SAUSALITO-MARIN CITY
SANITARY DISTRICT
Marin County, California

PLANS
FOR THE CONSTRUCTION OF
SECONDARY SEDIMENTATION TANKS
IMPROVEMENTS

NUTE ENGINEERING
907 Mission Ave.
San Rafael, California
Tel: 415-453-4480
Fax: 415-453-0343

JUNE 2016
GENERAL PROJECT NOTES

1. The contractor agrees that, in accordance with generally accepted construction practices, the contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the Project. Including, but not limited to, all injuries and property damage. Responsibility for job site conditions shall remain with the contractor until such time as the completed Project is turned over to normal working hours.

2. Hours of work shall be limited to 6:30 AM to 3:00 PM Monday through Friday without prior written approval.

3. The contractor shall post emergency telephone numbers for police, fire, and ambulance, and those agencies responsible for maintenance of utilities in the vicinity of job sites.

4. The general contractor is responsible for coordinating all of the work performed by his subcontractors, without exception.

5. The contractor shall identify a responsible contact person, who is an employee of the contractor, and a 24-hour telephone number to call to resolve prorations with Mosul, Delta, or other contractor-related issues.

6. While working on the Project, the contractor and all subcontractors shall comply with all the confined spaces entry procedures for all permit space entries.

7. Tank floor shall be sprayed down but not disinfected. Floors will remain slippery, especially when wet. Contractor shall use caution when working on tank floor to prevent injury.

8. Contractor shall provide all necessary lighting, gas detectors, ventilation fans, comp and spoil attendant equipped with sign in/out sheet, rescue tripod, etc. as required to enter and work in a confined space and in addition. Contractor’s permit required confined space guidelines.

9. Contractor shall identify a responsible contact person, who is an employee of the contractor, and a 24-hour telephone number to call to resolve prorations with Mosul, Delta, or other contractor-related issues.

10. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. INCLUDING, BUT NOT LIMITED TO, ALL INJURIES AND PROPERTY DAMAGE. RESPONSIBILITY FOR JOB SITE CONDITIONS SHALL REMAIN WITH THE CONTRACTOR UNTIL SUCH TIME AS THE COMPLETED PROJECT IS TURNED OVER TO NORMAL WORKING HOURS.

11. HOURS OF WORK SHALL BE LIMITED TO 6:30 AM TO 3:00 PM MONDAY THROUGH FRIDAY WITHOUT PRIOR WRITTEN APPROVAL.

12. THE CONTRACTOR SHALL IDENTIFY A RESPONSIBLE CONTACT PERSON, WHO IS AN EMPLOYEE OF THE CONTRACTOR, AND A 24-HOUR TELEPHONE NUMBER TO CALL TO RESOLVE PRORATIONS WITH MOSUL, DELTA, OR OTHER CONTRACTOR-RELATED ISSUES.

13. WHILE WORKING ON THE PROJECT, THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL THE CONFINED SPACES ENTRY PROCEDURES FOR ALL PERMIT SPACE ENTRIES.

14. TANK FLOOR WILL BE SPRAYED DOWN BUT NOT DISINFECTED. FLOORS WILL REMAIN SLIPPERY, ESPECIALLY WHEN WET. CONTRACTOR SHALL USE CAUTION WHEN WORKING ON TANK FLOOR TO PREVENT INJURY.

15. CONTRACTOR SHALL PROVIDE ALL NECESSARY LIGHTING, GAS DETECTORS, VENTILATION FANS, COMP AND SPOIL ATTENDANT EQUIPPED WITH SIGN IN/OUT SHEET, RESCUE TRIPOD, ETC. AS REQUIRED TO ENTER AND WORK IN A CONFINED SPACE AND AS OUTLINED IN OSHA’S PERMIT REQUIRED CONFINED SPACE GUIDELINES.

