWING NUMBER	TITLE
FC45CM-X-41-WP-AP-170003-97	COVER SHEET
FC45CM-X-98-WP-AP-200485-2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
FC45CM-C-16-WP-AP-200485-3	EXISTING CONDITIONS PLAN
FC45CM-C-16-WP-AP-200485-4	GEOTECHNICAL INVESTIGATION LOCATION MAP
FC45CM-C-16-WP-AP-200485-5	KEY PLAN
FC45CM-C-16-WP-AP-200485-6	POND 3 PUMP HOUSE PLAN
FC45CM-C-16-WP-AP-200485-7	RETURN WATER PIPELINE PLAN 1
FC45CM-C-16-WP-AP-200485-8	RETURN WATER PIPELINE PLAN 2
FC45CM-C-16-WP-AP-200485-9	RETURN WATER PIPELINE PLAN 3
FC45CM-C-16-WP-AP-200485-10	RETURN WATER PIPELINE PLAN 4
FC45CM-C-16-WP-AP-200485-11	RETURN WATER POND PLAN
FC45CM-C-16-WP-AP-200485-12	GRADING AND DRAINAGE PLAN
FC45CM-C-65-WP-AP-200485-13	LINER SECTIONS AND DETAILS
FC45CM-C-65-WP-AP-200485-14	GRADING SECTIONS AND DETAILS
FC45CM-C-65-WP-AP-200485-15	RETURN WATER PIPING SECTIONS AND DETAILS
FC45CM-C-65-WP-AP-200485-16	FENCING SECTIONS AND DETAILS
FC45CM-C-65-WP-AP-200485-17	UTILITY VAULT DETAILS
FC45CM-M-05-BP-AP-156257-1	THICKENER UNDERGROUND PIPE ROUTING PLAN VIEW
FC04UN-M-02-BP-AP-82117-410B	U4 THICKENER UNDERFLOW SYSTEM PUMPS P&ID
FC04UN-M-02-BP-AP-82118-410B	U5 THICKENER UNDERFLOW SYSTEM PUMPS P&ID
FC45CM-M-02-BP-AP-82119-1	THICKENER UNDERFLOW TO LINED ASH IMPOUNDMENT P&ID
FC45CM-S-98-WP-AP-200485-24	STRUCTURAL GENERAL NOTES
FC45CM-S-47-WP-AP-200485-25	STRUCTURAL PLAN AND SECTION
FC45CM-S-65-WP-AP-200485-26	STRUCTURAL SECTIONS AND DETAILS
FC45CM-M-02-WP-AP-200485-27	RETURN WATER POND P&ID
FC00CM-M-02-HB-BR-82114-10F	ASH POND 6-CHACO WASH SEEPAGE INTERCEPT SYSTEM P&ID
FC00CM-M-02-HB-BR-82114-10G	ASH HANDLING SYSTEM LINED DECANT WATER POND P&ID
FC00CM-C-56-BP-LK-56052-5	PUMPING STATION-PIPING&GENERAL ARRANGEMENT PLANS&ELEVATIONS
FC45CM-M-16-WP-AP-200485-34	MECHANICAL RETURN WATER POND PUMPING STATION PLAN
FC45CM-P-65-WP-AP-200485-35	LCRS PUMP SECTION, SCHEDULE AND DETAILS
FC45CM-M-65-WP-AP-200485-36	MECHANICAL SEWAGE EFFLUENT PUMPING STATION PLAN
FC45CM-E-98-WP-AP-200485-37	ELECTRICAL LEGEND
FC45CM-E-16-WP-AP-200485-38	ELECTRICAL OVERALL SITE KEY PLAN
FC45CM-E-16-WP-AP-200485-39	ELECTRICAL POND 3 SITE PLAN
FC45CM-E-16-WP-AP-200485-40	ELECTRICAL RETURN WATER POND PLAN
FC45CM-E-16-WP-AP-200485-41	RWP AND SEWAGE EFFLUENT PUMPING STATION PLANS
FC45CM-E-16-WP-AP-200485-42	ELECTRICAL ASH DISPOSAL PUMPING STATION PLAN
FC45CM-E-01-WP-AP-200485-43	ELECTRICAL ONE-LINE DIAGRAMS
FC45CM-E-49-WP-AP-200485-44	ELECTRICAL DETAILS
FC00CM-E-03-HB-BR-39128-1	EVAPORATION PONDS MCC
FC00CM-E-03-HB-BR-39128-2	EVAPORATION PONDS BOM
FC00CM-E-03-HB-BR-39128-3	EVAPORATION PONDS SCHEMATICS
FC00CM-E-04-HB-BR-39129-3	EVAPORATION PONDS CONTROLS
FC45CM-E-16-WP-AP-200485-51	EXISTING PUMP SITE UPGRADE
FC45CM-E-16-WP-AP-200485-52	ASH POND PUMP STATION EXTENSION
FC45CM-E-19-WP-AP-200485-53	PAD AND CONDUIT DETAIL 1
FC45CM-E-19-WP-AP-200485-54	PAD AND CONTUIT DETIAL 2

1

REFERENCE DRAWINGS

DRAWING NUMBER	TITLE
FC45CM-M-05-BAP-AP-156257-3	THICKENER SYSTEM - UTILITY VAULT / ISO VIEWS & DETAILS

CONTACTS

OWNER: ARIZONA PUBLIC SERVICE COMPANY
GENERATION ENGINEERING
P.O. BOX 53933 M.S. 3190
PHOENIX AZ, 85072-3933

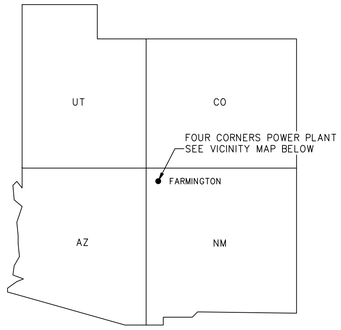
A.P.S. CONSTRUCTION COORDINATOR:
THOMAS BUCHHOLZ
FOUR CORNERS POWER PLANT
COUNTY ROAD 6675
FRUITLAND, NM 87416
PHONE: 505-598-8735
THOMAS.BUCHHOLZ@APS.COM

A.P.S. PROJECT MANAGER:
BYRON CONRAD, PE
400 N. 5TH ST.
PHOENIX, AZ 85004
PHONE: 602-250-5455
BYRON.CONRAD@APS.COM

AECOM PROJECT ENGINEER:
DAVID MICKANEN, PE
7720 N. 16TH ST., STE. 100
PHOENIX, AZ 85020
PHONE: 602-371-1100
FAX: 602-371-1615
DAVID.MICKANEN@AECOM.COM

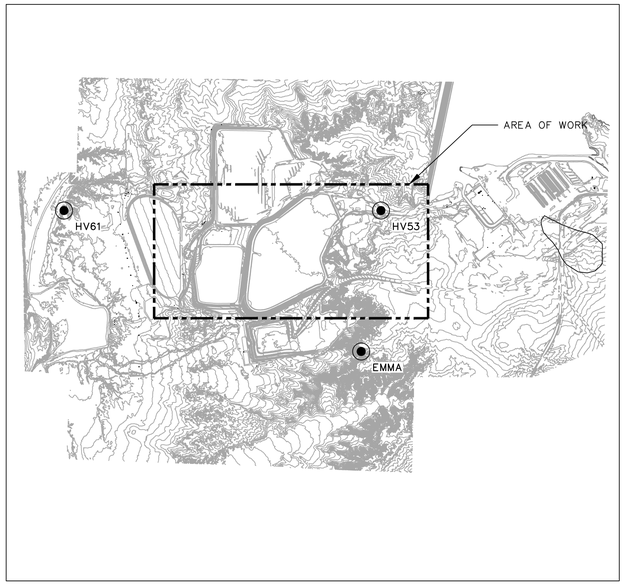
FOUR CORNERS POWER PLANT STREET ADDRESS:
COUNTY ROAD 6675
FRUITLAND, NM 87416

IN CASE OF EMERGENCY AT FOUR CORNERS
POWER PLANT CALL 505-598-8311 OR 3911
ON A PLANT TELEPHONE



LOCATION MAP
N.T.S.

NORTH



VICINITY MAP
N.T.S.

NORTH

SAFETY

1. WORKING SAFELY IS A CONDITION OF EMPLOYMENT AT ARIZONA PUBLIC SERVICE (APS). IT IS EXPECTED THAT ALL PERSONS ON SITE WILL FOLLOW THE APS PROCESSES, POLICIES, AND PROCEDURES.
2. CONTRACTORS ARE RESPONSIBLE FOR THE SAFE AND HEALTHFUL PERFORMANCE OF WORK BY EACH OF THEIR EMPLOYEES, SUBCONTRACTORS, VENDORS OR SUPPORT PERSONNEL ENTERING THE SITE.
3. MINIMUM PERSONAL PROTECTIVE EQUIPMENT (PPE) USAGE REQUIREMENTS FOR PERSONNEL AT THE SITE SHALL INCLUDE WEARING LONG PANTS AND LONG SLEEVE SHIRTS MADE FROM NON MELTING MATERIAL, HARD HATS, HEARING PROTECTION, ADVANCED SAFETY EYEWEAR (SPOGGLES), APPROPRIATE GLOVES, AND SAFETY TOE BOOTS. ADDITIONAL PPE MAY BE REQUIRED TO SAFELY PERFORM SPECIFIC TASKS.

GENERAL NOTES

1. FOUR CORNERS POWER PLANT IS A COAL FIRED GENERATING PLANT ON THE NAVAJO INDIAN RESERVATION NEAR FRUITLAND, NEW MEXICO.

DATUM

1. NEW MEXICO WEST ZONE (3003). STATE PLANE COORDINATE SYSTEM. US SURVEY FEET. HORIZONTAL: NORTH AMERICAN DATUM OF 1983 (NAD 83).
   VERTICAL: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. PRESERVE AND PROTECT EXISTING SURVEY MONUMENTS. ESTABLISH NORTHING, EASTING, AND ELEVATIONS OF SURVEY MONUMENTS AND REPORT COORDINATES TO ENGINEER PRIOR TO CONSTRUCTION.

CONTROL POINTS AND BENCHMARKS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
EMMA	N2,066,529.495	E2,528,708.477	5382.251'	ALUMINUM CAP
HV53	N2,070,581.505	E2,529,275.542	5331.214'	SCE BRASS CAP
HV61	N2,070,581.682	E2,520,166.590	5085.898'	SCE BRASS CAP

REFERENCE DATA

- THE OVERALL TOPOGRAPHIC SURVEY WAS PROVIDED BY AERIAL MAPPING COMPANY INC. ON APRIL 14, 2014
- TOPOGRAPHIC SURVEY FOR THE PROJECT SITE WAS PROVIDED BY SAKURA ENGINEERING AND SURVEYING ON APRIL 11, 2018

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

FOUR CORNERS POWER PLANT
RETURN WATER POND

COVER SHEET

SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	X	41	WP	AP	200485	97

WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-X-41-WP-AP-170003-97.dwg

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER AND ENGINEER AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
2. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND THE PROJECT SPECIFICATIONS. ALL NECESSARY LICENSES AND/OR PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE.
3. ENGINEER SHALL BE NOTIFIED A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE OF SITE INSPECTIONS, TESTING VERIFICATIONS, AND FOR ANY OTHER PORTION OF THE WORK REQUIRING ENGINEERS SERVICES AT THE JOB SITE.
4. CONTRACTOR SHALL NOTIFY ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT ENGINEER MAY TAKE NECESSARY MEASURES TO INSURE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF ENGINEER AND SHALL NOTIFY ENGINEER AND BEAR EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED.
5. CONTRACTOR SHALL READ AND MAKE CAREFUL EXAMINATION OF THE PLANS, SPECIFICATIONS, QUANTITIES, AND MATERIALS AND SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION TO BECOME FAMILIAR WITH SITE CONDITIONS AND LIMITATIONS BEFORE MAKING A PROPOSAL. CONTRACTOR SHALL MAKE ANY INVESTIGATIONS NECESSARY TO DETERMINE THE EXTENT OF THE WORK REQUIRED TO CONSTRUCT THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ERRORS RESULTING FROM FAILURE TO MAKE SUCH AN EXAMINATION. ANY INFORMATION DERIVED FROM THE MAPS, PLANS, SPECIFICATIONS, PROFILES, DRAWINGS OR FROM ENGINEER, WILL NOT RELIEVE CONTRACTOR FROM ANY RISK OR FROM FULFILLING THE TERMS OF THE CONTRACT.
6. ANY EXISTING OR NEW SITE FEATURES OR OTHER IMPROVEMENTS DAMAGED BY CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR TO EQUAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL NOT INSTALL ITEMS AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS THAT FIELD CONDITIONS ARE DIFFERENT THAN SHOWN IN THE DESIGN. SUCH CONDITIONS SHOULD BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER. IN THE EVENT CONTRACTOR DOES NOT NOTIFY PROJECT MANAGER, CONTRACTOR ASSUMES FULL RESPONSIBILITY AND EXPENSE FOR ANY REVISIONS NECESSARY.
8. NEITHER THE OWNER, CONSTRUCTION MANAGER, NOR THE ENGINEER OF RECORD WILL ENFORCE ANY SAFETY MEASURE OR REGULATION. CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING TRAFFIC CONTROL AND SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. IF ANYONE IN AN AUTHORITY OR SUPERVISORY POSITION SEES ANYTHING WRONG OR A SERIOUS LIFE THREATENING SITUATION CAUSED BY CONTRACTOR, THAT PERSON SHALL HAVE THE RIGHT TO STOP THE JOB UNTIL SITUATION IS CORRECTED.
9. CONTRACTOR WILL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS THAT WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION.
10. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY 24 HOURS A DAY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD OWNER AND ENGINEER HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF OWNER OR ENGINEER.
11. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF HIS WORK FROM RAINFALL, STORM DRAINAGE, OR FLOOD SO THAT IT DOES NOT DELAY CONSTRUCTION OR DAMAGE COMPLETED WORK OR DOWNSTREAM PROPERTIES THROUGHOUT CONSTRUCTION.
12. QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY AND TO COMPARE AND CANVAS BIDS. ACTUAL PAY QUANTITIES WILL BE DETERMINED IN THE FIELD FOR AUTHORIZED CHANGES THAT AFFECT THE QUANTITIES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL CONSTRUCTION PRACTICES AND PROCEDURES SHALL COMPLY WITH THE PERTINENT PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS (TITLE 29, CODE OF FEDERAL REGULATIONS).
14. CONTRACTOR SHALL MAINTAIN A DEBRIS FREE WORK SITE. PROVIDE TRASH RECEPTACLES FOR ALL WASTE MATERIAL INCLUDING PERSONAL WASTE SUCH AS LUNCH BAGS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. ALL MATERIALS SHALL BE STORED WITHIN APPROVED CONSTRUCTION AREAS.
16. ALL WORK SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, WHICH INCLUDES THESE DRAWINGS, THE PROJECT SPECIFICATIONS, AND ANY ADDITIONS AND SUPPLEMENTS.
17. CONSTRUCTION ACCESS TO BE AT DESIGNATED LOCATIONS ONLY. CONTACT OWNER'S REP. FOR SPECIFIC INSTRUCTIONS.
18. DISPOSAL OF UNSUITABLE MATERIAL AND ITEMS DESIGNED FOR REMOVAL WITHOUT SALVAGE SHALL BE IN ACCORDANCE WITH LANDFILL (DISPOSAL) SITE REQUIREMENTS.
19. CONTRACTOR SHALL PERFORM HIS OWN SURVEY TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL FOR THE PROJECT.
20. WHERE NOTED ON PLANS OR DRAWINGS, COMPLY WITH THE 2014 EDITION OF THE NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION (NMDOT) STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION (STANDARD SPECS),
21. ANY DISCREPANCIES BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO ENGINEERS ATTENTION FOR RESOLUTION.
22. CONTRACTOR SHALL KEEP ON SITE WITHIN THE PROJECT AREA THE PROJECT SAFETY PLAN. ALL WORKERS SHALL HAVE ACCESS TO THE SAFETY PLAN AT ALL TIMES.

UTILITY NOTES:

1. CONTRACTOR TO USE EXTREME CAUTION NOT TO DISTURB OR DAMAGE EXISTING STORM DRAIN, PIPELINES, SITE EQUIPMENT, VALVES, MANHOLES AND ALL SUBSURFACE UTILITIES THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL LOCATE ALL SURFACE UTILITY FEATURES PRIOR TO CONSTRUCTION AND SHALL PLACE VISIBLE MARKERS TO MARK UTILITY FEATURES NOT TO BE DISTURBED. IF DAMAGED THEN REPAIR AT CONTRACTOR'S EXPENSE.
2. CONTRACTOR SHALL NOTIFY ALL APPLICABLE UTILITY COMPANIES AND COORDINATE UTILITY LINE SPOTS AT LEAST SEVEN (7) WORKING DAYS PRIOR TO ANY DIGGING OR EXCAVATION.
3. TWO (2) WORKING DAYS PRIOR TO ANY CONSTRUCTION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICES NMOC: TOLL FREE AT 1-800-321-2537 FOR LOCATION OF EXISTING UTILITIES.

UTILITY NOTES CONT.:

4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION SHALL BE COORDINATED WITH THAT UTILITY, BE IT PRIVATE OR CITY OWNED. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
5. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
6. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING ANY DEMOLITION OR GRADING OPERATIONS IN THE PROXIMITY OF THESE EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. NOTIFY OWNER WHEN ANY UNIDENTIFIED UTILITIES ARE DISCOVERED.
7. OBTAIN WRITTEN AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE AND FROM THE UTILITY OWNERS PRIOR TO INTERRUPTING ANY EXISTING UTILITY (IE: WATER, SEWER, GAS, ELECTRICAL, OR TELEPHONE).
8. CONSTRUCTION SHALL COMPLY WITH GOVERNING CODES AND REQUIREMENTS. CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE UTILITY COMPANY'S AND OWNER'S INSPECTING AUTHORITIES.
9. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES, INCLUDING 29 CFR PART 1926 SUBPART P, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURE. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING.
10. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES.

GRADING AND DRAINAGE NOTES:

1. CONTRACTOR'S SOILS ENGINEER SHALL CERTIFY THAT THE REQUIRED INSPECTIONS AND TESTS HAVE BEEN PERFORMED AND THAT SUCH TESTS COMPLY WITH CODE.
2. EXERCISE SUFFICIENT SUPERVISORY CONTROL DURING GRADING AND CONSTRUCTION TO ENSURE COMPLIANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
3. SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATION SECTION 312300.
4. FILLS SHALL BE COMPACTED THROUGHOUT TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698, "STANDARD TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT."
5. FILL AREAS SHALL BE CLEARED OF ALL VEGETATION AND DEBRIS, PROOFROLLED AND SCARIFIED, HAVE SUBDRAINS INSTALLED (IF ANY) AND APPROVED BY THE GRADING INSPECTOR AND SOILS ENGINEER PRIOR TO THE PLACING OF FILL.
6. NO ROCK OR SIMILAR MATERIAL GREATER THAN 6 INCHES IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS APPROVED BY THE ENGINEER.
7. DEGREE OF COMPACTION OR RELATIVE COMPACTION SHALL BE DETERMINED BY ASTM D698, "STANDARD TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT".
8. HAUL PERMITS, WHEN REQUIRED, MUST BE OBTAINED BY CONTRACTOR PRIOR TO WORK.

GEOSYNTHETICS NOTES:

1. HDPE GEOMEMBRANE SHALL CONFORM TO GEOSYNTHETIC RESEARCH INSTITUTE (GRI) TEST METHOD GM13(A), "STANDARD SPECIFICATION FOR TEST METHODS, TEST PROPERTIES, AND TESTING FREQUENCY FOR HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH AND TEXTURED GEOMEMBRANES."
2. GEOMEMBRANE SHALL HAVE A 60-MIL MINIMUM AVERAGE THICKNESS.
3. GEOSYNTHETIC CLAY LINER (GCL) SHALL CONFORM TO GRI TEST METHOD GCL3, "STANDARD SPECIFICATIONS FOR TEST METHODS, REQUIRED PROPERTIES, AND TESTING FREQUENCIES OF GEOSYNTHETIC CLAY LINERS (GCL)".

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABC	AGGREGATE BASE COURSE
AC	ACRE
APPROX	APPROXIMATE
APS	ARIZONA PUBLIC SERVICE COMPANY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BP	BURIED PIPE
BMP	BEST MANAGEMENT PRACTICES
C	CIVIL
CCR	COAL COMBUSTION RESIDUALS
CL	CENTERLINE
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
COR	CORNER
CTR	CENTER
DEMO	DEMOLITION
DFADA	DRY FLY ASH DISPOSAL AREA
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
DR	DIMENSION RATIO
E	EASTING
EL	ELEVATION
EMBED	EMBEDMENT
EP	END POINT
EXIST	EXISTING
FDG	FLUE GAS DESULPHURIZATION
FG	FINISH GRADE
FLG	FLANGE
FNC	FENCE
FT	FEET/FOOT
GA	GUAGE
GCL	GEOSYNTHETIC CLAY LINER
GD	GRAVITY DRAIN
GPM	GALLONS PER MINUTE
GRI	GEOSYNTHETIC RESEARCH INSTITUTE
GSKT	GASKET
HDPE	HIGH DENSITY POLYETHYLENE
HORZ	HORIZONTAL
HP	HIGH POINT
LAI	LINED ASH IMPOUNDMENT
LCRS	LEAK COLLECTION AND RECOVERY SYSTEM
LDWP	LINED DECANT WATER POND
LF	LINEAR FOOT
MAX	MAXIMUM
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MIN	MINIMUM
MW	MONITORING WELL
NMDOT	NEW MEXICO DEPARTMENT OF TRANSPORTATION
NMOC	NEW MEXICO ONE CALL
N	NORTHING
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NTS	NOT TO SCALE
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC POWER
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
OS&Y	OUTSIDE SCREW AND YOKE
OZ	OUNCE
P	PIPE
PC	POINT OF CURVATURE
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
PI	POINT OF INTERSECTION
PLCS	PLACES
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
REQ'D	REQUIRED
RWI	RETURN WATER INLET
RWP	RETURN WATER POND
S	BAR SPACING
SCHED	SCHEDULE
SEC	SECTION
SPEC.	SPECIFICATION
SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
SY	SQUARE YARD
THRU	THROUGH
TP	TIE POINT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
YD	YARD
W/	WITH

LEGEND

EXISTING 1' CONTOURS
EXISTING 5' CONTOURS (5180)
PROPOSED 1' CONTOURS
PROPOSED 5' CONTOURS (5180)
EXISTING GRADE
LIMITS OF DISTURBANCE
EXISTING DIRT ROAD
EXISTING FENCE
EXISTING FENCE (X—X—X—X—X)
PROPOSED FENCE (X—X—X—X—X)
OVERHEAD POWERLINE (OHE)
EXISTING OVERHEAD POWERLINE (OHE)
EXISTING UNDERGROUND ELECTRIC (UGE)
EXISTING PIPE
TEMPORARY STAGING AREA
FINISHED GRADE
MAX WATER LEVEL
PROPOSED ABOVE GROUND PIPE (P—P)
EXISTING ABOVE GROUND PRESSURE PIPE (P—P)
EXISTING BURIED PIPE (P—P)
BURIED PIPE ALIGNMENT (BP—BP)
RETURN WATER INLET PIPE (RWI—RWI)
GRAVITY DRAIN (GD—GD)
SANITARY SEWER (SS)
GEOMEMBRANE
GCL
GEONET

LEGEND

FREE DRAINING GRAVEL
C33 SAND AND NUMBER 6 STONE
CONCRETE
STRUCTURAL FILL
COMPACTED SUBGRADE
GRAVEL SURFACING / PAVEMENT
GENERAL FILL
SAND
GROUT
NATURAL GROUND / EXISTING GROUND SURFACE
CONTROLLED LOW STRENGTH MATERIAL
DEMOLITION
STOCKPILE / LAYDOWN AREA
REVEGETATION

LEGEND SYMBOLS

DIRECTION OF FLOW
1 — FINAL GRADE CONTROL POINT
A — SECTION LETTER AND PAGE NUMBER
SEE DETAIL X — DETAIL NUMBER AND PAGE NUMBER
5124.59 — EXISTING POINT ELEVATIONS
MW-67 — EXISTING MONITORING WELL
RWP-1 — RWP TEST PITS (2018)
LS-1 — EXISTING MONITORING WELL
MW-7 — EXISTING MONITORING WELL
Φ — DIAMETER
EXISTING POWER TOWER
℄ — CENTER LINE
POWER POLE

LEGEND MONUMENTS

BM — BENCHMARK
FOUND BRASS OR ALUMINUM CAP AS NOTED
EXISTING SURFACE MONUMENT
SITE TEMPORARY BENCHMARK (TBM)

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1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

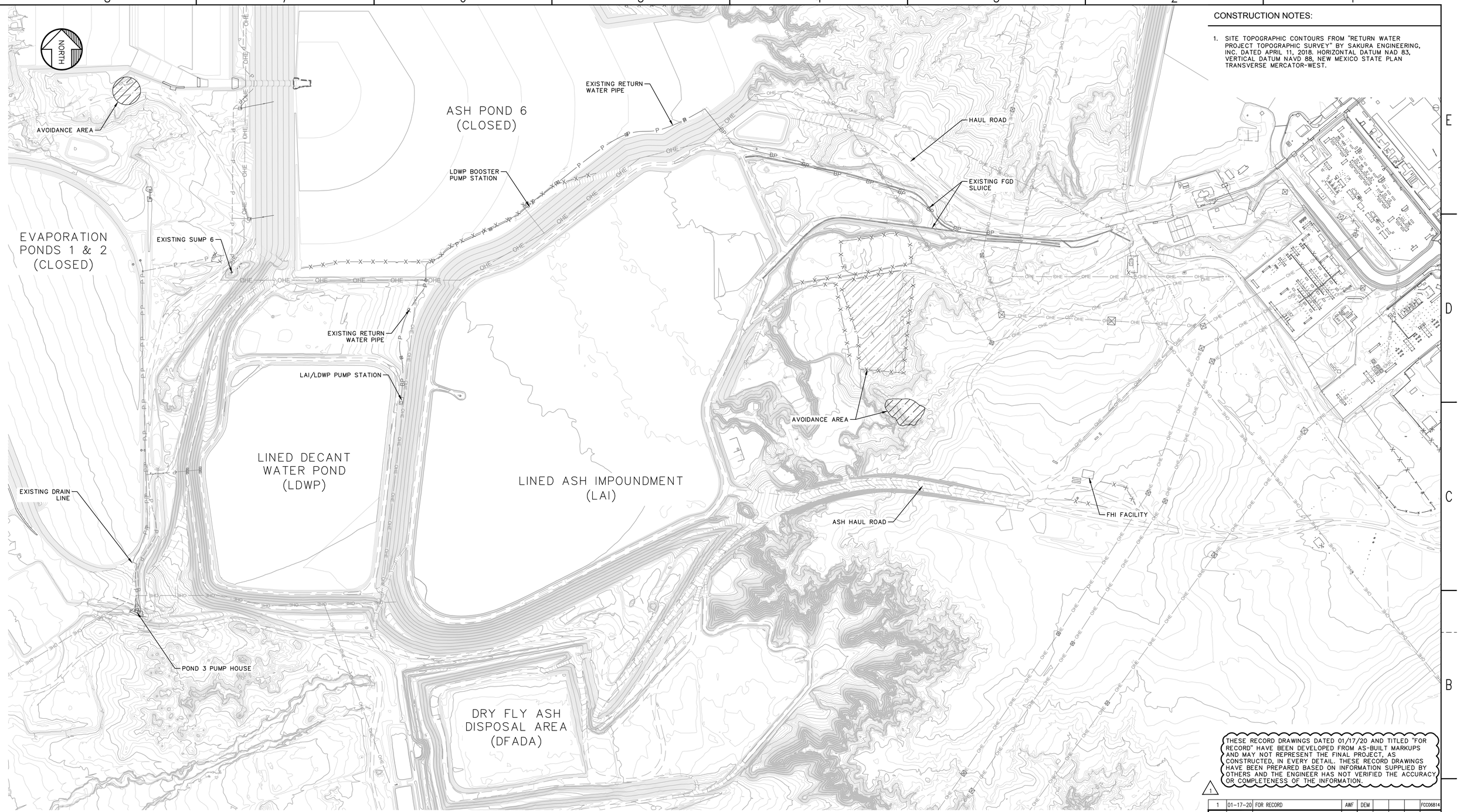
aps

SCALE NONE DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	X	98	WP	AP	200485	2

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-X-98-WP-AP-200485-2.dwg



CONSTRUCTION NOTES:

1. SITE TOPOGRAPHIC CONTOURS FROM "RETURN WATER PROJECT TOPOGRAPHIC SURVEY" BY SAKURA ENGINEERING, INC. DATED APRIL 11, 2018. HORIZONTAL DATUM NAD 83, VERTICAL DATUM NAVD 88, NEW MEXICO STATE PLAN TRANSVERSE MERCATOR-WEST.

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1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

EXISTING CONDITIONS PLAN

SCALE: 1"=300' (FULL SIZE)

GRAPHIC SCALE
300 0 300 600
(IN FEET)
1 inch = 300 ft.

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

FOUR CORNERS POWER PLANT
RETURN WATER POND

EXISTING CONDITIONS PLAN

aps

SCALE 1" = 300' DATE 10/04/19

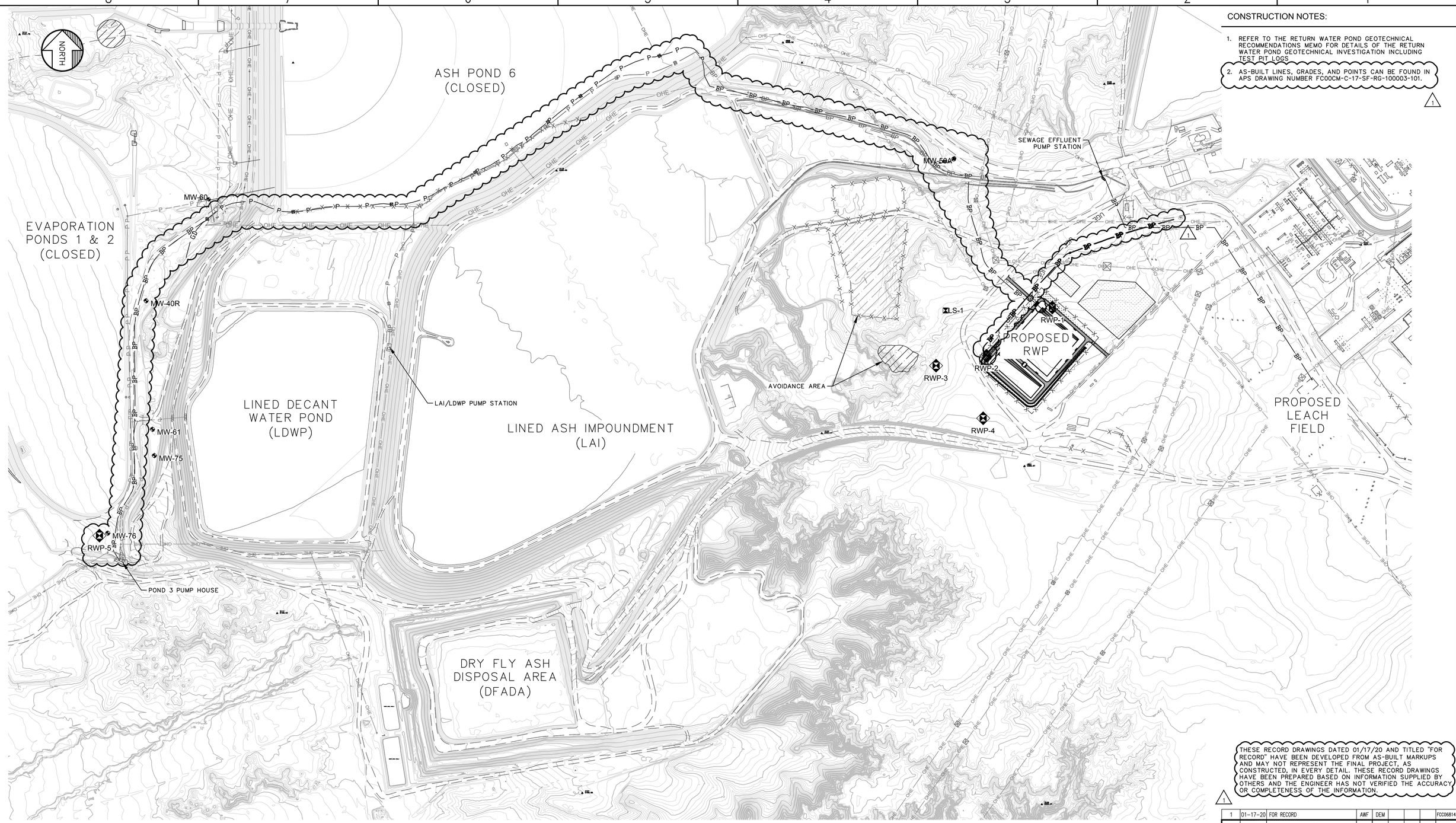
DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	41	WP	AP	200485	3

WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-3.dwg



CONSTRUCTION NOTES:

1. REFER TO THE RETURN WATER POND GEOTECHNICAL RECOMMENDATIONS MEMO FOR DETAILS OF THE RETURN WATER POND GEOTECHNICAL INVESTIGATION INCLUDING TEST PIT LOGS
2. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

GEOTECHNICAL INVESTIGATION
LOCATION MAP
SCALE: 1"=300' (FULL SIZE)

GRAPHIC SCALE
600 0 300 600
(IN FEET)
1 inch = 300 ft.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

GEOTECHNICAL INVESTIGATION LOCATION MAP

aps

SCALE 1"=300' DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	4

WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

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NORTH

AVOIDANCE AREA

ASH POND 6
(CLOSED)

LDWP BOOSTER PUMP STATION

EXISTING SUMP 6

APPROXIMATE LOCATION OF TRANSITION FROM BURIED TO ABOVE GROUND PIPE

PROPOSED ABOVE GROUND PIPE

EXISTING LDWP RETURN WATER PIPELINE ALIGNMENT

LAI/LDWP PUMP STATION

EVAPORATION PONDS 1 & 2
(CLOSED)

7
LINED DECANT WATER POND
(LDWP)

LINED ASH IMPOUNDMENT
(LAI)

BURIED PIPE ALIGNMENT

EXISTING DRAIN LINE ALIGNMENT

POND 3 PUMP HOUSE

DRY FLY ASH DISPOSAL AREA
(DFADA)

HAUL ROAD

EXISTING CONCRETE "V" DITCH

EXISTING RETURN WATER PIPE

SEWAGE EFFLUENT PUMP STATION

APPROXIMATE LOCATION OF TIE-IN TO EXISTING RETURN WATER PIPE ALIGNMENT

BURIED PIPE ALIGNMENTS SEE NOTE 6

THICKENER DISPOSAL LINES TIE-POINT

AVOIDANCE AREA

PROPOSED RETURN WATER POND (RWP)

FHI FACILITY

ASH HAUL ROAD

PROPOSED LEACH FIELD

CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICT LOCATIONS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT ALL LOCAL HIGH POINTS IN PIPELINE. ALL AVV SHALL BE INSTALLED WITH ISOLATED VALVE AND VALVE CAN FOR BURIED PIPE.
6. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

KEY PLAN
SCALE: 1"=300' (FULL SIZE)

GRAPHIC SCALE
300 0 300 600
(IN FEET)
1 inch = 300 ft.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

KEY PLAN

aps

SCALE 1"=300' DATE 10/04/19

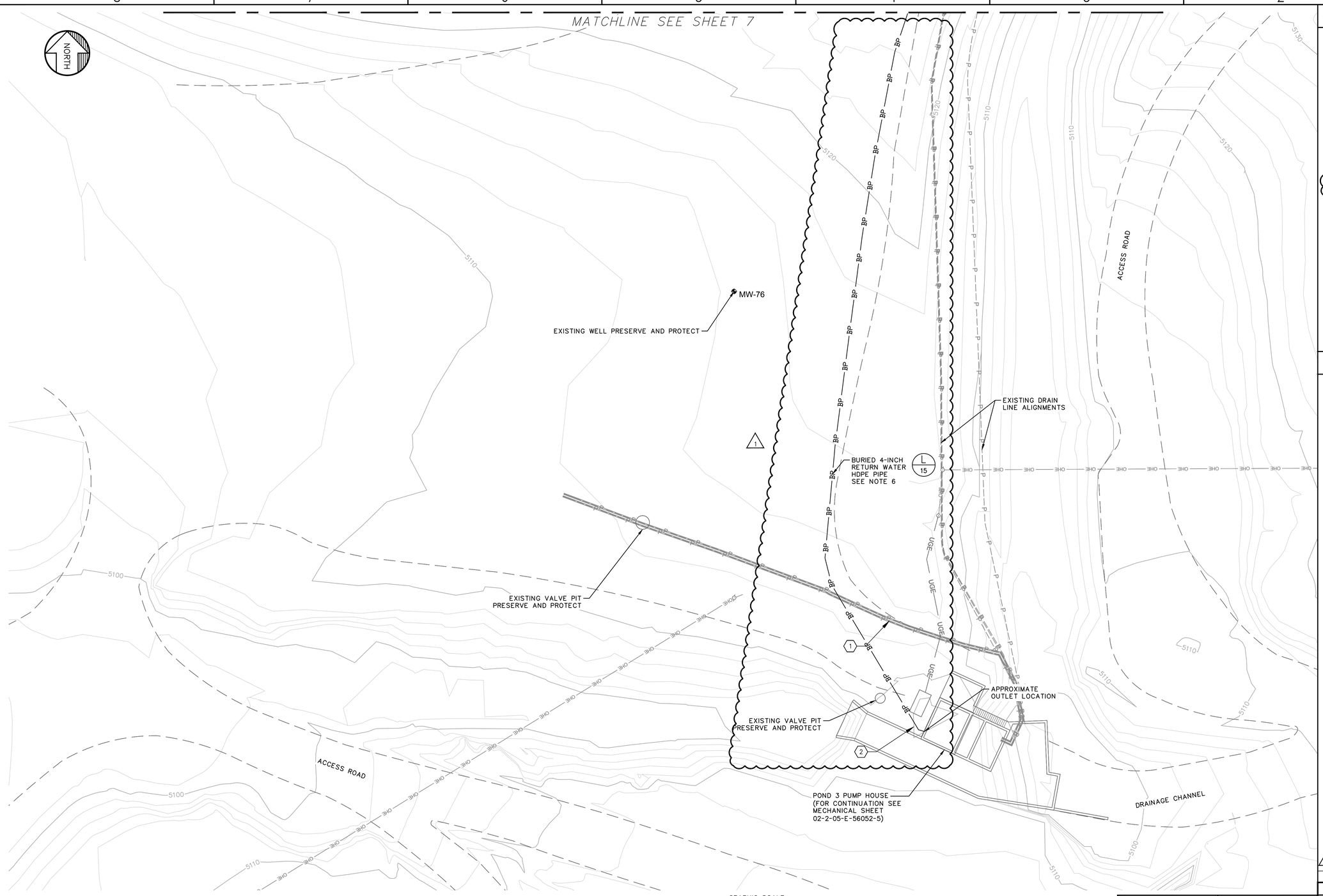
DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	5

WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-5.dwg



POND 3 PUMP HOUSE PLAN
SCALE: 1"=20' (FULL SIZE)

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICT LOCATIONS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT ALL LOCAL HIGH POINTS IN PIPELINE. ALL AVV SHALL BE INSTALLED WITH ISOLATED VALVE AND VALVE CAN FOR BURIED PIPE.
6. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

KEY NOTES:

1. CROSSING PIPES. SEE NOTE 1.
2. BUILDING TIE POINT. SEE SHEET FC00CM-C-56-BP-LK-56052-5 FOR CONTINUATION.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

POND 3 PUMP HOUSE PLAN

aps

SCALE 1"=20' DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	6

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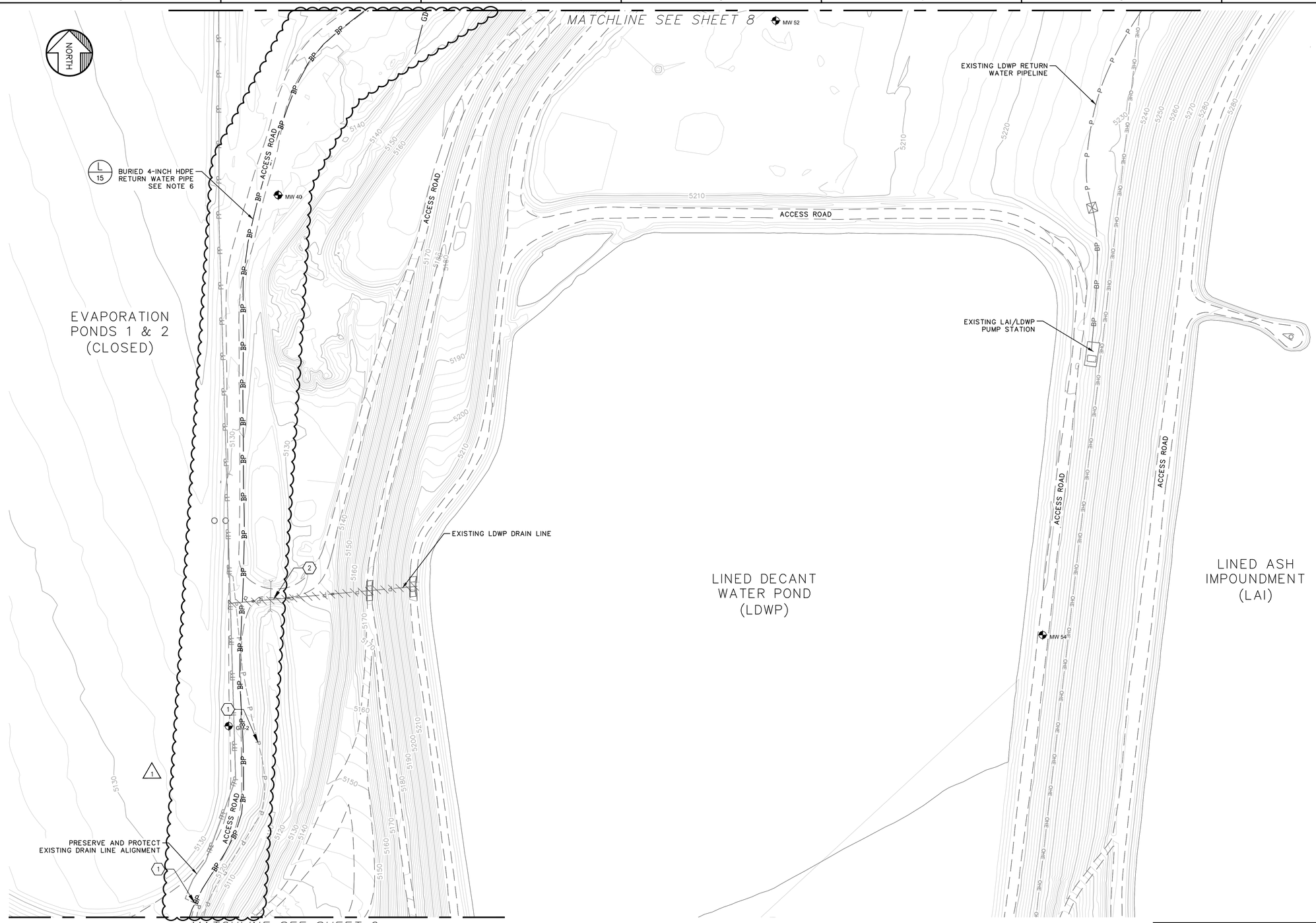

RETURN WATER PIPELINE PLAN 1
SCALE: 1"=100' (FULL SIZE)

GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 inch = 100 ft.

CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICT LOCATIONS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT ALL LOCAL HIGH POINTS IN PIPELINE. ALL AVV SHALL BE INSTALLED WITH ISOLATED VALVE AND VALVE CAN FOR BURIED PIPE.
6. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

1

KEY NOTES:

(1) CROSSING PIPES. SEE NOTE 1.

(2) ABANDON IN PLACE.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

RETURN WATER PIPELINE PLAN 1

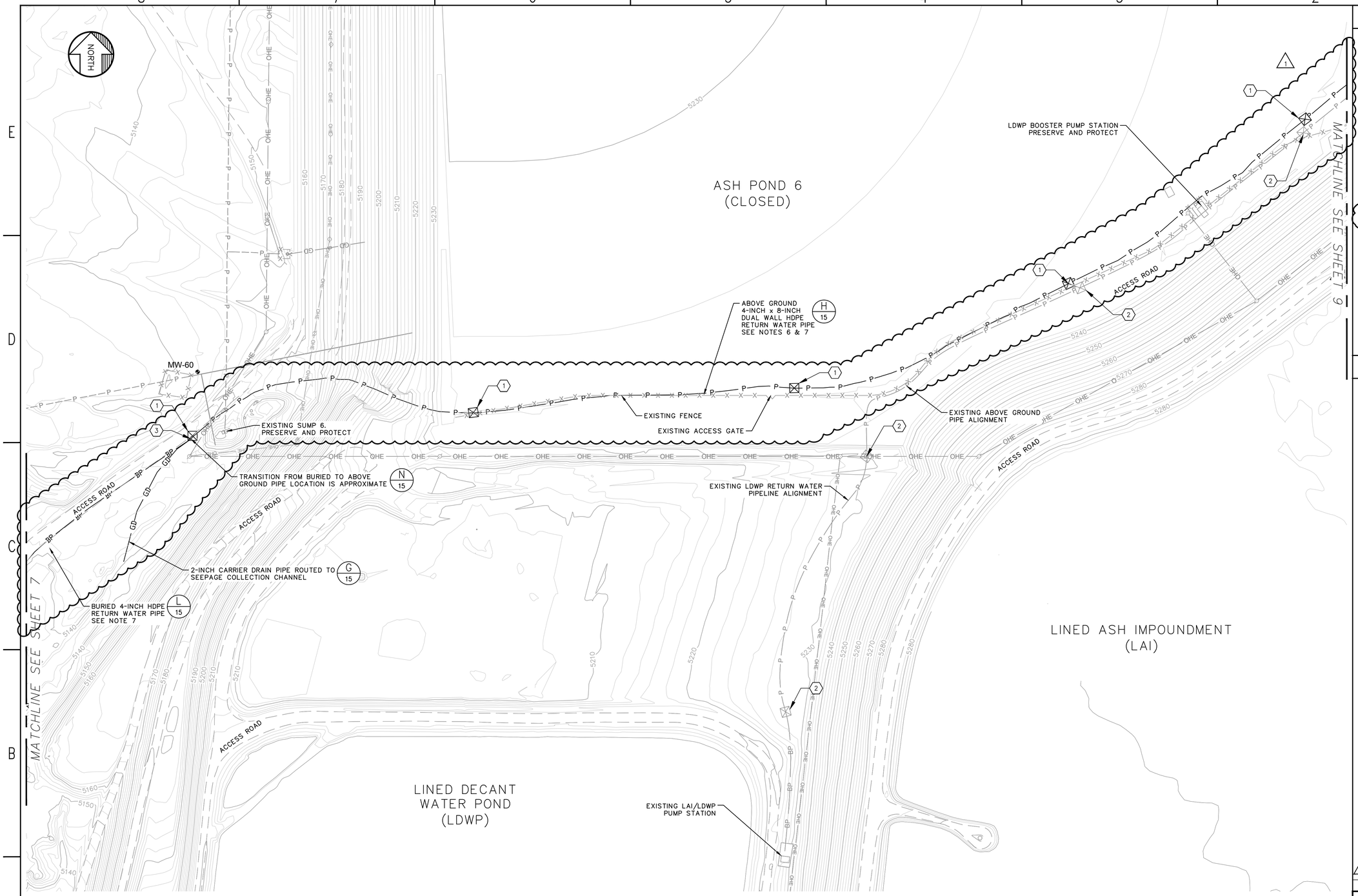
aps

SCALE 1"=100' DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	7

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-7.dwg



RETURN WATER PIPELINE PLAN 2
SCALE: 1"=100' (FULL SIZE)

GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 inch = 100 ft.

CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICTS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT ALL LOCAL HIGH POINTS IN PIPELINE. ALL AVV SHALL BE INSTALLED WITH ISOLATED VALVE AND VALVE CAN FOR BURIED PIPE.
6. HDPE DUAL WALL PIPING SHALL BE ISCO DUAL CONTAINMENT PIPING OR EQUAL AND SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

△1

KEY NOTES:

(1) CONTRACTOR SHALL INSTALL CLSM BALLAST AT A SPACING OF APPROXIMATELY 600 FT ON CENTER. LOCATION OF BALLAST SHOWN ON DRAWING IS APPROXIMATE. SEE DETAIL 5 ON SHEET 15.

(2) EXISTING PIPE BALLAST. PRESERVE AND PROTECT.

(3) PIPE END TERMINATION. SEE DETAIL 3 ON SHEET 15.

△1 THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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Phoenix, Arizona 85020
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FOUR CORNERS POWER PLANT
RETURN WATER POND

RETURN WATER PIPELINE PLAN 2

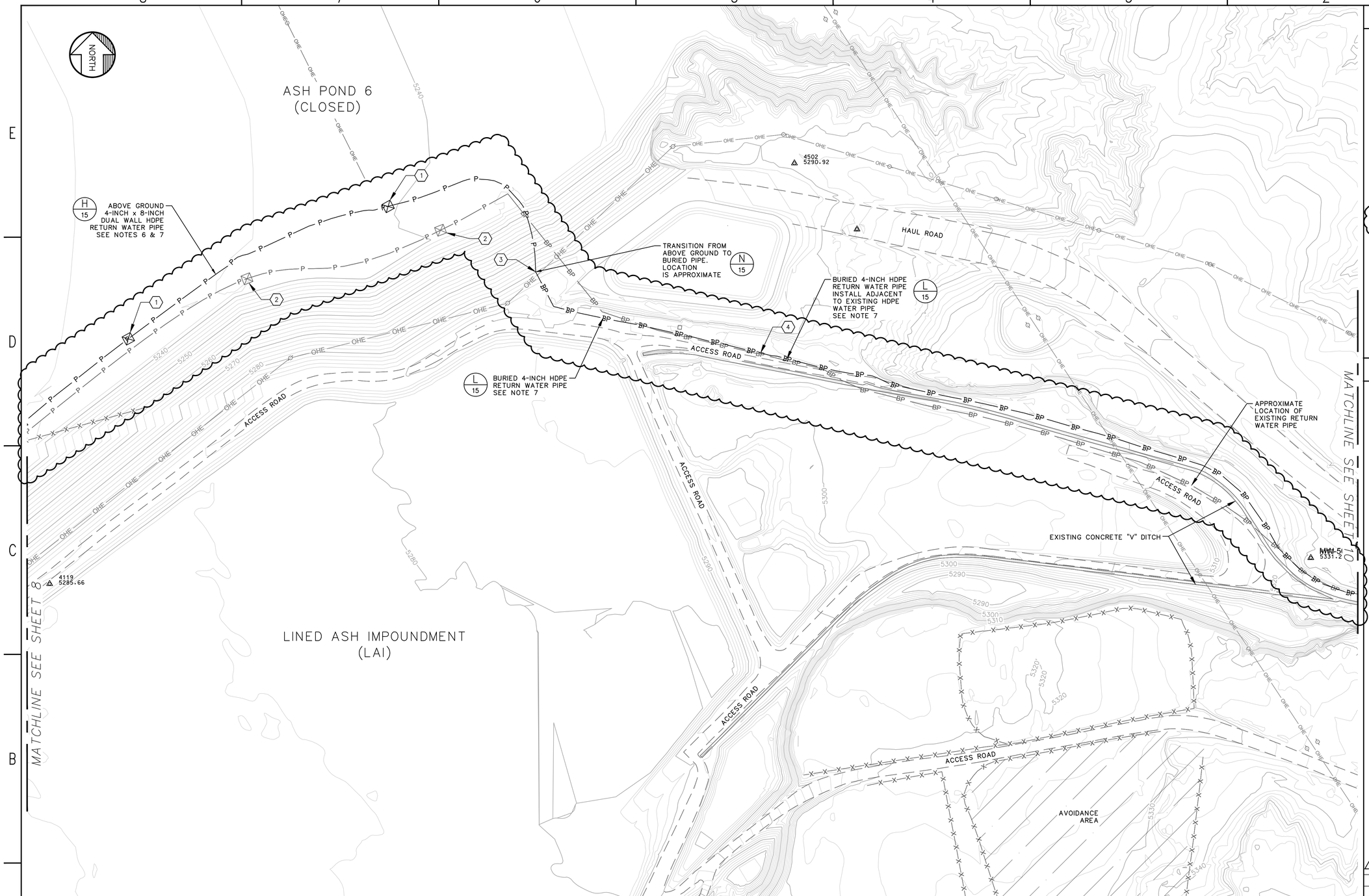
aps

SCALE 1"=100 DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	8

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-8.dwg



CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICTS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT ALL LOCAL HIGH POINTS IN PIPELINE. ALL AVV SHALL BE INSTALLED WITH ISOLATED VALVE AND VALVE CAN FOR BURIED PIPE.
6. HDPE DUAL WALL PIPING SHALL BE ISCO DUAL CONTAINMENT PIPING OR EQUAL AND SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

△2

KEY NOTES:

1. CONTRACTOR SHALL INSTALL CLSM BALLAST AT A SPACING OF APPROXIMATELY 600 FT ON CENTER. LOCATION OF BALLAST SHOWN ON DRAWING IS APPROXIMATE. SEE DETAIL 5 ON SHEET 15.
2. EXISTING PIPE BALLAST. PRESERVE AND PROTECT.
3. PIPE END TERMINATION, SEE DETAIL 4 ON SHEET 15.
4. BURIED 4-INCH HDPE PIPE. FOLLOW EXISTING HDPE PIPE ALIGNMENT. SEE SECTIONS L AND K ON SHEET 15.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

△2

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	12-14-18	REVISED PIPELINE TRANSITION LOCATION	AWF	DEM				FCC06814

RETURN WATER PIPELINE PLAN 3
SCALE: 1"=100' (FULL SIZE)

GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 inch = 100 ft.

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Phoenix, Arizona 85020
(602) 371-1100

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FOUR CORNERS POWER PLANT
RETURN WATER POND

RETURN WATER PIPELINE PLAN 3

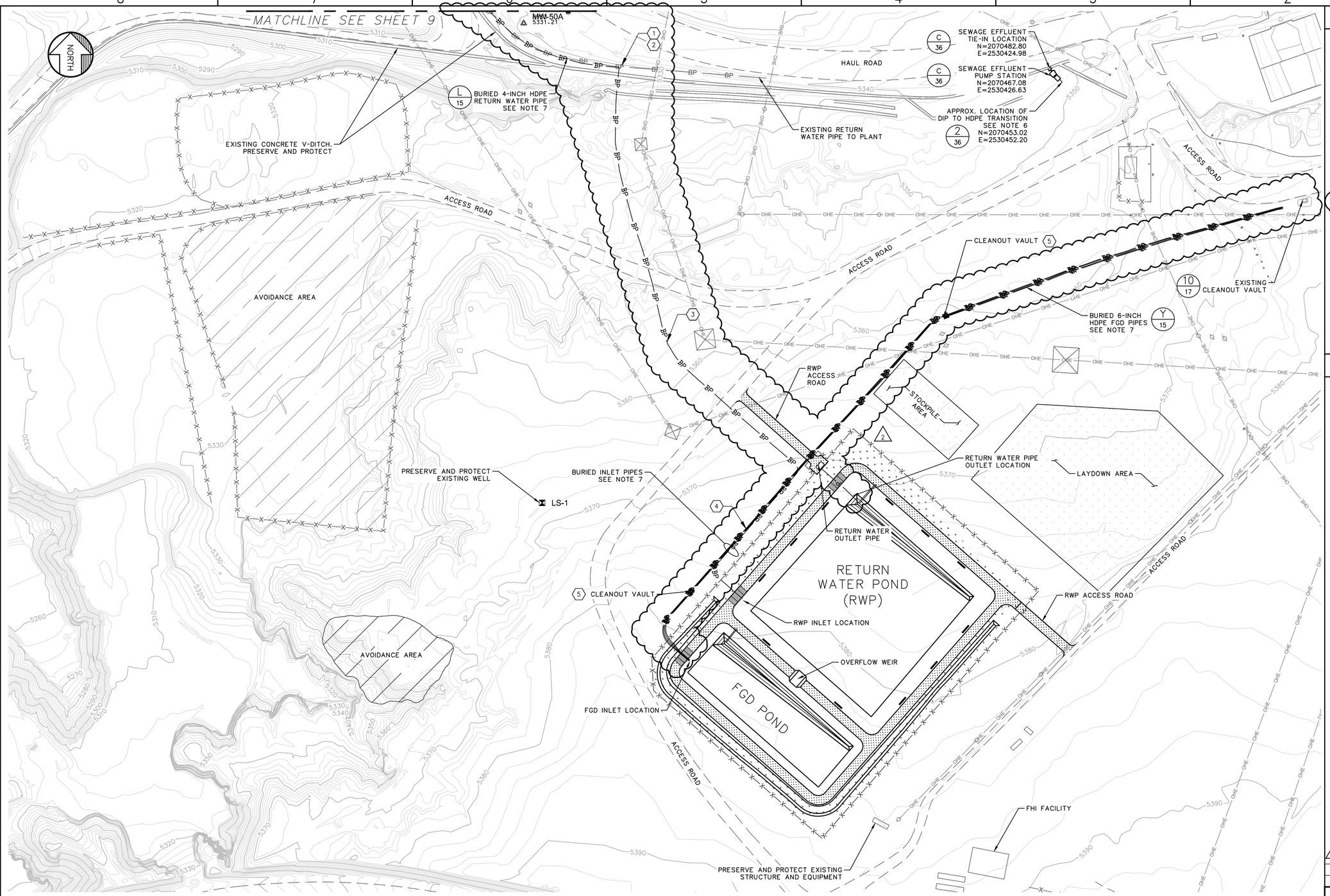
aps

SCALE 1"=100' DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	9

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-9.dwg



CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT ALL LOCAL HIGH POINTS IN PIPELINE. ALL AVV SHALL BE INSTALLED WITH ISOLATED VALVE AND VALVE CAN FOR BURIED PIPE.
6. CONTRACTOR TO INSTALL 150# BLIND FLANGE.
7. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

2

KEY NOTES:

1. APPROXIMATE LOCATION OF TIE-IN TO EXISTING RETURN WATER PIPE ALIGNMENT AT EXISTING FLANGE. CONTRACTOR TO INSTALL 2 STAINLESS STEEL TAPPING SLEEVES SPACED 5-FT APART. ROMAC SST-H OR APPROVED EQUAL.
2. AMERICAN FLOW CONTROL 2500-1 RESILIENT WEDGE GATE VALVE, OS&Y.
3. MULTI-PIPE TRENCH. SEE SECTION P ON SHEET 15.
4. MULTI-PIPE TRENCH. SEE SECTION X ON SHEET 15.
5. NEW CLEANOUT VAULT. SEE DETAIL 1 ON APS DRAWING NUMBER 156257 SHEET 3.
6. NEW LEACH FIELD PIPELINE. SEE SHEET 18.

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2

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	7-17-19	SEWERLINE DELETED	AWF	DEM				FCC06814

RETURN WATER PIPELINE PLAN 4
SCALE: 1"=100' (FULL SIZE)

GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 inch = 100 ft.

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Phoenix, Arizona 85020
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FOUR CORNERS POWER PLANT
RETURN WATER POND

RETURN WATER PIPELINE PLAN 4

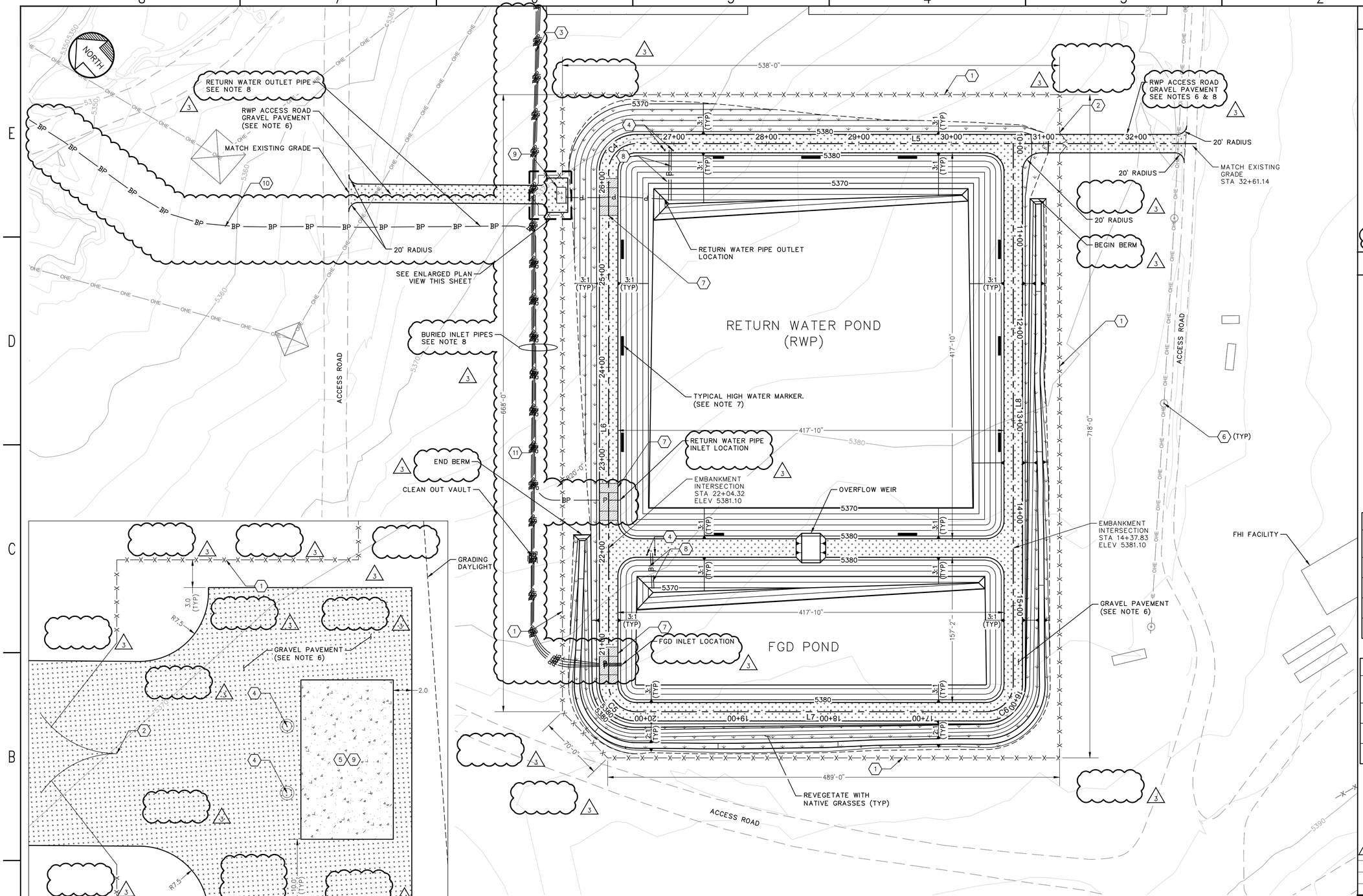
aps

SCALE 1"=100' DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	10

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-10.dwg



ENLARGED PLAN VIEW
SCALE: 1"=5' (FULL SIZE)

GRAPHIC SCALE
5 0 5 10
(IN FEET)
1 inch = 5 ft.

RETURN WATER POND PLAN
SCALE: 1"=50' (FULL SIZE)

GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50 ft.

CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICT LOCATIONS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT HIGH POINTS IN PIPELINE.
6. GRAVEL PAVEMENT SHALL CONSIST OF 6 INCHES OF TYPE II ABC COMPACTED AS PER SPEC SECTION 31 23 00 AND NMDOT SPEC SECTION 303.
7. HIGH WATER MARKER SHALL CONSIST OF RED HDPE LINER AND SHALL BE 2 FEET WIDE BY 20 FEET LONG AND SHALL BE EVENLY SPACED. MARKER SHALL BE EXTRUSION WELDED TO THE PRIMARY LINER AT ELEVATION 5,379 FEET.
8. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FCOOCM-C-17-SF-RG-100003-101. (3)

KEY NOTES:

(1) NEW 4-FT HIGH FENCE. SEE DETAILS 6 AND 9 ON SHEET 16.
(2) DOUBLE SWING GATE. SEE DETAIL 8 ON SHEET 16.
(3) MULTI-PIPE TRENCH. SEE SECTION Y ON SHEET 15.
(4) GUARD POST. SEE DETAIL 7 ON SHEET 16.
(5) PUMP SLAB. SEE SHEET 26.
(6) EXISTING POWER POLE. PRESERVE AND PROTECT.
(7) PIPE CROSSING. SEE SECTION M ON SHEET 15.
(8) LCRS RISER PIPE. SEE SECTION A ON SHEET 13.
(9) NEW RETURN WATER PUMPS. SEE RWP PUMP PAD PLAN ON SHEET 34.
(10) MULTI-PIPE TRENCH. SEE SECTION P ON SHEET 15.
(11) MULT-PIPE TRENCH. SEE SECTION X ON SHEET 15.

LINE TABLE-CNTR LINE ELEV=5381.1 FT

LINE	LENGTH	BEARING	START NORTHING EASTING	END NORTHING EASTING
L5	605.80	S48°44'20"E	2069602.74 2530021.26	2069203.22 2530476.64
L6	555.06	N41°15'40"E	2069182.73 2529612.87	2069599.97 2529978.93
L7	377.85	N48°44'20"W	2068891.23 2529899.67	2069140.42 2529615.64
L8	585.03	S41°15'40"W	2069333.77 2530327.83	2068894.00 2529942.01

CURVE TABLE-CNTR LINE ELEV=5381.1 FT

CURVE	LENGTH	RADIUS	DELTA	START NORTHING EASTING	END NORTHING EASTING
C4	47.11	29.99	90°00'00"	2069599.97 2529978.93	2069602.74 2530021.26
C5	47.09	29.98	90°00'00"	2069140.42 2529615.64	2069182.73 2529612.87
C6	47.12	30.00	90°00'00"	2068894.00 2529942.01	2068891.23 2529899.67

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NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	7-17-19	SEWERLINE DELETED	AWF	DEM				FCC06814
1	12-14-18	REVISED KEY NOTE	AWF	DEM				FCC06814

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RETURN WATER POND PLAN

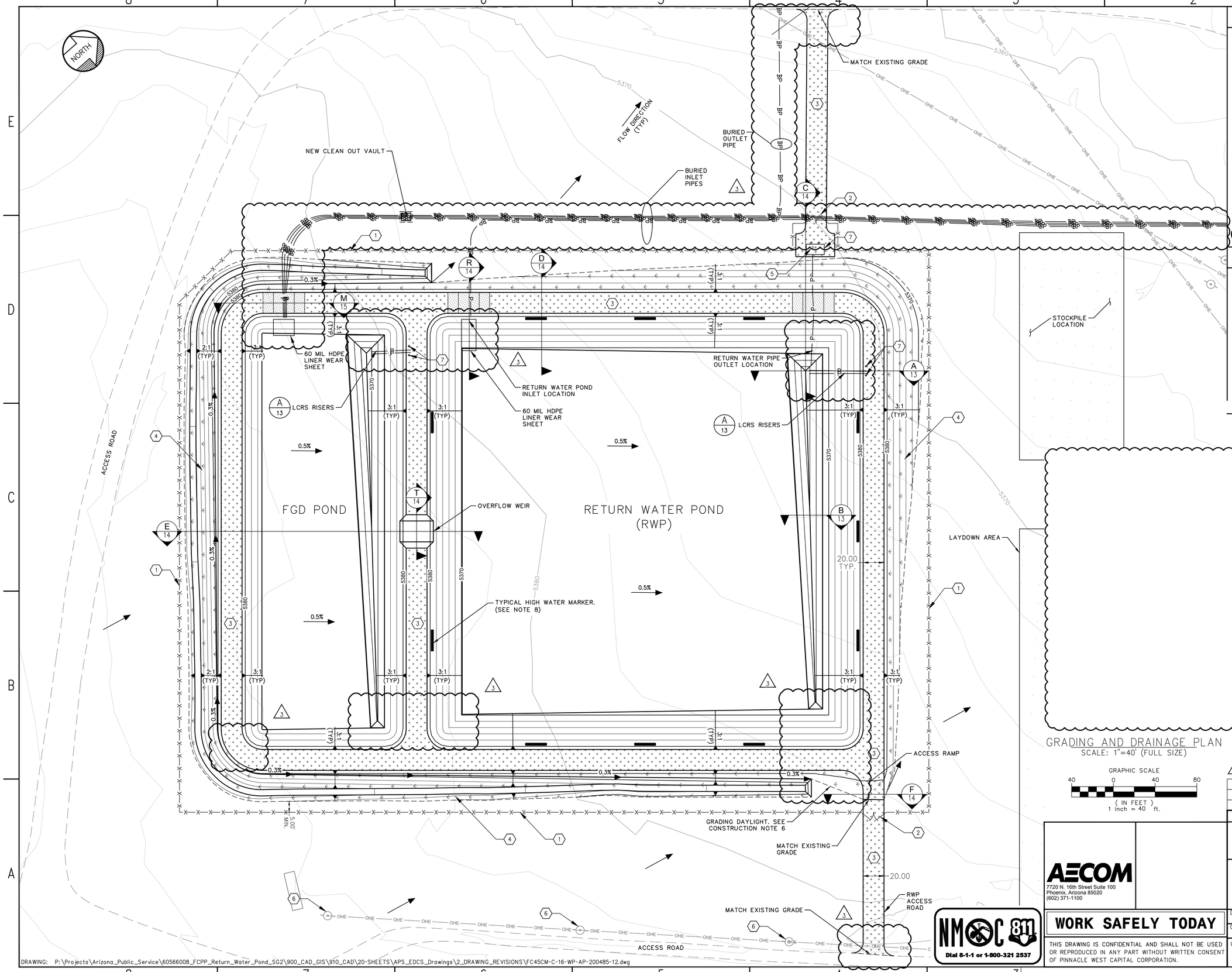
aps

SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	11

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-11.dwg



CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. HYDRO-EXCAVATE TO A MINIMUM DEPTH OF 6 FEET TO FIELD VERIFY ALL EXISTING UNDERGROUND FACILITIES AND/OR UTILITIES AT CONFLICT LOCATIONS.
3. ALIGNMENT OF PIPELINE SHOWN ON DRAWINGS IS CONCEPTUAL. CONTRACTOR CAN PROPOSE REVISED PIPE ALIGNMENTS WHICH MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
4. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN THE FIELD FOR PIPE ROUTING AND INSTALLED LENGTHS.
5. CONTRACTOR SHALL INSTALL APCO SERIES 140 AIR/VACCUM VALVE (AVV) AT HIGH POINTS IN PIPELINE.
6. BACKFILL TO PROVIDE POSITIVE DRAINAGE AROUND ACCESS RAMP.
7. GRAVEL PAVEMENT SHALL CONSIST OF 6 INCHES OF TYPE II ABC COMPACTED AS PER SPEC SECTION 31 23 00 AND NMDOT SPEC SECTION 303.
8. HIGH WATER MARKER SHALL CONSIST OF RED HDPE LINER AND SHALL BE 2 FEET WIDE BY 20 FEET LONG AND SHALL BE EVENLY SPACED. MARKER SHALL BE EXTRUSION WELDED TO THE PRIMARY LINER AT ELEVATION 5,379 FEET.
9. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC000CM-C-17-SF-RG-100003-101.

KEY NOTES: △3

1. NEW 4-FT HIGH FENCE. SEE DETAILS 6 AND 9 ON SHEET 16.
2. DOUBLE SWING GATE. SEE DETAIL 8 ON SHEET 16.
3. 6" GRAVEL PAVEMENT. SEE NOTE 7.
4. REVEGETATE NON-LINED BERMS WITH NATIVE GRASSES.
5. PUMP SLAB. SEE SHEET 26 AND 31.
6. EXISTING POWER POLE. PRESERVE AND PROTECT.
7. GUARD POSTS. SEE DETAIL 7 ON SHEET 16

GRADING AND DRAINAGE PLAN

SCALE: 1"=40' (FULL SIZE)

GRAPHIC SCALE
40 0 40 80
(IN FEET)
1 inch = 40 ft.

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△3

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	7-17-19	SEWERLINE DELETED	AWF	DEM				FCC06341
1	05-16-19	UPDATED POINT ELEVATIONS	AWF	DEM				FCC06341

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GRADING AND DRAINAGE PLAN

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SCALE 1"=40' DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	
CHD	RVWD	DRAWING APPROVED BY	FCC06814
CHD	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	16	WP	AP	200485	12

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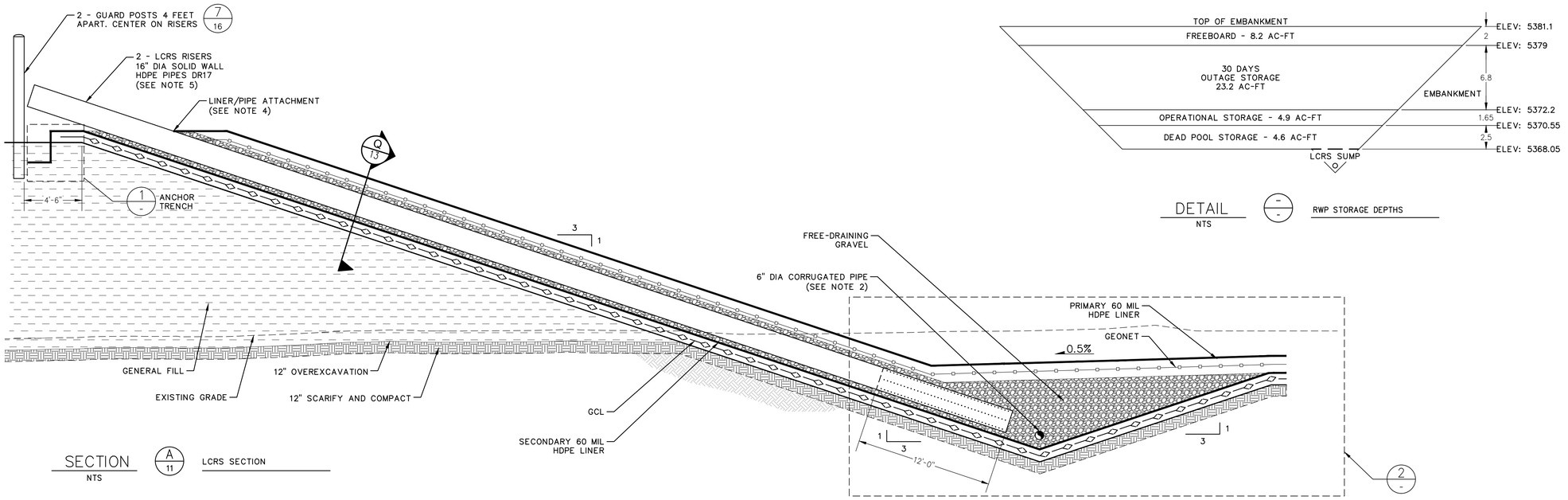
DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-16-WP-AP-200485-12.dwg



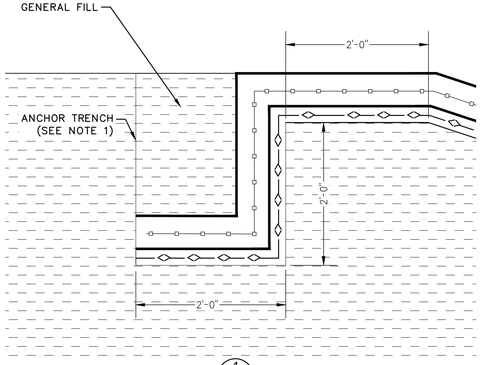
SECTION A/11 NTS — LCRS SECTION

DETAIL – NTS — RWP STORAGE DEPTHS

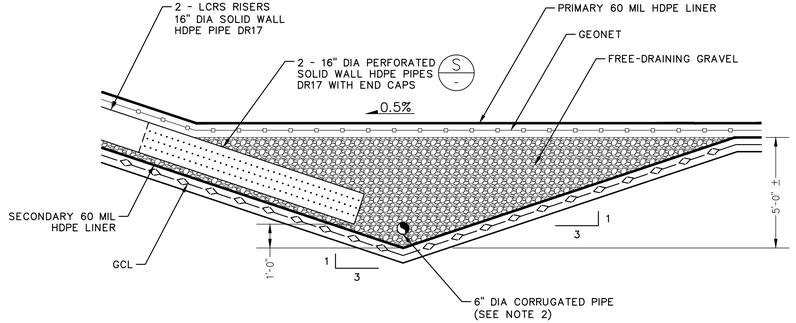
CONSTRUCTION NOTES:

1. ANCHOR TRENCH INTENDED TO PULL OUT. MODIFICATION TO ANCHOR TRENCH DETAIL MUST BE APPROVED BY ENGINEER.
2. ADS (OR EQUAL) SINGLE WALL HIGH DENSITY CORRUGATED POLYETHYLENE HEAVY DUTY PERFORATED PIPE MEETING ASTM F667 WITH TYPE B SLOT PATTERN.
3. CLSM TO BE 1 FOOT THICK EXCEPT AT ANCHOR TRENCH.
4. HDPE LINER SHALL BE ATTACHED TO PIPE BY EXTRUSION WELDING LINER TO PIPE OR ANOTHER METHOD WITH ENGINEER APPROVAL.
5. FOR LCRS RISER PUMPS AND APPURTENANCES SEE SHEET 35. ADD CAP TO PIPE WITHOUT PUMP INSTALLED.
6. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

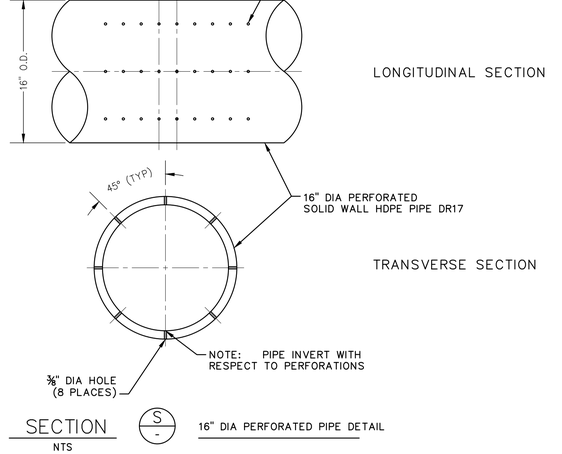
△1



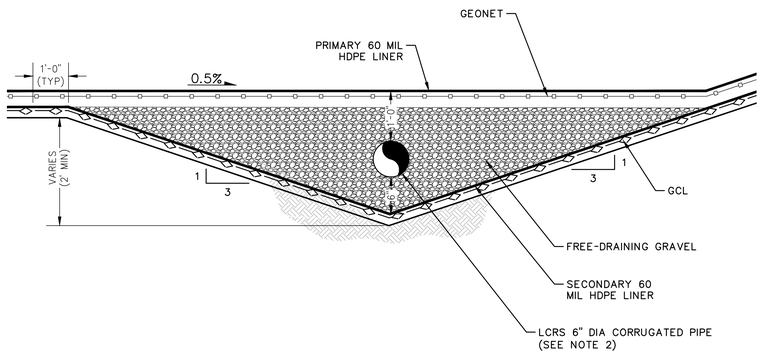
DETAIL 1/- NTS — ANCHOR TRENCH DETAIL



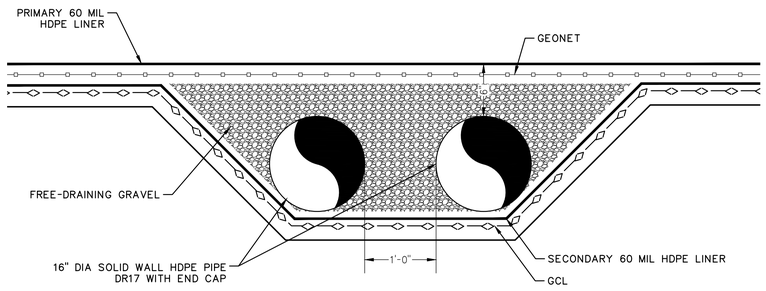
DETAIL 2/- NTS — LCRS SUMP DETAIL



SECTION S/- NTS — 16" DIA PERFORATED PIPE DETAIL



SECTION B/12 NTS — LCRS DRAIN SECTION



SECTION Q/13 NTS — LCRS RISER SECTION

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△1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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LINER SECTIONS AND DETAILS

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CHD	RVWD	DRAWING APPROVED BY	
CHD	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	65	WP	AP	200485	13

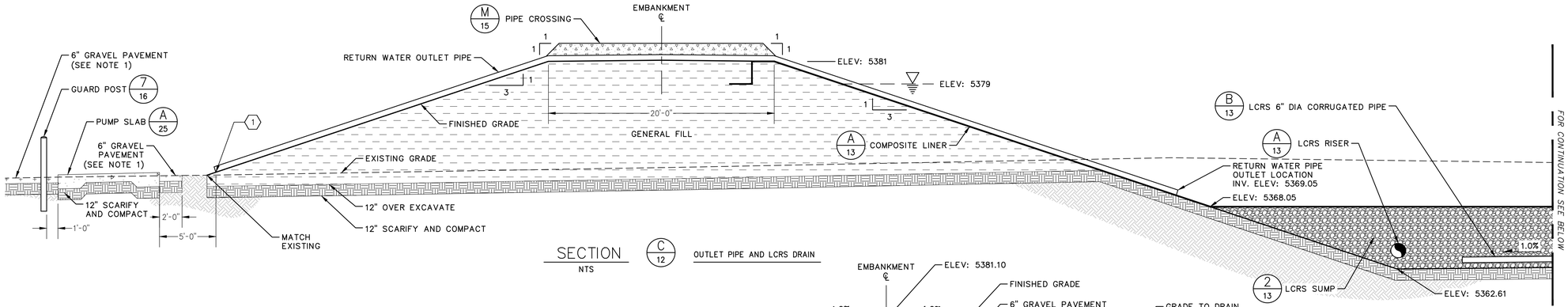
DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-65-WP-AP-200485-13.dwg

CONSTRUCTION NOTES:

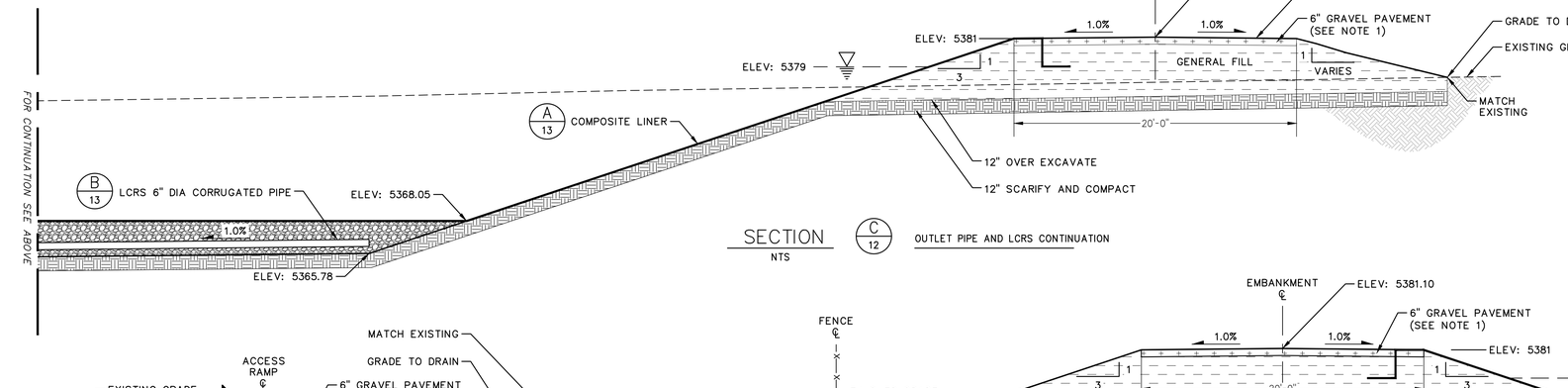
1. GRAVEL PAVEMENT SHALL CONSIST OF 6 INCHES OF TYPE II ABC COMPACTED AS PER SPEC SECTION 31 23 00 AND NMDOT SPEC SECTION 303. (1)
2. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

KEY NOTES:

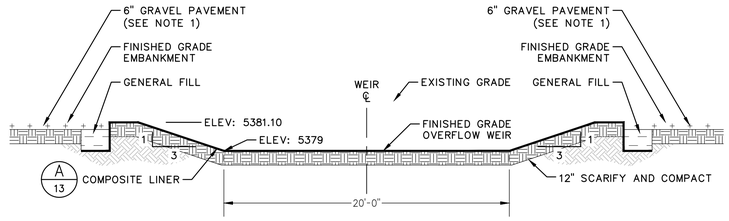
(1) RETURN WATER PIPE. SEE MECHANICAL SHEETS FOR CONNECTION DETAILS.



