

# **APPENDIX F**

## **Work Restrictions and Sequence of Work**

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## WORK RESTRICTIONS AND SEQUENCE OF WORK

### **PART 1 – GENERAL**

The work restrictions and sequence of work described herein are contract requirements during construction of the Brine Pipeline Access Improvements project. These requirements are applicable during all work shown on the Contract Drawings, required by these specifications, and described in Section 00100, Special Conditions; including all work required for the construction of the proposed pipeline access manways, connections, and manholes; construction of the proposed isolation valve vaults; replacement of existing isolation valves; draining and cleaning of the existing brine pipeline; and final District acceptance of the project improvements.

All work shall be completed in accordance with these specifications and the Contract Drawings.

Section 00100 (Special Conditions) lists the specific allowable shutdown time durations and intervals required to maintain and avoid damage to the brine system equipment during the shutdowns, including the membrane and filtration systems.

#### **1.01. Constraints on Sequence and Scheduling of Work.**

A. All components of the work must be completed in a sequential manner to ensure that the operation and control of the District's existing brine discharge system and recycled water system components are maintained for continuous operation, except during District approved shutdowns. Contractor shall schedule all work such that all existing pipelines, pump stations, and treatment systems remain functional during all components of the project work, unless approved otherwise by the District. Except as allowed for during scheduled shutdown durations identified hereafter, brine discharge pipelines must be maintained in operation at all times during the construction activities. Recycled water pipelines must be maintained in operation at all times during the construction activities, and are not proposed or anticipated to be shutdown as part of the Work.

B. Interruptions of the existing District facility operations shall be scheduled and coordinated with the District, and shall not exceed the durations specified herein, in the Special Conditions, and in the Contract Drawings.

C. Contractor shall include costs in their bid price for compliance with the specific sequencing limitations and all the constraints, temporary facilities, and the related general factors pertaining to maintaining the full operational capacity of the District's existing brine discharge system and recycled water system facilities, and all other related systems.

D. Prior to commencing work, Contractor shall submit for District's approval, a detailed project schedule with narrative descriptions for the Contractor's proposed Sequence of Work including coordination of pump station shutdowns, treatment system shutdowns, and valve closures/openings. The project schedule shall be provided in accordance with the General Conditions, Section F – Labor and Construction, and as specified herein. The schedule shall show all construction activities and sub-activities, address all work restrictions and constraints, and include critical events that may impact the operation of existing facilities. The submittal shall clearly identify the work that will require shutdowns or interruptions of the District's existing systems, and the duration of those shutdowns and interruptions.

1.02. Interruption of Existing District Facilities.

A. Contractor shall execute all non-shutdown work while the District's existing brine discharge system and recycled water system are in operation.

B. Contractor shall indicate required shutdowns of existing facilities or interruptions of existing operations on their Baseline Schedule as well as Progress Schedule Updates. Shutdowns will be permitted to the extent that operation of the existing brine discharge system and maintenance of the system equipment will not be jeopardized, and identified constraints and restrictions are satisfied.

C. Unless specified otherwise, Contractor shall submit three separate written notifications to the District, including advancement of the notification to the downstream discharge agency (Santa Ana Watershed Project Authority [SAWPA]), in coordination with EMWD Source Control department, for each required shutdown of existing facilities at least 30 days, 1 week, and 48 hours prior to the planned date of shutdown.

1. SAWPA will perform non-related work on Inland Empire Brine Line facilities (downstream of EMWD brine pipeline) during shut down of the EMWD brine pipeline.

D. Each request will be evaluated based on the District's ability to reliably shutdown the brine discharge system and current system demands.

E. Contractor shall not begin alterations until District's written permission has been received.

F. Isolation of individual pipeline segments may require valve closures. All valves shall be operated by District's staff. Full shut-off closure of valves is not guaranteed by the District, and shall be considered by the Contractor in development of their schedule and method of Work.

G. Contractor shall minimize shutdown times by thorough advanced planning. At the time of shutdown, Contractor shall have onsite all equipment, materials, and labor necessary to perform the required work. Contractor shall pre-assemble piping, fittings, and connection equipment as much as possible to meet strict shutdown timeframes. Contractor shall pre-excavate, shore and plate the proposed tie-in locations before commencing the shutdown.

H. Where required to minimize brine discharge system interruptions and while complying with the specified sequencing constraints, Contractor shall provide temporary pumping, piping (including highline bypass), power, lighting, controls, instrumentation, and safety devices. Contractor shall provide a detailed temporary facility plan ahead of commencing work for review describing the proposed scope and general arrangement of the temporary work.

I. Contractor shall schedule shutdowns to avoid the start-up and testing periods of the new Perris II Desalter. Contractor, through the District, shall coordinate with the Perris II Desalter contractor in advance to identify the start-up and testing periods requiring operation of the brine discharge pipeline. At the time of issuance of this Section, the identified timeline for the start-up and testing period is April 2021 through July 2021.

1.03. Operations and Maintenance Access.

A. Contractor shall provide safe, continuous access to all existing facilities, pipelines, valves and appurtenances for District staff.

B. When working within the District treatment facilities, Contractor shall take all steps necessary to maintain access roads, access paths, gates, doors, and all ingress/egress locations open at all times. If any of these locations are required to be blocked to perform the Work, the Contractor shall coordinate with the District to identify alternate access routes and ingress/egress, and the Contractor shall provide adequate signage indicating the detour access route and alternate ingress/egress location for the District staff to utilize during the closure.

1.04. Utilities.

A. Maintain in service all electrical, telephone, water, gas, oil, sanitary facilities, and other utilities within the project area. Provide temporary utilities when necessary.