16. CONTRACTOR SHALL IDENTIFY A RESPONSIBLE CONTACT PERSON, WHO IS AN EMPLOYEE OF THE CONTRACTOR, AND A 24-HOUR TELEPHONE NUMBER TO CALL TO RESOLVE PRORATIONS WITH MOSUL, DELTA, OR OTHER CONTRACTOR-RELATED ISSUES.

17. THE CONTRACTOR SHALL NOTIFY THE DISTRICT’S REPRESENTATIVE IMMEDIATELY, UPON DISCOVERY OF ANY POTENTIAL FIELD CONFLICTS.

18. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL SOUND CONTROL AND NOISE LEVEL REGULATIONS AND REQUIREMENTS WHICH APPLY TO ANY WORK PERFORMED UNDER THE CONTRACT. EACH INTERNAL COMBUSTION ENGINE USED ON THE PROJECT SHALL BE EQUIPPED WITH A MUFFLER RECOMMENDED BY THE MANUFACTURER. NO INTERNAL COMBUSTION ENGINE SHALL BE OPERATED ON THE PROJECT WITHOUT SAID MUFFLER. NOISE LEVELS SHALL BE KEPT TO THE SATISFACTION OF THE CITY OR COUNTY ENGINEER.

19. THE CONTRACTOR IS RESPONSIBLE FOR OFF-HAUL AND DISPOSAL OF ALL REMOVED EQUIPMENT UNLESS NOTED OTHERWISE.

LAYOUT NOTES

11. ALL ELEVATIONS ON THE DRAWINGS ARE ASSUMED.

12. HORIZONTAL AND VERTICAL DIMENSIONS PROVIDED ON THE DRAWINGS ARE APPROXIMATE FIELD MEASUREMENTS. ANY VARY FROM THOSE ON THE DRAWINGS.

13. THE CONTRACTOR IS RESPONSIBLE FOR ALL FIELD MEASUREMENTS OF EXISTING TANKS.

14. LAYOUT AND INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS AND TOLERANCES.

15. SHOULD IT APPEAR THAT THE WORK TO BE DONE OR ANY MATTER RELATIVE THERETO, IS INSUFFICIENTLY OR INCORRECTLY DETAILED OR EXPLAINED ON THESE PLANS, CONTRACTOR SHALL CONTACT THE DISTRICT’S REPRESENTATIVE FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.

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18. CONTRACTOR IS REQUIRED TO SUBMIT DETAILED AS BUILT DRAWINGS AND OPERATION AND MAINTENANCE MANUALS. FINAL PAYMENT OR RELEASE OF RETENTION WILL NOT BE APPROVED UNTIL AFOREMENTIONED SUBMITTALS HAVE BEEN FAVORABLY REVIEWED.

19. ALL SCADA AND ALARM SIGNALS AND TERMINATION POINTS SHALL BE COORDINATED WITH CALCON SYSTEMS (FRANK ORTEGA, 925-277-0665).

20. ALL CONNECTIONS TO SCADA AND PROGRAMMING TO BE PERFORMED BY OTHERS (CALCON SYSTEMS).

21. ALL CONNECTIONS TO POWER CIRCUITS AND ALL SHUTDOWNS SHALL BE COORDINATED WITH DISTRICT ASSOCIATE ENGINEER.

22. CONTRACTOR SHALL PROVIDE A GENERATOR SUITABLE TO MEET ALL TEMPORARY POWER REQUIREMENTS. SEE NOTE 13, ABOVE.
EXISTING ACCESS FOR PORTABLE LADDER - TO SECONDARY SEDIMENTATION TANK NO.2

INSTALL TWO TYPE 316L SS CONTROL PANELS WITH LIGHTS, ALARMS AND OFF/ON SWITCHES ON TYPE 316 SS UNISTRUT SUPPORT, PER SPECIFICATIONS, SEE ELECTRICAL DRAWINGS.