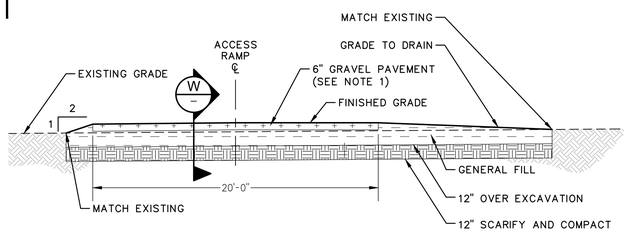
SECTION C 12 OUTLET PIPE AND LCRS DRAIN
NTS



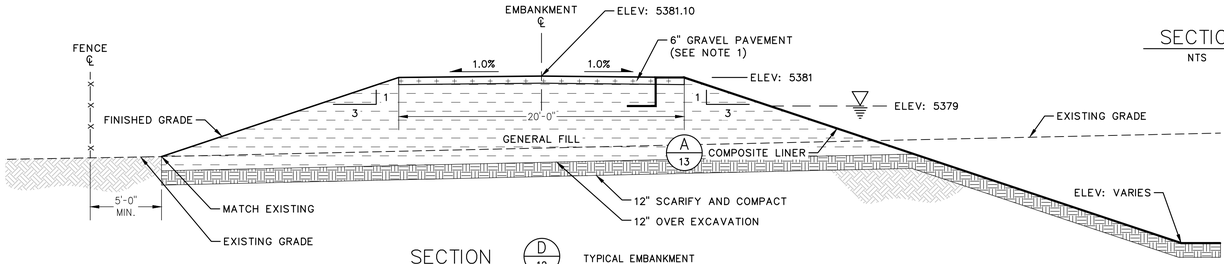
SECTION C 12 OUTLET PIPE AND LCRS CONTINUATION
NTS



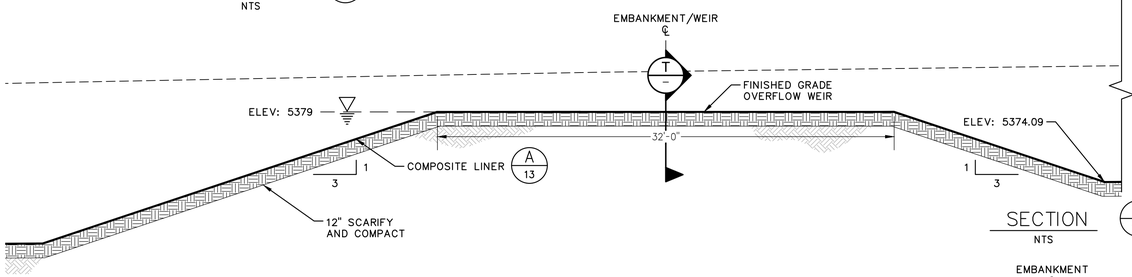
SECTION T 12 OVERFLOW WEIR
NTS

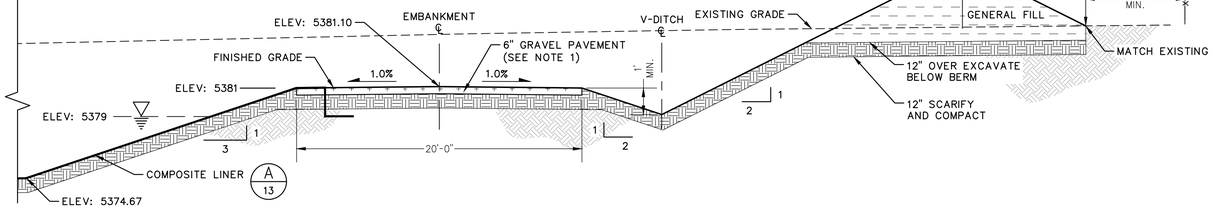


SECTION F 12 TYPICAL ACCESS RAMP
NTS

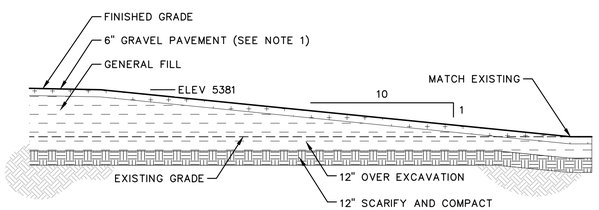


SECTION D 12 TYPICAL EMBANKMENT
NTS

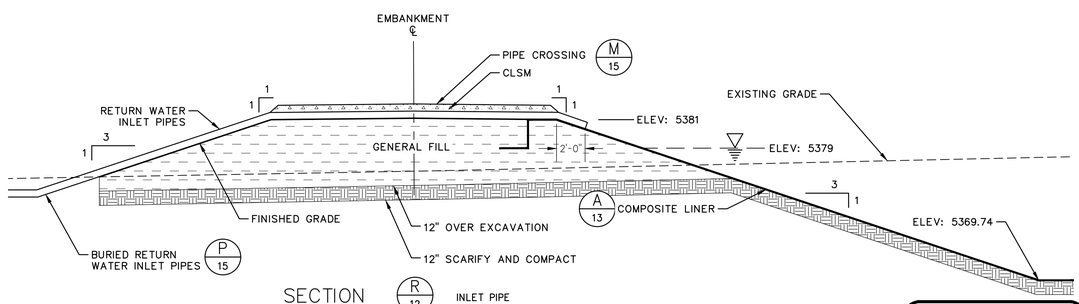




SECTION E 12 TYPICAL EMBANKMENT WITH BERM
NTS



SECTION W - ACCESS RAMP
NTS



SECTION R 12 INLET PIPE
NTS

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NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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GRADING SECTIONS AND DETAILS

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SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	65	WP	AP	200485	14

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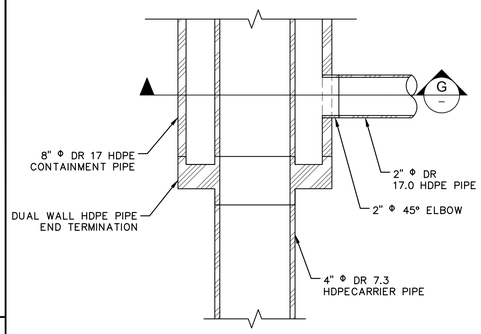
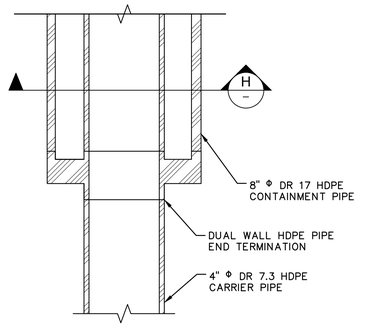
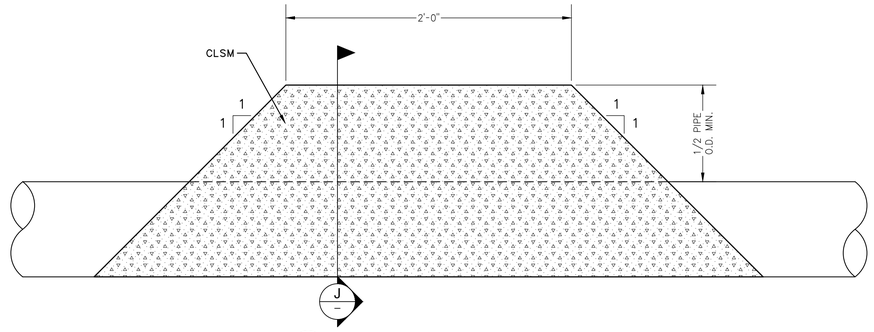


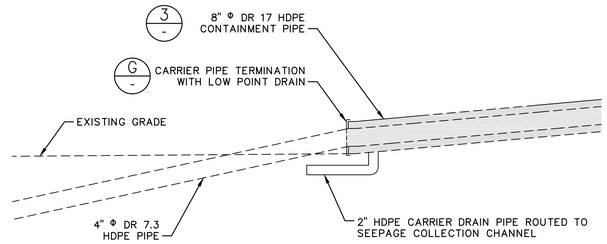
DETAIL NTS (3/8) PIPE END TERMINATION WITH DRAIN PIPE



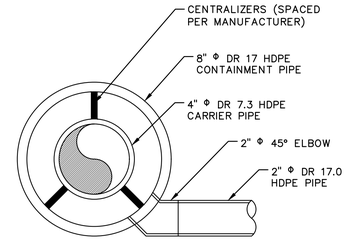
DETAIL NTS (4/9) PIPE END TERMINATION WITHOUT DRAIN PIPE



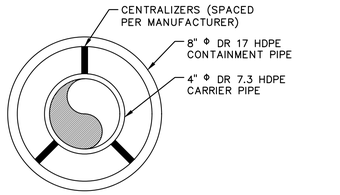
DETAIL NTS (5/8) CLSM CEMENT BALLAST



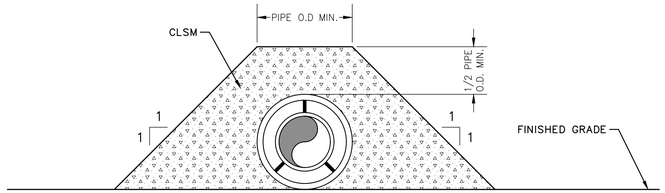
SECTION NTS (N/8) BURIED/ABOVE GROUND TRANSITION



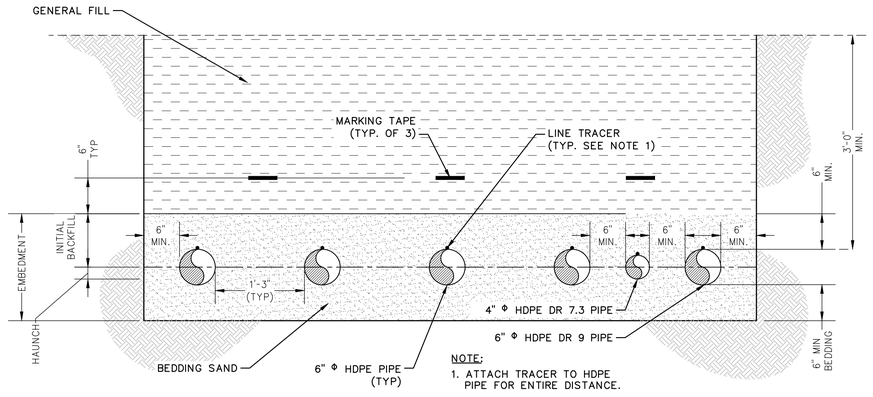
SECTION NTS (G/8) DUAL WALL WITH DRAIN PIPE



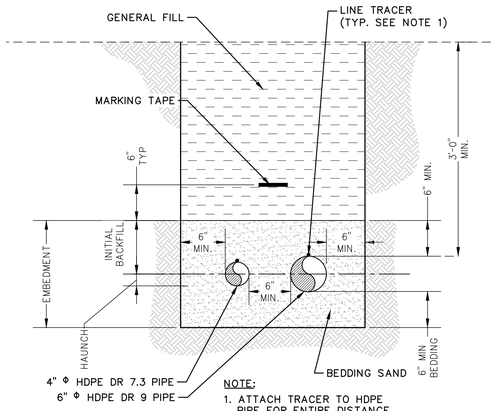
SECTION NTS (H/8) DUAL WALL PIPE



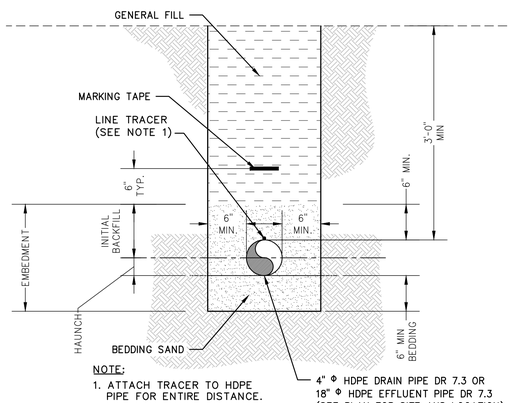
SECTION NTS (J/-) CLSM BALLAST



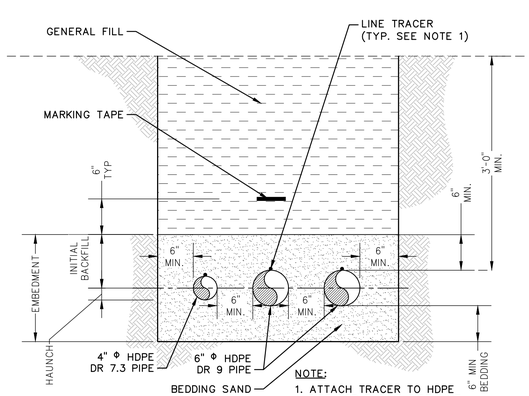
SECTION NTS (X/10) MULTI PIPE TRENCH DETAIL



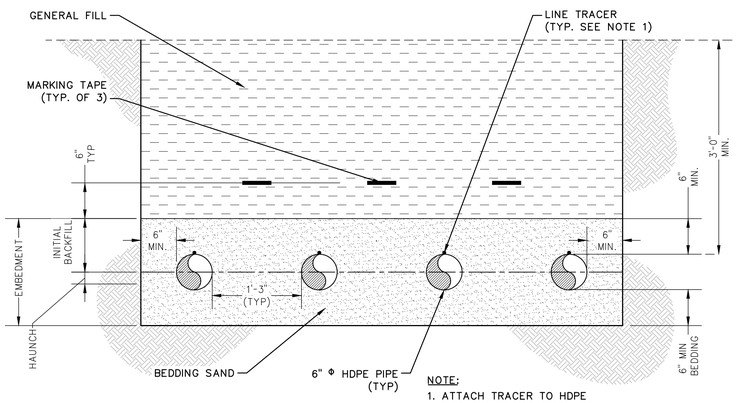
SECTION NTS (K/9) DOUBLE PIPE TRENCH DETAIL



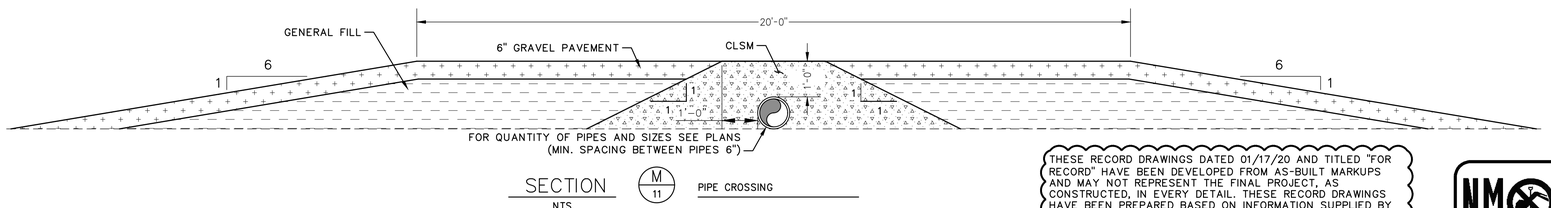
SECTION NTS (L/6) SINGLE PIPE TRENCH DETAIL



SECTION NTS (P/10) MULTI PIPE TRENCH DETAIL



SECTION NTS (Y/10) MULTI PIPE TRENCH DETAIL



SECTION NTS (M/11) PIPE CROSSING

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1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

FOUR CORNERS POWER PLANT
RETURN WATER POND

RETURN WATER PIPING SECTIONS AND DETAILS

aps

SCALE AS NOTED DATE 10/04/19

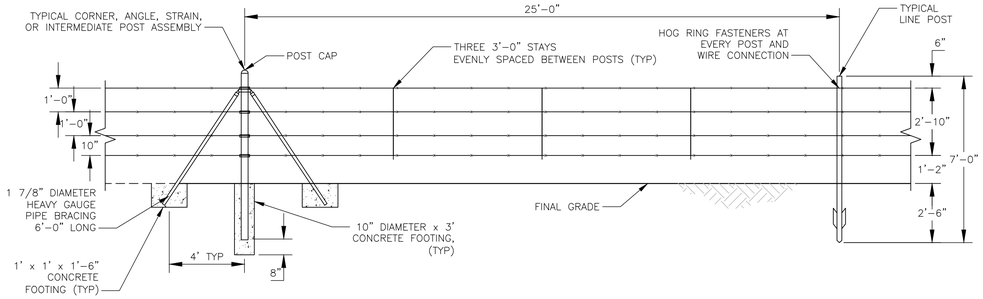
DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	65	WP	AP	200485	15

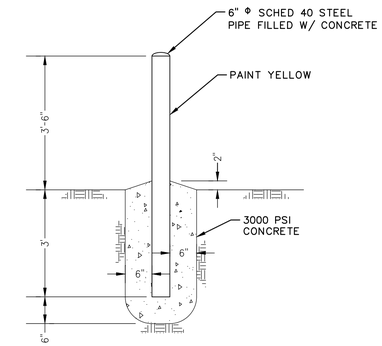
WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

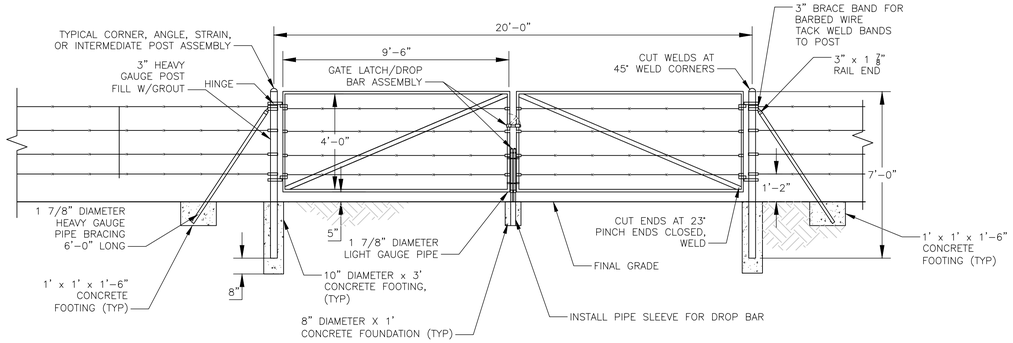
DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-65-WP-AP-200485-15.dwg



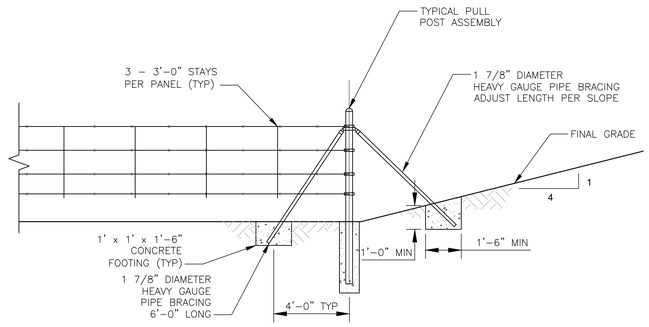
DETAIL 6/11 TYPICAL FENCING
NTS



DETAIL 7/11 GUARD POST OR BOLLARD
NTS



DETAIL 8/8 DOUBLE SWING GATE
NTS



DETAIL 9/9 END TERMINATION DETAIL
NTS

GENERAL CONSTRUCTION NOTES:

1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTION AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
2. FENCE FITTINGS (WIRE TIES, RAILS, POSTS, BRACES, TENSION BARS ETC.) SHALL BE IN ACCORDANCE WITH ASTM F626.
3. ALL FENCING MATERIALS (BRACING, FITTINGS, ETC.) SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A392 AND ASTM F1083.
4. USE STANDARD WEIGHT SCH. 40 STEEL PIPE FOR FENCE POSTS.
5. INSTALL FENCING AND GATES IN ACCORDANCE WITH ASTM F567.

GROUNDING NOTES:

1. CONTRACTOR TO PROVIDE FENCE GROUNDING BY CONNECTING TO EXISTING GROUNDING SYSTEM (SEE ELECTRICAL SHEETS FOR GROUNDING DETAILS AND REQUIREMENTS).
2. FOR GROUNDING NOTES AND DETAIL SEE ELECTRICAL SHEETS.
3. SEE ELECTRICAL SHEETS FOR GROUNDING LOCATIONS AND SPECIFICATIONS.

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NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

AECOM
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NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

FENCING SECTIONS AND DETAILS

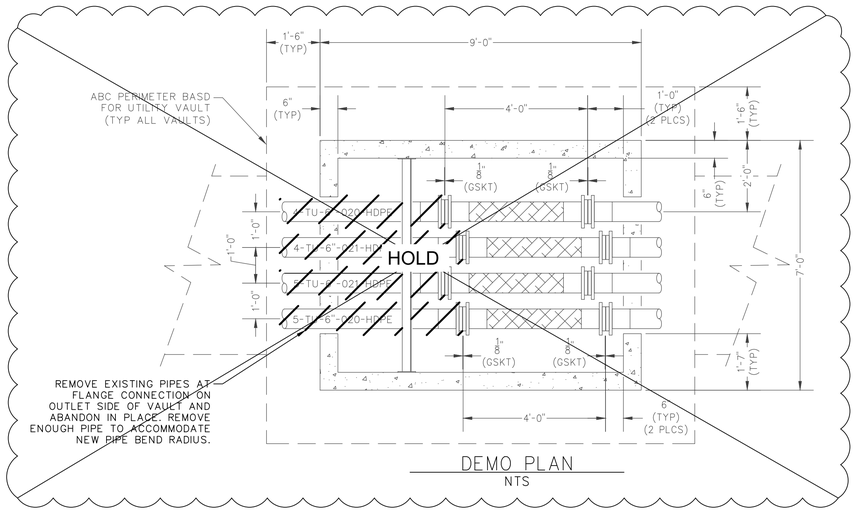
aps

SCALE AS NOTED DATE 10/04/19

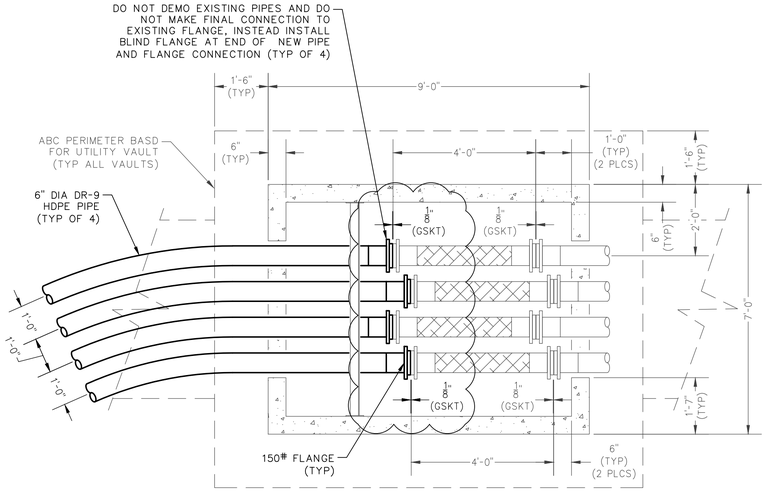
DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	65	WP	AP	200485	16

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-65-WP-AP-200485-16.dwg



DEMO PLAN
NTS



CONSTRUCTION PLAN
NTS

DETAIL 10/10 EXISTING UTILITY VAULT
NTS

NOTES

1. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

△2

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△1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	12-19-18	REVISED PIPE THICKNESS TO DR-9	AWF	DEM				FCC06814

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

FOUR CORNERS POWER PLANT
RETURN WATER POND

UTILITY VAULT DETAILS

aps

SCALE AS NOTED DATE 10/04/19

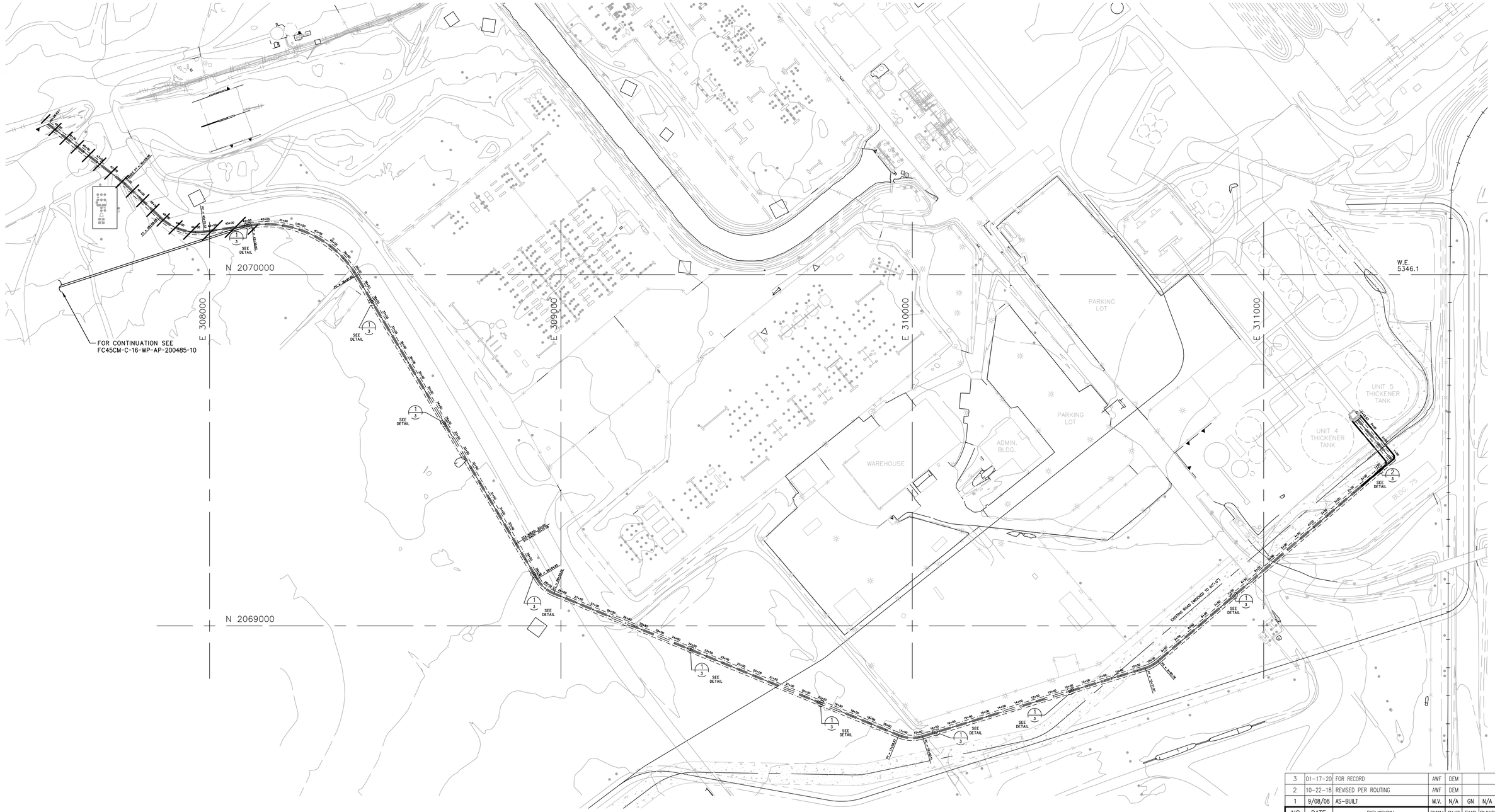
DWN	EXD	APPROVED	W A
AWF	---	DAVID E. MICKANEN	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	C	65	WP	AP	200485	17

NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

DRAWING: \\Phoenix.us.ie.urs\Phoenix\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-C-65-WP-AP-200485-17.dwg



NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	10-22-18	REVISED PER ROUTING	AWF	DEM				FCC06814
1	9/08/08	AS-BUILT	M.V.	N/A	GN	N/A	DDG	FBC90023

FOUR CORNERS – UNITS 4 & 5 THICKENER SYSTEM
TKR UNDERFLOW SLURRY DISPOSAL TO LINED ASH IMPOUNDMENT UNDERGROUND PIPE ROUTING / PLAN VIEW

APS

SCALE 1:50 DATE 2-1-06

DWN M.V.	APPROVED DENNIS DEL GROSSO ENGINEERING SUPERVISOR					W A FBC90023	
CHD RW							
EXD GN	UNIT	DISC	TYPE	SYS	NUMBER	SHEET	
RVWD	F45	M	05	TKR	156257	1	

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82117 SHEET 350A (A2)
FLUE GAS DESUL SYSTEM
PROCESS LIQUOR DIST HDR

4-PL-4"-009-FRP
V0019
V0020
2" V0101
4-PL-4"-035-CSRL
4-PL-4"-009-CSRL
V0024
V0029
4-PL-4"-009-CSRL

4-PL-4"-034-CSRL
82117 SHEET 410A (C8)
THICKENER UNDERFLOW SYSTEM
SLURRY RECIRC HDR PROC LIQUOR

OIS-20084
SV 2033-2
ZS 2033-2C
FC
CV 2033-2

4-PL-4"-039-CSRL
82117 SHEET 410A (A8)
THICKENER UNDERFLOW SYSTEM
SO. CONE DISCH HDR PROC LIQUOR

4-PL-4"-037-CSRL
82117 SHEET 410A (A8)
THICKENER UNDERFLOW SYSTEM
NO. CONE DISCH HDR PROC LIQUOR

OIS-20009
FIT 1014
FE 1014
RATE SET VALVE
V0025
4-PL-4"-036-CSRL

OIS-20176
SV 2030
ZS 2030C
CV 2030
4-TU-6"-003-CSRL
82119 SHEET 1 (C8)
RETURN WATER POND
UTILITY VAULT

OIS-20071
OIS-20007
PIT 1305N
V0097
CV 2025N
SV 2025N
ZS 2025NC
OIS-20040
OIS-20149
ZS 2027-1NC
CV 2027-1N
OIS-20028
ZS 2027-2NC
CV 2027-2N
PI V0100
V0099
OIS-20001
FE 1017
FIT 1017
DIT 2302
DE 2302
OIS-20004

82117 SHEET 410A (B2)
THICKENER TANK 4N CONE SLURRY
SLURRY DISCHARGE HEADER
4-TU-6"-002-CSRL
4"
6"
4-TU-6"-004-CSRL
3/8"
1"
FXC-29
0060
PI 1398N
4-TU-PMP-4N
THICKENER UNDERFLOW PUMP
1" V0094
4-GSL-1"-004-CS
NOTE 5

OIS-20131
OIS-20050
FIS 1016N
SV 1016N
PCV 1390N
V0048
V0049
OIS-20076
CV 2024S
SV 2024S
ZS 2024SC
4-MW-1"-027-CS
V0050
OIS-20008
PIT 1304S
V0098

OIS-20145
SV 2031
ZS 2031C
CV 2031
4-TU-6"-006-CSRL
82117 SHEET 410A (C8)
UNIT 4 THICKENER TANK
THICKENER SLURRY RECIRC HDR

OIS-20046
ZS 2028-1SC
CV 2028-1S
OIS-20151
82117 SHEET 410A (A2)
THICKENER TANK 4S CONE SLURRY
SLURRY DISCHARGE HEADER
4-TU-6"-001-CSRL
4"
6"
4-TU-6"-003-CSRL
3/8"
1"
FXC-28
0061
PI 1395
4-TU-PMP-4S
THICKENER UNDERFLOW PUMP
1" V0095
4-GSL-1"-003-CS
NOTE 5

OIS-20034
ZS 2026-2SC
CV 2026-2S
OIS-20106
SV 2028S
ZS 2028SC
CV 2028S
OIS-20101
SV 2029N
ZS 2029NC
CV 2029N
4-TU-3"-003-CSRL

SV 019
OIS-20094
ZS 019C
CV 019
4-TU-4"-019-CSRL
82119 SHEET 201A (E8)
U4 TU PUMP ROOM
DRAIN SUMP

OIS-20136
SV 1015S
FIS 1015S
PCV 1391S
V0044
V0045
OIS-20052
4-MW-1"-026-CS
V0046

4-TU-4"-010-CSRL
82119 SHEET 201A (E8)
U4 TU PUMP ROOM DRAIN SUMP

4-TU-6"-005-FRPA
ABANDONED IN PLACE
82119 SHEET 410 (E8)

4-TU-4"-011-CSRL
82119 SHEET 201A (E8)
U4 TU PUMP ROOM
DRAIN SUMP

4-MW-1"-025-CS
4-MW-1"-042-CS
4-PL-4"-038-CS
4-GSL-3"-029-CS (FILL & FLUSH)

82119 SHEET 330A (D2)
SERVICE WATER SYSTEM
MAKEUP WATER DIST HDR
0-MW-6"-024-CS
V0052
4-MW-6"-043-CS
6"
4"
V0021
STR-20
STR-19
V0047
V0043
4-MW-4"-024-CS
4"
4-MW-3"-043-CS
82119 SHEET 201A (F8)
U4 TU PUMP ROOM DRAIN SUMP
PUMPS DISCHARGE HEADER

5-TKR-V0052
5-TKR-V0055
V0055
V0059
1" DRAIN
4-MW-1"-049-CS
V0054
HRL-8
4-MW-1"-028-CS
V0051
HRL-7
1" VENT
V0058

0-MW-4"-033-CS
82119 SHEET 201A (F8)
U4&5 THICKENER TUNNEL ACCESS
AREA DRAIN SUMP DISCH HEADER

5-MW-6"-020-CS
82118 SHEET 410B (B8)
MAKEUP WATER HEADER

82117 SH 410A (D2)
U4 THICKENER TANK
HIGH LEVEL BYPASS
4-TU-6"-016-CSRL
V0015
V0016
V0006
4-TU-6"-008-CSRL
82118 SHEET 410B (A8)
U5 THICKENER PUMPS
DISCHARGE HEADER

NOTES:

1. FOR STANDARD SYMBOLS, LEGENDS & GENERAL NOTES SEE APS DRAWINGS 76000 SH 1 & SH 2.
2. UNLESS OTHERWISE NOTED ALL HAND VALVES ARE LABELED: 0-MW-*
3. ALL CONTROL VALVES (CV) ARE LISTED IN FGES VALVE LIST (REF. DWG. 73416 SH 1-497)
4. ALL DRAINS RUN TO FLOOR TRENCH THAT EMPTIES INTO THE LIME CONTROL BUILDING SUMP. SEE DRAWING 82119 SH 201B FOR DETAILS
5. FGS = FLUE GAS SCRUBBING SYSTEM
   IW = INTAKE WATER
   LL = LIME SLURRY
   MW = MAKEUP WATER
   SW = SERVICE WATER
   PL = PROCESS LIQUOR

OIS/ID	EXTERNALS AI	DI	DO	AO	CWD
20001	70030005				72893-12
20004	70030004				72893-11
20007	70030112				72893-14
20008	70030003				72893-15
20009	70030006				72893-11
20028		70030603			72465-C8CC
20034		70030703			72465-C8EC
20040		70030409			72465-C8BC
20046		70030509			72465-C8DC
20050		70030403			72542-FA6/12D
20052		70030503			72542-FA6-12D
20071			70032011		72542-FA6-4C
20076			70032111		72542-FA6-10C
20084			70032205		72542-FA6-12C
20094			70032309		72542-FA6-12D
20101			70032012		72542-FA6-4C
20106			70032112		72542-FA6-10C
20131			70032003		72542-FA6-4C
20136			70032103		72542-FA6-10C
20145			70032203		72542-FA6-12C
20149	70030414				72465-C7CC
20151	70030514				72465-C7DC
20176			70032201		72542-FA6-12E

LEGEND

9 70 03 00 00
- I/O POINT
- SLAVE ADDRESS
- MODULE
- PCU
- LOOP (NOT INCLUDED)

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3

INSTRUMENT NUMBER KEY:

X-XXX-XXX-XXXX
- UNIT NUMBER: 4 = UNIT 4; 5 = UNIT 5; 0 OR 9 = COMMON TO UNITS 4 & 5
- SYSTEM:
- INSTRUMENT FUNCTION: AS SHOWN ON THIS DRAWING (REF A.P.S. DWG NUMBER: 0-M-02-ESD-76000)
- INSTRUMENT NUMBER: AS SHOWN ON THIS DRAWING (4 DIGIT NUMBER - MAY INCLUDE 1 OR 2 DIGIT LETTER)

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	10-22-18	REVISED LINE DESIGNATION	AWF	DEM				FCC06814
1	05-06-09	WASTE PROCESSING CONTROLS AS BUILT, ADDED OIS TAGS & CHART	MJG	RW	CTP	DDG	CJN	FBC90062

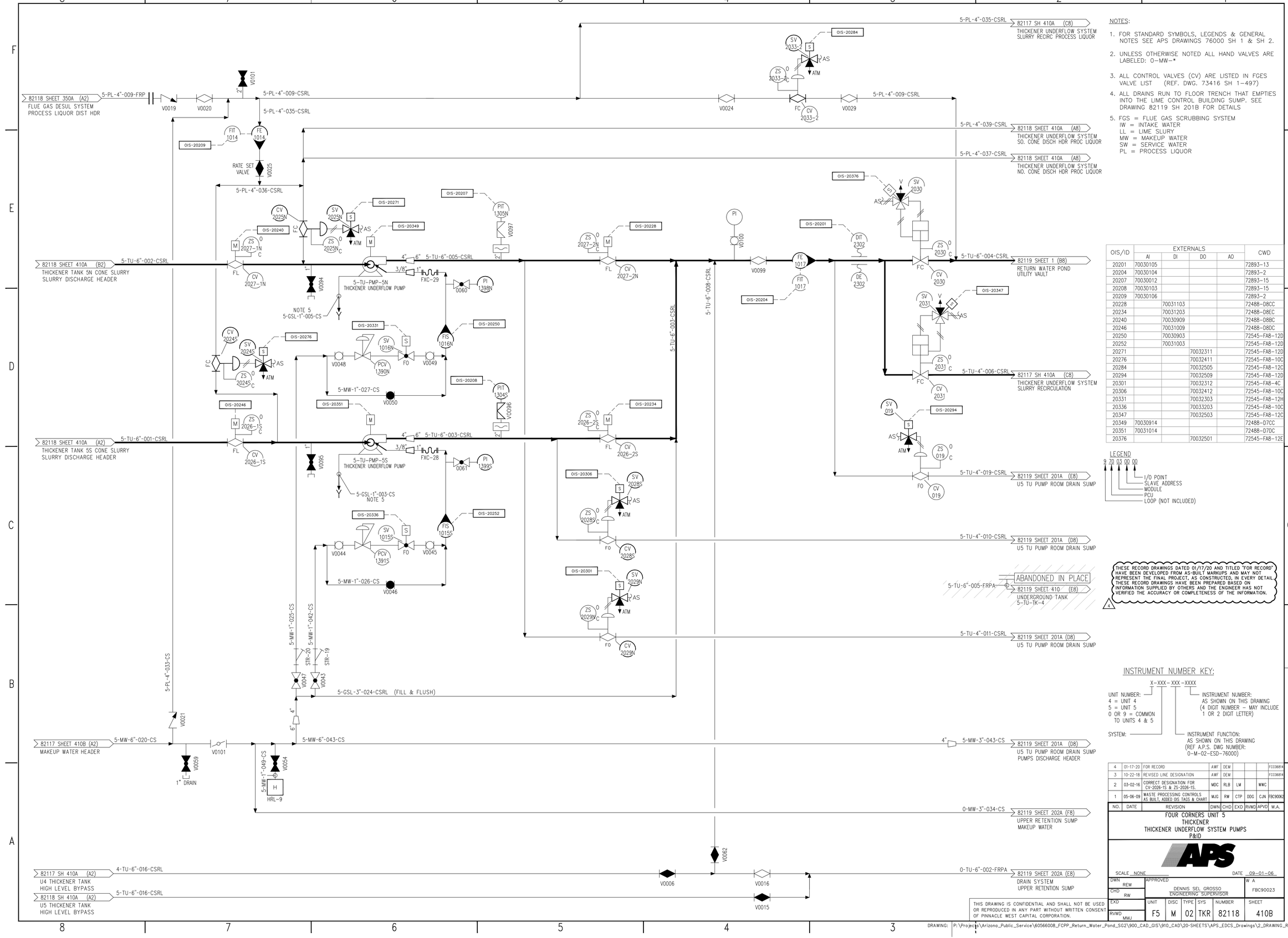
FOUR CORNERS UNIT 4
THICKENER
THICKENER UNDERFLOW SYSTEM PUMPS
P&ID

SCALE NONE
DATE 09-01-06

DWN	APPROVED	W A
REW	DENNIS SEL GROSSO ENGINEERING SUPERVISOR	FBC90023
CHD RW		
EXD		
RVWD MMJ		

UNIT	DISC	TYPE	SYS	NUMBER	SHEET
F4	M	02	TKR	82117	410B

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC04UN-M-02-E



NOTES:

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   IW = INTAKE WATER
   LL = LIME SLURY
   MW = MAKEUP WATER
   SW = SERVICE WATER
   PL = PROCESS LIQUOR

OIS/ID	EXTERNALS AI	DI	DO	AO	CWD
20201	70030105				72893-13
20204	70030104				72893-2
20207	70030012				72893-15
20208	70030103				72893-15
20209	70030106				72893-2
20228		70031103			72488-D8CC
20234		70031203			72488-D8EC
20240		70030909			72488-D8BC
20246		70031009			72488-D8DC
20250		70030903			72545-FA8-12D
20252		70031003			72545-FA8-12D
20271			70032311		72545-FA8-12D
20276			70032411		72545-FA8-10C
20284			70032505		72545-FA8-12C
20294			70032509		72545-FA8-12D
20301			70032312		72545-FA8-4C
20306			70032412		72545-FA8-10C
20331			70032303		72545-FA8-12H
20336			70033203		72545-FA8-10C
20347			70032503		72545-FA8-12C
20349	70030914				72488-D7CC
20351	70031014				72488-D7DC
20376			70032501		72545-FA8-12E

LEGEND

9 70 03 00 00
- I/O POINT
- SLAVE ADDRESS
- MODULE
- PCU
- LOOP (NOT INCLUDED)

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NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
4	01-17-20	FOR RECORD	AWF	DEM				FCC06814
3	10-22-18	REVISED LINE DESIGNATION	AWF	DEM				FCC06814
2	03-02-16	CORRECT DESIGNATION FOR CV-2026-1S & ZS-2026-1S.	MDC	RLB	LM		WWC	
1	05-06-09	WASTE PROCESSING CONTROLS AS BUILT, ADDED OIS TAGS & CHART	MJG	RW	CTP	DDG	CJN	FBC90062

FOUR CORNERS UNIT 5
THICKENER
THICKENER UNDERFLOW SYSTEM PUMPS
P&ID

SCALE NONE DATE 09-01-06

DWN	APPROVED	W A
REW	DENNIS SEL GROSSO ENGINEERING SUPERVISOR	FBC90023
CHD RW		
EXD		
RVWD MMJ		

UNIT	DISC	TYPE	SYS	NUMBER	SHEET
F5	M	02	TKR	82118	410B

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\F(

G-82114 SH 9C (E3)
10"-HDPE
COMBINED WASTE TREATMENT POND
LOW VOL. DREDGE OUTFALL

G-82115 SH 1E (E1)
8"-HDPE
BRINE CONC. THICKENER FEED TANK

82115 SH 1E (C1)
6"-HDPE
BRINE CONC. TKNR FEED TANK

FLEX HOSE

NEW CONCRETE TRENCH (ALPINE SLIDE)

EXISTING CONCRETE TRENCH (ALPINE SLIDE)

LINED ASH IMPOUNDMENT

EXISTING CONCRETE TRENCH (ALPINE SLIDE)

FLOW

24-O-440-1

24-O-440-2

24-O-440-3

24-O-440-4

ABANDON IN PLACE

UG

RETURN WATER POND

OPEN TRENCH

OVERFLOW

BASIN #3

10"-HDPE

24"-HDPE (OVERFLOW)

BASIN #4

10"-HDPE

BASIN #1

ABANDONED IN PLACE

CSRL (TYP.)