B. Contractor shall provide advance notice to and utilize the services of Underground Services Alert (USA) for location and marking of underground utilities operated by utility agencies other than the District. Contractor to call 811 for marking of underground utilities.

C. Provide a minimum of 72 hours advanced notice to District's Inspector for marking/locating District's underground facilities.

1.05. General Requirements.

A. The work sequence and restrictions presented herein do not include all items affecting completion of the work, but are intended to describe some of the critical events necessary to minimize disruption of the existing facilities and to ensure compliance with permit requirements. It is Contractor's responsibility to identify any additional constraints for completion of the work, and keep the existing systems and facilities fully operational at all times.

B. Contractor shall comply with shutdown constraints to keep the existing facilities operational as required by the District.

C. Prior to beginning construction, Contractor shall excavate, expose, and determine ("pothole") the exact size, elevation, and horizontal location of each and every potential interference, including, but not limited to, all facilities specifically shown (location and/or depth) on the Contract Drawings. In addition, Contractor shall field verify all locations and dimensions at connections with existing piping systems. If necessary, Contractor shall revise the plans or dimensions in order to meet shutdown time constraints without violating the intent of the design. All Contractor revisions shall be submitted for review approved by the District prior to any Work. Potholes utilized for design purposes are included as reference in the Contract Drawings and Specifications.

D. Only District's Operations personnel will be allowed to operate existing valves for the brine discharge system shut-down operations and for placing the brine system back in operation.

E. Contractor shall protect existing storm drains and channels from contamination during connection/tie-in procedures.

F. Contractor shall complete all connection/tie-in work without shutting down the existing brine discharge system, except as planned and described within the plans and specifications.

G. Contractor shall complete all possible portions of new construction and/or modifications to existing facilities, prior to making any connection to existing facilities, at no additional cost to the District. All parts, fabrications, and other components necessary to complete the work during the shutdown and startup must be at the job site prior to final scheduling of the shutdown unless otherwise authorized herein or by District.

H. Contractor shall include in their bid the cost for makeup piping necessary to connect to the exact location of existing pipe joints and fittings. The exact location of each existing joint is unknown and is not shown on the Contract Drawings.

## Work Restrictions and Sequence of Work

### Appendix F - 6

I. Contractor shall submit a detailed Work Plan/Sequence, plus short-interval schedule(s), for each construction activity and/or shutdown and receive District's approval prior to scheduling any shutdown. Alternative equivalent construction methods and sequences must be submitted to the District in a timely manner to allow for review, revisions, and approval prior to scheduling of the shutdown. See Section 00100 – Special Conditions, for specific shutdown duration requirements and limitations.

J. Contractor shall be responsible for draining and dewatering of all pipelines, dewatering of all excavations, evacuation of all fluids from the existing facilities, proposed work area, nuisance water in excavations for pipelines and abandonments, and all other work associated with making connections to the existing facilities within the specified shutdown limitations. Contractor shall consider the distinct possibility that the existing brine system line valves will not achieve 100% closure and may cause brine leakage (valve leak-by) during the tie-in procedures and abandonments; therefore, Contractor may need to continuously dewater existing pipelines during the tie-in work. Contractor shall include all costs associated with dewatering, including pumping and hauling of brine liquid and materials, in their bid price for the respective pipeline connection work.

K. Contractor shall include in their bid the costs of making connections to the existing pipeline within the specified shutdown limitations and providing all temporary facilities, including bypass pumping and highline systems, for all items requiring a shutdown longer than that specified in Section 00100 – Special Conditions.

L. Any proposed modifications to the Sequence of Work (1.06) provided herein shall be submitted in writing to the District for approval. If approved, said modified Sequence of Work shall be implemented by the Contractor at no additional cost to the District. Any proposed modifications to the specified Sequence of Work shall reflect the necessary changes to all other project components. The District reserves the right to reject the proposed alternate construction sequence. In accordance with the operational limitations of the existing systems, the following sections describe work restrictions and sequencing constraints.



1.06. Work Sequence.

A. Requirements and Constraints

1. Contractor shall provide advance notifications to District Construction Administrator, or designee, as required by Section 00100 (Special Conditions) and herein.
2. All work shall be performed in accordance with all applicable laws, District standards, these Specifications, and the Contract Drawings.
3. The existing desalter facilities shall remain in operation throughout the construction of the Project, unless approved by the District during scheduled shutdown periods. At the time of issuance of this Section, the Perris II Desalter is currently under construction and is expected to be in operation mid-2021. The Contractor shall coordinate with the District and Perris II Desalter Contractor to avoid impacts to that project's construction, start-up and testing schedule. Shutdowns for this Project shall be scheduled around the critical start-up and testing periods of the Perris II Desalter, in particular any periods that require operation of the brine discharge pipeline.
4. Draining and dewatering of **liquid (liquid only, no solids)** from the brine pipeline during shutdown period(s) shall be as follows:
  - a. The District will shut down all Desalination Complex facilities, processes and operations that require use of the brine pipeline, including the truck waste disposal facility.
  - b. The District will close the isolation valves at the brine pump station discharge.
  - c. The District will open the isolation valves at the interconnection to the Reach 4 recycled water booster station discharge.
  - d. The District will flush the brine pipeline with recycled water for not less than 48 hours.
    - i. This operation will fully displace all brine liquid within the pipeline with recycled water.