EXISTING ACCESS FOR PORTABLE LADDER - TO SECONDARY SEDIMENTATION TANK NO.1

ROUTE CONDUIT OVER EXISTING CONTROL PANEL, ABOVE GRADE CONDUITS SHALL BE PVC COATED RGS.

DECK PLAN

CIRCUIT SCHEDULE

<table>
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<tr>
<th>CIRCUIT</th>
<th>REQUIREMENTS</th>
<th>FROM</th>
<th>TO</th>
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<tr>
<td>1/2</td>
<td>PVC COATED RGS EYES FITTINGS</td>
<td>WEST MOTOR, GEAR BOX AND TENSIONER</td>
<td>(E) DISCONNECT, 30A, NEMA 4X, 600V</td>
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<td>1/4</td>
<td>PVC COATED RGS FITTINGS</td>
<td>EXISTING ACCESS FOR PORTABLE LADDER, TOP</td>
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<td>WEST MOTOR, GEAR BOX AND TENSIONER</td>
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NOTE: FIELD VERIFY ALL GATE OPERATOR DIMENSIONS.
ENTIRE SCAPER MECHANISM IN EACH TANK SHALL BE REMOVED AND REPLACED PER SPECIFICATIONS

MECHANISM SHAFT DESIGNATIONS

SHAFT A: REPLACE STEEL DRIVE SHAFT (HEAD SHAFT) W/ FIBERGLASS SHAFT, FULL TANK WIDTH
SHAFT B: REPLACE STEEL TOP IDLER SHAFT W/ TWO STUB SHAFTS (PEDESTAL MOUNTS)
SHAFT C: REPLACE STEEL TAIL IDLER SHAFT W/ TWO STUB SHAFTS (PEDESTAL MOUNTS)
SHAFT D: REPLACE STEEL LOWER IDLER (SEDIMENT DISCHARGE) SHAFT W/ TWO STUB SHAFTS (PEDESTAL MOUNTS)

PIT PLAN

SCALE: 1/4" = 1'-0"
EXISTING ACCESS FOR PORTABLE LADDER TO SECONDARY SEDIMENTATION TANKS, SEE DECK PLAN

REPLACE 3 SLIDE GATES, SEE DECK PLAN AND SH 10

(A) SLIDER GUIDE RAILS TO REMAIN, TYP OF 4 UPPER RAILS AND 4 LOWER RAILS. RAILS MAY REQUIRE ADJUSTMENTS THAT REQUIRE REMOVAL OF (E) ANCHORS AND INSTALLATION OF (N) ANCHORS

(E) SIDE CURBS, SEE DETAIL

(E) END FILLETS, SEE DETAIL

DRIVE (HEAD) SHAFT

TOP IDLER SHAFT

LOWER IDLER SHAFT

TAIL IDLER SHAFT

EFFECTIVE ENGINEERING

SECTION A

SECONDARY SEDIMENTATION TANKS IMPROVEMENTS
SAUSALITO-MARIN CITY SANITARY DISTRICT
Marin County, California

MECHANICAL

SECTION A

SCREW SPROCKET

DIMENSIONS (TEETH)

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<td>C</td>
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DRIVE SPROCKETS

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<td>DRIVE SPROCKET SHAFT</td>
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<td>DRUM TENSIONER</td>
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ENTIRE COLLECTION SYSTEM AND MONITORING ASSEMBLY IN EACH TANK SHALL BE REMOVED AND REPLACED PER SPECIFICATIONS

DIMENSIONS (TEETH)

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SCRAPER SPROCKET

DIMENSIONS (TEETH)

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</table>
SECONDARY SEDIMENTATION TANKS IMPROVEMENTS
SAUSALITO-MARIN CITY SANITARY DISTRICT
Marin County, California

DEMOlish (E) STEEL GUIDE RAIL

1. Cut web of (E) steel as required.
2. Chip out grout cap.
3. Remove (E) plastic wear strip and stainless steel anchors. Saw cut edges and remove concrete up to 4" deep to facilitate removal of the rail. Cuts shall span a minimum of 16" as indicated to facilitate installation of rebar dowels. Do not cut existing rebar below rail depth. The contractor shall remove the entire rail and base and cut all tie wires and welds from the existing rebar as necessary.