FLEX HOSE (TYP.)

HDPE (TYP.)

UTILITY VAULT

4-TU-6"-020-HDPE

82117 SH 410B (D2)
4-TU-6"-003-CSRL
UNIT 4 THICKENER

4-TU-6"-021-HDPE

5-TU-6"-020-HDPE

82118 SH 410B (D2)
5-TU-6"-004-CSRL
UNIT 5 THICKENER

5-TU-6"-021-HDPE

4-TU-4"-022-HDPE

4-TU-4"-023-HDPE

5-TU-4"-022-HDPE

5-TU-4"-023-HDPE

CV 2040 C

CV 2041 C

ZS 2040 C

ZS 2041 C

VIEW PORT 4"-150# BLIND FLANGE

14"ø LEVEL EQUALIZATION LINE

BARGE BAY

BARGE

FOR BARGE PIPING SEE G-82116 SH 1A

8"-HDPE

G-82116 SH 1A
TO BRINE CONCENTRATE

ABANDONED IN PLACE

O-TU-8"-024-HDPE

82119 SH 202A ( )
UPPER RETENTION SUMP

THICKENER WITHDRAW 4A DRAIN 9190/70R CONTROL WIRING DIAGRAM 72465 SHEET C7GC	OIS12146 OIS12147 OIS12067 OIS12068	OIS12269 OIS12270 OIS12351 OIS12352 — THICKENER WITHDRAW 5B DRAIN 9190/70R CONTROL WIRING DIAGRAM 72488 SH D7GC
THICKENER WITHDRAW 4B DRAIN 9190/70R CONTROL WIRING DIAGRAM 72465 SHEET C7HC	OIS12151 OIS12152 OIS12069 OIS12070	OIS12267 OIS12268 OIS12346 OIS12347 — THICKENER WITHDRAW 5A DRAIN 9190/70R CONTROL WIRING DIAGRAM 72488 SH D7HC

82114 SH 10F (C2)
8"-CS
ASH POND INTERCEPT SUMP #6

NOTES:

1. FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND AND GERERAL NOTES SEE APS DRAWING No. 76000.
2. THIS PORTION WAS REMOVED FROM 82114 SH 10F AND REVISED.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED. IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

3

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	10-22-18	REVISED PIPE ROUTING	AWF	DEM				FCC06814

FOUR CORNERS - UNITS 4 & 5
THICKENER SYSTEM
THICKENER UNDERFLOW TO LINED ASH IMPOUNDMENT
P&ID

APS

SCALE NONE DATE 5/22/06

DWN M.V./REW
CHD
APPROVED DENNIS DEL GROSSO ENGINEERING SUPERVISOR
W A FBC90023
EXD GN
RVWD MMJ

UNIT	DISC	TYPE	SYS	NUMBER	SHEET
F45	M	02	TKR	82119	1

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-M-02-BP-AP-82119-1.dwg

STRUCTURAL NOTES

GENERAL:

G1. SCOPE
THE NOTES ON THIS SHEET AND STRUCTURAL DETAILS ARE TYPICAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.

G2. APPLICABLE SPECIFICATIONS AND CODES
- A. INTERNATIONAL BUILDING CODE (IBC) 2015
- B. ACI 318-14
- C. ACI 350-06
- D. ASCE 7-10
- E. AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION

G3. DESIGN CRITERIA, APPLIES TO ALL STRUCTURES (UNO)
- A. OCCUPANCY CATEGORY: III
- B. DEAD LOAD:
  MATERIAL WEIGHT
- C. LIVE LOAD:
  PUMP STATION: 40 PSF

G4. SAFETY
- A. SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
- B. SHORING AND RESHORING OF ELEVATED STRUCTURAL SLABS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUBMIT DOCUMENTS SHOWING METHOD OF SHORING TO THE ENGINEER FOR INFORMATION ONLY.

G5. OPENINGS
- A. OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
- B. COORDINATE FINAL SIZE AND LOCATION OF ALL OPENINGS WITH THE ACTUAL EQUIPMENT SUPPLIED, PROJECT REQUIREMENTS, AND WITH FIELD CONDITIONS.
- C. THE ENGINEER OF RECORD PERMITS NO OPENINGS OR ALTERATIONS THROUGH BEAMS OR COLUMNS UNLESS DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING.

G6. STANDARD DETAILS
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.

G7. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.

G9. SEE CIVIL DRAWINGS FOR ALL EXTERIOR PAVING AND FLATWORK.

G10. ALL WATERSTOPS SHALL BE 6 IN PVC, UNLESS NOTED OTHERWISE, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL WATERSTOPS CONTINUOUS AND ALL JOINTS LEAK-FREE, AS REQUIRED.

G11. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY LEAKS IN WATER BEARING STRUCTURES UTILIZING EPOXY INJECTION MATERIALS.

G12. SHOP DRAWINGS SHALL BE FURNISHED FOR REVIEW BEFORE ANY FABRICATION AND ERECTION. POORLY EXECUTED SHOP DRAWINGS SHALL BE REJECTED AND RESUBMITTED.

CONCRETE:

C1. CAST-IN-PLACE CONCRETE
- A. CLASS A CONCRETE, TYPE II PORTLAND CEMENT, ASTM C150 W/ 20% FLY ASH CLASS F CONFORMING TO ASTM C618
- B. F'c = 4,500 PSI @ 28 DAYS
- C. MAXIMUM WATER CEMENT RATIO = 0.45
- D. EXPOSURE CLASS: F2/S2, AIR ENTRAINED
- E. MAX SLUMP: 4"

C2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 (Fy = 60 KSI).

C3. COARSE AGGREGATE SHALL BE WELL GRADED CRUSHED STONE, NATURAL ROCK CONFORMING TO REQUIREMENT OF ASTM C33, AND SHALL CONTAIN LESS THAN PERCENT ASBESTOS BY WEIGHT OR VOLUME.

C4. ALL SPLICES SHALL BE CLASS B, TENSION LAPS UNLESS NOTED ON PLAN.

C5. REINFORCING BARS SHALL HAVE MATCHING CORNER BARS.

C6. DOWEL CONCRETE WALLS AND PIERS INTO FOOTINGS AND BASE SLABS WITH DOWELS THE SAME SIZE AND SPACING AS VERTICAL REINFORCEMENT. EXTEND DOWELS TO WITHIN 3"OF BOTTOM OF FOOTING, TERMINATED WITH ACI STD. 90 DEGREE HOOK, UNLESS OTHERWISE NOTED.

C7. CONCRETE COVER: UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING ACCORDING TO DETAIL.

C8. PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH ACI 117-10 "SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS AND COMMENTARY."

C9. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE AMERICAN CONCRETE INSTITUTE STANDARDS. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"(ACI 318), "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"(ACI 301), AND "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY"(ACI 350).

C10. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON STRUCTURAL DRAWINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

C11. CONDUITS AND PIPES MAY NOT BE EMBEDDED WITHIN A SLAB, WALL, OR BEAM WITHOUT PRIOR APPROVAL OF ENGINEER.

C12. UNLESS NOTED OTHERWISE PROVIDE 3/4"X3/4"CHAMFERS AT ALL EXPOSED EDGES. NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.

C13. ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER, RETAINED BY THE CONTRACTOR, IN ACCORDANCE WITH APPLICABLE PROJECT AND CODE REQUIREMENTS. SUBMIT AS A SHOP DRAWING FOR REVIEW BY THE ENGINEER. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.

C14. ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.

C15. POST-INSTALLED DRILL AND EPOXY ANCHORS INTO CONCRETE SHALL BE HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM, OR APPROVED EQUAL, WITH MINIMUM 3/4"DIAMETER, A36 ANCHOR WITH MINIMUM OF 6"EMBEDMENT UNLESS OTHERWISE SHOWN.

C16. PRIOR TO INSTALLING POST-INSTALLED ANCHORS INTO CONCRETE, THE CONTRACTOR SHALL LOCATE REINFORCING. DO NOT DAMAGE CONCRETE REINFORCING.

C17. COMPLY WITH CURING PROCEDURE SET FORTH IN ACI 301, ACI 308.

STEEL:

S1. MATERIALS SHALL CONFORM TO THE STANDARDS LISTED:
- A. WIDE FLANGE SECTIONS: ASTM A992 OR ASTM A572, GRADE 50 (Fy=50 KSI)
- B. STRUCTURAL BOLTS: ASTM A325
- C. NON-STRUCTURAL BOLTS: ASTM A307
- D. HSS: ASTM A500 GRADE B
- E. ALL STEEL MEMBERS AND BOLTS SHALL BE HOT DIP GALVANIZED.

S2. DIMENSIONS: TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.

S3. BOLTED CONNECTIONS UNLESS NOTED OTHERWISE:
- A. STRUCTURAL: 3/4"DIAMETER MIN., TYPE N, FULL DEPTH CONNECTION, (2) BOLTS MINIMUM
- B. ANCHOR RODS: 3/4"DIAMETER MIN., (4) BOLTS MINIMUM, MINIMUM 12"EMBED INTO CONCRETE, PROJECTION ABOVE CONCRETE, AS REQUIRED.
- C. NON-STRUCTURAL: 5/8"DIAMETER MIN.

S4. ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS.

S5. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS AND SHALL BE DONE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AWS AND AISC. INSPECT ALL WELDING IN ACCORDANCE WITH THE SPECIAL INSPECTIONS AND SPECIFICATIONS.

S6. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON CONNECTED MATERIAL THICKNESSES IN ACCORDANCE WITH AISC SPECIFICATIONS.

S7. ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO AISC 360, STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL.

S8. PLACE NATURAL CAMBER OF BEAMS UPWARD.

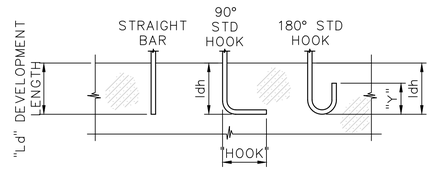
S9. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT ENGINEER'S APPROVAL.

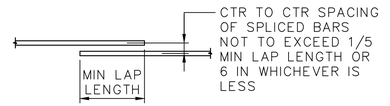
S10. FIELD REPAIR OF DAMAGED GALVANIZED COATING BY SHERWIN WILLIAMS PRO-CRYL UNIVERSAL PRIMER, B66-310 SERIES AND SHERWIN WILLIAMS PRO INDUSTRIAL O VOC SEMI-GLOSS, B66W650 SERIES OR EQUAL.

SPECIAL INSPECTIONS:

SP1. SPECIAL INSPECTIONS SHALL BE PROVIDED TO MEET THE REQUIREMENTS OF IBC CHAPTER 17 IN THE FOLLOWING CATEGORIES:
- -SUBGRADE PREPARATION
- -WELDING
- -ANCHOR BOLTS
- -HIGH STRENGTH BOLTING

BAR SIZE	DIAMETER (d_b) (INCHES)	DEVELOPMENT LENGTH (l_d) (INCHES)		CLASS B LAP SPLICE (INCHES)		90° STD HOOK (INCHES)		180° STD HOOK "Y"
		"TOP" BARS	OTHER	"TOP" BARS	OTHER	HOOK	l_{dh}	
		REINFORCING BARS IN TENSION						
#3	0.375	18	14	24	18	6	7	6
#4	0.5	25	19	32	25	8	10	6
#5	0.625	31	24	40	31	10	12	6
#6	0.75	37	28	48	37	12	14	6
#7	0.875	54	42	70	54	14	17	7
#8	1.0	62	47	80	62	16	19	8
#9	1.125	70	54	90	70	19	21	11
#10	1.25	78	60	102	78	22	24	12
#11	1.375	87	67	113	87	24	27	13
#14	1.75	104	80	136	104	30	32	14
		REINFORCING BARS IN COMPRESSION						
#3	0.375	8		12		HOOKED BARS SHALL NOT BE USED IN COMPRESSION		
#4	0.5	9		15				
#5	0.625	12		19				
#6	0.75	14		23				
#7	0.875	17		26				
#8	1.0	19		30				
#9	1.125	21		34				
#10	1.25	24		38				
#11	1.375	27		42				
#14	1.75	32		51				





NOTES:

1. "TOP" BARS SHALL BE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
2. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED SHALL
   A. NOT BE LESS THAN d_b, HAVE CLEAR COVER NOT LESS THAN d_b, AND STIRRUPS OR TIES THROUGHOUT L_d NOT LESS THAN THE CODE MINIMUM OR;
   B. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN $2d_b$ AND CLEAR COVER NOT LESS THAN d_b. WHERE d_b =DIAMETER OF REINFORCING BAR AND L_d = DEVELOPMENT LENGTH.
3. ALL LAP SPLICES SHALL BE CLASS B UNLESS NOTED OTHERWISE.
4. WHEN SPLICING BAR OF DIFFERENT SIZE, THE LENGTH OF LAP SHALL BE GOVERNED BY THE LARGER DIAMETER BAR.
5. SPLICES ARE TO BE MADE SO THAT THE GIVEN DISTANCES TO FACE OF CONCRETE WILL BE MAINTAINED.
6. SPLICES SHALL BE STAGGERED TO GIVE 12 INCHES CLEAR BETWEEN ENDS OF ADJACENT SPLICES, IF BARS ARE SPACED CLOSER THAN 6 INCHES OR 6 BAR DIAMETERS.

STANDARD HOOK & REINF LAP SPLICE
SCALE: NTS

CONSTRUCTION NOTES:

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1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

STRUCTURAL GENERAL NOTES

aps

SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
CM	---	ROBERT E. HAWTHORNE	FCC06814
CHD HM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	S	98	WP	AP	200485	24

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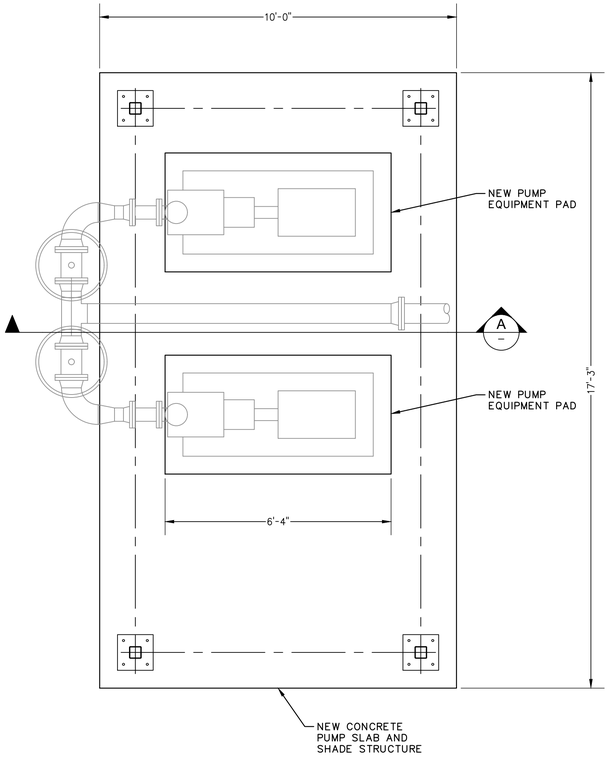
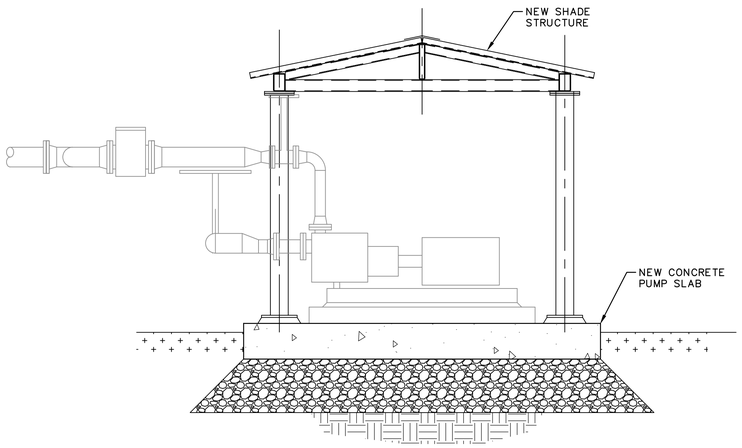


PLAN VIEW
RETURN WATER PUMP SLAB
SCALE: 1/2"=1'-0" (FULL SIZE)



SECTION A- SHADE STRUCTURE
1/2"=1'-0"

GRAPHIC SCALE
2 0 2 4
(IN FEET)
1 inch = 2 ft.

CONSTRUCTION NOTES:

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1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

STRUCTURAL PLAN AND SECTION

aps

SCALE 1"=2' DATE 10/04/19

DWN	EXD	APPROVED	W A
CM	---	ROBERT E. HAWTHORNE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
HM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	S	47	WP	AP	200485	25

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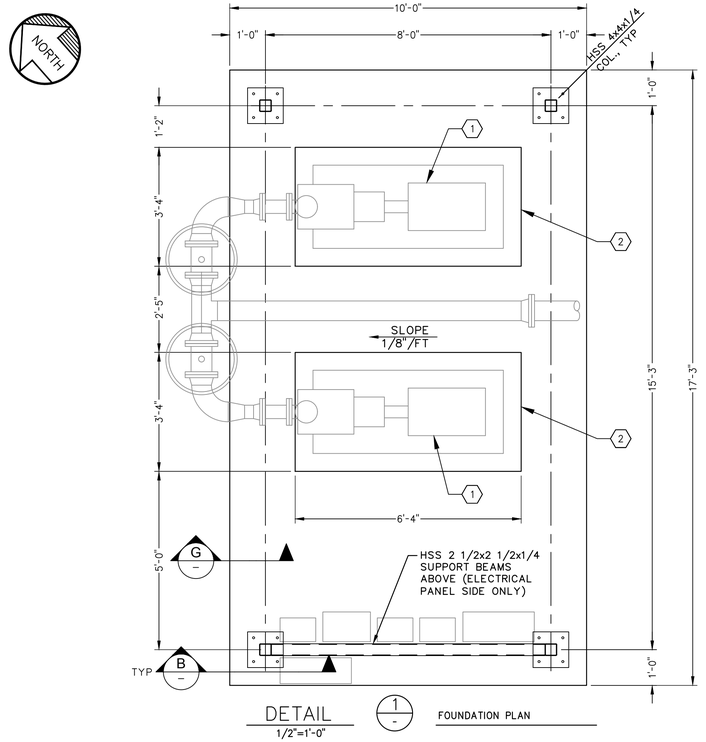
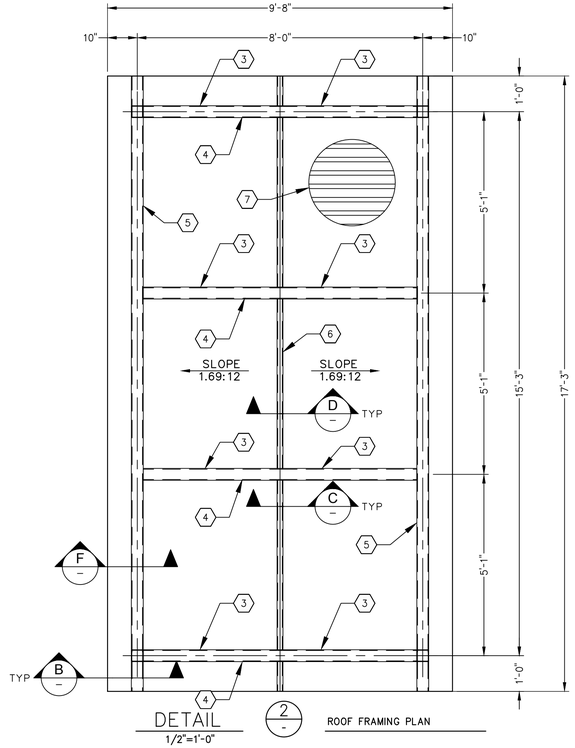


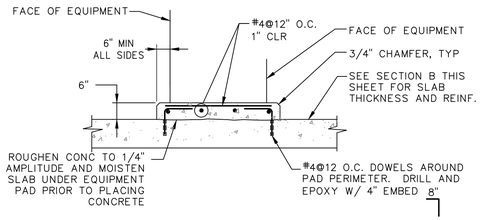
DETAIL 1 FOUNDATION PLAN
1/2"=1'-0"



DETAIL 2 ROOF FRAMING PLAN
1/2"=1'-0"

NOTES:

1. THE MINIMUM PAD SIZE SHALL BE AS INDICATED OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER.
2. THE SIZE, NUMBER, TYPE, LOCATION AND THE THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER. HOLD CONCRETE ANCHOR BOLTS IN POSITION WITH A TEMPLATE WHILE PAD IS BEING PLACED.
3. USE PIPE SLEEVES TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER EQUIPMENT IS INSTALLED.
4. PIPE SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN THE ANCHOR BOLT DIAMETER.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS NOTED OTHERWISE ON THE PLANS.
6. PROVIDE WEDGES OR SHIMS TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. THE WEDGES OR SHIMS THAT REMAIN IN PLACE SHALL NOT BE EXPOSED TO VIEW.
7. SEE MECH, PROCESS AND ELEC DRAWINGS FOR EQUIP PAD LOCATIONS, SIZES AND THICKNESSES.



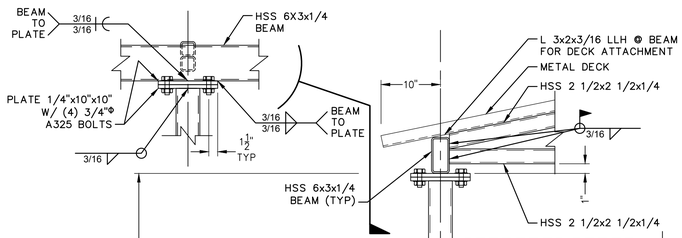
DETAIL 3 EQUIPMENT PAD
NTS

CONSTRUCTION NOTES:

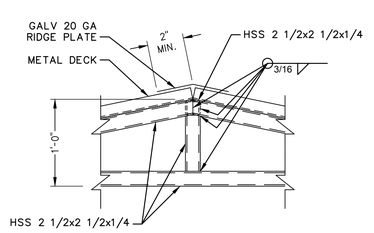
1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.

KEY NOTES:

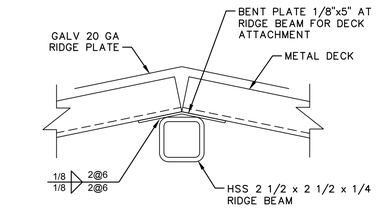
1. NEW RETURN WATER POND PUMPS, SEE MECHANICAL FOR ADDITIONAL INFORMATION.
2. 76"x40"x6" THICK EQUIPMENT PAD, SEE DETAIL 3 THIS SHEET.
3. ROOF FRAMING MEMBER HSS 2 1/2 x 2 1/2 x 1/4 ABOVE.
4. ROOF FRAMING MEMBER HSS 2 1/2 x 2 1/2 x 1/4 BELOW.
5. ROOF FRAMING MEMBER HSS 6 x 3 x 1/4.
6. RIDGE BEAM HSS 2 1/2 x 2 1/2 x 1/4.
7. VULCRAFT TYPE 1.5A 20 GA GALV. METAL DECK. FASTEN WITH #12 SCREWS W/ NEOPRENE WASHERS @ 36/4 PATTERN AT SUPPORTS AND #12 SCREWS @ 12"O.C. SIDE LAPS.



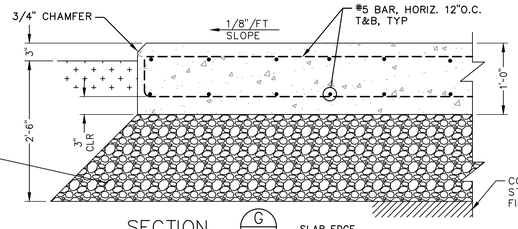
SECTION B TYPICAL STRUCTURE FRAMING
1"=1'-0"



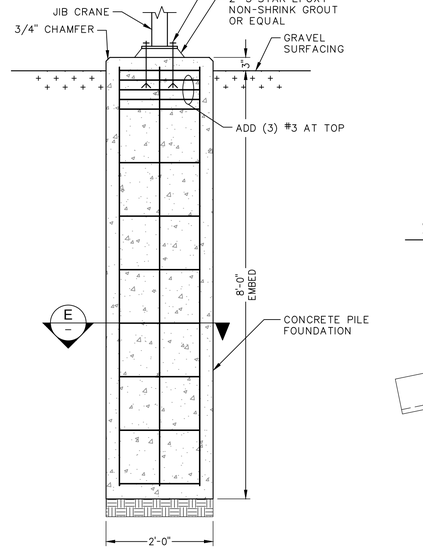
SECTION C TYPICAL STRUCTURE FRAMING
1"=1'-0"



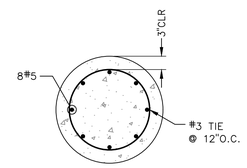
SECTION D TYPICAL STRUCTURE FRAMING
3"=1'-0"



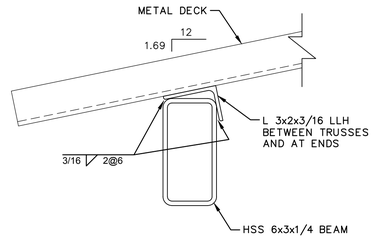
SECTION G SLAB EDGE
1"=1'-0"



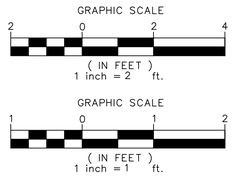
DETAIL 4 CRANE PEDESTAL
NTS



SECTION E CRANE PEDESTAL
NTS



SECTION F TYPICAL STRUCTURE FRAMING
3"=1'-0"



THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

2

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	12/20/18	REVISED AGGREGATE	LDB	HM			REH	

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

STRUCTURAL SECTIONS AND DETAILS

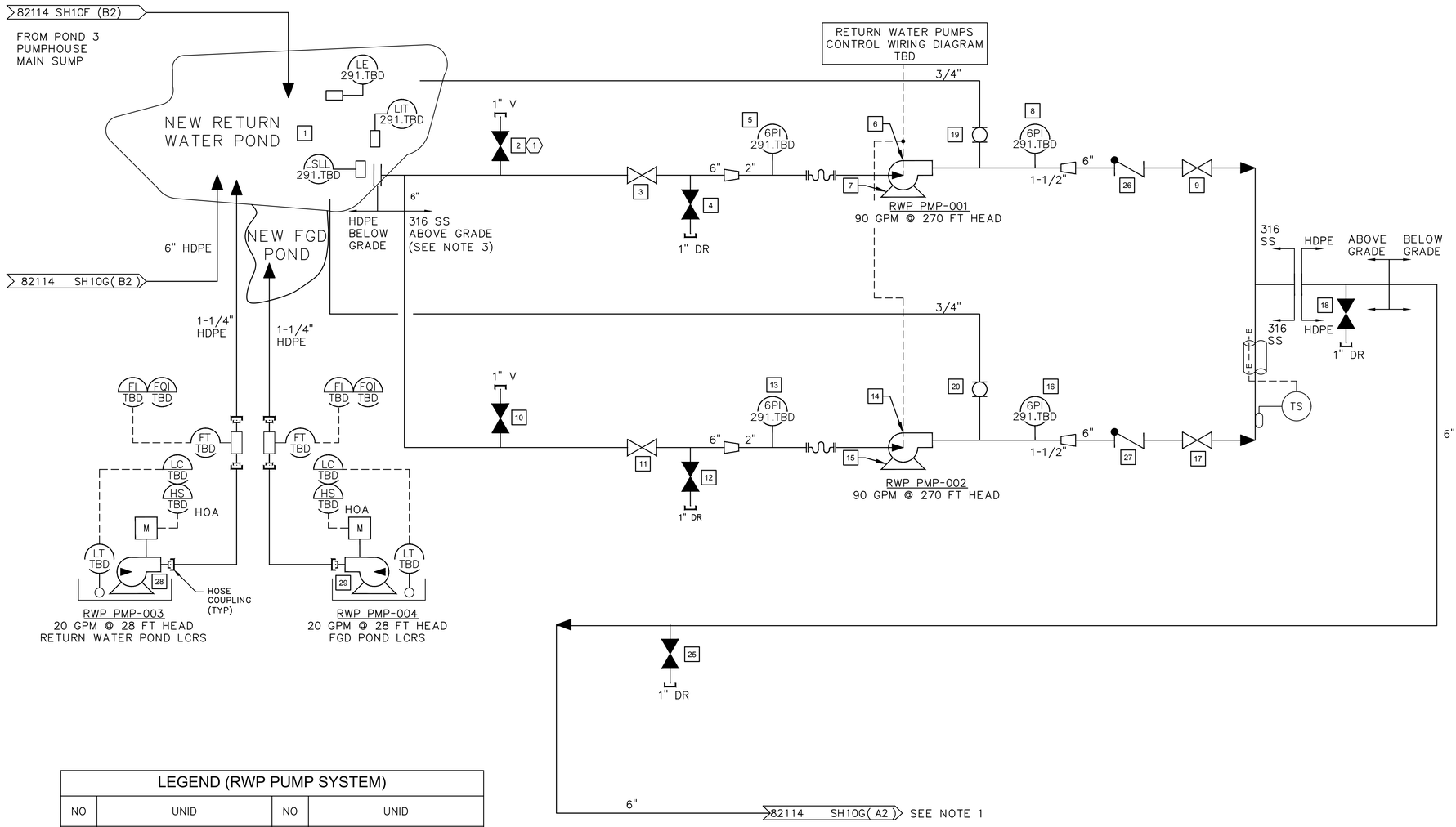
aps

SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
CM	---	ROBERT E. HAWTHORNE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
HM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	S	65	WP	AP	200485	26

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-S-65-WP-AP-200485-26.dwg



LEGEND (RWP PUMP SYSTEM)			
NO	UNID	NO	UNID
1	FC00CM-BP-RWP-POND-001	15	FC00CM-BP-RWP-MTR-002
2	FC00CM-BP-RWP-VLV-V001	16	FC00CM-BP-RWP-IND-PI291TBD
3	FC00CM-BP-RWP-VLV-V002	17	FC00CM-BP-RWP-VLV-V008
4	FC00CM-BP-RWP-VLV-V003	18	FC00CM-BP-RWP-VLV-V009
5	FC00CM-BP-RWP-IND-PI291TBD	19	FC00CM-BP-RWP-BV-001
6	FC00CM-BP-RWP-PMP-001	20	FC00CM-BP-RWP-BV-002
7	FC00CM-BP-RWP-MTR-001	21	NOT USED
8	FC00CM-BP-RWP-IND-PI391TBD	22	NOT USED
9	FC00CM-BP-RWP-VLV-V004	23	NOT USED
10	FC00CM-BP-RWP-VLV-V005	24	NOT USED
11	FC00CM-BP-RWP-VLV-V006	25	FC00CM-BP-RWP-VLV-V011
12	FC00CM-BP-RWP-VLV-V007	26	FC00CM-BP-RWP-CKV-002
13	FC00CM-BP-RWP-IND-PI291TBD	27	FC00CM-BP-RWP-CKV-003
14	FC00CM-BP-RWP-PMP-002	28	FC00CM-BP-RWP-PMP-003
		29	FC00CM-BP-RWP-PMP-004

CONSTRUCTION NOTES:

1. CONNECT TO 8" HDPE TO PLANT.

GENERAL CONSTRUCTION NOTES:

1. SEE FC-M-ADS-82114-10F-L FOR UNID LEGEND.
2. FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND AND GENERAL NOTES, SEE APS DRAWING G-76000.
3. ALL ABOVE GRADE EXTERIOR PIPING AND PUMPS HEAT TRACED AND INSULATED.

KEYED NOTES:

(1) EQUIPMENT/VALVE/INSTRUMENT NUMBER [2]. SEE LEGEND FOR UNID NUMBER

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3

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	12/17/18	REVISED PUMP FLOW & TDH & PIPE SIZES	DB	JM				
1	11/29/18	SWAP CHECK AND GATE VALVE LOCATIONS	DB	JM				

AECOM
7720 N. 16th Street Suite 100
Phoenix, Arizona 85020
(602) 371-1100

NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

RETURN WATER POND P&ID

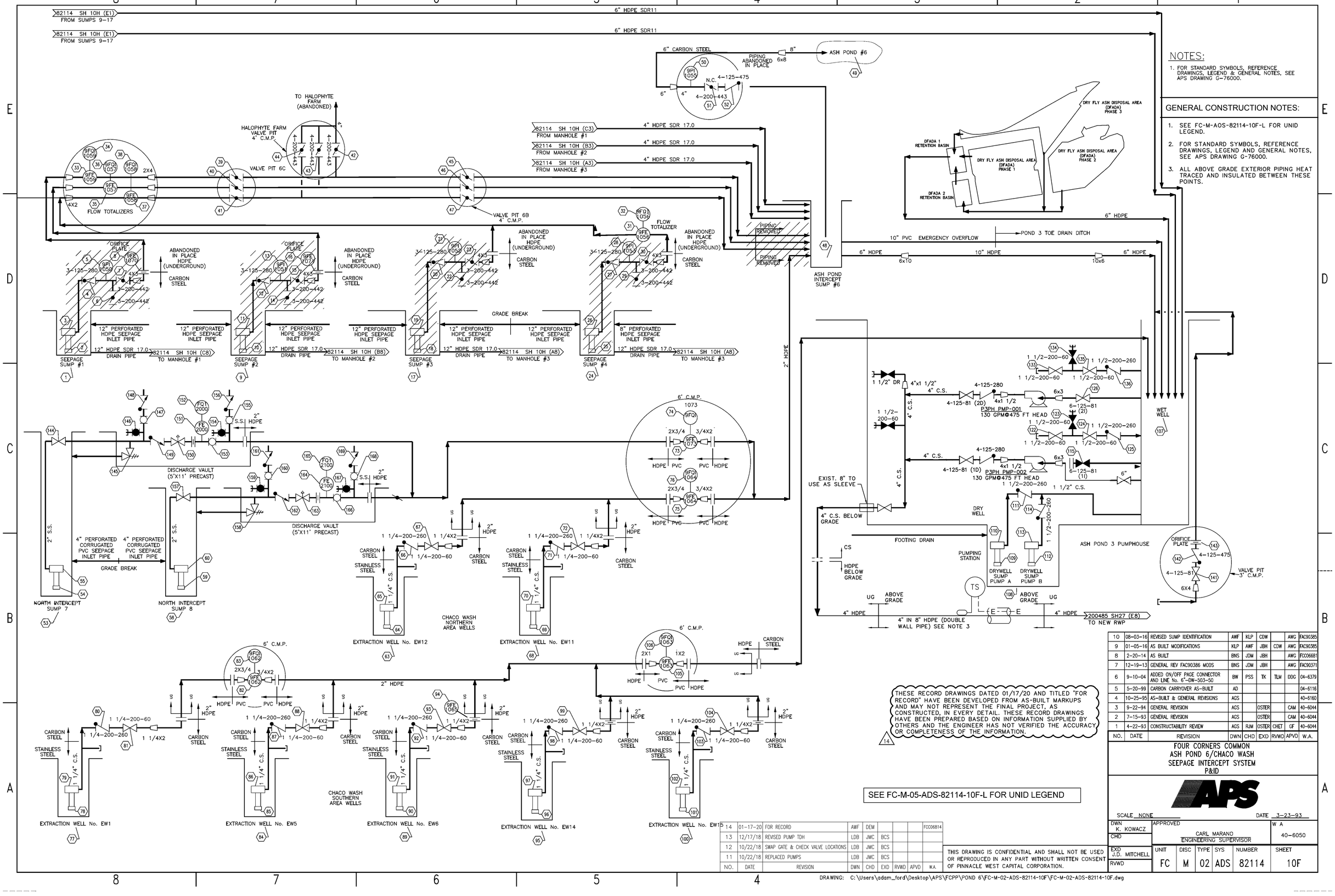
aps

SCALE NONE DATE 10/04/19

DWN	EXD	APPROVED	W A
LDB	---	JACK MCCONWELL	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
BCS	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	02	WP	AP	200485	27

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-M-02-WP-AP-200485-27.dwg



NOTES:

1. FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND & GENERAL NOTES, SEE APS DRAWING G-76000.

GENERAL CONSTRUCTION NOTES:

1. SEE FC-M-AOS-82114-10F-L FOR UNID LEGEND.
2. FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND AND GENERAL NOTES, SEE APS DRAWING G-76000.
3. ALL ABOVE GRADE EXTERIOR PIPING HEAT TRACED AND INSULATED BETWEEN THESE POINTS.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

14

SEE FC-M-05-ADS-82114-10F-L FOR UNID LEGEND

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
10	08-03-16	REVISED SUMP IDENTIFICATION	AWF	KLP	CDW		AWG	FAC90385
9	01-05-16	AS BUILT MODIFICATIONS	KLP	AWF	JBH	CDW	AWG	FAC90385
8	2-20-14	AS BUILT	BNS	JDM	JBH		AWG	FCC06681
7	12-19-13	GENERAL REV FAC90386 MODS	BNS	JDM	JBH		AWG	FAC90371
6	9-10-04	ADDED ON/OFF PACE CONNECTOR AND LINE No. 6"-DW-503-50	BW	PSS	TK	TLM	DDG	04-6379
5	5-20-99	CARBON CARRYOVER AS-BUILT	AD					04-5116
4	10-25-95	AS-BUILT & GENERAL REVISIONS	AGS					40-6160
3	9-22-94	GENERAL REVISION	AGS		OSTER		CAM	40-6044
2	7-15-93	GENERAL REVISION	AGS		OSTER		CAM	40-6044
1	4-22-93	CONSTRUCTABILITY REVIEW	AGS	RJW	OSTER	CHET	GF	40-6044

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
14	01-17-20	FOR RECORD	AWF	DEM				FCC06814
13	12/17/18	REVISED PUMP TDH	LDB	JMC	BCS			
12	10/22/18	SWAP GATE & CHECK VALVE LOCATIONS	LDB	JMC	BCS			
11	10/22/18	REPLACED PUMPS	LDB	JMC	BCS			