- e. The District will close the isolation valves at the interconnection to the Reach 4 recycled water booster station discharge.
- f. The District will notify the Contractor of completion of the steps above with authorization to proceed with dewatering. The Contractor shall be responsible for dewatering of all liquid from the pipeline.
- g. The Contractor shall drain and dewater the liquid contents of the brine pipeline (recycled water only) to one or more of the District's sewer manholes shown in Figure F-2.
  - i. Estimated volume to drain is approximately 560,000 gallons
  - ii. Contractor shall high-line, where feasible, to pump directly into sewer; where not feasible Contractor shall truck to nearby manhole for discharge to sewer.
    - 1. Contractor shall provide all temporary equipment, facilities and safety devices as necessary to ensure a safe discharge operation.
    - 2. Contractor shall provide and implement City-approved traffic control plans as necessary, including but not limited to any k-rails or other safety barriers.
    - 3. The Contractor may shallow-bury and/or plate temporary pipeline(s) if required and upon review and approval by the City and the District.
  - iii. Maximum allowable rates of discharge into sewer manholes are shown in Figure F-2. The Contractor shall coordinate with the District to ensure that the discharge of water into the sewer manhole(s) shall not cause a significant backwater effect in the sewer or affect operations of the District's lift stations or water reclamation facilities. The Contractor shall monitor the flow into the sewer manhole(s), and if the sewer starts flowing more than half-full, the Contractor shall adjust the rate of flow into the sewer so that the sewer flows at less than half-full during dewatering of the brine pipeline.
  - iv. There are three primary low points on the brine pipeline within the work limits, equipped with existing blow off facilities, which Contractor may utilize for dewatering purposes, located at approximate stations 580+66, 646+40, and 701+90 (see Figure F-2).

5. Dewatering and disposal of **brine scale (solids, sludge)** from the brine pipeline which results from pipeline cleaning shall be as follows:

- a. Contractor is responsible for cleaning of brine pipeline and disposal of all brine scale (solids, sludge) removed from the pipeline. See Section 00100 (Special Conditions) and Specification Section 02760.
- b. Solids and sludge removed from the brine pipeline shall be transported and processed by the Contractor to approved facilities meeting all applicable laws and regulations.
  - i. Contractor is responsible for proper disposal of all brine scale material in a manner and at locations suitable to the District and all governing health and regulatory agencies.
  - ii. Contractor shall identify and utilize a qualified facility for legal disposal of the brine scale material. Contractor shall submit all chain-of-custody documentation, manifests and/or other waste receipts to demonstrate legal disposal.
  - iii. Contractor is responsible for dewatering and drying of the brine scale material to within a moisture content acceptable the qualified facility for disposal.
- c. **For the purposes of dewatering and drying the brine scale material, the District will make available, for the Contractor's temporary use, the existing concrete aeration basins within the District's former Sun City Regional Water Reclamation Facility (SCRWRF).** Each aeration basin is anticipated to have a storage capacity of approximately 500,000 gallons. The configuration and dimensions of the basins are shown in the available record drawings provided in Appendix M. See Figure F-1 for location of the basins. Brine scale (solids, sludge) removed from the pipeline may be temporarily stored in the aeration basins for the purposes of dewatering and drying the material, under the following conditions:
  - i. Contractor shall be responsible for handling and transportation of brine scale per all applicable laws and regulations, including but not limited to hauling from the brine pipeline to the SCRWRF and hauling from SCRWRF to the ultimate disposal location.

- ii. Contractor shall install temporary bulkheads where required to isolate interconnecting piping from the existing aeration basins.
- iii. Contractor shall continuously monitor and maintain the material within the basins for the duration of the dewatering/drying process. The anticipated dewatering/drying process is as follows:
  - 1. Contractor shall transport the brine scale material from the brine pipeline to the aeration basins.
  - 2. Solids shall be settled out, to the extent possible, via gravity within the basins.
  - 3. Liquids (decant; liquid only, no solids) shall be carefully transferred from the basins to the existing brine pump station wet well (see Figure F-1 for location).
    - a. Liquids shall be decanted a minimum of once per week until fully decanted to the extent possible.
    - b. Transfer to brine pump station may not commence until completion of required shutdown(s) and resumed operation of the brine pipeline.
    - c. Contractor shall notify the District 48 and 24 hours in advance of all proposed transfers of liquid into the brine pump station.
  - 4. Solids remaining in the basins after decanting shall be dried via evaporation.
    - a. Solids shall be dried to within the maximum moisture content allowed by the qualified disposal facility selected by the Contractor.
    - b. It is anticipated that the material will require a minimum of one month of drying per foot depth of solid material deposited in the basins.
  - 5. Dried solids shall be removed from the basins and transported to a qualified disposal facility.
    - a. **Solids shall not be placed into the brine pump station nor sent down the brine pipeline at any time.**

- iv. If the Contractor elects to utilize the aeration basins to temporarily store, dewater and dry the brine scale material, the Contractor shall be responsible for the following:
  - 1. Develop a written plan and schedule for usage of the basins, describing each of the steps to be taken, precautions to be implemented, temporary facilities to be installed, basin restoration techniques, and other pertinent information required to utilize and restore the basins to the same or better condition. The plan shall be submitted to and approved by the District prior to use of the basins by the Contractor.
  - 2. Preparing the basins to receive and temporarily store the brine scale material, including but not limited to removal of all debris, full closure and temporary plugging of all connection points (piping, valves, gates, and similar), protection of all existing equipment and materials within and adjacent to the basins.
    - a. The existing basins are surrounded by handrail and grated walkways. Any associated modifications or construction of temporary improvements to facilitate equipment access for dumping and removal of brine scale material shall be the responsibility of the Contractor.
  - 3. Transporting the brine scale material, either by tanker trucks, or other methods, to the basins. The Contractor shall be responsible for any spills of the brine liquid and solids, including meeting all laws and regulations of governing jurisdictions, and meeting all requirements of the District to mitigate the spills. The Contractor is responsible for payment of any fines and penalties that may occur due to a spill, including all processing of the fine and mitigation methods stipulated by the fine and penalty.
  - 4. Maintenance of the brine scale material (solids, sludge, liquids) when stored within the aeration basins. Maintenance may include, and is not limited to,

assuring water surface levels are in safe ranges to avoid spills including during seismic events; providing safety barriers and safety equipment (e.g. emergency throw rings) around the liquid; protection against entry by wildlife; maintaining brine water quality to acceptable standards by the District during the temporary storage period; and minimizing odors emanating from the stored solids and liquids.