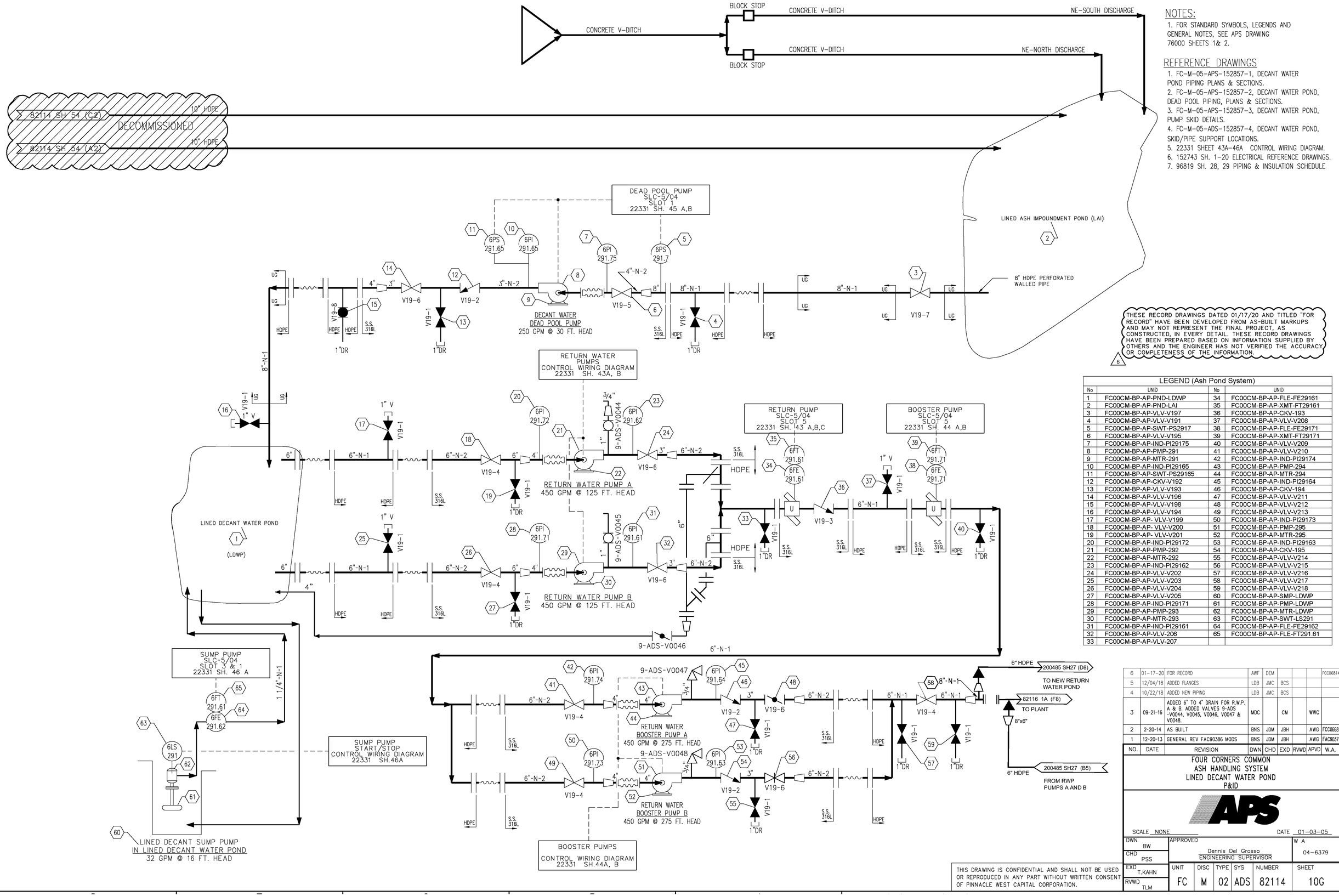
FOUR CORNERS COMMON
ASH POND 6/CHACO WASH
SEEPAGE INTERCEPT SYSTEM
P&ID

SCALE NONE

DATE 3-23-93

DWN K. KOWACZ	APPROVED CARL MARANO ENGINEERING SUPERVISOR		W A 40-6050
CHD			
EXD J.D. MITCHELL	UNIT FC	DISC M	TYPE 02
RVWD	SYS ADS	NUMBER 82114	SHEET 10F

DRAWING: C:\Users\adam_ford\Desktop\APS\FCPP\POND 6\FC-M-02-ADS-82114-10F\FC-M-02-ADS-82114-10F.dwg



NOTES:

1. FOR STANDARD SYMBOLS, LEGENDS AND GENERAL NOTES, SEE APS DRAWING 76000 SHEETS 1& 2.

REFERENCE DRAWINGS

1. FC-M-05-APS-152857-1, DECANT WATER POND PIPING PLANS & SECTIONS.
2. FC-M-05-APS-152857-2, DECANT WATER POND, DEAD POOL PIPING, PLANS & SECTIONS.
3. FC-M-05-APS-152857-3, DECANT WATER POND, PUMP SKID DETAILS.
4. FC-M-05-ADS-152857-4, DECANT WATER POND, SKID/PIPE SUPPORT LOCATIONS.
5. 22331 SHEET 43A-46A CONTROL WIRING DIAGRAM.
6. 152743 SH. 1-20 ELECTRICAL REFERENCE DRAWINGS.
7. 96819 SH. 28, 29 PIPING & INSULATION SCHEDULE

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.
6

LEGEND (Ash Pond System)			
No	UNID	No	UNID
1	FC00CM-BP-AP-PND-LDWP	34	FC00CM-BP-AP-FLE-FE29161
2	FC00CM-BP-AP-PND-LAI	35	FC00CM-BP-AP-XMT-FT29161
3	FC00CM-BP-AP-VLV-V197	36	FC00CM-BP-AP-CKV-193
4	FC00CM-BP-AP-VLV-V191	37	FC00CM-BP-AP-VLV-V208
5	FC00CM-BP-AP-SWT-PS2917	38	FC00CM-BP-AP-FLE-FE29171
6	FC00CM-BP-AP-VLV-V195	39	FC00CM-BP-AP-XMT-FT29171
7	FC00CM-BP-AP-IND-PI29175	40	FC00CM-BP-AP-VLV-V209
8	FC00CM-BP-AP-PMP-291	41	FC00CM-BP-AP-VLV-V210
9	FC00CM-BP-AP-MTR-291	42	FC00CM-BP-AP-IND-PI29174
10	FC00CM-BP-AP-IND-PI29165	43	FC00CM-BP-AP-PMP-294
11	FC00CM-BP-AP-SWT-PS29165	44	FC00CM-BP-AP-MTR-294
12	FC00CM-BP-AP-CKV-V192	45	FC00CM-BP-AP-IND-PI29164
13	FC00CM-BP-AP-VLV-V193	46	FC00CM-BP-AP-CKV-194
14	FC00CM-BP-AP-VLV-V196	47	FC00CM-BP-AP-VLV-V211
15	FC00CM-BP-AP-VLV-V198	48	FC00CM-BP-AP-VLV-V212
16	FC00CM-BP-AP-VLV-V194	49	FC00CM-BP-AP-VLV-V213
17	FC00CM-BP-AP- VLV-V199	50	FC00CM-BP-AP-IND-PI29173
18	FC00CM-BP-AP- VLV-V200	51	FC00CM-BP-AP-PMP-295
19	FC00CM-BP-AP- VLV-V201	52	FC00CM-BP-AP-MTR-295
20	FC00CM-BP-AP-IND-PI29172	53	FC00CM-BP-AP-IND-PI29163
21	FC00CM-BP-AP-PMP-292	54	FC00CM-BP-AP-CKV-195
22	FC00CM-BP-AP-MTR-292	55	FC00CM-BP-AP-VLV-V214
23	FC00CM-BP-AP-IND-PI29162	56	FC00CM-BP-AP-VLV-V215
24	FC00CM-BP-AP-VLV-V202	57	FC00CM-BP-AP-VLV-V216
25	FC00CM-BP-AP-VLV-V203	58	FC00CM-BP-AP-VLV-V217
26	FC00CM-BP-AP-VLV-V204	59	FC00CM-BP-AP-VLV-V218
27	FC00CM-BP-AP-VLV-V205	60	FC00CM-BP-AP-SMP-LDWP
28	FC00CM-BP-AP-IND-PI29171	61	FC00CM-BP-AP-PMP-LDWP
29	FC00CM-BP-AP-PMP-293	62	FC00CM-BP-AP-MTR-LDWP
30	FC00CM-BP-AP-MTR-293	63	FC00CM-BP-AP-SWT-LS291
31	FC00CM-BP-AP-IND-PI29161	64	FC00CM-BP-AP-FLE-FE29162
32	FC00CM-BP-AP-VLV-206	65	FC00CM-BP-AP-FLE-FT291.61
33	FC00CM-BP-AP-VLV-207		

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
6	01-17-20	FOR RECORD	AWF	DEM				FCC06814
5	12/04/18	ADDED FLANGES	LDB	JMC	BCS			
4	10/22/18	ADDED NEW PIPING	LDB	JMC	BCS			
3	09-21-16	ADDED 6" TO 4" DRAIN FOR R.W.P. A & B. ADDED VALVES 9-ADS -V0044, V0045, V0046, V0047 & V0048.	MDC		CM		WWC	
2	2-20-14	AS BUILT	BNS	JDM	JBH		AWG	FCC06681
1	12-20-13	GENERAL REV FAC90386 MODS	BNS	JDM	JBH		AWG	FAC90371

FOUR CORNERS COMMON
ASH HANDLING SYSTEM
LINED DECANT WATER POND
P&ID

SCALE NONE DATE 01-03-05

DWN	APPROVED	W A
BW	Dennis Del Grosso	04-6379
CHD PSS	ENGINEERING SUPERVISOR	
EXD T.KAHN		
RVWD TLM		

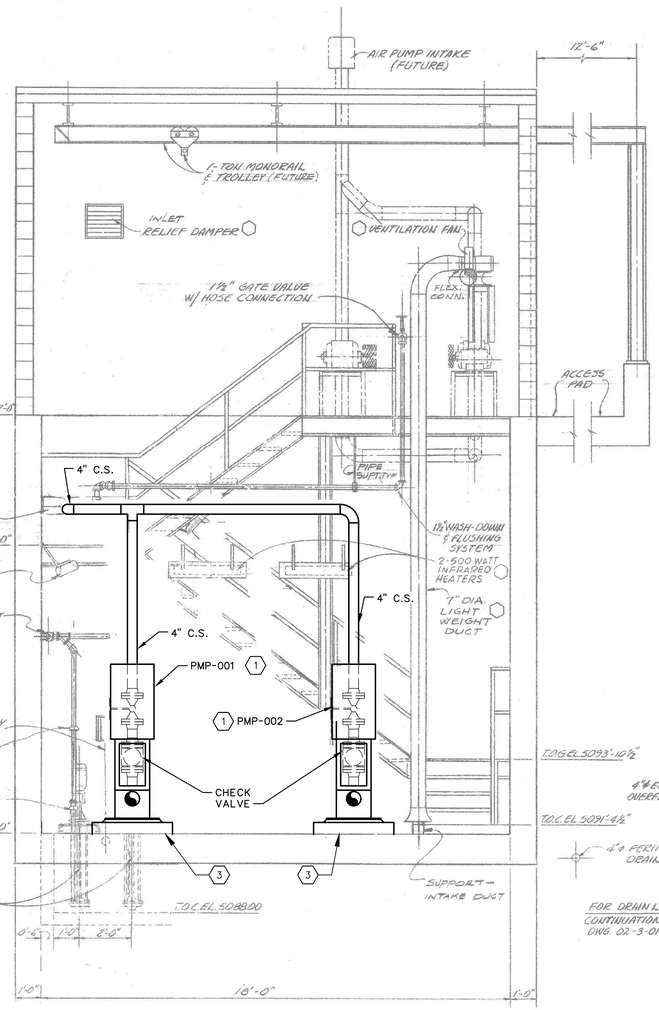
UNIT	DISC	TYPE	SYS	NUMBER	SHEET
FC	M	02	ADS	82114	10G

PUMP SCHEDULE

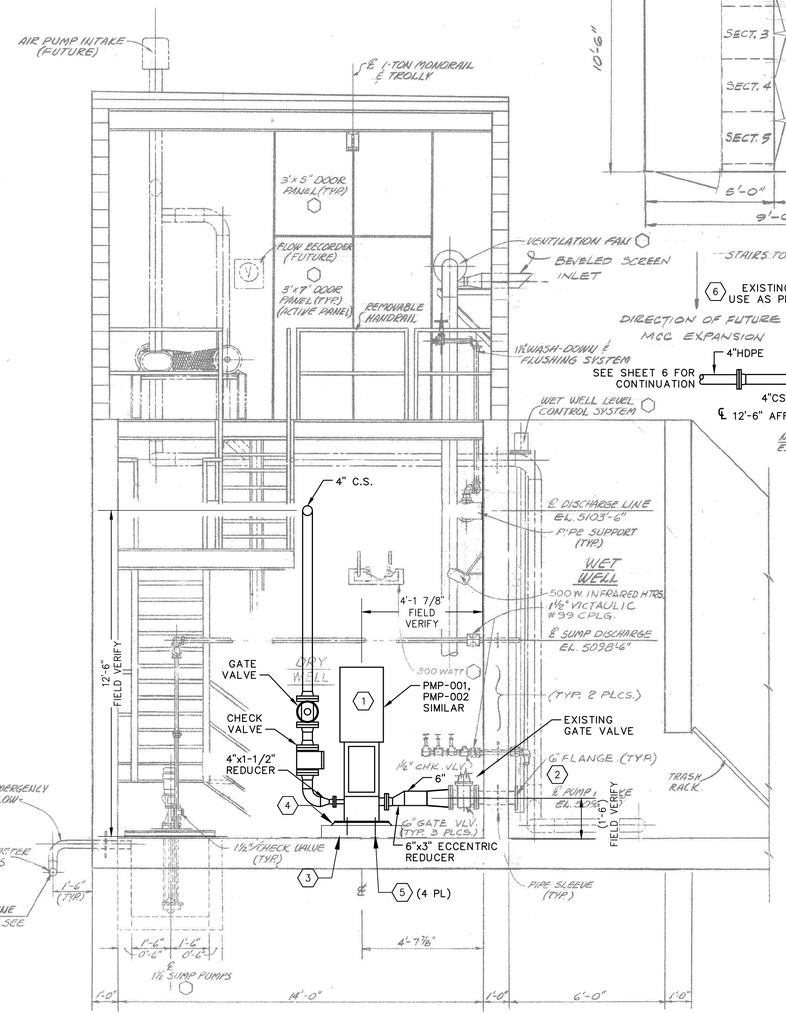
MARK	MANUFACTURER	MODEL NUMBER	PUMP TYPE	GPM	HEAD (FT.WG.)	MOTOR DATA			SERVICE	CONFIGURATION	WEIGHT (LBS)	MIN. EFFICIENCY		REMARKS
						MAX. HP	RPM	VOLT/PH				PUMP %	MOTOR %	
P3PH PMP-001	FLOWSERVE	2K3x1.5V-13RV M3V	IN-LINE	130	475	100	3550	460/3	WATER	VERTICAL IN-LINE	2071	39.4	95	OWNER FURNISHED
P3PH PMP-002	FLOWSERVE	2K3x1.5V-13RV M3V	IN-LINE	130	475	100	3550	460/3	WATER	VERTICAL IN-LINE	2071	39.4	95	OWNER FURNISHED

CONSTRUCTION NOTES:

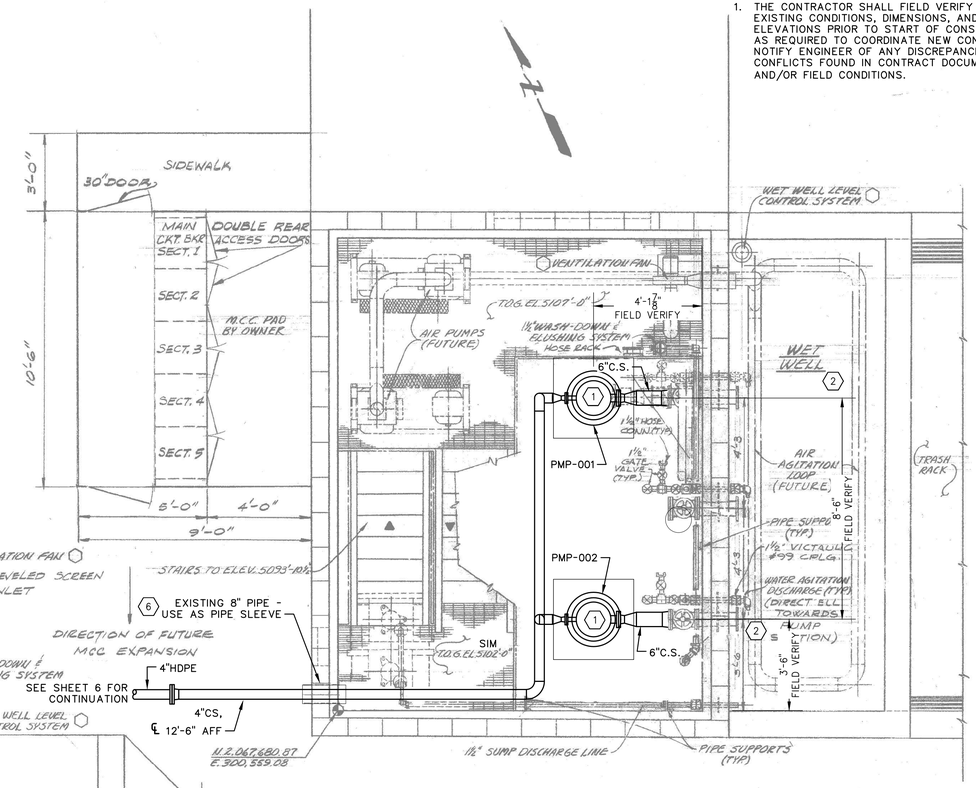
1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.



ELEVATION - LOOKING WEST
SCALE: 3/8" = 1'-0"



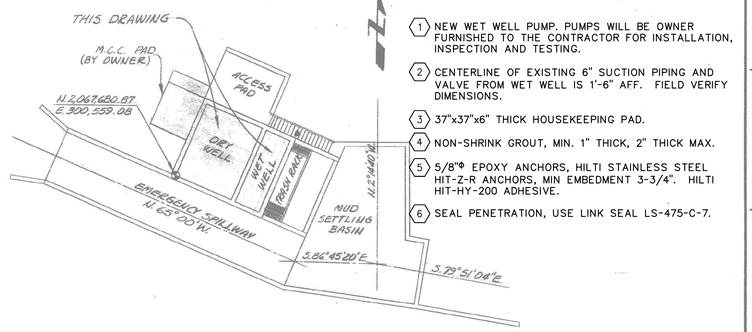
ELEVATION - LOOKING NORTH
SCALE: 3/8" = 1'-0"



PLAN
WET WELL AND DRY WELL
SCALE: 3/8" = 1'-0"

KEY NOTES:

1. NEW WET WELL PUMP. PUMPS WILL BE OWNER FURNISHED TO THE CONTRACTOR FOR INSTALLATION, INSPECTION AND TESTING.
2. CENTERLINE OF EXISTING 6" SUCTION PIPING AND VALVE FROM WET WELL IS 1'-6" AFF. FIELD VERIFY DIMENSIONS.
3. 37"x37"x6" THICK HOUSEKEEPING PAD.
4. NON-SHRINK GROUT, MIN. 1" THICK, 2" THICK MAX.
5. 5/8"ø EPOXY ANCHORS, HILTI STAINLESS STEL HIT-Z-R ANCHORS, MIN EMBEDMENT 3-3/4". HILTI HIT-HY-200 ADHESIVE.
6. SEAL PENETRATION, USE LINK SEAL LS-475-C-7.



LOCATION PLAN
SCALE: 1/16" = 1'-0"

NOTES:
1. FOR STAIRS, PLATFORMS AND OTHER STRUCTURAL DETAILS, SEE STRUCTURAL DRAWINGS REFERENCED BELOW.
2. ITEMS TO BE SPECIFIED BY OWNER
3. ALL 1½" PIPE IS THREADED.
4. FLAT FACE GASKETS SHALL BE USED AGAINST CAST IRON VALVES & E.L. PUMPS.

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NO.	REVISIONS	DATE	BY	CH'D	APP'D
1	REVISE MARK, PAD & ADD CCT. BKRS, RELOCATE WASHDOWN & FLUSHING SYSTEM, ALSO AGITATION BY SCHG. SPECIFY VENTURI	11-8-76	MG	[illegible]	
2	RELOCATED PUMPS & REROUTED AND CHANGED PIPING		JSB		
3	"AS-BUILT" PER FIELD MARKUP.	9-28-88	[illegible]	ERA	
4	ADD 6"ø BY-PASS WITH RESTRICTING ORIFICE, 2 PLACES, ON PUMP DISCHARGE PIPING, ADDED VENTURI MEASURING DEVICE REF	3-25-99	VIC	[illegible]	
5	REPLACE PUMPS/PIPING	----	LDB	JMC	BCS
6	SWAP CHECK AND GATE VALVE LOCATIONS	11-29-18	LDB	JMC	BCS
7	UPDATED PUMP SCHEDULE	12-17-18	LDB	JMC	BCS
8	FOR RECORD	01-17-20	AWF	DEM	

NO.	REFERENCE DRAWINGS
02-2-04	CIVIL - DISCHARGE LINE & ACC. RD. - PLAN & DETAILS
02-2-06	CIVIL - PUMPING STATION - EXCAVATION
02-2-10	CIVIL - PUMPING STATION - FINAL GRADING
02-3-01&02	CONCRETE - PUMPING STA. & SPILLWAY - PLANS, SECT. & DET.
02-3-03	CONCRETE - " " " - SECTIONS & ELEV.
02-3-04&05	CONCRETE - PUMPHOUSE - PLANS, SECTIONS & DETAILS

PRINT RECORD																				
DATE	10/1/76	11/16/76	3/3/1																	
FOR	F.A.	AFC	AFC																	
REVISED	0	1	2																	
CUSTOMER	4	4	4																	
FIELD	4	4																		
INTRA CO.	5	4	2																	

ENG. RECORD		
DRAWN	WEDm	9/27/76
CHECKED	S.A.H.	9/29/76
MECH. CK.		
STRUCT. CK.		
ELECT. CK.		
PIPING CK.		
INSTR. CK.		
CIVIL CK.	SAH	11/1/76

DRAWING STATUS	
ISSUED	DATE
PRELIMINARY FOR COMMENTS AND/OR APPROVAL	
APPROVED FOR CONSTRUCTION	11/1/76
REVISED & APPROVED FOR CONSTRUCTION 2ND REV. 2	3/24/80

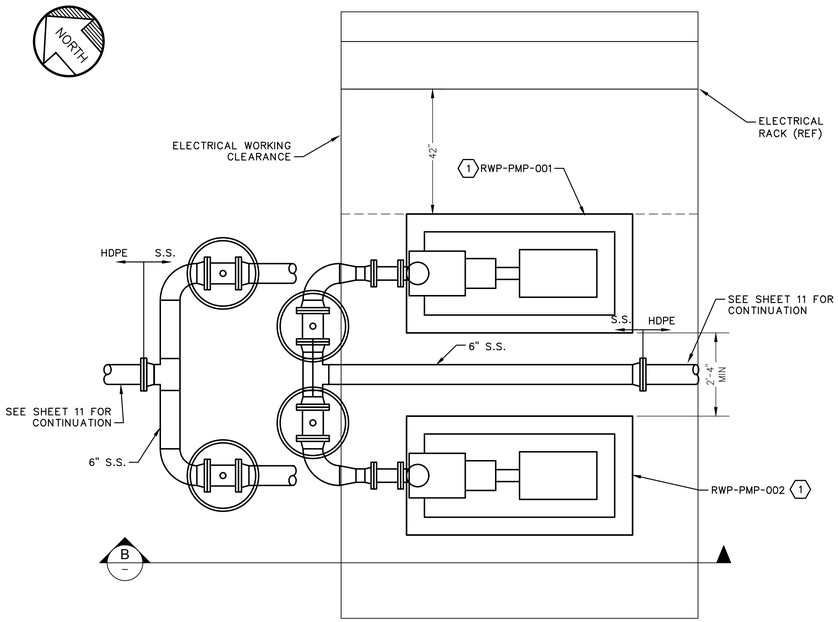
NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED & DATED. DESTROY ALL PRINTS BEARING EARLIER DATE &/OR REVISION NO.

PUMPING STATION - PIPING & GENERAL ARRANGEMENT PLANS & ELEVATIONS
ARIZONA PUBLIC SERVICE CO.
FOUR CORNERS POWER PLANT

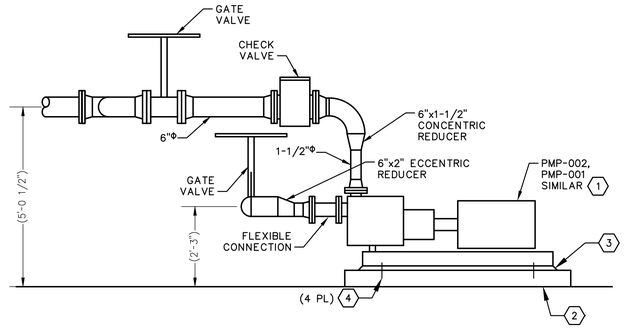
SCALE: AS SHOWN
Stearns-Roger INCORPORATED
ORDER NO. C-15749 X000002

DWG. NO. 02-2-05
SHEET NO. 5 OF 11
APS NO. E-56052
REV. 4

Form 22200-S1



RWP PUMP PAD PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)



SECTION B/34 RWP PUMP PAD
1/2"=1'-0"

PUMP SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	PUMP TYPE	GPM	HEAD (FT.WG.)	MOTOR DATA MAX. HP	RPM	VOLT/PH	SERVICE	CONFIGURATION	WEIGHT (LBS)	MIN. EFFICIENCY PUMP %	MOTOR %	REMARKS
RWP PMP-001	FLOWSERVE	2K2x1.5US-10ARV	SELF PRIMING	90	270	30	3500	460/3	WATER	HORIZONTAL BASE MOUNTED	1260	30.5	92	OWNER FURNISHED
RWP PMP-002	FLOWSERVE	2K2x1.5US-10ARV	SELF PRIMING	90	270	30	3500	460/3	WATER	HORIZONTAL BASE MOUNTED	1260	30.5	92	OWNER FURNISHED

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.
2. PIPE SUPPORTS ARE NOT SHOWN FOR CLARITY. CONTRACTOR SHALL PROVIDE SUPPORTS PER SPECIFICATIONS.

KEY NOTES:

1. THE NEW RETURN WATER POND PUMPS WILL BE OWNER FURNISHED TO THE CONTRACTOR FOR INSTALLATION, INSPECTION AND TESTING.
2. 76"x40"x6" THICK HOUSEKEEPING PAD.
3. NON-SHRINK GROUT, MIN. 1" THICK, 2" THICK MAX.
4. 3/4"Φ EPOXY ANCHORS. HILTI STAINLESS STEEL HIT-Z-R ANCHORS, MIN. EMBED 4". HILTI HIT-HY-200 ADHESIVE.

GRAPHIC SCALE
2 0 2 4
(IN FEET)
1 inch = 2 ft.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.
3

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	12/17/18	REVISED PUMP FLOW & TSH & PIPE SIZES	DB	JM				
1	11/29/18	SWAP CHECK AND GATE VALVE LOCATIONS	DB	JM				

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NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

MECHANICAL RETURN WATER POND PUMPING STATION PLAN

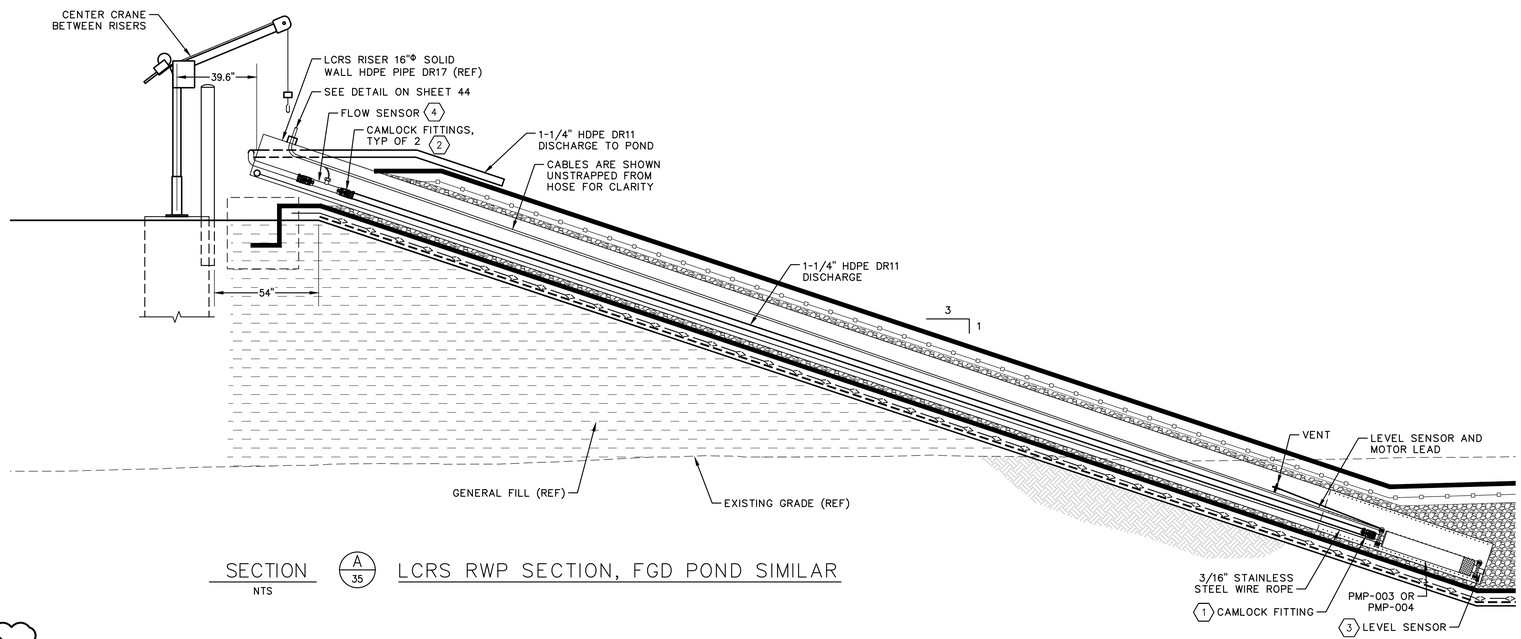
aps

SCALE 1/2" = 1'-0" DATE 10/04/19

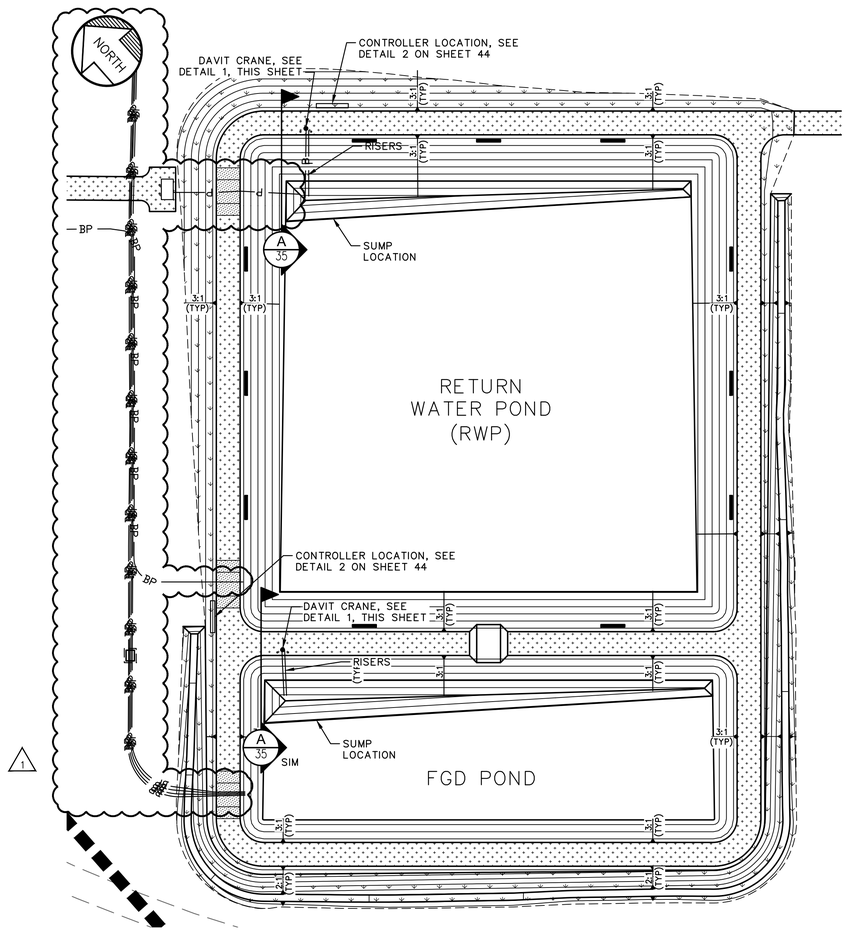
DWN	EXD	APPROVED	W A
LDB	---	JACK MCCONWELL	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
BCS	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	16	WP	AP	200485	34

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-M-16-WP-AP-200485-34.dwg



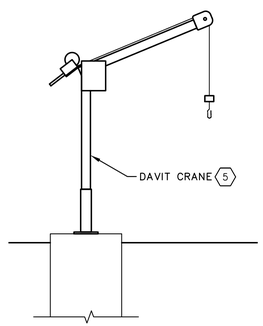
SECTION A/35 LCRS RWP SECTION, FGD POND SIMILAR
NTS



RWP POND LCRS PLAN
SCALE: NTS

PUMP SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	PUMP TYPE	GPM	HEAD (FT.WG.)	MOTOR DATA MAX. HP	RPM	VOLT/PH	SERVICE	CONFIGURATION	WEIGHT (LBS)	MIN. EFFICIENCY PUMP %	MOTOR %	REMARKS
RWP PMP-003	EPG	SERIES 3 SUREPUMP MODEL WDPT 3-2	316SS WHEELED SUMP DRAINER	20	28	0.5	3450	460/3	WATER	SUBMERSIBLE HORIZONTAL/ANGLED	67	52.8	95	PROVIDE WITH 60' 3/16" CABLE, LEVEL SENSOR AND CABLE, AND 80' OF MOTOR LEAD FOR RWP PUMP
RWP PMP-004	EPG	SERIES 3 SUREPUMP MODEL WDPT 3-2	316SS WHEELED SUMP DRAINER	20	28	0.5	3450	460/3	WATER	SUBMERSIBLE HORIZONTAL/ANGLED	67	52.8	95	PROVIDE WITH 60' 3/16" CABLE, LEVEL SENSOR AND CABLE, AND 80' OF MOTOR LEAD FOR FGD POND PUMP



DETAIL 1/- LCRS CRANE DETAIL
NTS

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.
2. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101. 1

KEYED NOTES:

1. DIXON 125-C-SS HOSE COUPLER WITH DIXON 1-1/4" FNPT ADAPTER 125-A-SS, TYPE 316 STAINLESS STEEL.
2. DIXON 125-C-SS HOSE COUPLER WITH DIXON 1-1/4" MNPT ADAPTER 125-F-SS, TYPE 316 STAINLESS STEEL.
3. EPG SUBMERSIBLE LEVEL SENSOR, 0-5 PSIG.
4. EPG E SERIES EP125 FLOW SENSOR, INSTALLED IN CLASS 150 TYPE 316 STAINLESS STEEL 1-1/4" FNPT TEE.
5. GALVANIZED STEEL DAVIT CRANE, 500 LB CAPACITY, FIRST MATE 500 SERIES MODEL 5122M1, WITH MANUALLY OPERATED WINCH WITH WINCH COVER, AND 60 FT OF 3/16" 316SS WIRE ROPE (MODEL WS19-60NS), PEDESTAL MOUNT (522GAL), AND 1/2"Φ TYPE 316 STAINLESS STEEL ANCHOR KIT (MODEL AN50A-5S316). SEE DETAIL ON SHEET 26 FOR PEDESTAL.

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NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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RETURN WATER POND

LCRS PUMP SECTION, SCHEDULE AND DETAILS

aps

SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
LDB	---	JACK MCCONWELL	FCC06814
CHD BCS	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	65	WP	AP	200485	35

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-P-65-WP-AP-200485-35.dwg

PUMP SCHEDULE

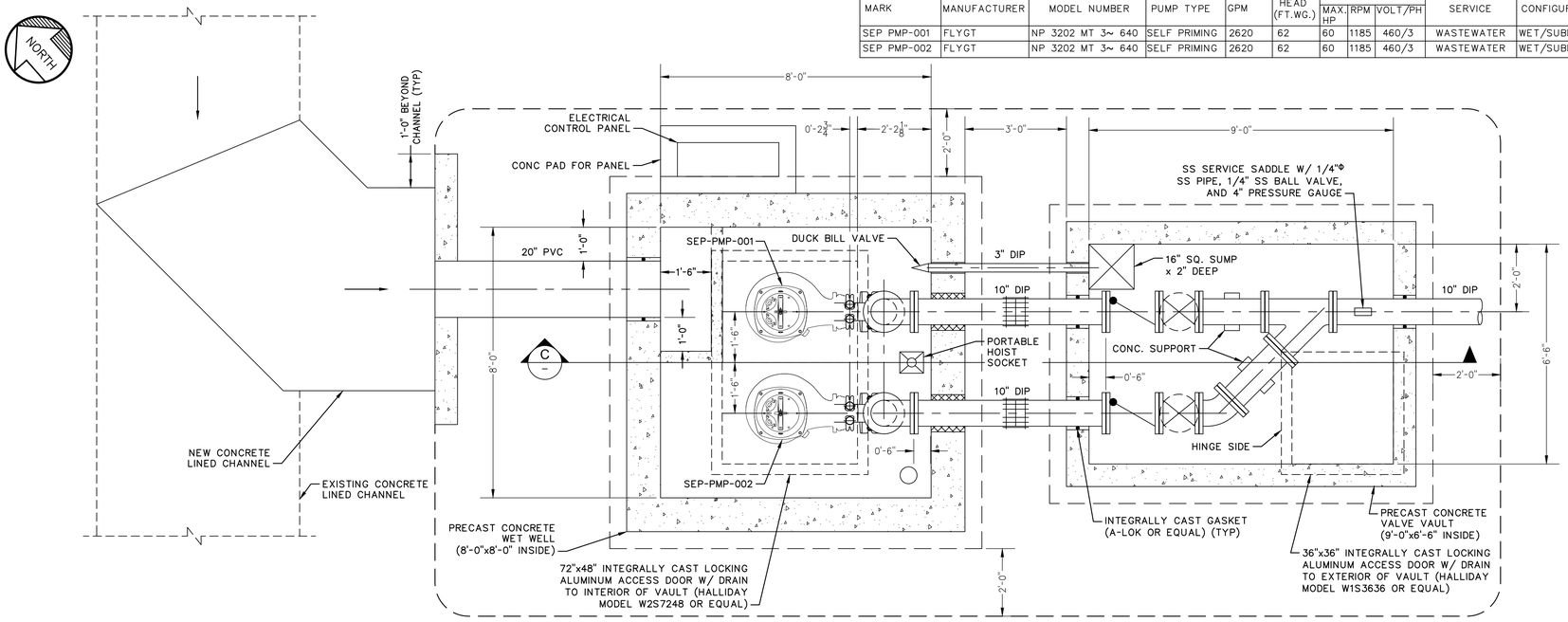
MARK	MANUFACTURER	MODEL NUMBER	PUMP TYPE	GPM	HEAD (FT.WG.)	MOTOR DATA MAX. HP	RPM	VOLT/PH	SERVICE	CONFIGURATION	WEIGHT (LBS)	MIN. EFFICIENCY PUMP %	MOTOR %	REMARKS
SEP PMP-001	FLYGT	NP 3202 MT 3~ 640	SELF PRIMING	2620	62	60	1185	460/3	WASTEWATER	WET/SUBMERSIBLE	1280	82	84	-
SEP PMP-002	FLYGT	NP 3202 MT 3~ 640	SELF PRIMING	2620	62	60	1185	460/3	WASTEWATER	WET/SUBMERSIBLE	1280	82	84	-

CONSTRUCTION NOTES:

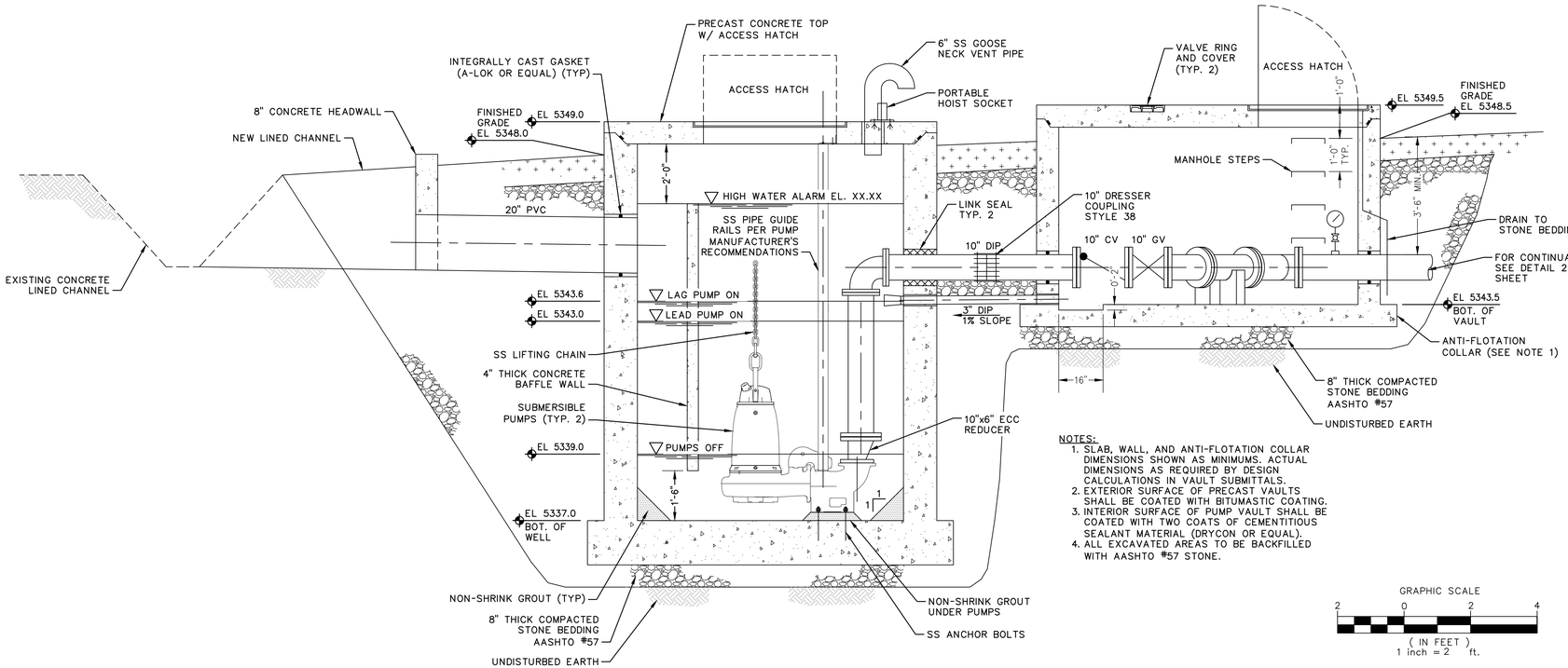
1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.

KEY NOTES:

(1) NOT USED.



SEWAGE EFFLUENT PUMP STATION PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)



SECTION (C) SEWAGE EFFLUENT PUMP STATION
1/2"=1'-0"

NOTES:
1. SLAB, WALL, AND ANTI-FLOTATION COLLAR DIMENSIONS SHOWN AS MINIMUMS. ACTUAL DIMENSIONS AS REQUIRED BY DESIGN CALCULATIONS IN VAULT SUBMITTALS.
2. EXTERIOR SURFACE OF PRECAST VAULTS SHALL BE COATED WITH BITUMASTIC COATING.
3. INTERIOR SURFACE OF PUMP VAULT SHALL BE COATED WITH TWO COATS OF CEMENTITIOUS SEALANT MATERIAL (DRYCON OR EQUAL).
4. ALL EXCAVATED AREAS TO BE BACKFILLED WITH AASHTO #57 STONE.

NOTES:
1. CONTRACTOR SHALL RESTRAIN PIPE WITH ELECTRO FUSION FLEX RESTRAINT AND CONCRETE COLLAR PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS FOR ALL COMPONENTS OF CONNECTION.

DETAIL (2) PLAN VIEW - HDPE TO DIP CONNECTION
NTS

GRAPHIC SCALE
2 0 2 4
(IN FEET)
1 inch = 2 ft.

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3

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	7-17-19	SEWERLINE DELETED	AWF	DEM				FCC06814
1	12-17-18	REVISED PUMP INFO	LDB	DEM			RPS	

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RETURN WATER POND

MECHANICAL SEWAGE EFFLUENT PUMPING STATION PLAN

aps

SCALE AS NOTED DATE 10/04/19

DWN	EXD	APPROVED	W A
CAM	---	RIPAN SAHA	FCC06814
CHD RKS	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	65	WP	AP	200485	36

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-M-65-WP-AP-200485-36.dwg

SYMBOLS

LIGHTING

- A / 1, a — 2'X4' FLUORESCENT LIGHT FIXTURE
  A = FIXTURE TYPE
  1 = CIRCUIT NUMBER
  a = SWITCH CONTROLLING FIXTURE
- A / 1, a — 1'X4' FLUORESCENT LIGHT FIXTURE
  A = FIXTURE TYPE
  1 = CIRCUIT NUMBER
  a = SWITCH CONTROLLING FIXTURE
- A — 1'X4' WALL MOUNTED FLUORESCENT LIGHT FIXTURE
- A / 1, a — 2'X2' FLUORESCENT LIGHT FIXTURE
  A = FIXTURE TYPE
  1 = CIRCUIT NUMBER
  a = SWITCH CONTROLLING FIXTURE
- 2'X4' FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BALLAST OR EMERGENCY BATTERY PACK
- 1'X4' FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BALLAST OR EMERGENCY BATTERY PACK
- A / A — RECESSED OR CEILING MOUNTED INCANDESCENT LIGHT FIXTURE, LETTER DENOTES FIXTURE TYPE
- A — WALL MOUNTED INCANDESCENT LIGHT FIXTURE, LETTER DENOTES FIXTURE TYPE
- A / a — CEILING OR PENDANT MOUNTED LIGHT FIXTURE, LETTER DENOTES FIXTURE TYPE, SUBSCRIPT INDICATES CONTROL
- X — CEILING MOUNTED DOUBLE FACE EXIT LIGHT, LETTER DENOTES FIXTURE TYPE, ARROW DENOTES DIRECTIONAL ARROWS
- X — CEILING MOUNTED SINGLE FACE EXIT LIGHT
- X — WALL MOUNTED EXIT LIGHT
- EMERGENCY LIGHT FIXTURE, RECHARGEABLE TYPE
- POLE MOUNTED LUMINAIRE
- LT/C — POLE MOUNTED LIGHT WITH CONCRETE BASE

SWITCHES

- S_a — SINGLE POLE SWITCH, 20A, 120/277V, LOWER CASE LETTER DENOTES CONTROL
- S_3 — THREE-WAY SWITCH, 20A, 120/277V
- S_4 — FOUR-WAY SWITCH, 20A, 120/277V
- S_D — DIMMER SWITCH, 1500 WATT (FLUORESCENT TYPE) UNLESS OTHERWISE NOTED
- S_T — MOTOR RATED SWITCH, WITH THERMAL OVERLOAD PROTECTION
- OS — WALL MOUNTED OCCUPANCY SENSOR WITH OVERRIDE SWITCH (LIGHTING)
- OS — CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR (LIGHTING)
- MD — MOTION DETECTOR
- MOTION DETECTOR
- 30A — NON-FUSIBLE DISCONNECT SWITCH, NUMBER INDICATES SWITCH SIZE
- F — FUSIBLE DISCONNECT SWITCH
- T — THERMOSTAT

GROUNDING/LIGHTNING PROTECTION

- AIR TERMINAL
- CONNECTION POINT
- EXOTHERMIC WELD
- GROUND CONNECTION
- GROUNDING ROD
- GROUNDING BUS BAR

PANELBOARDS/POWER EQUIPMENT

- T — PAD MOUNTED TRANSFORMER
- LP-x — LIGHTING PANELBOARD
- PP-x — POWER PANELBOARD
- 1 — MOTOR, NUMBER INDICATES HORSEPOWER

RECEPTACLES/J-BOXES

- 20A, 120V, SIMPLEX RECEPTACLE
- 20A, 120V, DUPLEX RECEPTACLE
- GFCI WP — 20A, 120V, GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE WITH WEATHERPROOF COVER
- 20A, 120V, DUPLEX RECEPTACLE, CEILING MOUNTED
- 20A, 120V, DUPLEX RECEPTACLE, IN FLOOR BOX
- 20A, 120V, DOUBLE DUPLEX RECEPTACLE
- 20A, 120V, DOUBLE DUPLEX RECEPTACLE, CEILING MOUNTED
- 20A, 120V, DOUBLE DUPLEX RECEPTACLE, IN FLOOR BOX
- SPECIAL PURPOSE RECEPTACLE, GROUNDING TYPE, WALL MOUNTED (NEMA TYPE & AMP RATING AS NOTED)
- SPECIAL PURPOSE RECEPTACLE, GROUNDING TYPE, CEILING MOUNTED (NEMA TYPE & AMP RATING AS NOTED)
- J — JUNCTION BOX, RECESSED/CEILING MOUNTED
- J — JUNCTION BOX, WALL MOUNTED
- J — JUNCTION BOX, FLUSH IN FLOOR
- HOME RUN WITH 1 NEUTRAL, 1 HOT, 1 GROUND

COMMUNICATIONS/SPECIAL SYSTEMS

- COMBINATION TELEPHONE/DATA OUTLET, WALL MOUNTED (1 VOICE; 2 DATA JACKS)
- COMBINATION TELEPHONE/DATA OUTLET, IN FLOOR BOX (1 VOICE; 2 DATA JACKS)
- C — UNDERGROUND COMMUNICATIONS DUCTS
- TELEPHONE OUTLET, WALL MOUNTED
- CCTV CAMERA, WALL MOUNTED
- PA WP — EXTERIOR PUBLIC ADDRESS SPEAKER
  WP = WEATHERPROOF
- S — WALL MOUNTED SPEAKER
- S — CEILING SPEAKER, FLUSH MOUNTED
- IC — INTERCOM OUTLET, WALL MOUNTED
- (#) — DATA OUTLET, WALL MOUNTED (# REFERS TO QUANTITY IF MORE THAN ONE)

FIRE ALARM SYSTEM

- FACP — FIRE ALARM CONTROL PANEL
- FAAN — FIRE ALARM ANNUNCIATOR PANEL
- F — FIRE ALARM MANUAL PULL STATION, WALL MOUNTED
- F — FIRE ALARM BELL, WALL MOUNTED
- F — FIRE ALARM HORN/STROBE, ONE ASSEMBLY, WALL MOUNTED
- F — FIRE ALARM FLASHING STROBE LIGHT, WALL MOUNTED
- D — DUCT DETECTOR
- FIRE ALARM HEAT DETECTOR, COMBINATION TYPE, CEILING MOUNTED
- 2 — SMOKE DETECTOR
- TS — TAMPER SWITCH
- FS — FLOW SWITCH
- PS — PRESSURE SWITCH
- END OF LINE RESISTOR

ONE-LINE DIAGRAM

- 480 Δ / 208Y/120 — 45 KVA — TRANSFORMER, DELTA-WYE CONNECTION
- 100AF / 100AT — CIRCUIT BREAKER
  AF = FRAME RATING IN AMPERES
  AT = TRIP RATING IN AMPERES
- 100A — DISCONNECT SWITCH, RATED AS NOTED
- 20A — FUSE, RATING AS NOTED
- DRAWOUT BREAKER
- MANUAL OR AUTOMATIC TRANSFER SWITCH
- CONNECTION POINT
- 1 / 30A — COMBINATION MAGNETIC STARTER
  1 = INDICATES NEMA STARTER SIZE
  30A = INDICATES DISCONNECT RATING
- 1 — MAGNETIC STARTER
  1 = INDICATES NEMA STARTER SIZE
- E — UNDERGROUND ELECTRICAL
- E PRI — UNDERGROUND ELECTRICAL
  PRIMARY POWER CIRCUIT IN CONCRETE ENCASED DUCT

ABBREVIATIONS

A	AMPERE
AD	AIR DRYER
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
APPROX	APPROXIMATELY
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
C	CONDUIT
CA	AIR COMPRESSOR
CCT	CIRCUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
℄	CENTER LINE
CO	CONDUIT ONLY
CONC	CONCRETE
CT	CURRENT TRANSFORMER
CU	COPPER
CWP	WATER CONDENSOR
DWP	DOMESTIC WATER PUMP
(E)	EXISTING
EF	EXHAUST FAN
EMH	ELECTRICAL MANHOLE
EMCS	ENERGY MONITORING AND CONTROL SYSTEM
EP	HAZARDOUS CLASSIFICATION - EXPLOSION PROOF
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FAN COIL
FLR	FLOOR
FT	FEET
GA	GAUGE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALAVANIZED RIDGID STEEL
HID	HIGH INTENSITY DISCHARGE
HH	HANDHOLE
HPF	HIGH POWER FACTOR
HP	HEAT PUMP
HPS	HIGH PRESSURE SODIUM
IN	INCHES
INCAND	INCANDESCENT
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KWH	KILOWATT-HOUR
LAN	LOCAL AREA NETWORK
LT	LONG TIME
LP	LIGHTING PANEL
M	METER
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANELBOARD
MIN	MINIMUM
mm	MILLIMETER
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OH	OVERHEAD
O/P	OUTPUT
PA	PUBLIC ADDRESS
PB	PULL BOX
PR	PAIR
PSI	POUNDS PER SQUARE INCH
PT	POTENTIAL TRANSFORMER
PP	POWER PANEL / POWER POLE
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
RH	RADIANT HEATER
RM	ROOM
RMS	ROOT MEAN SQUARE
RP	RECEPTACLE PANEL
RSC	RIGID STEEL CONDUIT
ST	SHORT TIME
SYM	SYMMETRICAL
T	TRANSFORMER
TC	TERMINAL CABINET
TTB	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION & FILTERING
TW/SHLD	TWISTED SHIELDED
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLT
VMS	VARIABLE MESSAGE SIGN
W	WATT-WIM
W/	WITH
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

GENERAL CONSTRUCTION NOTES:

1. CALL BEFORE YOU DIG IN THE STATE OF NEW MEXICO. CALL 1-800-321-ALERT FOR THE NEW MEXICO ONE CALL SYSTEM.
2. MINIMUM POWER CABLE SIZE FOR THIS INSTALLATION SHALL BE #12 AWG.
3. MINIMUM CONDUIT SIZE IS 3/4".

1 THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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Phoenix, Arizona 85020
(602) 371-1100

NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL LEGEND

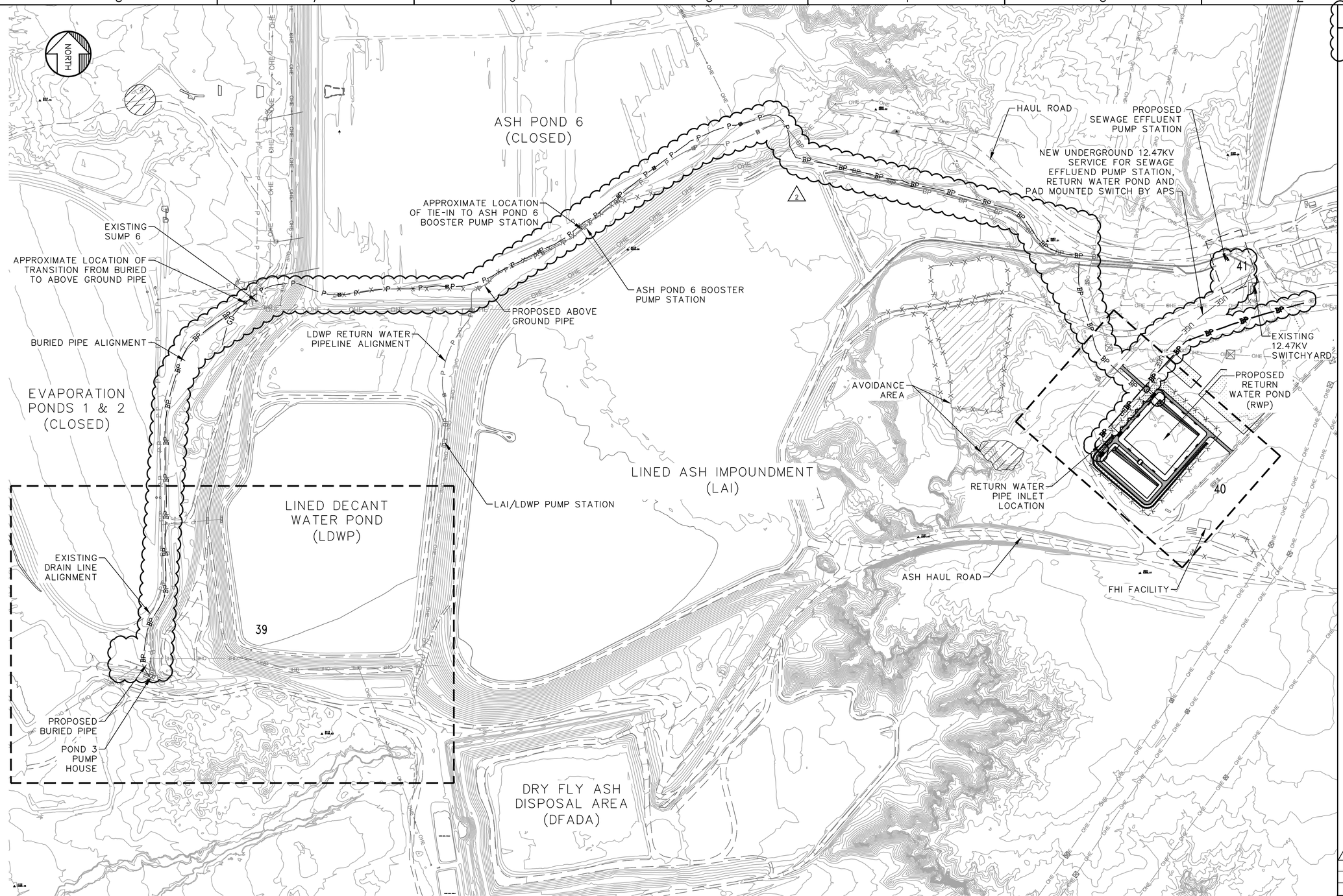
aps

SCALE NONE DATE 10/04/19

DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	98	WP	AP	200485	37

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-98-WP-AP-200485-37.dwg



CONSTRUCTION NOTES:

1. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

△2

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

△2

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	5-16-19	CHANGE TO GROUNDED Y SERVICE	LDB	DEM			EDM	

ELECTRIAL PLAN VIEW
SCALE: 1"=300' (FULL SIZE)

GRAPHIC SCALE
300 0 300 600
(IN FEET)
1 inch = 300 ft.

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Phoenix, Arizona 85020
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WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL OVERALL SITE KEY PLAN

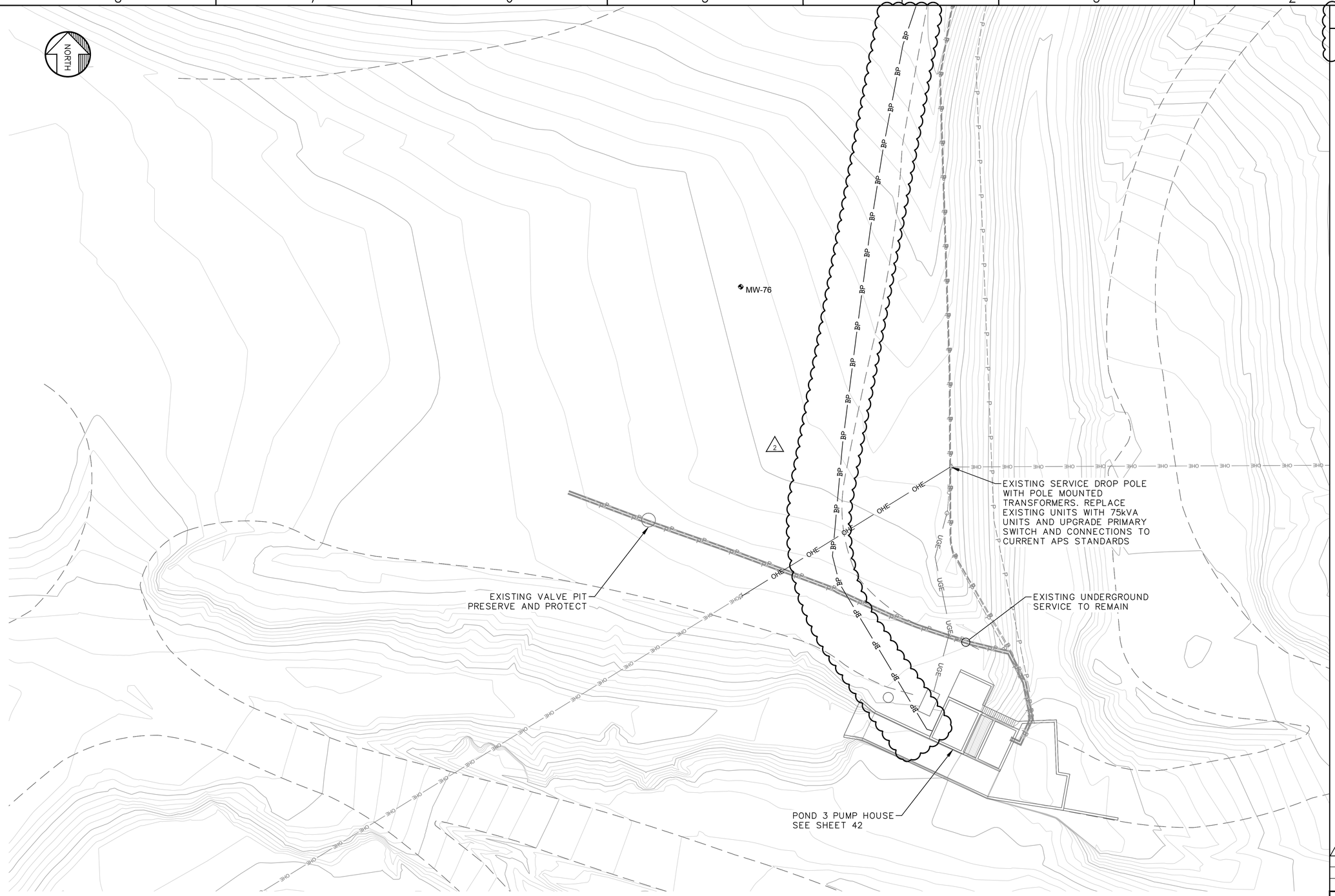
aps

SCALE 1" = 300' DATE 10/04/19

DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	16	WP	AP	200485	38

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-16-WP-AP-200485-38.dwg



PLAN VIEW
SCALE: 1"=20' (FULL SIZE)

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

CONSTRUCTION NOTES:

1. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

△2

△2 THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED. IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
2	01-17-20	FOR RECORD	AWF	DEM				FCC06814
1	5-16-19	CHANGE TO GROUNDED Y SERVICE	LDB	DEM			EDM	

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(602) 371-1100

FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL POND 3 SITE PLAN

aps

SCALE 1" = 20' DATE 10/04/19

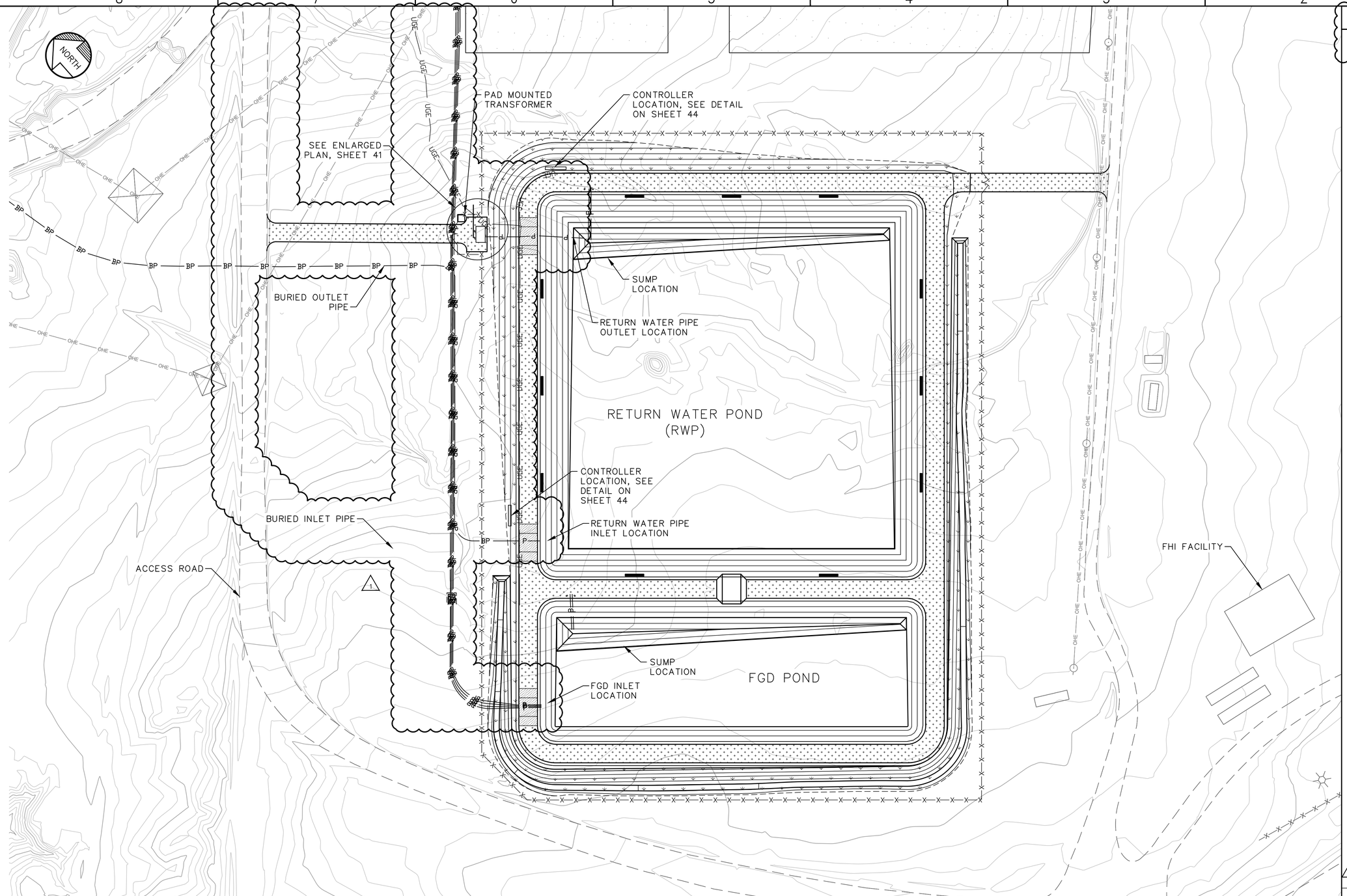
DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	16	WP	AP	200485	39

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-16-WP-AP-200485-39.dwg



PLAN VIEW
SCALE: 1"=50' (FULL SIZE)

GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50 ft.

CONSTRUCTION NOTES:

1. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL RETURN WATER POND PLAN

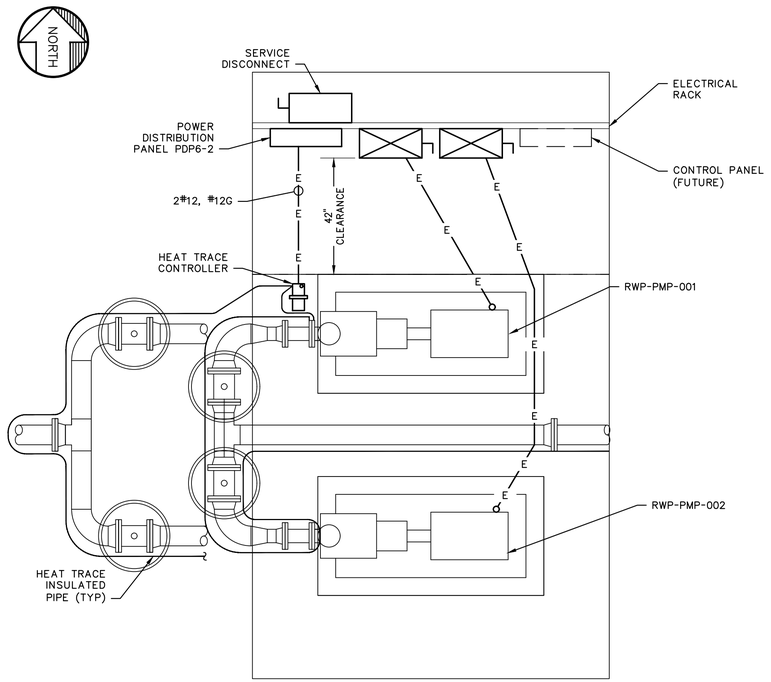
aps

SCALE 1" = 50' DATE 10/04/19

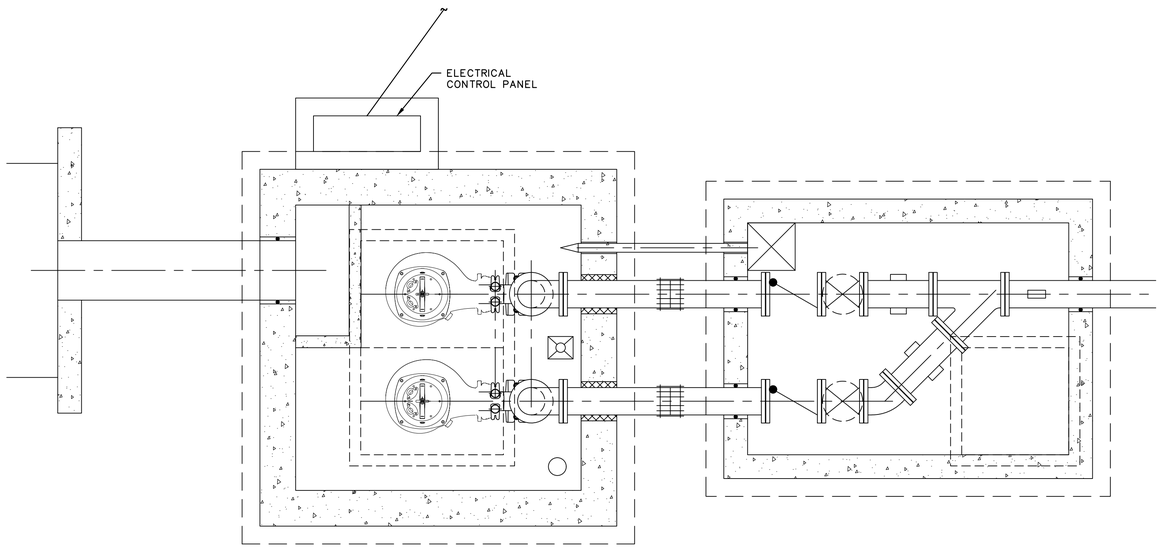
DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	16	WP	AP	200485	40

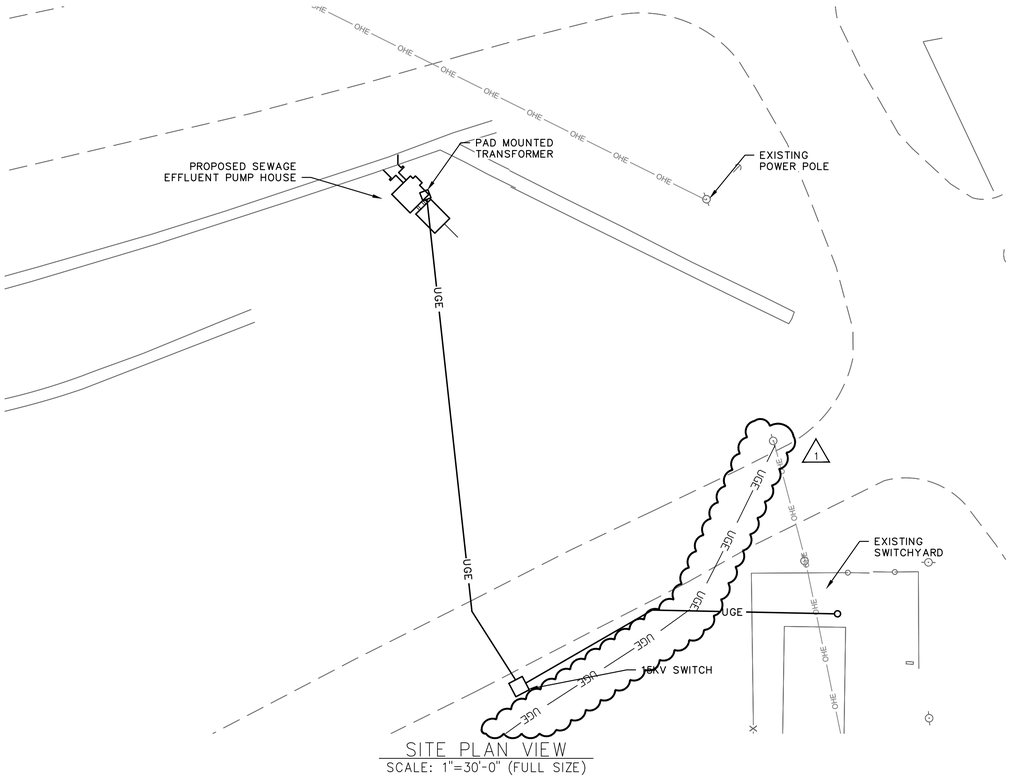
DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-16-WP-AP-200485-40.dwg



PLAN VIEW
SCALE: 1/2"=1'-0" (FULL SIZE)



PLAN VIEW
SCALE: 1/2"=1'-0" (FULL SIZE)



SITE PLAN VIEW
SCALE: 1"=30'-0" (FULL SIZE)

GENERAL NOTES:

1. REFER TO SHEET 43 FOR CONDUIT/CABLE INFORMATION.
2. AS-BUILT LINES, GRADES, AND POINTS CAN BE FOUND IN APS DRAWING NUMBER FC00CM-C-17-SF-RG-100003-101.

△1

△1 THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

RWP AND SEWAGE EFFLUENT PUMPING STATION PLANS

aps

SCALE 1/2" = 1'-0" DATE 10/04/19

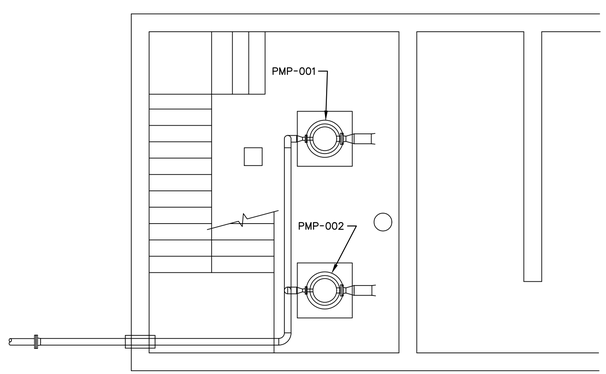
DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD DEM	RVWD ---	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	16	WP	AP	200485	41

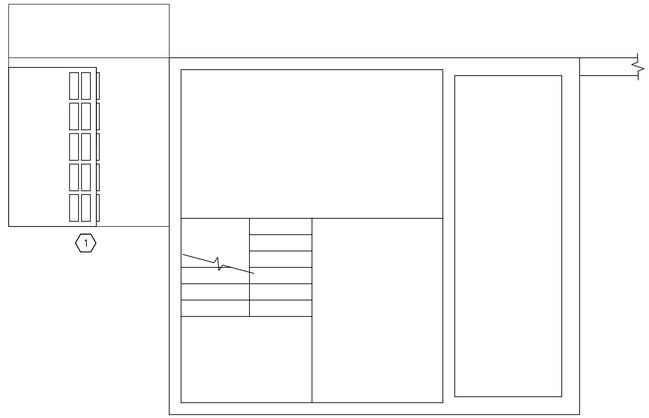
NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-16-WP-AP-200485-41.dwg



ELECTRICAL LOWER LEVEL PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)



ELECTRICAL UPPER LEVEL PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO START OF CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.

KEY NOTES:

(1) NEW MCC BUS, 800A, 480V/3Φ/3W, 65kAIC.

GRAPHIC SCALE
4 0 4 8
(IN FEET)
1 inch = 4 ft.

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WORK SAFELY TODAY

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1

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL ASH DISPOSAL PUMPING STATION PLAN

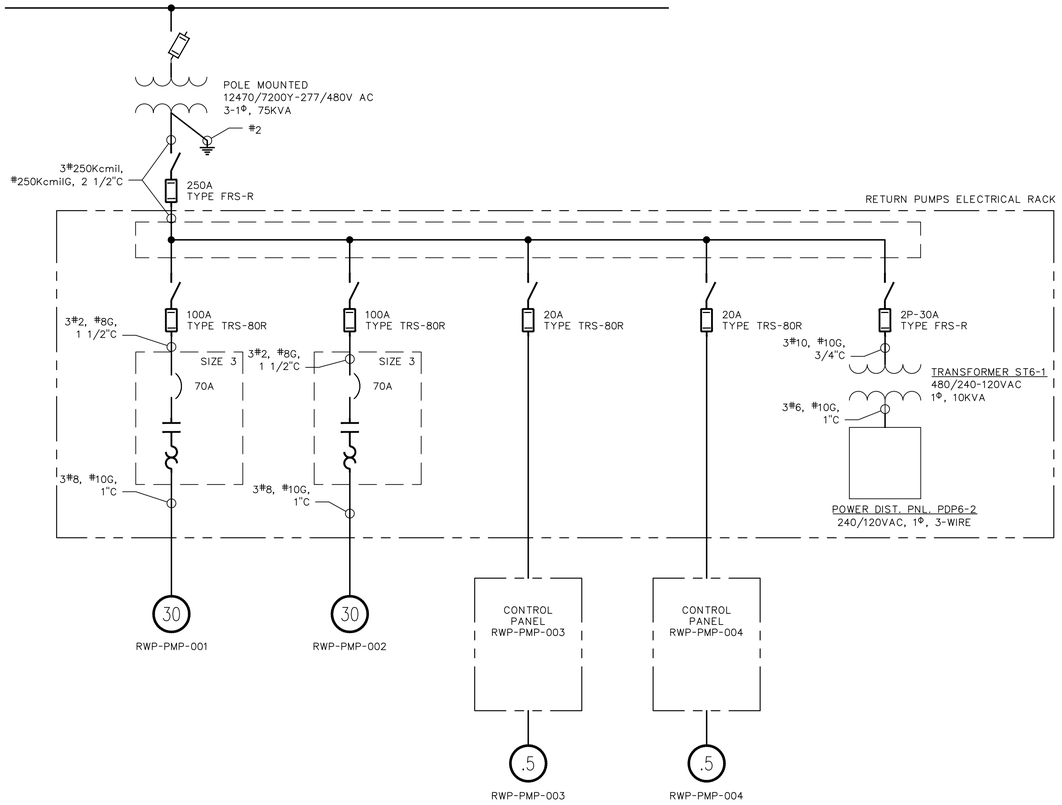
aps

SCALE 1/4" = 1'-0" DATE 10/04/19

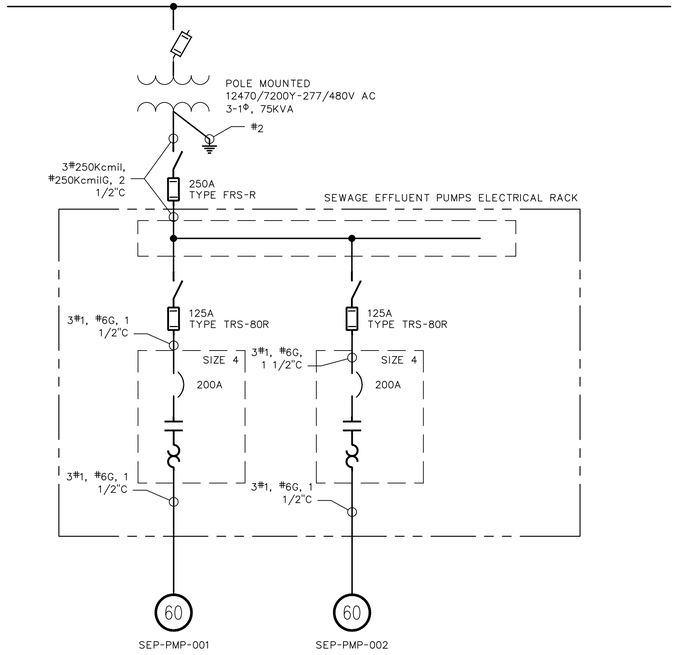
DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	16	WP	AP	200485	42

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-16-WP-AP-200485-42.dwg



ONE-LINE DIAGRAM (1/-) RETURN WATER PUMP STATION
NTS



ONE-LINE DIAGRAM (2/-) SEWAGE EFFLUENT PUMP STATION
NTS

PANEL: PDP6-2 | PHASE: 1 | WIRE: 3 WITH GROUND | LOCATION: RETURN PUMPS EQUIPMENT RACK
TYPE: NEMA 3R
VOLTAGE: 240 / 120 V | MAIN CIRCUIT BREAKER: 60A MCB | MOUNTING: SURFACE
SPD: YES | BREAKER TYPE: BOLT ON
BUSSING AMPS: ## | FED FROM: 10KVA TRANSF'R | PANEL DEVICE MIN. RATING: 10,000 A RMS SYMMETRICAL

DESCRIPTION	BRANCH CHARACTERISTICS LOAD VA A	LOAD VA B	BKR TR	CCT NO	Ø	CCT NO	BKR TR	LOAD VA A	LOAD VA B	DESCRIPTION
LIGHTS	300.		20	1	A	2	20	360.		RECEPTACLES
CONTROL PANEL (FUTURE)		500.	20	3	B	4	20		750.	HEAT TRACE
SPARE			20	5	A	6	20			SPARE
SPARE			20	7	B	8	20			SPARE
SPACE			20	9	A	10				SPACE
SPACE				11	B	12				SPACE
SPACE				13	A	14				SPACE
SPACE				15	B	16				SPACE
SPACE				17	A	18				SPACE
SPACE				19	B	20				SPACE
SPACE				21	A	22				SPACE
SPACE				23	B	24				SPACE
	300	500						360	750	

TOTAL CONNECTED VA
PHASE A= 660
PHASE B= 1250
SUBTOTAL = 1910
TOTAL = 1910

SECTION 1
SECTION 2
LESS MOTOR STARTING

TOTAL CONNECTED AMPS 8.0 A
TOTAL DEMAND AMPS 8.0 A
TOTAL DEMAND VA = 1910 VA
MOTOR STARTING AMPS 0

MANUFACTURER AND TYPE
8.0 A X 125% FUTURE 9.9 A
X 125% FUTURE = 2387.5 VA

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3

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	01-17-20	FOR RECORD	AWF	DEM				FCC06814
2	5-16-19	CHANGE TO GROUNDED Y SERVICE	LDB	DEM			EDM	
1	12-14-18	REVISED PUMP INFO	LDB	DEM			EDM	