5. Dewatering (via settling) and drying (via evaporation) of the brine scale material within the basins; the anticipated dewatering/drying process is described above. The Contractor is responsible for all temporary facilities necessary to monitor, transfer, and otherwise handle the brine liquids and solids to complete the dewatering and drying process. Transfer of liquid decant from basins to brine pump station wet well is anticipated to require temporary pumps and highline by Contractor. Contractor shall ensure vehicular access is maintained to and through District properties at all times; Contractor shall provide temporary ramps for highline where required to maintain said access.
6. Safe removal of the brine scale material from the basins upon completion of the dewatering and drying process for transportation and disposal at a qualified disposal facility.
  - a. The aeration basins are a permit-required confined space.
7. Cleaning and restoration of the basins upon completion of temporary storage activities. Restoration of the basins shall be to the same or better condition than originally provided to the Contractor. Remove all temporary plugs and closures at connection points (piping, valves, gates, and similar) to meet the original condition of those connection points. Wash down all basins utilized and properly dispose of the wash down liquid. Remove all temporary facilities and equipment

installed to maintain the basins during the Contractor's usage period.

8. Basins shall be completely cleaned and restored by the Contractor immediately upon removal of the brine scale material from the basins. In any case, the basins shall be completely cleaned and restored by the Contractor within 90 calendar days of Substantial Completion.
- d. **Alternately, for the purposes of dewatering and drying the brine scale material, the District will make available, for the Contractor's temporary use, a portion of the existing recycled water Pond #3 within the District's former Sun City Regional Water Reclamation Facility (SCRWRF) for construction of a temporary drying bed.** If the Contractor elects this option, the Contractor shall construct a temporary drying bed within Pond #3, as shown in Figure F-3. Use of existing Pond #3 for this purpose shall be subject to the same conditions outlined above for use of the existing aeration basins.
- e. **Alternately, for the purposes of dewatering and drying the brine scale material, the District will make available, for the Contractor's temporary use, the existing lined flow equalization basin within the District's former Sun City Regional Water Reclamation Facility (SCRWRF).** The configuration and dimensions of the basin are shown in the available record drawings provided in Appendix N. See Figure F-1 for location of the basin. The capacity of the basin is estimated to be 400,000 gallons. Use of the existing flow equalization basin for this purpose shall be subject to the same conditions outlined above for use of the existing aeration basins; additionally, if the Contractor elects this option:
  - i. Use of the flow equalization basin will require the Contractor to remove a portion of the existing chain link perimeter fence, and to install a corresponding chain link drive gate (per EMWD D-672 or equal) to facilitate access to the basin (or temporarily remove a section of fence and replace in kind upon removal of solids); width shall be minimum required to facilitate equipment access for dumping and removal of solids.
  - ii. Estimated volume of solids to be removed from the pipeline is as indicated in the bidding sheets. Contractor shall verify

adequacy of the available storage capacity in this basin prior to use, based on flushing water volume to be generated by qualified pipeline cleaning subcontractor in addition to estimated volume of solids per the bidding sheets.

- iii. In addition to basin preparation requirements described in paragraph 1.06/a.5.c.iv.2. above, prior to use, Contractor shall:
  - 1. Repair any tears or other breaches in the existing liner.
  - 2. Temporarily relocate existing aeration equipment.

**If the Contractor elects NOT to utilize the District's existing aeration basins, recycled water Pond #3, or flow equalization pond, as outlined above, to temporarily store, dewater and dry the brine scale material, then:**

- f. Contractor shall identify and utilize qualified facilities for both dewatering and disposal of the brine scale per all Federal, State, Regional, and Local regulations.
  - i. Contractor shall secure their own storage yard and provide all temporary facilities for the handling, processing, dewatering, drying of the brine scale (solids, sludge) as required for legal disposal. Contractor must obtain written permission from affected property owners and/or agencies per Special Conditions SC-24.
- g. Contractor shall develop a written plan for transportation, handling, dewatering, drying and disposal of the brine scale material, describing each of the steps to be taken, precautions to be implemented, temporary facilities to be installed, restoration techniques, and other pertinent information required to utilize and restore the offsite property or facilities to the same or better condition. The plan shall be submitted to and approved by the District.
- h. The Contractor and their subcontractor are responsible for properly handling, transporting and storing the brine scale per all Federal, State, Regional, and Local regulations.



6. The work for the Project is anticipated to be located within the following jurisdictions, easements and properties:
  - a. City of Menifee right-of-way
  - b. Riverside County Flood Control and Water Conservation District (RCFC&WCD) right-of-way (i.e. Salt Creek Trail)
  - c. Eastern Municipal Water District property and easements

Work within the City of Menifee and County of Riverside, including within the Salt Creek Trail, will require the Contractor to submit and obtain encroachment permits to perform the work. Work within District properties and easements (outside of the Salt Creek Trail) can occur without issuance of encroachment permits, and upon receipt of District approval. The Contractor may perform work within District properties and easements at the same time period when the Contractor is preparing for, submitting and securing approvals from the City of Menifee and County of Riverside.

The Contractor is responsible for preparing and implementing all traffic control plans and Salt Creek Trail pedestrian detour plans required as part of the encroachment permit process.

B. Detailed Sequence of Work – The following presents one sequence approach to perform the work with minimal shutdowns and disruptions to District facilities, and is provided as an example and guide for the Contractor. The actual sequence of work shall be prepared by the Contractor as part of their detailed Baseline Schedule development.