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WORK SAFELY TODAY

FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL ONE-LINE DIAGRAMS

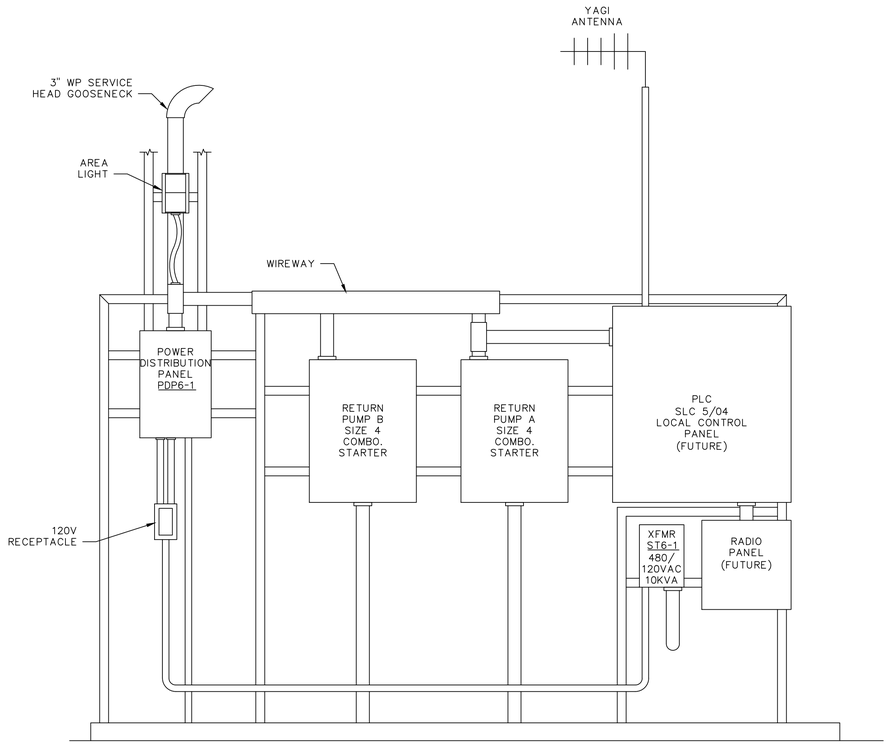
aps

SCALE NONE | DATE 10/04/19

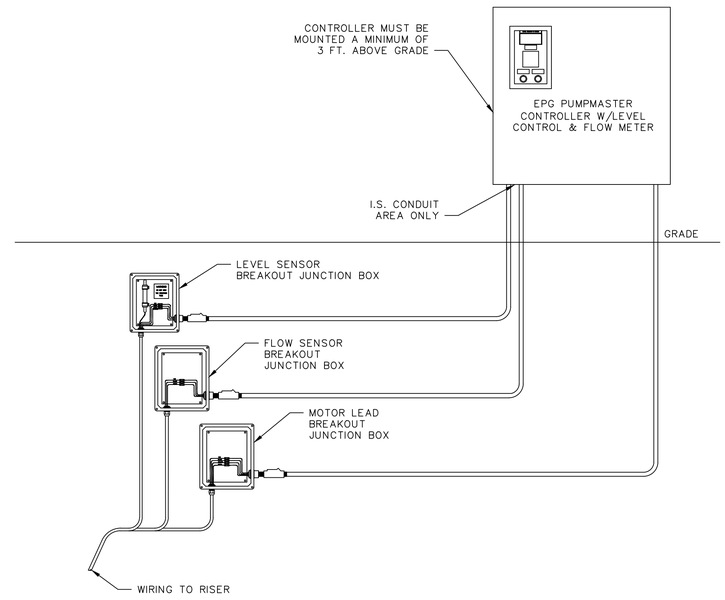
DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	01	WP	AP	200485	43

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-01-WP-AP-200485-43.dwg



DETAIL NTS (1/42) RETURN PUMPS EQUIPMENT RACK



DETAIL NTS (2/35) LCRS PUMP EQUIPMENT RACK

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NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	01-17-20	FOR RECORD	AWF	DEM				FCC06814

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FOUR CORNERS POWER PLANT
RETURN WATER POND

ELECTRICAL DETAILS

aps

SCALE NONE DATE 10/04/19

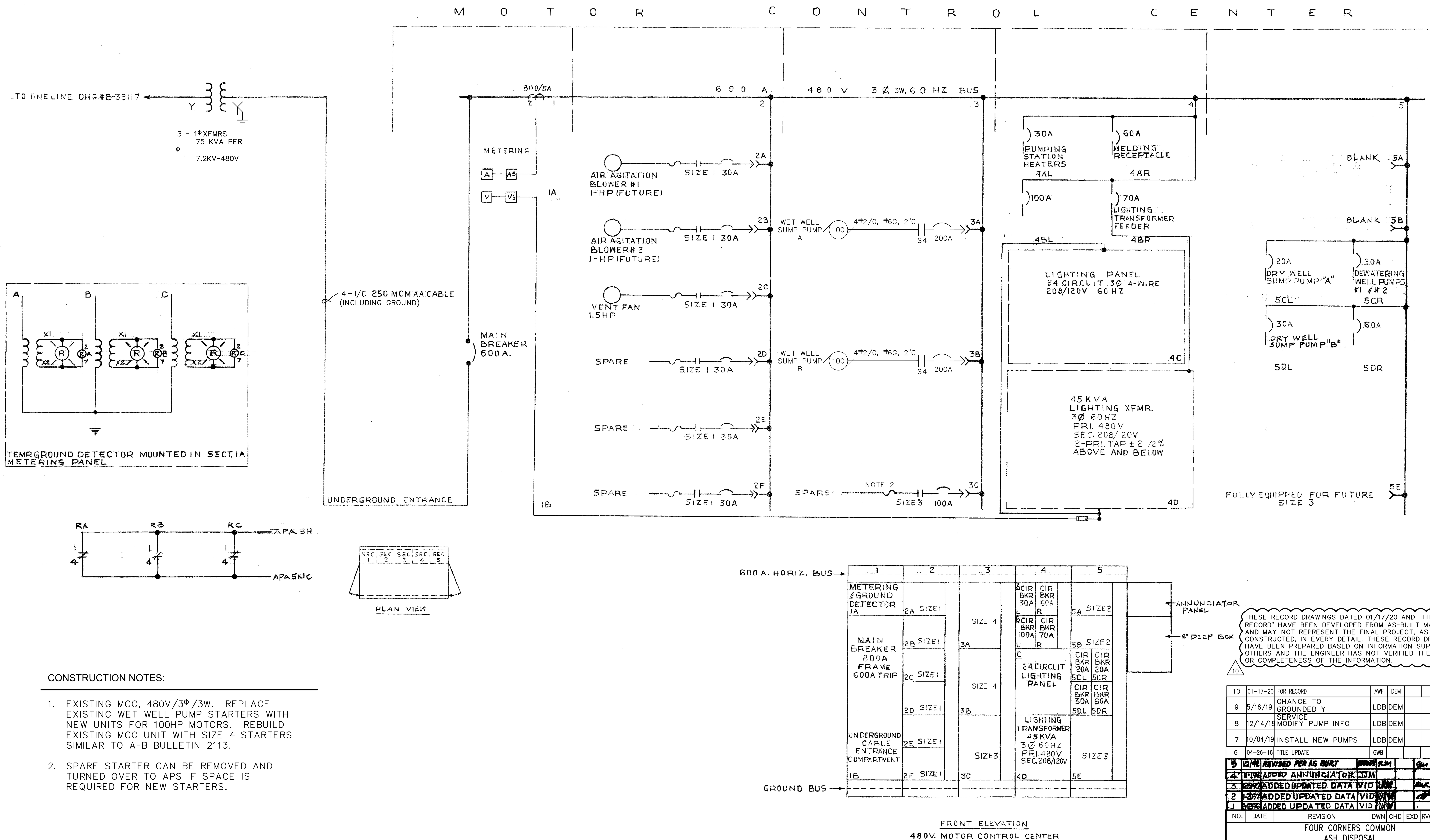
DWN	EXD	APPROVED	W A
LDB	---	GENE MOE	FCC06814
CHD	RVWD	DRAWING APPROVED BY	
DEM	---		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	49	WP	AP	200485	44

WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

DRAWING: P:\Projects\Arizona_Public_Service\60566008_FCPP_Return_Water_Pond_SG2\900_CAD_GIS\910_CAD\20-SHEETS\APS_EDCS_Drawings\2_DRAWING_REVISIONS\FC45CM-E-49-WP-AP-200485-44.dwg



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CONSTRUCTION NOTES:

1. EXISTING MCC, 480V/3Φ/3W. REPLACE EXISTING WET WELL PUMP STARTERS WITH NEW UNITS FOR 100HP MOTORS. REBUILD EXISTING MCC UNIT WITH SIZE 4 STARTERS SIMILAR TO A-B BULLETIN 2113.
2. SPARE STARTER CAN BE REMOVED AND TURNED OVER TO APS IF SPACE IS REQUIRED FOR NEW STARTERS.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
10	01-17-20	FOR RECORD	AWF	DEM				FCC06814
9	5/16/19	CHANGE TO GROUNDED Y SERVICE	LDB	DEM			EDM	
8	12/14/18	MODIFY PUMP INFO	LDB	DEM			EDM	
7	10/04/19	INSTALL NEW PUMPS	LDB	DEM			EDM	
6	04-26-16	TITLE UPDATE	GWB				WAC	FAC90406
5	12/92	REVISED PER AS BUILT	[illegible]	RJM		[illegible]	[illegible]	[illegible]
4	[illegible]	ADDED ANNUNCIATOR	JJM					
3	[illegible]	ADDED UPDATED DATA	VID	[illegible]		[illegible]		99-4-107-10
2	[illegible]	ADDED UPDATED DATA	VID	[illegible]		[illegible]		99-4-107-10
1	[illegible]	ADDED UPDATED DATA	VID	[illegible]				99-4-107-10

FOUR CORNERS COMMON
ASH DISPOSAL
EVAPORATION PONDS MCC

aps

SCALE NONE
DATE 5-24-76

WORK SAFELY TODAY

DWN	VID	APPROVED XXX DRAWING APPROVED BY	W A 99-4-107-10
CHD	WRU		
EXD	PBP	UNIT FC / DISC E / TYPE 03 / SYS ADS / NUMBER 39128	SHEET 1
RVWD	XXX		

MOTOR CONTROL CENTER LAYOUT

BILL OF MATERIALS

UNIT NO	ENGRAVED GRAVOPLY NAMEPLATE STANDARD 3/4" x 3-1/4" – MAX. 3 LINES 5/32" HIGH, 20 CHARACTERS PER LINE BLACK CHARACTERS ON WHITE FIELD ☐ OTHER	MOTOR OR LOAD KW OR HP	FLA	SIZE	TYPE	CIR BKR	TRIP SET.	FSBL SWITCH	FUSE TYPE OR CLIPS	OL HTR	PILOT DEV (4)(3)(7)	TOTAL AUX NO	TOTAL AUX NC	CONTROL XFMR VOLT AMPS	CONTROL XFMR FUSE SIZE	UNIT DESCRIPTION CATALOG NUMBER 5642-	WIRING DIAGRAM	NOTE
1A	METERING COMPARTMENT				24" DOOR												WD-56549-B03	(6)
1B	MAIN BREAKER	—	—	—	CIR. BRKR.	KM3	B600	—	—	—	—	—	—	—	—	C-DZQ	"	
2A	AIR AGITATION BLOWER #1	1		1	FVNR	EF3	A003 @ H1	—	—		SS/R G	2	1	100	2A	DCCAB-1-5TR-5TG-7-12-26	WD-56549-A-01	
2B	AIR AGITATION BLOWER #2	1		1	FVNR	EF3	A003 @ H1	—	—		SS/R G	2	1	100	2A	DCCAB-1-5TR-5TG-7-12-26	"	
2C	VENT FAN	1.5		1	FVNR	EF3	A005 @ 4	—	—		SS/R G	2	1	100	2A	DDCAB-1-5TR-5TG-7-12-26	"	
2D	SPARE			1	FVNR	EF3	A030 @ 4	—	—		SS/R G	2	1	100	2A	DICAB-1-5TR-5TG-7-12-26	"	
2E	SPARE			1	FVNR	EF3	A030 @ 4	—	—		SS/R G	2	1	100	2A	DICAB-1-5TR-5TG-7-12-26	"	
2F	SPARE			1	FVNR	EF3	A030 @ 4	—	—		SS/R G	2	1	100	2A	DICAB-1-5TR-5TG-7-12-26	"	
3A	MAIN SUMP PUMP #1	100		3	FVNR	EF3	A100 @ 2	—	—		SS/R G	2	1	150	3A		"	
3B	MAIN SUMP PUMP #2	100		3	FVNR	EF3	A100 @ 2	—	—		SS/R G	2	1	150	3A		"	
3C	SPARE			3	FVNR	EF3	A100 @ 2	—	—		SS/R G	2	1	150	3A	DOEAB-1-5TR-5TG-7-12-26	"	
4AL	PUMPING STATION HEATERS	—	—	—	BRANCH BRKR	EF3	B030	—	—	—	—	—	—	—	—	C-DZM- -94	AB-SA-100-15	
4AR	WELDING RECEPTACLES	—	—	—	BRANCH BRKR.	EF3	B060	—	—	—	—	—	—	—	—	C-DZM- -94	"	
4BL	BLANK	—	—	—	BRANCH BRKR.	EF3	B100	—	—	—	—	—	—	—	—	C-DZM- -94	"	
4BR	LIGHTING TRANSFORMER FEEDER	—	—	—	BRANCH BRKR.	EF3	B070	—	—	—	—	—	—	—	—	C-DZM- -94	"	
4C	LIGHTING PANEL				24 CIRCUIT 3Φ, 4W 208/120V 60HZ PLUG IN PANEL												WD-56549-B04	(9)
4D	45 KVA LIGHTING TRANSFORMER				45 KVA XFMR 3Φ-60HZ (480V-208/120V)												"	
5A	BLANK				12" SPACE	DOOR												
5B	BLANK				12" SPACE	DOOR												
5CL	DRY WELL SUMP PUMP "A"				BRANCH BRKR	EF3	B020									C-DZM-94	AB-SA-100-15	
5CR	DEWATERING WELL PUMPS #1 & 2				BRANCH BRKR	EF3	B020									C-DZM-94	"	
5DL	DRY WELL SUMP PUMP "B"				BRANCH BRKR	EF3	B030									C-DZM-94	"	
5DR	BLANK				BRANCH BRKR	EF3	B060									C-DZM-94	"	
5E	BLANK				12" SPACE	DOOR												
5F	BLANK				12" SPACE	DOOR												

PILOT DEVICE SYMBOLS (1)
SS START-STOP; HO HAND-OFF SELECTOR; PB OFF; A AMBER PILOT LIGHT; W WHITE PILOT LIGHT
ST START; HOA HAND-OFF-AUTO SELECTOR; R RED PILOT LIGHT; B BLUE PILOT LIGHT; K KEY OPERATED
SP STOP; FRS FORWARD-REVERSE-STOP; G GREEN PILOT LIGHT
(1) ADD "X" TO ABOVE SYMBOLS TO INDICATE A SPECIAL CLARIFIED IN NOTES.

SPECIFICATIONS

VERTICAL SECTIONS

NEMA Class I (I, II) Wiring Type B (A, B, C)

Master Terminal Block for Type C Located — (Top, Bottom or Rear) *

NEMA Enclosure Type NEMA 3 W.I. (1, 1A, 12) Depth 15" (15" Std.)

Equipment Mtg. FRONT ONLY (Front Only, Back to Back) Shipping Split Between Sections 2 and 3; 4 & 5 (Maximum shipping length 100")

Finish ASA No. 61 (ASA No. 61 Gray is Standard) Wireways: Top 12" (12" Standard) Bottom 6" (6" Standard)

Sliding Shutters: For Vertical Bus No (Yes or No) Lifting Angle Furnished: Yes ☒ No ☐

Power Supply 480 Volts 3 Phase 3 Wire 60 Hertz

Bus Amps: Main Hor. 600A. (600 Amp Std.) ☒ Al ☐ Cu (Optional)

Vertical 300A. (300 Amp Std.) ☒ Al ☐ Cu (Optional)

Braced For: ☒ 42,000 Sym. Standard. ☐ 65,000 Sym. Optional. ☐ 100,000 Sym. Optional.

Ground Bus Ampacity 300A Neutral Bus Ampacity —

Incoming Cable 1 Per Phase 500 MCM Neutral — Ground 2-#4/0 CLAMP TYPE LUG (BURNDY NA28)
Maximum conduit size top or bottom 3". For larger conduit consult factory.

Incoming Bus Duct: Amps — Type —

Terminal Lugs Furnished By ✓ Factory — Field COMPRESSION Type/Size 500MCM BURNDY YA OR EQUAL

Cables Terminating at Top ____ (Section No.) Bottom 1 (Section No.)

Pull Box Height ☐ 12" ☐ 15" ☐ 18" ☐ Other —

Main Circuit Breaker 600 AMP. (Rating) Fusible Switch — (Ampacity) Fuse Type — (Size)

* EXCEPT SECTION 4 IS 20" DEEP

PLUG-IN UNITS

Circuit Breakers: Magnetic Trip STARTERS (ETI) Thermal Magnetic Trip BRANCH FEEDERS (ET)

Fused Switch —
Note: All Fusible Starter Units are Designed Based on Using Dual Element Power Fuse as Standard

If Other, Specify —

Control Voltage: 120 V ☒ 480 V ☐ Other ____

Control Transformer: Primary Fuse ☐ Secondary Fuse ☒

Wireway Side and Flash Barriers For Plug-In Modules: Yes ☒ No ☐

Control Circuit Wiring ☒ Standard Type THHN 90°C, Color Red, No. 14 AWG
☐ Other, Specify ____

Power Wiring ☒ Standard Type THHN 90°C, Color Black
☐ Other, Specify ____

(8)(2) Terminal Blocks ☐ Standard Connectron Type N3
☒ Other, Specify CONNECTRON NU-2 (RING TONGUE)

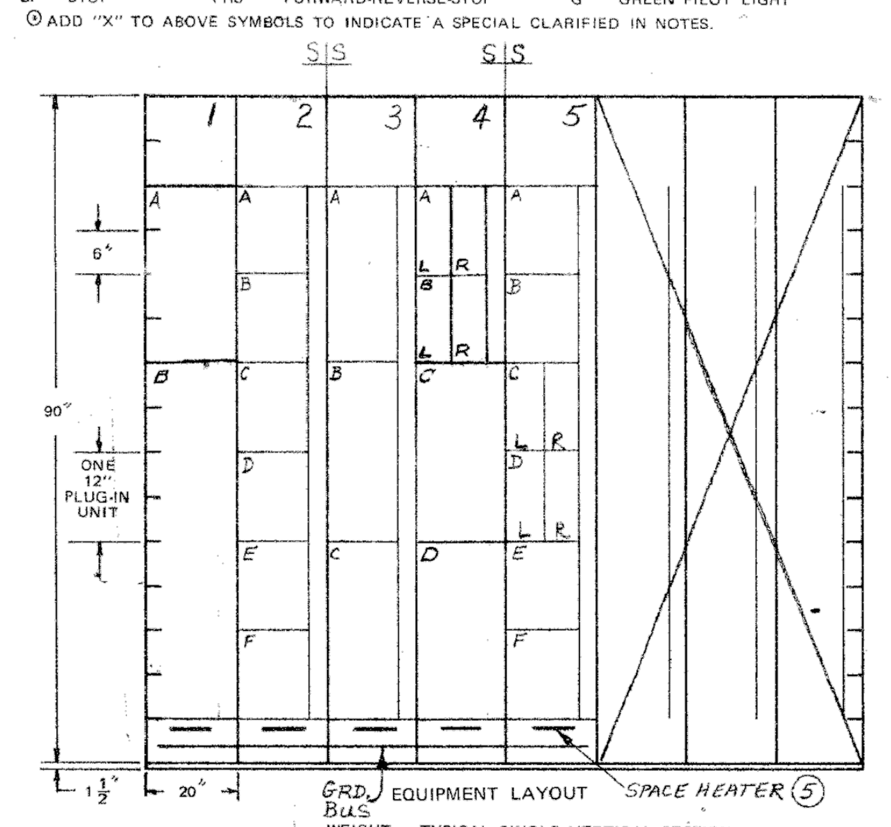
NOTES

(1) BOTTOM PLATES PROVIDED
NEMA 3 ENCLOSURE NOTES:
A. PROVIDE A DOOR AT EACH END OF WALKWAY. DOORS TO HAVE 3 POINT LATCH AND SUITABLE STRONG DEVICE TO HOLD THE DOOR IN FULL OPEN POSITION. DOORS SHALL BE GASKETED AND PROVIDED WITH LOCKS.
B. DUST FILTERS AND FILTERED AIR PRESSURE TYPE CONSTRUCTION SHALL BE FURNISHED.
C. SCREENED AND BAFFLED VENTILATING OPENINGS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF THE ENCLOSURE.
D. TWO 120V. AC INTERIOR LIGHTS AND SWITCHES PROVIDED, ONE INSIDE EACH OF THE ENCLOSURE DOORS. (CONT. ABOVE)
E. ONE 120V. AC GFI WALL RECEPTACLE (DUPLEX CONVENIENCE OUTLET) PROVIDED.
(2) RING TONGUE TERMINALS PROVIDED ON ALL CONTROL WIRING.
(3) O.L. HEATERS PROVIDED BY OTHERS.
(4) ADJ. AMB. COMP. O.L.'S PROVIDED.
(5) 120V. AC SPACE HEATERS PROVIDED IN EACH SECTION. (REF WD-56549-A02) ONE ADJUSTABLE THERMOSTAT PROVIDED TO CONTROL THE ABOVE.
(6) IN CONJUNCTION WITH MAIN BREAKER, THIS COMPARTMENT CONTAINS 1 SWITCHBOARD TYPE AMMETER 0-800A; 1 SWITCHBOARD TYPE, SELF-CONTAINED VOLTMETER 0-600V; 1 TYPE C77 AMMETER/VOLTMETER SWITCH FOR EACH; 2 800/5A CT
(7) TRANSFORMER TYPE PILOT LIGHTS PROVIDED.
(8) PROVIDE MAX. # OF SPARE TERMINAL BLOCKS WITHOUT INCREASING UNIT SPACE.
(9) SEPERATE BRANCH CIRCUITS SHALL BE PROVIDED FOR LIGHTS AND SPACE HEATERS. THE FOLLOWING BREAKERS PROVIDED IN PANELBOARD: 2-QPI-B015'S, 22 QPI-B020'S

EXCEPTIONS TO CONTRACT SPECIFICATIONS

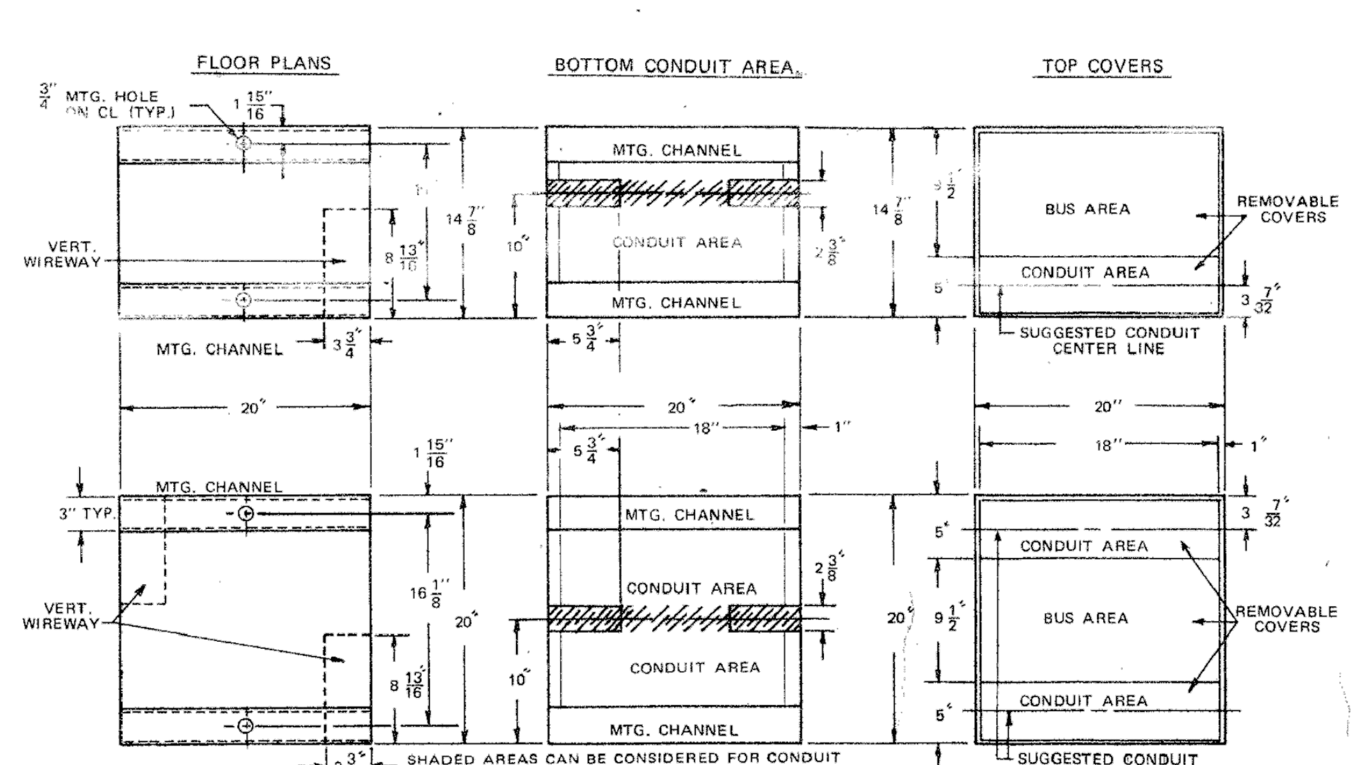
PART I.
2.2 OSHA GOVERNS THE INSTALLATION & USE OF OUR EQUIPMENT, NOT IT'S MANUFACTURING.
3.08 CONNECTRON NU-2 TERMINAL BLOCKS PROVIDED.
PART II
5.3 THE BOTTOM VERTICAL BUS BARRIER IS 6¼" FROM THE FLOOR (SEE SKETCH BELOW)
6.4 OUR STANDARD ADJUSTABLE THERMOSTAT WILL BE PROVIDED FOR CONTROL OF SPACE HEATER (IN LIEU OF "DIFFERENTAL" THERMOSTAT.)
8. ALL BUS CONNECTIONS WILL BE BOLTED.
9. ITE STD. TIN PLATED COPPER STABS WILL BE UTILIZED, (USE OF ANY OTHER PLATING WOULD VOID THE UL LISTING OF OUR DEVICE.
9.1 UNITS ONCE INSERTED WILL BE SECURED IN PLACE VIA A SCREW & PAWL MECHANISM. THEY MAY BE PADLOCKED IN THE WITHDRAWN POSITION HOWEVER POSITIVE STOPS ARE PROVIDED IN NEITHER POSITION.
15. OUR STD. XFMR TYPE PILOT LIGHTS WILL BE PROVIDED.
16. NAMEPLATES, AS DESCRIBED ABOVE NAMEPLATE DATA ON THIS DWG, WILL BE PROVIDED.
18. OUR STANDARD PAINT SYSTEM (ELECTROSTATICALLY APPLIED DRY EPOXY POWDER) WILL BE UTILIZED. QUALITY FAR EXCEEDS THAT SPECIFIED.

MOTOR CONTROL CENTER DESIGNATION EVAPORATION POND MCC



WEIGHT – TYPICAL SINGLE VERTICAL SECTION

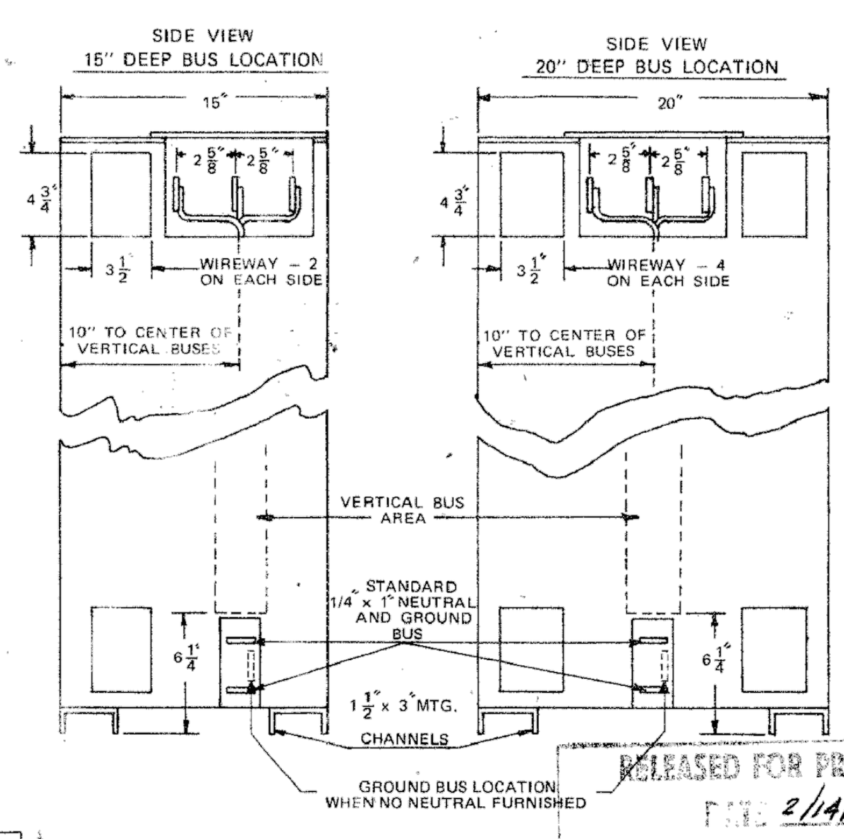
15" DEEP SECTION		20" FRONT ENTRY ONLY		20" BACK TO BACK	
WITHOUT MODULES	290 lbs.	WITHOUT MODULES	320 lbs.	WITHOUT MODULES	320 lbs.
WITH 6-12" MODULES	530 lbs.	WITH 6-12" MODULES	560 lbs.	WITH 12-12" MODULES	800 lbs.



SHADED AREAS CAN BE CONSIDERED FOR CONDUIT ENTRANCE IF NOT OBSTRUCTED BY GROUND OR NEUTRAL BUSES AND CLEARANCE BETWEEN BOTTOM OF VERTICAL BUS (ISOLATED) AND CONDUIT IS SUFFICIENT TO ALLOW SAME.

CONSTRUCTION DETAILS

SIDE PANELS – 12 GAUGE STEEL	20" – REAR DOORS – 14 GAUGE STEEL
DOORS – STEEL TO UL STANDARDS	SUPPORTS – 12 GAUGE STEEL
15" – BACK PANELS – 14 GAUGE STEEL	MOUNTING PANEL – 12 GAUGE STEEL



Form 6.10-8R (Supersedes Form 6.10-8Q)

APPROVAL
CERTIFIED PRINTS
C.O. FC-76-12203
TIE ----------
S.O. 84-56549
DATE 2/16/77
GOULD/ITE
Control & Systems Division
Westminster Operation
GE Tavares

RELEASED FOR PRODUCTION
2/14/77
2 DATED 2/14/77
GAVARES APP'D BY

This Drawing Has Been Prepared Based On:
☒ Contract Specifications
☒ Contract Drawings
☐ Other Information

Dwg. No. 84-56549-00 Sht. 1 of 1	Rev. Level 1
Customer ARIZONA PUBLIC SERVICE COMPANY PHOENIX, ARIZONA	
Job Title FOUR CORNERS ASH DISPOSAL	
Consult. Engr. ARIZONA PUBLIC SERVICE COMPANY PHOENIX, ARIZONA	
Customer P.O. FC-76-12203	
Shop Order No. 84-56549	

Rev. No.	Date	Alteration	By	App'd
1	1-13-77	REVISED PER CUST. APPR'D AS NOTED LAYOUT		RCH
2	2-14-77	REARRANGED UNITS CORRECT GND LUG, ADD W.D.'S	GET	

Drawn R.A. MAYBERRY	Date 9-24-76
Approved RON HAUGHN	Date 10-6-76
Approved	Date

ITE Imperial

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION. (4)

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
4	01-17-20	FOR RECORD	AWF	DEM				FCC06814
3	10/04/19	INSTALL NEW PUMPS	LDB	DEM			EDM	
2	04-26-16	TITLE UPDATE	GWB				WAC	FAC90406
1	11-01-78	ADDED SUMP PUMP "B"	JJM					

FOUR CORNERS COMMON
ASH DISPOSAL
EVAPORATION POND MCC

aps

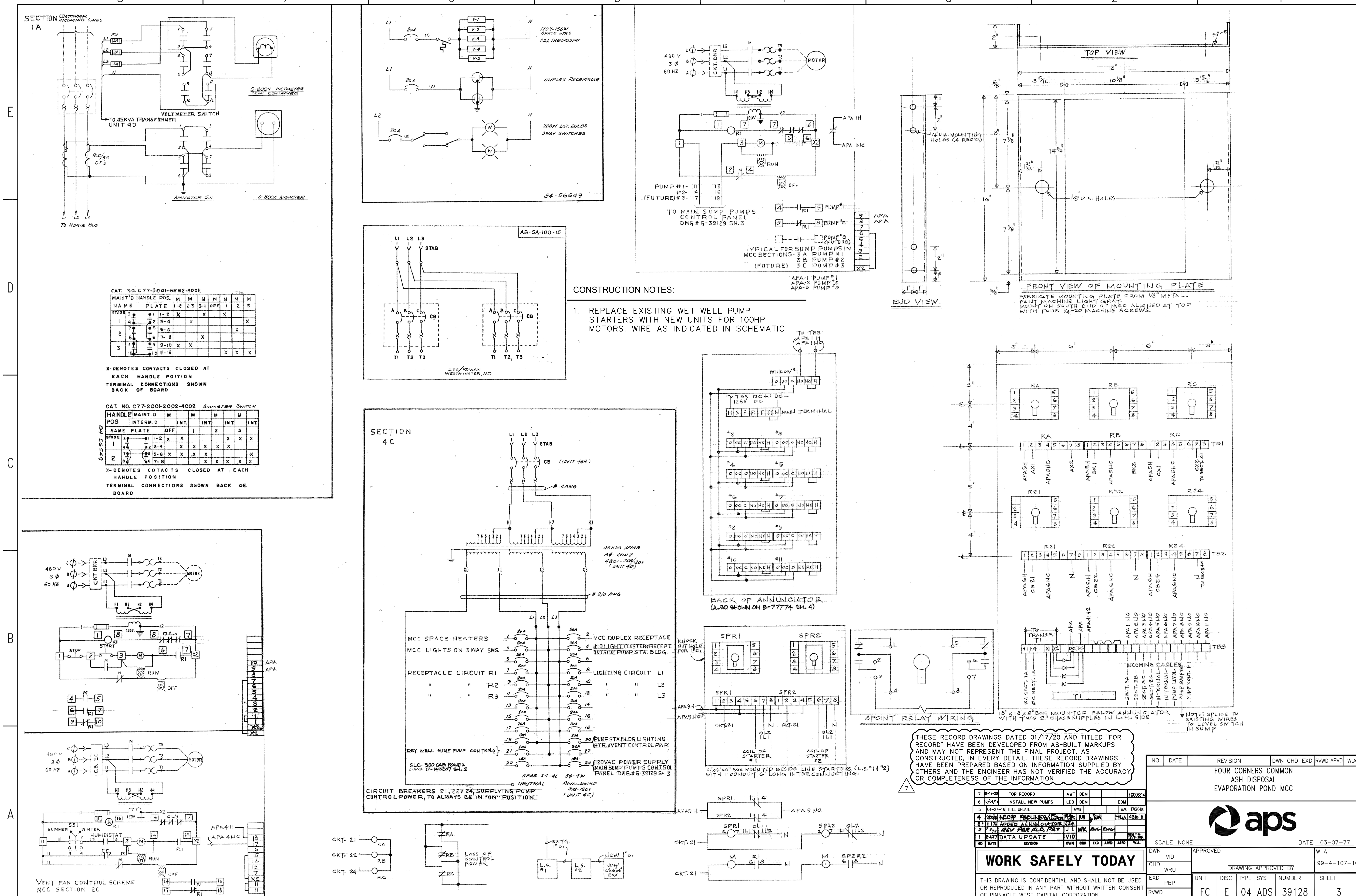
SCALE NONE DATE 03-07-77

WORK SAFELY TODAY

DWN VID	APPROVED DRAWING APPROVED BY				W A 99-4-107-10
CHD WRU					
EXD PBP	UNIT	DISC	TYPE	SYS	NUMBER
RVWD	FC	E	14	ADS	39128

SHEET 2

APS DWG. NO.: FC-E-14-ADS-39128-2



CONSTRUCTION NOTES:

1. REPLACE EXISTING WET WELL PUMP STARTERS WITH NEW UNITS FOR 100HP MOTORS. WIRE AS INDICATED IN SCHEMATIC.

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
7	01-17-20	FOR RECORD	AWF	DEM				FCC06814
6	10/04/16	INSTALL NEW PUMPS	LDB	DEM			EDM	
5	04-27-16	TITLE UPDATE	GWB				WAC	FA090405
4		NCORP REDLINES						
3		ADDED ANNUNCIATOR						
2		REV PER FLD. PRT	JL		WK			
1		DATA UPDATE	VID					

FOUR CORNERS COMMON
ASH DISPOSAL
EVAPORATION POND MCC

aps

SCALE NONE — DATE 03-07-77

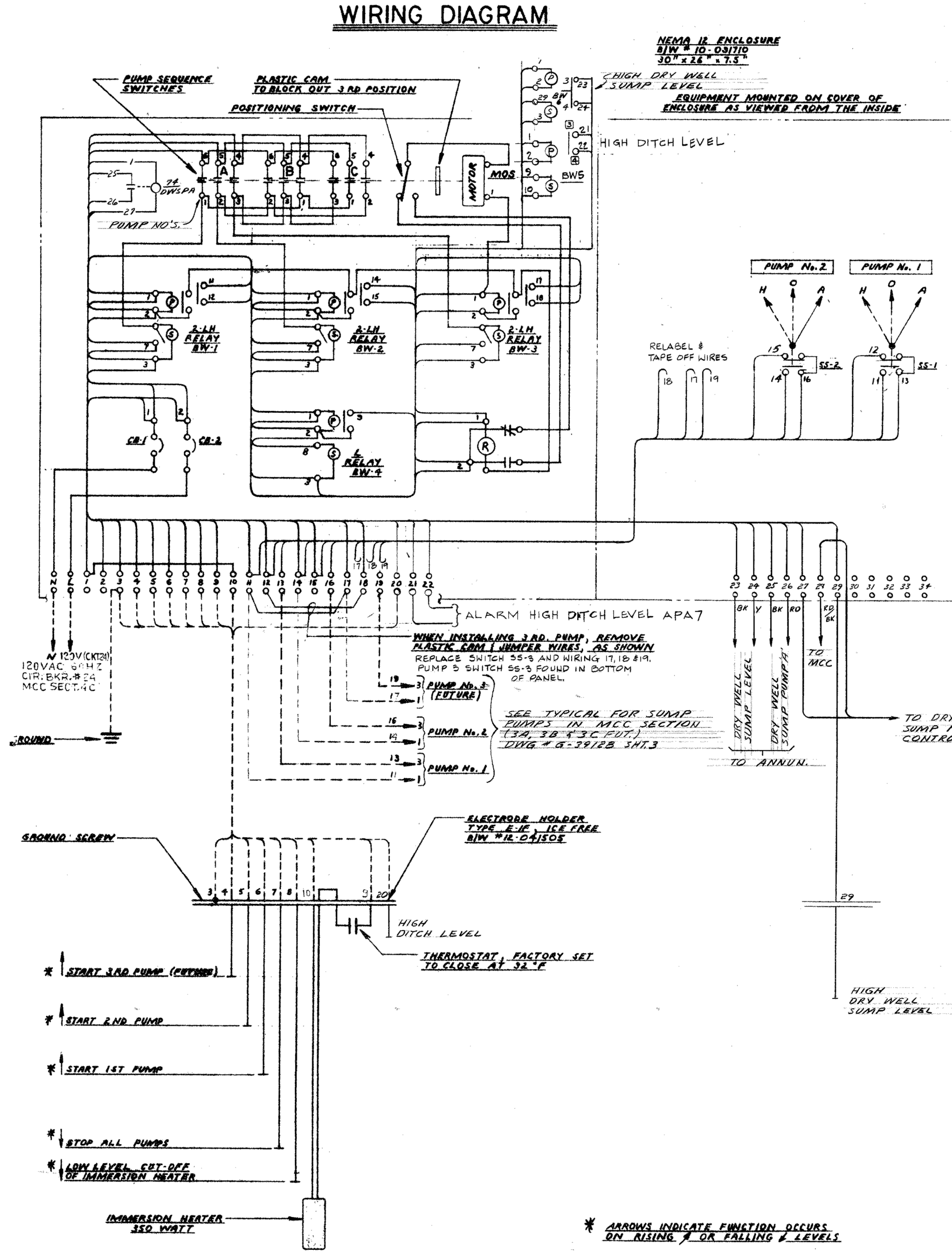
DWN VID — CHD WRU — EXD PBP — RVWD — APPROVED — DRAWING APPROVED BY — W A 99-4-107-10