1. Contractor mobilization, staging area setups, submittals preparation and processing, encroachment permit preparation, and other project initiation activities.
2. Non-shutdown construction of the improvements within District property and easements. During this period, it is anticipated that (A) the RCFC&WCD encroachment permit will be submitted for and secured by the Contractor and (B) the Contractor will prepare traffic control plans and other documents required to obtain the City of Menifee encroachment permit.

3. Non-shutdown construction of the improvements within the Salt Creek Trail (those locations outside of District easements requiring the RCFC&WCD encroachment permit). During this period, it is anticipated that the Contractor will submit for and secure the City of Menifee encroachment permit.
4. Brine pipeline shutdown required to make connections of improvements within District property and the Salt Creek Trail.
5. Completion of non-shutdown improvements within District property and the Salt Creek Trail (RCFC&WCD encroachment permit areas).
6. Non-shutdown construction of the improvements within the City of Menifee right-of-way (those locations requiring the City encroachment permit). This step may occur during the same time period as Step 5.
7. Brine pipeline shutdown required to make connections of improvements within City of Menifee right-of-way (encroachment permit locations).
8. Completion of non-shutdown improvements within City of Menifee right-of-way (encroachment permit locations).
9. Final civil improvements at all sites, including pavement, curb, gutter, sidewalk, trails, landscaping, irrigation and other required improvements and repairs. These restoration activities should be performed as soon as possible to restore City right-of-way and Salt Creek Trail surface and street improvements as quickly as possible.
10. Brine pipeline shutdown(s) to clean the interior of the brine pipeline for the limits noted in the Contract Drawings.
11. Final inspection, testing and District acceptance of the project improvements.
12. Restoration of any contractor staging areas and demobilization.

C. Detailed Sequence of Work (Alternate) – The following presents an alternate sequence approach to perform the work with minimal shutdowns and disruptions to District facilities, and is provided as an example and guide for the Contractor. The actual sequence of work shall be prepared by the Contractor as part of their detailed Baseline Schedule development.

1. Contractor mobilization, staging area setups, submittals preparation and processing, encroachment permit preparation, and other project initiation activities.
2. Non-shutdown construction of the proposed improvements. This may include but not be limited to pre-digging, shoring and plating of excavations, as well as staging and pre-assembly of piping to the extent possible.
3. Brine pipeline – single 30 day shutdown (in lieu of three to four 7-day shutdowns) required to dewater the pipeline, make connections of all improvements and to clean the interior of the brine pipeline for the limits noted in the Contract Drawings. Excludes setting of manholes, backfill/compaction, and other improvements above the pipeline.
4. Manhole improvements and vault lids; final civil improvements at all sites, including pavement, curb, gutter, sidewalk, trails, landscaping, irrigation and other required improvements and repairs. These restoration activities should be performed as soon as possible to restore City right-of-way and Salt Creek Trail surface and street improvements as quickly as possible.
5. Temporary storage, dewatering, drying and disposal of brine scale material, in parallel with final manhole and civil improvements.
6. Final inspection, testing and District acceptance of the project improvements.
7. Restoration of any contractor staging areas and demobilization.

## **PART 2 – EXECUTION**

### **2.01. Coordination of Work.**

- A. Contractor shall maintain overall coordination of work execution.
- B. Contractor shall obtain schedules from subcontractors and suppliers and assume responsibility for completeness and accuracy.
- C. Contractor shall incorporate schedules from subcontractors and suppliers into Progress Schedule to plan for and comply with work, sequencing, and shutdown constraints.
- D. Other construction projects within the project limits are anticipated to occur during the contract period of this project. These may include projects within the District's Sun City Regional Water Reclamation Facility and Desalter Complexes, the County of Riverside Salt Creek Trail, developer projects within Audie Murphy Ranch, and nearby City of Menifee roadway improvement projects. The Contractor shall make themselves aware and become familiar with these projects. The Contractor shall coordinate with each of these project's contractors to understand their schedule and locations of work. The Contractor shall take this information into account in development of the project schedule.

2.02. Work by Others.

- A. Where proper execution of the work depends upon work by others, inspect and promptly report discrepancies and defects.

2.03 General Requirements for Execution of Work.

- A. Locate temporary facilities in a manner that minimizes interference to District's operation and maintenance personnel.
- B. Unless otherwise specified, install temporary pipelines of the same size as its connection to the existing facility at the downstream end of the pipeline.
- C. Provide piping of suitable material for the material being conveyed.

**PART 3 – PIPELINE CONNECTION EXECUTION**

### 3.01. General.

A. The District Desalter Facilities must remain in service during construction of the project improvements, except for approved shutdown periods, and unless approved otherwise by the District. Connections shall take place during approved brine discharge pipeline shutdown periods.

B. Prior to the connection installation, minimize shutdown durations by:

1. Potholing of existing nearby utilities and all proposed connection points
2. Excavation of all connection point locations prior to the planned shutdown where allowed by the District, and where damage or failure of the District facilities will not occur due to the excavation.
3. Installation of non-shutdown improvements required to assist and minimize the connection work to be performed.
4. Pre-assembly of connections where possible.
5. Identification other activities that can be performed to assist in reducing shutdown durations.

C. Upon connection installation, minimize shutdown durations by:

1. Immediate installation of all restraining devices, and concrete bases, pads, and blocks required to secure the connections in place.
2. Immediate installation and securing of all blind flanges, valves, corporation stops, and other plugs required to be in place prior to re-pressurizing the brine pipeline.
3. Performing all inspections and testing immediately after improvement installation and curing periods.
4. Advanced preparation of existing pipeline appurtenances required to be in place for re-pressurizing including existing air valves (to bleed off air), isolation valves (to confirm they are open), corporation stops (to bleed off air), and other appurtenances
5. Identification other activities that can be performed during the shutdown to assist in re-energizing the pipeline as quickly as possible.

D. Note that all dewatering quantity estimates provided in the Contract Documents are approximate and do not include any possible valve leak-by. Refer to tables and exhibits

shown herein and refer to the shutdown coordination information table in the Contract Drawings.

E. District staff shall open and close all valves required for dewatering and filling, unless approved otherwise by the District Engineer. Contractor shall coordinate with District staff in advance for opening and closing of valves.

F. The Sequence of Work in Part 1.06 includes suggested shutdown periods for construction of the project connections. The final sequence of construction, including shutdowns and connections to the existing pipeline, shall be prepared by the Contractor and submitted for review and approval by the District. The Contractor shall coordinate with the District to hold a shutdown coordination workshop(s) upon submittal of the Contractor's shutdown sequence plans. See the Special Conditions for additional requirements for the workshop(s).

### 3.02. Shutdown Coordination Table

See the Contract Drawings for the Shutdown Coordination Table.

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Figure F-1: Brine Pipeline Dewatering – Desalination Complex and Former Sun City RWRf Facilities

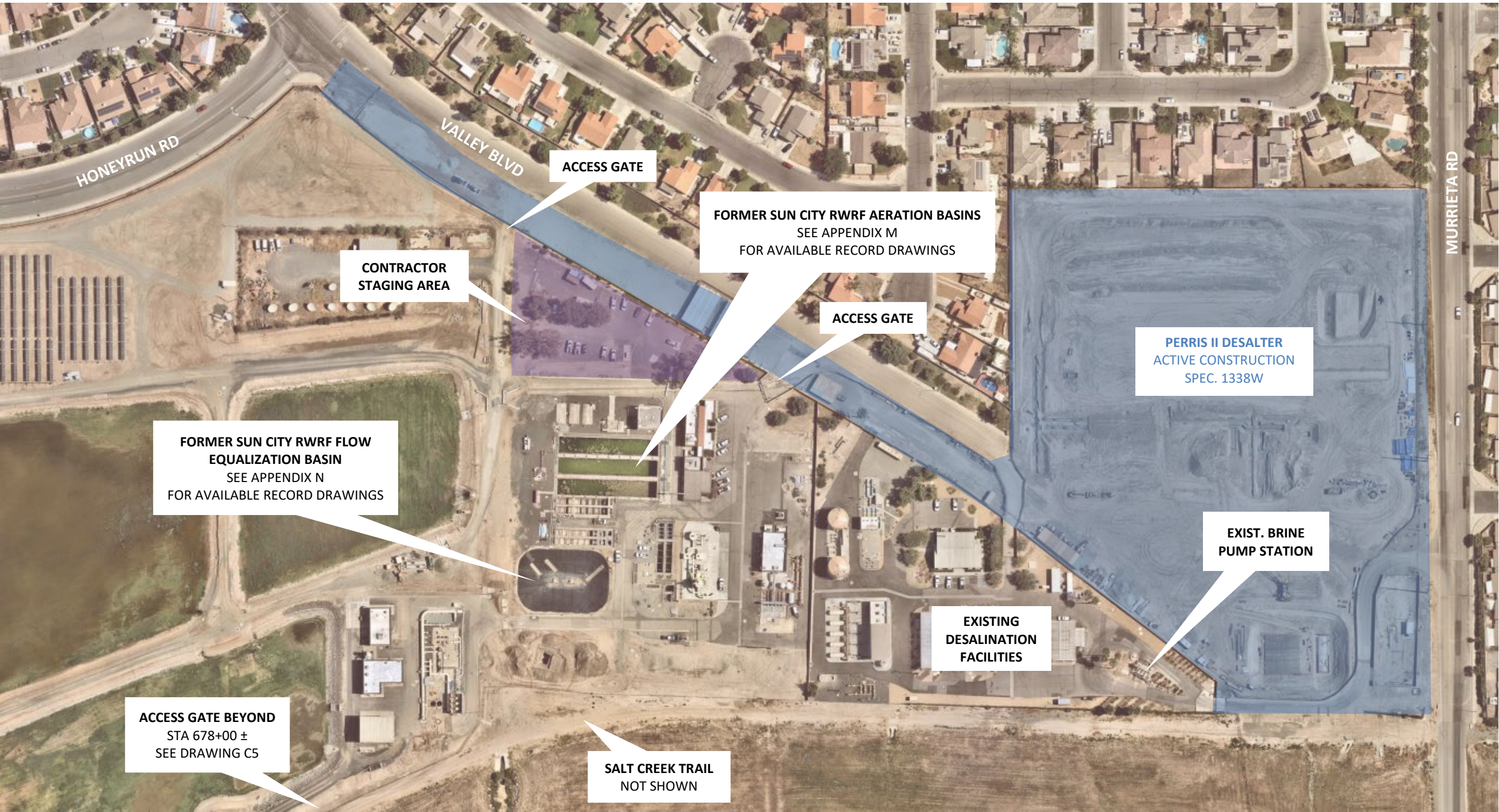




Figure F-2: Brine Pipeline Dewatering – Sewer Manhole Locations

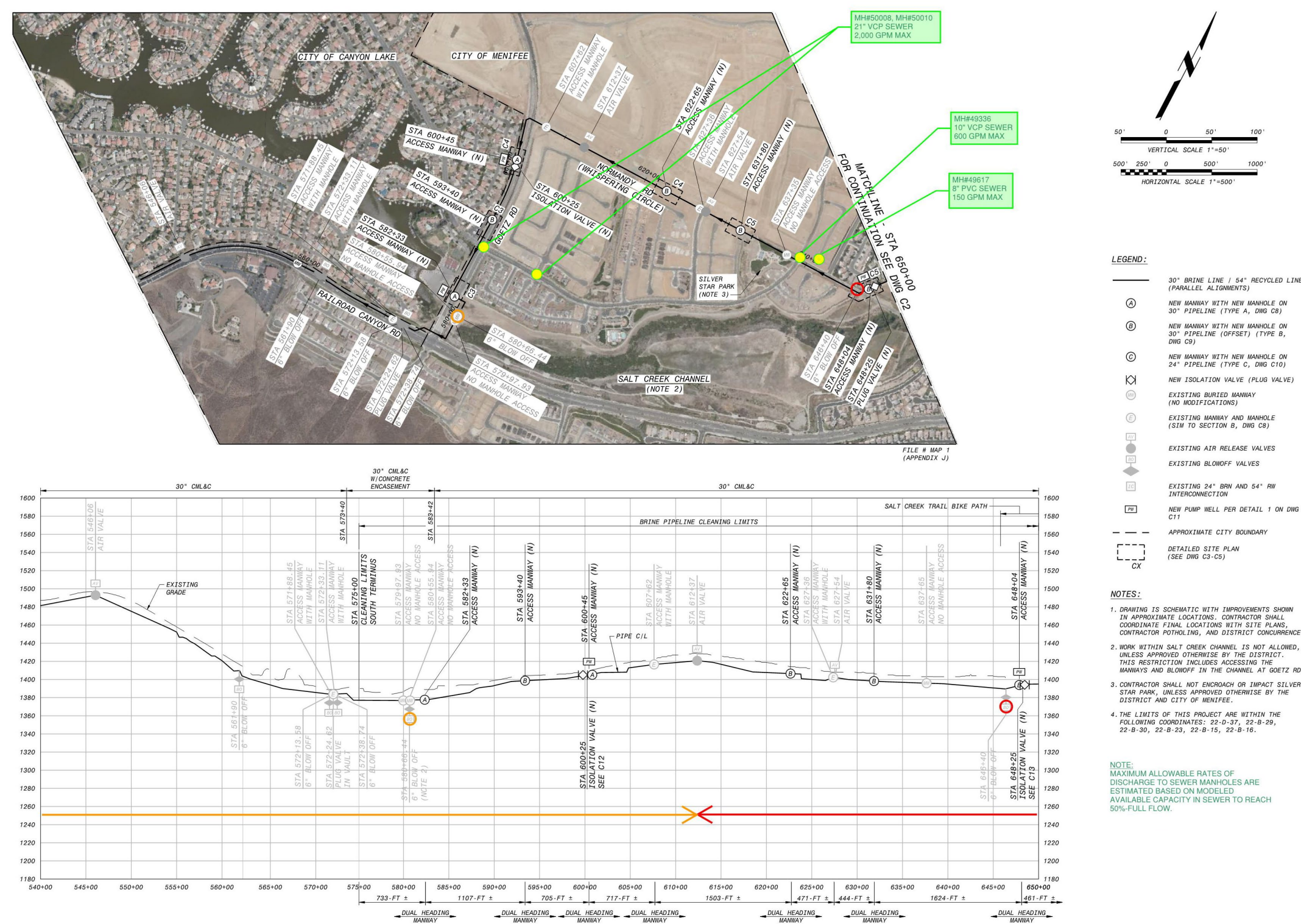




Figure F-2: Brine Pipeline Dewatering – Sewer Manhole Locations

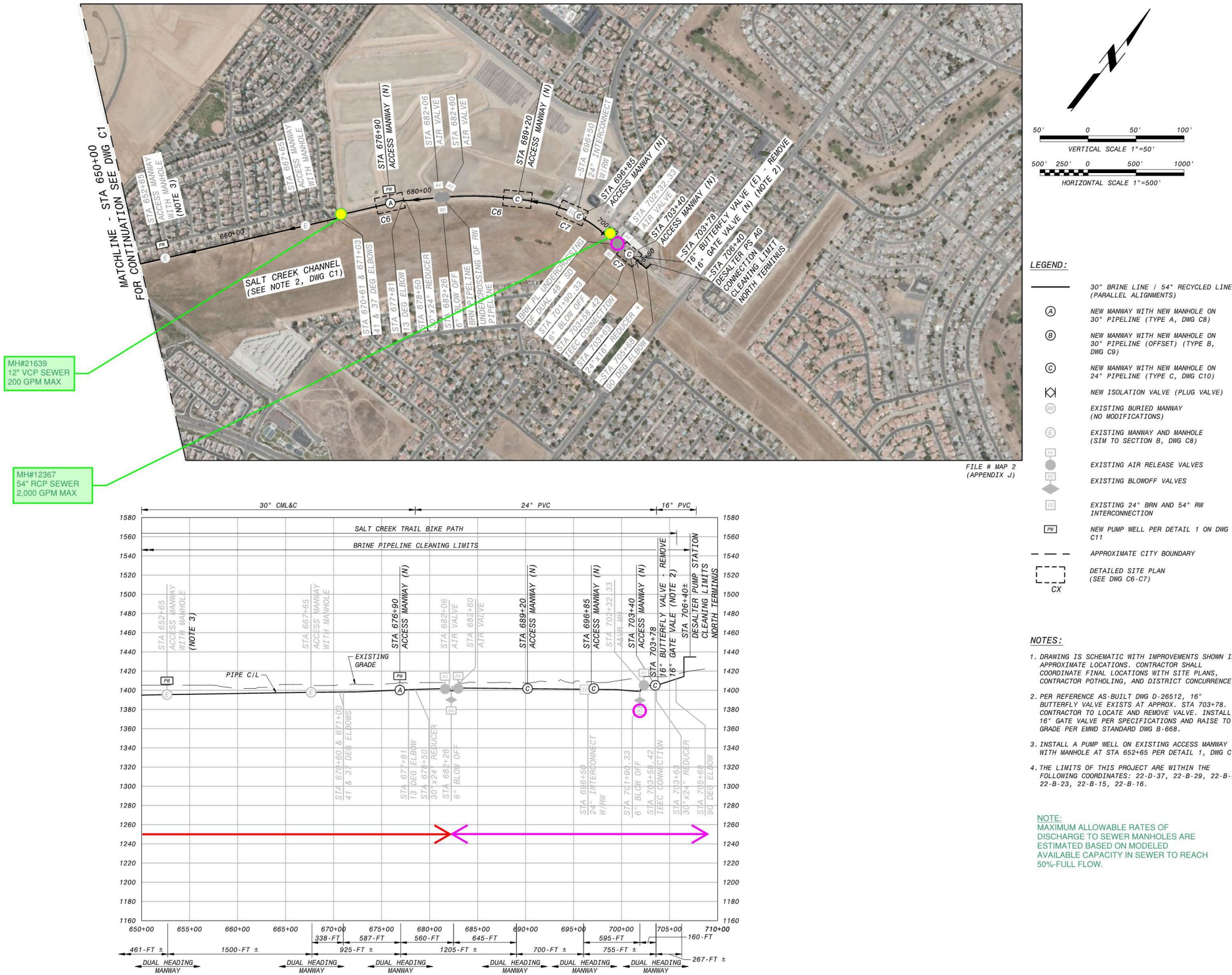




Figure F-3: Brine Pipeline Dewatering – Temporary Drying Bed (Plan)

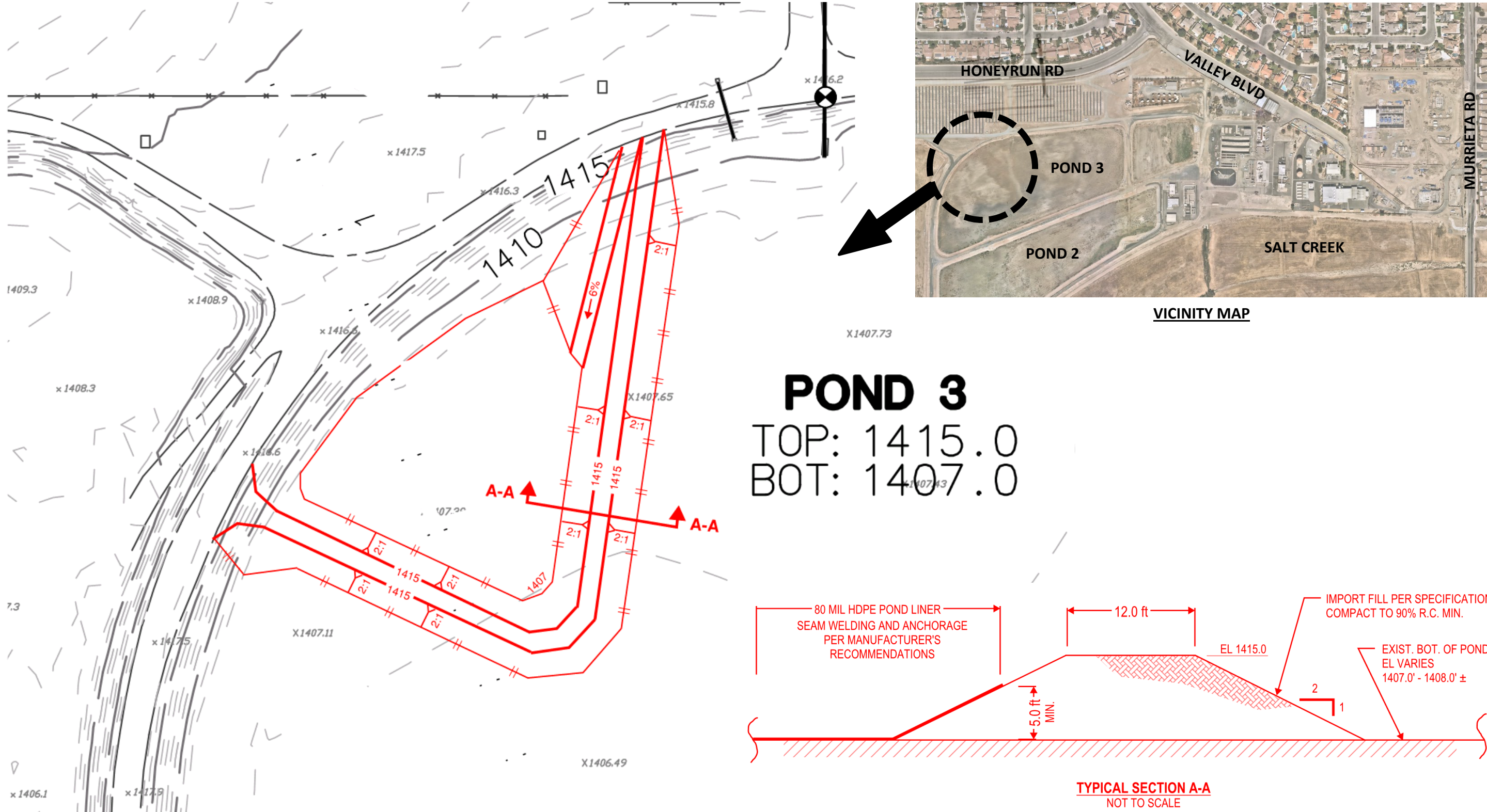


Figure F-4: Contractor Staging Area



END OF APPENDIX F

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