UNIT	DISC	TYPE	SYS	NUMBER	SHEET
FC	E	04	ADS	39128	3

WORK SAFELY TODAY

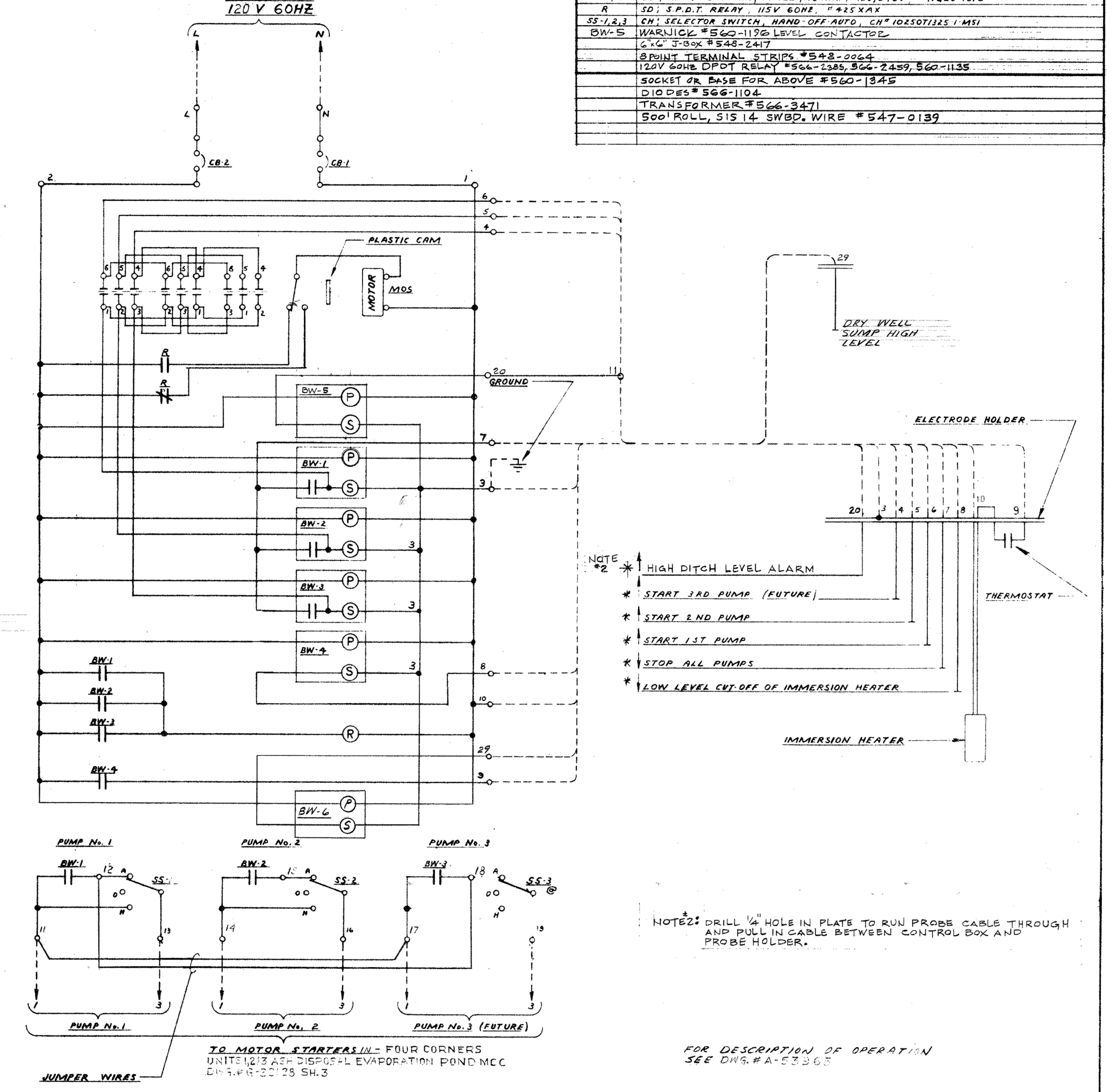
APS DWG. NO.: FC-E-04-ADS-39128-3

WIRING DIAGRAM



ELEMENTARY DIAGRAM

BKR. 24 MCC SECT. 4C
TO AC LINE
120 V 60HZ



BILL OF MATERIAL

SYMBOL	DESCRIPTION
BW-1, 2, 3	B/W; TYPE '2LH' RELAY, P 115V 60HZ S-220V, #11-045300
BW-4	B/W; TYPE 'L' RELAY, P 115V 60HZ S-220V, #11-044900
MOS	B/W; MOTOR OPERATED ALTERNATOR SWITCH, 115V 60HZ, #10-012500
CB-1, 2	W; CIRCUIT BREAKER, 1 POLE, 10 AMP, 120/240V #HQLC-1010
R	SD; S.P.D.T. RELAY, 115V 60HZ, #425XAX
SS-1, 2, 3	CH; SELECTOR SWITCH, HAND-OFF-AUTO, CH# 10250T/325 1-M51
BW-5	WARNICK #560-1196 LEVEL CONTACTOR
	6"x6" J-BOX #548-2417
	8 POINT TERMINAL STRIPS #548-0064
	120V 60HZ DPDT RELAY #566-2385, 566-2459, 560-1135
	SOCKET OR BASE FOR ABOVE #560-1345
	DIODES #566-1104
	TRANSFORMER #566-3471
	500' ROLL, SIS 14 SWBD. WIRE #547-0139

REF. DWGS.
MAIN SUMP PUMP OPERATING INSTRUCTIONS - A-53965

CONSTRUCTION NOTES:

1. LEVEL CONTROLS TO INTERLOCK WITH NEW MAIN SUMP PUMP STARTERS.

SOLID LINES BY B/W
DOTTED LINES BY OTHERS

P.O. #30004080

CUSTOMER: ARIZONA PUBLIC SERVICE CO., PHOENIX, ARIZONA
A WIRING REVISED 5-4-77
JOB: 4/C POWER PLANT, FRUITLAND, NEW MEXICO
DR JED DATE 4-15-77
DRAWING NO S-5078-1

THIS INFORMATION IS REMOVED FROM THIS DWG AND IS SHOWN ON C.W.D NO. B-22332 SH. 606

THESE RECORD DRAWINGS DATED 01/17/20 AND TITLED "FOR RECORD" HAVE BEEN DEVELOPED FROM AS-BUILT MARKUPS AND MAY NOT REPRESENT THE FINAL PROJECT, AS CONSTRUCTED, IN EVERY DETAIL. THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION SUPPLIED BY OTHERS AND THE ENGINEER HAS NOT VERIFIED THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
7	01-17-20	FOR RECORD	AWF	DEM				FCC06814
6	10/22/18	INSTALL NEW PUMPS	LDB	DEM			EDM	
5	04-27-16	TITLE UPDATE	GWB				WAC	FAC90406
4	12-92	REVISED PER AS BUILT	WOODY	RJM		[illegible]	[illegible]	04-5060
3	7-27-92	LTG. AS-BUILT	MEM		TLM	[illegible]		4500-11

FOUR CORNERS COMMON
ASH DISPOSAL PUMPING STATION
LIGHTING & CONTROL

aps

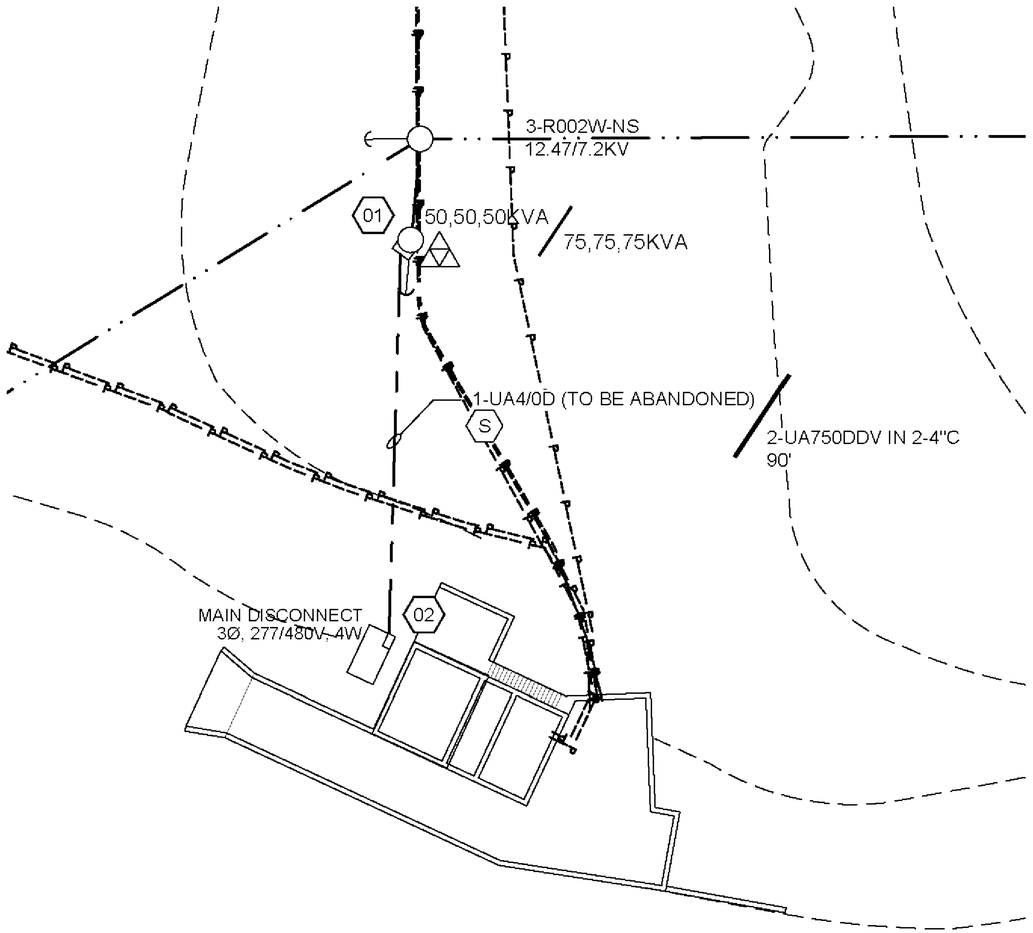
SCALE NONE DATE 03-07-77

DWN VID	APPROVED / DRAWING APPROVED BY	W A 99-4-107-R8
CHD WRU		
EXD PBP	UNIT FC / DISC E / TYPE 04 / SYS PLS / NUMBER 39129	SHEET 3
RVWD		

WORK SAFELY TODAY

APS DWG. NO.: FC-E-04-PLS-39129-3

WA445678
FOUR CORNERS EXISTING PUMP STATION UPGRADES



GENERAL PURPOSE NOTES:

REPLACE CROSS ARM
REMOVE 3-50KVA TRANSFORMERS (480V, 3W)
INSTALL 3-75KVA TRANSFORMERS (277/480V, 3Ø, 4W)
REPLACE TRANSITION
INSTALL 2-4" CONDUIT FROM POLE TO BREAKER
SECTION, RUN 2 SETS OF UA750DDV

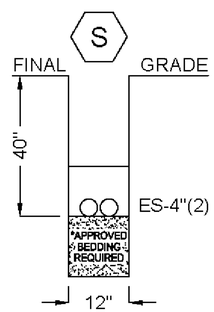
SPEC CODES:

(01) **REMOVE**
3470.WS3PUR002W
7185.WFFF44
7482.AD(3)
5052.W2UA750DDV

/ **INSTALL**
3471.SS3PUR002W
7185.WGGG42 75,75,75KVA 12.5KV (277/480V)
7482.AD(3)
2263.B1(3)
5052.W2A750DDV

(02) **INSTALL**
2705.UA750DDV(2)

(INSTALL)
TOTAL WIRE DATA FOOTAGE:
SECONDARY / SERVICE / ST. LT. / D-D
6220.UA750DDV= 300'



APS UTILITIES KEY

EXISTING		PROPOSED
W	WATER	W
S	SEWER	S
G	GAS	G
SD	STORM DRAIN	SD
IRR	IRRIGATION	IRR
TS	TRAFFIC SIGNAL	TS
T	TELE	T
CATV	CATV	CATV
FO	FIBER	FO

UG ELECTRIC NOMINAL TRANSMISSION (69KV)*
UG ELECTRIC NOMINAL PRIMARY (12.47Y/7.200V)*
UG ELECTRIC NOMINAL SECONDARY/SERVICE (120/240V)*
OH ELECTRIC NOMINAL TRANSMISSION (69KV)*
OH ELECTRIC NOMINAL PRIMARY (12.47Y/7.200V)*
OH ELECTRIC NOMINAL SECONDARY/SERVICE (120/240V)*
CONDUIT
TRENCH RUNNING LINE
* UNLESS OTHERWISE NOTED

APS SYMBOLS LEGEND

EXISTING EQUIPMENT	PROPOSED EQUIPMENT	DESCRIPTION
		- PADMOUNTED TRANSFORMER
S	S	- SWITCHING CABINETS
	J	- 1Ø SWITCHING CABINET
		- OH/UG CAPACITOR BANK
		- J-BOX / PULL BOX
		- MANHOLES
		-OH TRANSFORMER
		-OH SWITCH (KPF)
		- APS OWNED POLE
		- APS OWNED STEEL POLE
		- APS OWNED JOINT USE POLE
		- DIP (TRANSITION) POLE
		- STREET LIGHT
		- DUSK TO DAWN LIGHT

DATA MODIFIED PER FIELD CONDITIONS

N

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

CONTACT: JOE CARTER	
PHONE: 928-773-6476	PGR/MOBILE: 602-818-1466
INSPECTOR: N/A	
PHONE: N/A	PGR/MOBILE: N/A

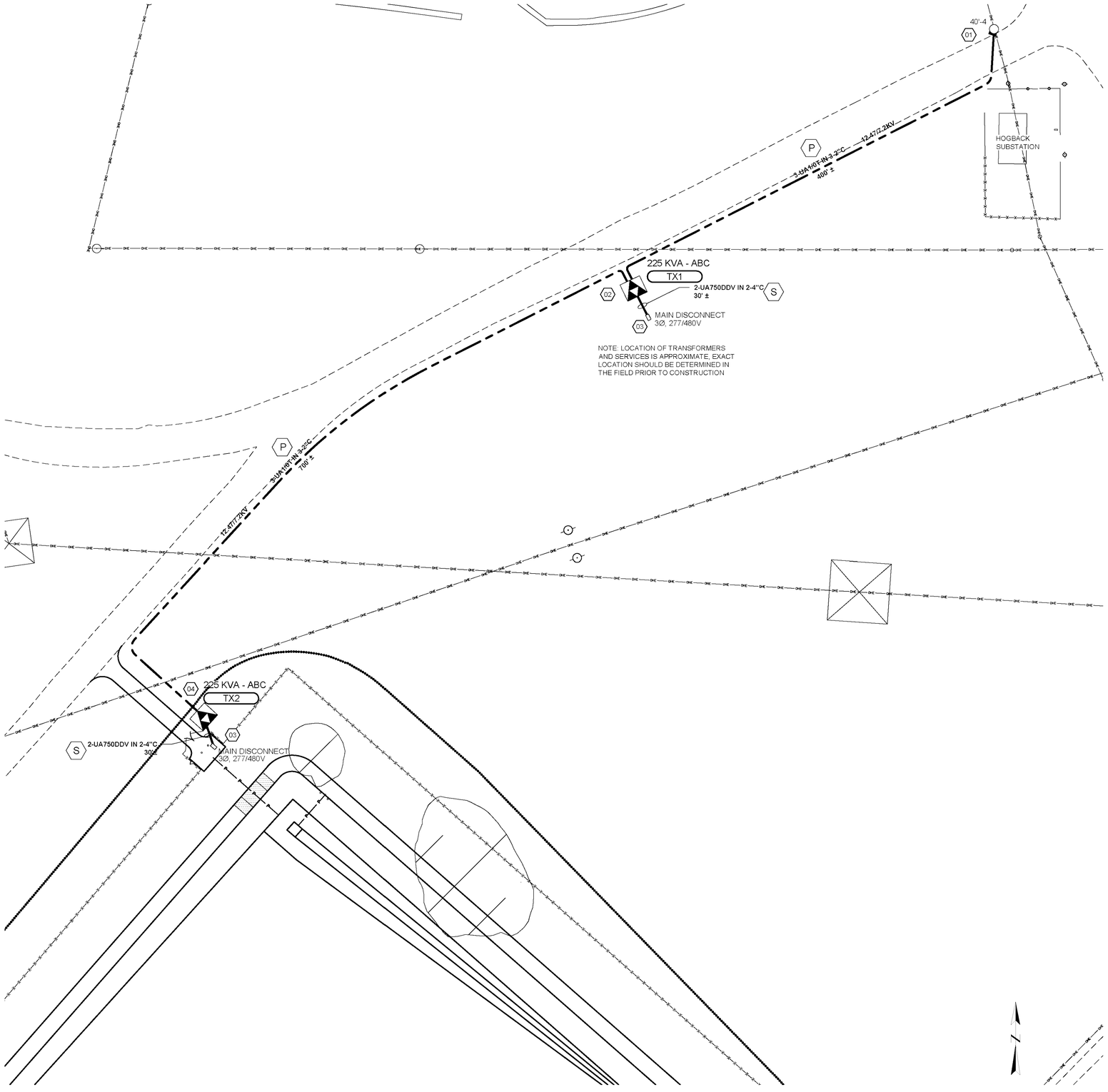
NO.	DATE	DESCRIPTION	BY

aps — FOUR CORNERS EXISTING PUMP SITE UPGRADE

WO#:	WA445678	DATE:	07/05/2018
BY:	R. FLAKE	SCALE:	1:50
FILENAME:	FOUR CORNERS PUMP STATION PRELAYOUT	SHEET:	1 OF 1

APS DWG. NO.: FC45CM-E-16-WP-AP-200485-51.dwg

WA445678
FOUR CORNERS
RETURN WATER POND
PUMP FEEDER



CONSTRUCTION NOTES:

01 **INSTALL**
5255.W1KR002W
2640.K20(3)
8881.DQ(3)

02 **INSTALL**
7665.B364 225 KVA 12,470V (277/480V) IN-LINE
2705.UA4/0DV(4)
8881.DQ(3) (APS TO PROVIDE, CUSTOMER TO INSTALL)
8881.GQV(2) (APS TO PROVIDE, CUSTOMER TO INSTALL)

(2 LOCATIONS) 03 **INSTALL**
2705.UA4/0DV(4)
8881.GQV(2) (APS TO PROVIDE, CUSTOMER TO INSTALL)

04 **INSTALL**
7666.B364 1,000 KVA 12,470V (277/480V) END-OF-LINE
2705.UA4/0DV(4)
8881.DQ(3) (APS TO PROVIDE, CUSTOMER TO INSTALL)
8881.GQV(2) (APS TO PROVIDE, CUSTOMER TO INSTALL)

W1 **INSTALL**
6215.UA1/0T(3600)
6220.UA4/0DV(170)
8895.MR(3800)
8895.MM(4)

APS UTILITIES KEY

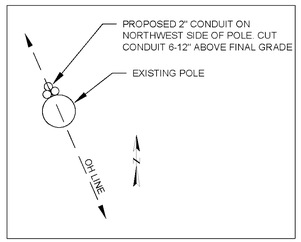
EXISTING		PROPOSED
W	WATER	W
S	SEWER	S
G	GAS	G
SD	STORM DRAIN	SD
IRR	IRRIGATION	IRR
TS	TRAFFIC SIGNAL	TS
T	TELE	T
CATV	CATV	CATV
FO	FIBER	FO

UG ELECTRIC NOMINAL TRANSMISSION (69KV)*
UG ELECTRIC NOMINAL PRIMARY (12,470/7,200V)*
UG ELECTRIC NOMINAL SECONDARY/SERVICE (120/240V)*
OH ELECTRIC NOMINAL TRANSMISSION (69KV)*
OH ELECTRIC NOMINAL PRIMARY (12,470/7,200V)*
OH ELECTRIC NOMINAL SECONDARY/SERVICE (120/240V)*
CONDUIT
TRENCH RUNNING LINE
* UNLESS OTHERWISE NOTED

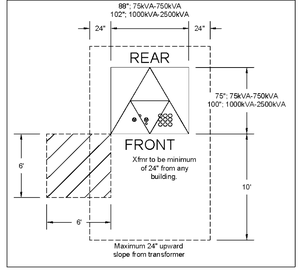
APS SYMBOLS LEGEND

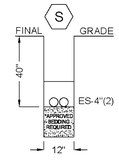
EXISTING EQUIPMENT	PROPOSED EQUIPMENT	DESCRIPTION
		- PADMOUNTED TRANSFORMER
S	S	- SWITCHING CABINETS
J	J	- 1Ø SWITCHING CABINET
		- OH/UG CAPACITOR BANK
		- J-BOX / PULL BOX
		- MANHOLES
		-OH TRANSFORMER
		-OH SWITCH (KPF)
		- APS OWNED POLE
		- APS OWNED STEEL POLE
		- APS OWNED JOINT USE POLE
		- DIP (TRANSITION) POLE
		- STREET LIGHT
		- DUSK TO DAWN LIGHT

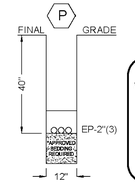
DATA MODIFIED PER FIELD CONDITIONS



CLEAR ZONE AROUND TRANSFORMER







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ARIZONA811
Call 811 or click Arizona811.com

CONTACT:	JOE CARTER
PHONE:	928-773-6475 PGR/MOBILE: 602-818-1456
INSPECTOR:	N/A
PHONE:	N/A PGR/MOBILE: N/A

NO.	DATE	DESCRIPTION	BY
1	6/6/19	REV TRENCH DETAILS	RVF

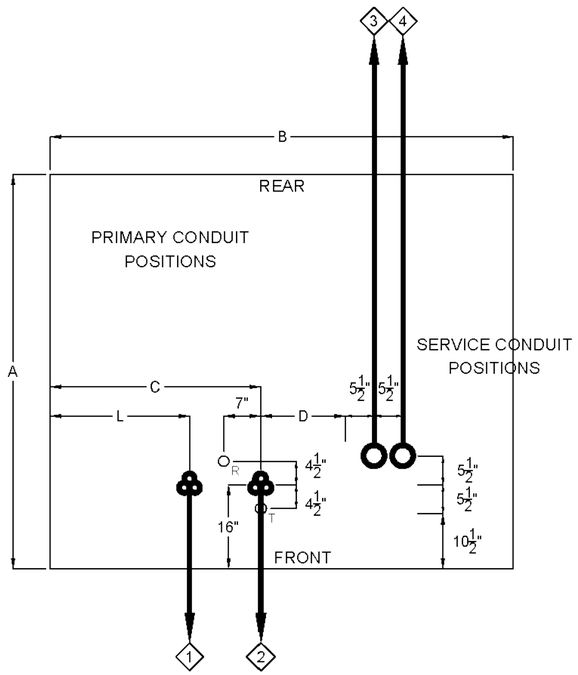
aps

FOUR CORNERS
ASH POND PUMP STATION EXTENSION

WO#: WA445678	DATE: 07/05/2018
BY: R. FLAKE	SCALE: 1:50
FILENAME: FOUR CORNERS PUMP STATION PRELIM.DWG	SHEET 1 OF 1

APS DWG. NO.: FC45CM-E-16-WP-AP-200485-52.dwg

SERVICE SECTION SIZE (AMPS)	SERVICE VOLTAGE	QUANTITY and SIZE OF CONDUITS			PAD SIZE and CONDUIT LOCATION (inches)				
		PRIMARY		SECONDARY	A	B	C	D	L
600 - 1000	277/480	2-4"	6-2"	2-4"	75	88	40	16	26-1/2



CABLE & CONDUIT NOTES:

1. C2"(3), 90°, 36"R SWEEPS TO TRANSITION POLE
   3-UA1/0T TO TRANSITION POLE
2. C2"(3), 90°, 36"R SWEEPS TO TX2
   3-UA1/0T TO TX2
3. C4"(1), 90°, 36"R SWEEPS TO DISCONNECT
   1-UA750DDV TO DISCONNECT
4. C4"(1), 90°, 36"R SWEEPS TO DISCONNECT
   1-UA750DDV TO DISCONNECT

GENERAL NOTES:

1. ALL TRANSFORMER LOCATIONS SHALL COMPLY WITH ALL CODES, ORDINANCES, AND REGULATIONS WITHIN THE STATE OF ARIZONA OR OTHERWISE SPECIFIED BY APS.
2. CUSTOMER TO PROVIDE ALL WORK INVOLVED WITH THE PAD AND CONDUITS.
3. ALL CONDUITS MUST BE INSPECTED AND APPROVED PRIOR TO BACKFILLING.
4. ALL CONCRETE FORMS AND CONDUITS AND REBAR (IF REQUIRED) MUST BE IN PLACE AND APPROVED PRIOR TO POURING PAD.
5. ANY VARIATIONS FROM THE ABOVE REQUIREMENTS MUST BE GIVEN IN WRITING AND SIGNED BY AN APS REPRESENTATIVE.
6. A MINIMUM 24-HOUR NOTICE IS REQUIRED FOR INSPECTIONS.
   R = GROUND ROD SLEEVE, NOTE 7.
   T = COMMUNICATION GROUND SLEEVE, NOTE 8.
   (S) = 5" SLEEVE LOCATION 18" DEEP

PAD SPECIFICATIONS:

1. THE FOLLOWING MINIMUM UNOBSTRUCTED CLEARANCES FROM THE EDGE OF THE PAD ARE REQUIRED:
   HORIZONTAL CLEARANCES: 2' TO THE REAR AND SIDES 10' TO THE FRONT
   VERTICAL CLEARANCES: 30' ABOVE THE PAD AND HORIZONTAL CLEARANCE AREAS
   REFER TO T&D STANDARDS 1278-1279 FOR ALL APPLICABLE CLEARANCE REQUIREMENTS.
2. ALL BACKFILL BENEATH THE PAD SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DENSITY, AND SHALL NOT CONTAIN ROCKS LARGER THAN 1-1/2 INCHES IN THEIR GREATEST DIMENSION. BACKFILL MATERIAL SHALL CONTAIN ENOUGH FINES TO FILL ALL VOIDS.

   ONE-SACK ABC SLURRY SHALL NOT BE INSTALLED BENEATH EQUIPMENT PADS. IF SLURRY BACKFILL IS INSTALLED BENEATH EQUIPMENT PADS, ONE OF THE FOLLOWING OPTIONS SHALL BE UTILIZED:

   OPTION 1:
   ONE-SACK CEMENT SAND SLURRY AS SPECIFIED IN T&D STANDARDS 8601, 19.5
   OPTION 2:

FLYASH, TYPE F	250 POUNDS
WATER	50 GALLONS
FINE AGGREGATE (SAND)	3,117 POUNDS

   OPTION 3:

CEMENT	52 POUNDS
FLYASH, TYPE F	240 POUNDS
WATER	55 GALLONS
FINE AGGREGATE (SAND)	2,820 POUNDS

   CONCRETE MIXING TICKET MUST BE PROVIDED DESCRIBING THE MATERIAL, OTHERWISE THE MATERIAL IS UNACCEPTABLE.
3. PAD TO BE MADE IN ONE CONTINUOUS POUR OF CONCRETE, 3000 PSI AT 28 DAYS, 3/8 INCH AGGREGATE, 3 TO 5-INCH SLUMP. TOP OF PAD TO BE TROWELED SMOOTH AND LEVEL. SURFACE IS TO HAVE A LIGHT BROOMED FINISH AND ALL EXPOSED EDGES ARE TO BE ROUNDED TO A 3/4-INCH RADIUS.

   REFER TO THE MATERIAL SPECIFICATIONS 7990 FOR COMPLETE PAD SPECIFICATIONS.
4. REINFORCING STEEL IS REQUIRED [NO]

   REINFORCEMENT IS NOT REQUIRED IF PAD IS POURED-IN-PLACE IN A LOCATION UNLIKELY TO BE UNDERMINED BY DRAINAGE, ETC.
5. MINIMUM REQUIRED PAD THICKNESS IS 6 INCHES.
6. TOP OF PAD TO BE A MINIMUM OF 4 INCHES ABOVE SURROUNDING FINISHED GRADE.
7. R--PROVISION FOR GROUND ROD--INSTALL SLEEVE THROUGH PAD, 1-INCH MINIMUM I.D., WITH NO OBSTRUCTION BENEATH. ALTERNATE SLEEVE LOCATIONS ARE ALONG AN IMAGINARY CENTER LINE BETWEEN THE PRIMARY DUCTS. LOCATION TO BE BASED ON AVOIDING CONDUIT SWEEPS WHEN DRIVING GROUND ROD.
8. T--PROVISION FOR COMMUNICATIONS GROUND--INSTALL SLEEVE THROUGH PAD, 1 INCH MINIMUM I.D., WITH NO OBSTRUCTION BENEATH. LOCATION TO BE BASED ON AVOIDING CONDUIT SWEEPS.

CONDUIT SPECIFICATIONS:

1. ALL SERVICE CONDUCTORS SHALL BE INSTALLED IN RIGID NON-METALLIC CONDUITS FROM TRANSFORMER TO SERVICE ENTRANCE SECTION.
2. ALL PRIMARY CONDUCTORS SHALL BE INSTALLED IN RIGID NON-METALLIC CONDUITS.
3. RIGID NON-METALLIC CONDUIT IS DEFINED AS PVC AND SHALL BE MARKED AS FOLLOWS:

SWEEPS -	PVC SCH 40 NEMA TC-2
STRAIGHT SECTIONS -	PVC DB L00 MODULUS 400,000 PSI ASTM F-512 PVC DB 120 MODULUS 400,000 PSI ASTM F-512 PVC SCH 40 NEMA TC-2 PVC SCH 80 NEMA TC-2

4. ONLY GOOD FOR CONDUIT 4" OR LARGER.

   APPLY PURPLE PRIMER/CLEANER ASTM F656 TO ALL PVC JOINTS PRIOR TO APPLYING A COATING OF GRAY PVC TO PVC CEMENT ASTM 02564.

FOR INSPECTION CONTACT:	
PHONE:	
INSPECTION IS REQUIRED AFTER CONDUITS ARE INSTALLED, AND BEFORE PAD IS POURED.	
INSPECTED BY:	DATE:
FINAL INSPECTION BY:	DATE:

REV 01/25/12

TX1

APS CONSTRUCTION SYMBOL

SOURCE: DIP POLE

5. IF STEEL SWEEPS, BENDS AND CONDUIT ARE USED; THEY SHALL BE GALVANIZED PER ANSI C80.1 AND HALF-LAPPED WITH SUITABLE 20-MIL TAPE, TO A TOTAL THICKNESS OF 40 MILS. POLYKEN #900 2" BLACK TAPE (OR EQUIVALENT) SHALL BE HALF-LAPPED OVER POLYKEN #927 BLACK PRIMER (OR EQUIVALENT).
6. ALL NON-METALLIC CONDUIT SWEEPS AND ELBOWS SHALL HAVE INTERNALLY CHAMFERED ENDS.
7. UNLESS OTHERWISE SPECIFIED, SWEEPS, BENDS AND CONDUITS SHALL BE 4-INCH IPS WITH MINIMUM RADIUS SWEEPS OF 36 INCHES FOR PRIMARY AND 24 INCHES FOR SERVICE. EXCEPTION: USE 36" SWEEPS FOR 750 MCM SECONDARY UNLESS OTHERWISE SPECIFIED.
8. ALL SWEEPS INTO TRANSFORMER PAD SHALL EXTEND A MINIMUM OF 1 INCH AND A MAXIMUM OF 2 INCHES ABOVE THE TOP OF THE PAD UPON CABLE INSTALLATION. CONDUIT ENDS SHALL BE CAPPED OR PLUGGED, NOT GLUED. NON-EXPOSED CONDUITS STUBBED OUT FOR FUTURE EXTENSIONS SHALL BE PLUGGED.
9. PRIMARY CONDUITS SHALL BE INSTALLED WITH A MINIMUM COVER OF 36 INCHES; SERVICE CONDUITS SHALL BE INSTALLED WITH A MINIMUM COVER OF 24 INCHES, UNLESS OTHERWISE SPECIFIED. DIMENSIONS GIVEN ARE FROM FINAL GRADE TO THE TOP OF THE DUCT BANK.
10. WHERE SERVICE CONDUITS MUST BE INSTALLED DIRECTLY UNDER A BUILDING FOUNDATION, THE CONDUITS SHALL BE CONCRETE ENCASED AND THE TOP OF THE ENCASEMENT SHALL HAVE A MINIMUM OF 24 INCHES CLEAR SEPARATION BELOW THE STRUCTURE FOUNDATION. ENCASEMENT SHALL CONSIST OF A 3-INCH CONCRETE ENVELOPE.
11. THE CUSTOMER SHALL MANDRILL ALL CONDUITS AND IS RESPONSIBLE FOR THE USABILITY OF THE CONDUIT SYSTEM AT THE TIME APS INSTALLS CONDUCTORS.
12. PULL LINES SHALL BE PROVIDED BY APS AND INSTALLED BY THE CUSTOMER.
13. ARROWS, SHOWN ON PAD DETAIL (LEFT), INDICATE THE DIRECTION SWEEPS AND CONDUITS ARE TO BE POSITIONED.

JOB NUMBER	DATE	DESCRIPTION	REV BY

LOCATION: LIFT STATION

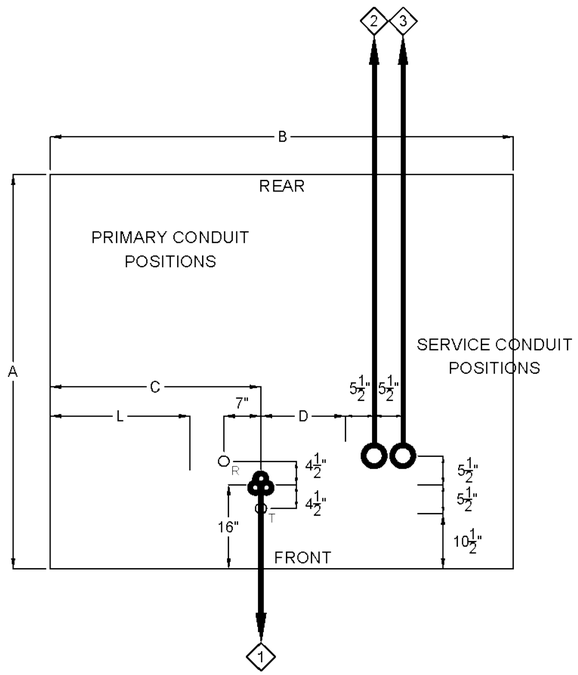
aps

7665 THRU 7667
3-PHASE TRANSFORMER
PAD AND CONDUIT DETAIL

WO#:	WA445678	DATE:	5/22/19
BY:	R. FLAKE	SCALE:	NTS
FILENAME:	TX1.dwg		

APS DWG. NO.: FC45CM-E-19-WP-AP-200485-53.dwg

SERVICE SECTION SIZE (AMPS)	SERVICE VOLTAGE	QUANTITY and SIZE OF CONDUITS			PAD SIZE and CONDUIT LOCATION (inches)				
		PRIMARY		SECONDARY	A	B	C	D	L
600 - 1000	277/480	2-4"	6-2"	2-4"	75	88	40	16	26-1/2



CABLE & CONDUIT NOTES:

1. C2"(3), 90°, 36"R SWEEPS TO TX1
   3-UA1/0T TO TX1
2. C4"(1), 90°, 36"R SWEEPS TO DISCONNECT
   1-UA75DDDV TO DISCONNECT
3. C4"(1), 90°, 36"R SWEEPS TO DISCONNECT
   1-UA75DDDV TO DISCONNECT

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   WATER 50 GALLONS
   FINE AGGREGATE (SAND) 3,117 POUNDS
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   CEMENT 52 POUNDS
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   WATER 55 GALLONS
   FINE AGGREGATE (SAND) 2,820 POUNDS

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FOR INSPECTION CONTACT:
PHONE:
INSPECTION IS REQUIRED AFTER CONDUITS ARE INSTALLED, AND BEFORE PAD IS POURED. INSPECTED BY: DATE:
FINAL INSPECTION BY: DATE:

REV 01/25/12

TX2

APS CONSTRUCTION SYMBOL

SOURCE: DIP POLE

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13. ARROWS, SHOWN ON PAD DETAIL (LEFT), INDICATE THE DIRECTION SWEEPS AND CONDUITS ARE TO BE POSITIONED.

JOB NUMBER	**DATE**	**DESCRIPTION**	**REV BY**

LOCATION: RETURN WATER POND

aps

7665 THRU 7667
3-PHASE TRANSFORMER
PAD AND CONDUIT DETAIL

WO#:	WA445678	DATE:	5/22/19
BY:	R. FLAKE	SCALE:	NTS
FILENAME:	TX2.dwg		

APS DWG. NO.: FC45CM-E-19-WP-AP-200485-54.dwg

Appendix B.
Wetlands Map

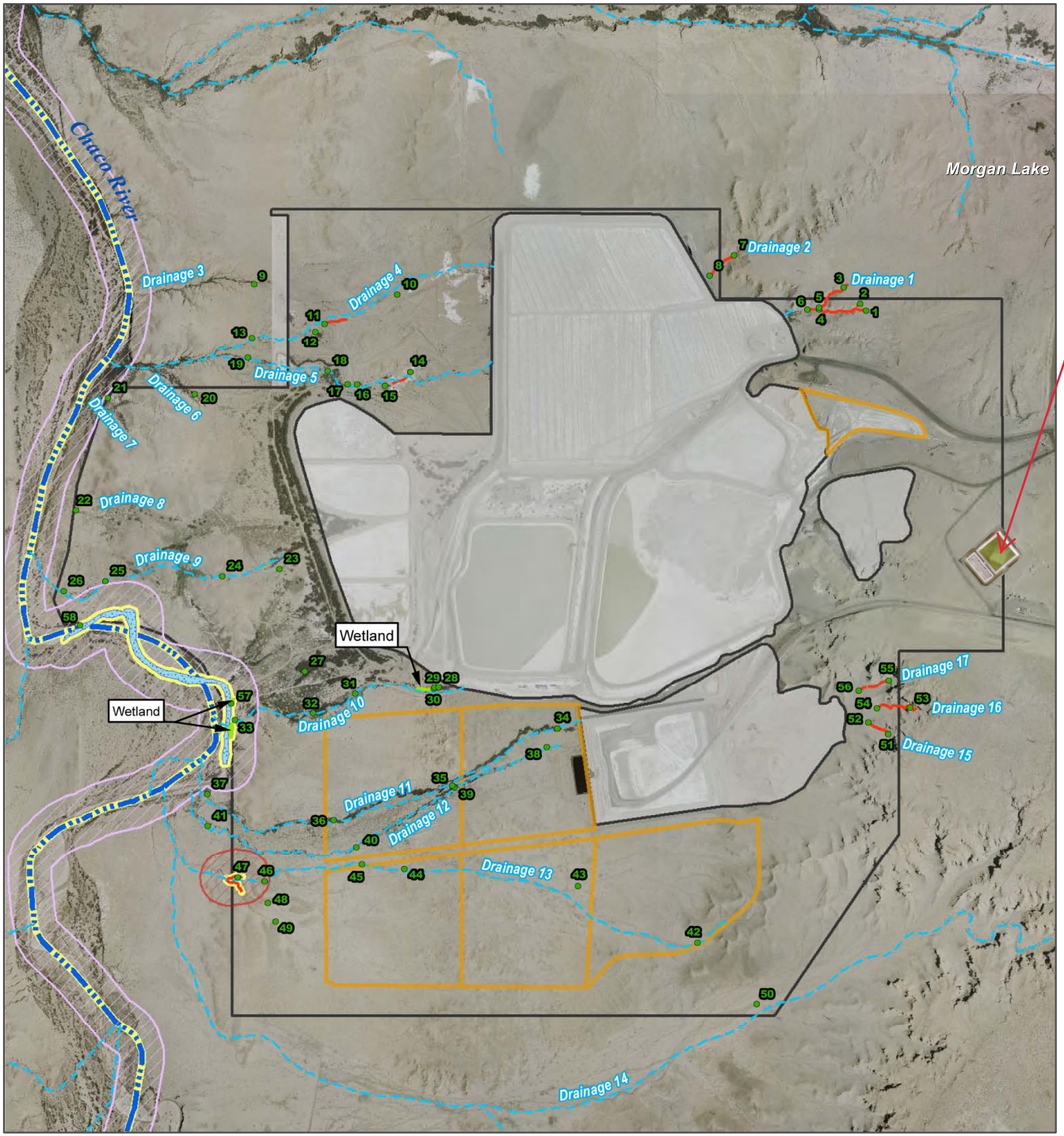


Figure 4.5-7

Jurisdictional Waters of the US
in the Vicinity of the FCPP
Proposed Ash Disposal Facility

RWP
(approximate scale and location)

- GPS Survey Point (#)
- Wetland
- Chaco River OHWM
- Ephemeral
- Intermittent
- Ordinary High Water Mark Observed*
- Jurisdictional (highlighted)
- Waters of the U.S. Delineation Boundary
- Existing Fly Ash Disposal Facilities
- Proposed Fly Ash Facility
- Chaco River Avoidance Area
- Avoidance Area

*Observed Ordinary High Water Mark without jurisdiction is considered isolated.

Appendix C.
Unified Hazard Tool Summary

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Input

Edition
Conterminous U.S. 2014 (v4.0.x)

Spectral Period
Peak Ground Acceleration

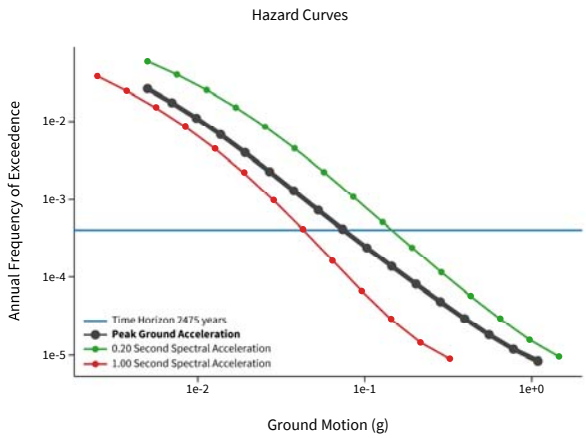
Latitude
Decimal degrees
36.684877

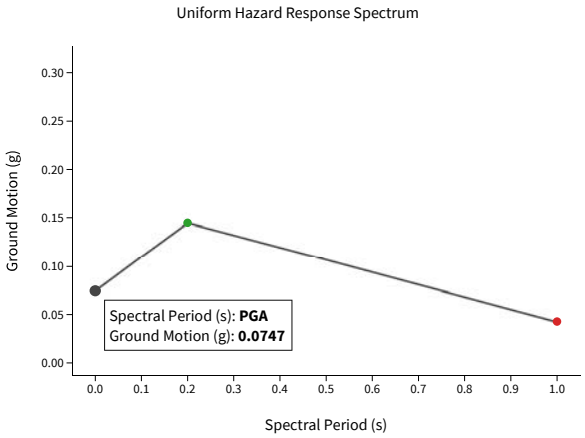
Time Horizon
Return period in years
2475

Longitude
Decimal degrees, negative values for western long…
-108.492182

Site Class
760 m/s (B/C boundary)

Hazard Curve





View Raw Data