INSTALL SCH 80 PVC CONDUITS, STRAP TO WALLS AND CEILING W/ TYPE 316 SS STRAPS, SEE ELECT. DWGS AND SHT.

PATCH CUT OUT

1. Drill 3/8" holes, 6" deep set dowels w/ non-sag epoxy grout.
2. Apply concrete seal to (E) concrete.
3. Install (N) plastic wear strip and type 316 stainless steel anchors as per specifications and per manufacturer's recommendation. Allow 3 days min cure before installing anchors in new concrete.

CONTRACTOR SHALL LEVEL (E) LAUNDERS TO WITHIN 1/4" TOLERANCE. THIS TOLERANCE APPLIES TO EACH INDIVIDUAL LAUNDER AS WELL AS THE COMBINED PAIR OF LAUNDERS. CARE MUST BE TAKEN TO IDENTIFY LEVELS FROM ONE TANK TO THE OTHER AS THERE IS NO LINE OF SIGHT BETWEEN THEM. THE LAUNDERS WORK IN PARALLEL AND CAN SHORT CIRCUIT IN ONE TANK IF LEVELS ARE NOT EQUAL.

CONTRACTOR SHALL REMOVE (E) SPRINKLER PIPING AND PIPING SUPPORTS MOUNTED TO LAUNDERS.
SECONDARY SEDIMENTATION TANKS IMPROVEMENTS
SAUSALITO-MARIN CITY SANITARY DISTRICT
Marin County, California

SHAFT A
(E) DRIVE SHAFT AT MOTOR

SHAFT A
(E) DRIVE SHAT AT DIVIDING WALL

SHAFT B
(E) NEW IDLER SHAFT

PROPOSED EQUIPMENT LAYOUT

TANK SCRAPER ASSEMBLY

NOT TO SCALE

FOR REFERENCE ONLY
SECONDARY SEDIMENTATION TANKS IMPROVEMENTS
SAUSALITO-MARIN CITY SANITARY DISTRICT
Marin County, California

PROPOSED FLIGHT ASSEMBLY
(FOR REFERENCE ONLY)

18 FLIGHTS PER TANK (36 TOTAL)
FIELD VERIFY

SECTION A-A

* PLEASE FURNISH THESE DIMENSIONS

PROPOSED FLIGHT ASSEMBLY
(FOR REFERENCE ONLY)
REMOVE (E) SHAFT AND ALL RELATED CHAIN COMPONENTS AND MOUNTING HARDWARE.

RELOCATE, ADJUST, TRIM OR EXTEND LOWER GUIDE RAILS AS REQUIRED TO ACCOMMODATE THE NEW STUB SHAFT PEDESTAL. MOUNT, RELOCATE SHAFT CENTERLINE TO MANUFACTURERS RECOMMENDED TOLERANCES FROM END WALL AND FLOOR.

INSTALL (N) 3" SCH 40 PVC CONDUITS, STRAP TO WALLS AND CEILING IN TYPE 316L OR FIBERGLASS UNISTRUT TYPE PIPE SUPPORTS AT 6' O.C., NO SPLICING OR JUNCTION BOXES ARE PERMITTED INSIDE THE TANK, SEE ELEC DWGS AND DECK PLAN.

REMOVE (E) END FILLETS AND REBUILD END FILLETS WITH NEW RADIUS PER MANUFACTURER'S RECOMMENDATION, SEE SPECS.

REPLACE ALL EXISTING SHAFTS, SHAFT ANCHORAGES, BELTS, MOUNTING PLATES AND GROUT, 16 LOCATIONS.

RELOCATE, ADJUST, TRIM OR EXTEND LOWER GUIDE RAILS AS REQUIRED TO ACCOMMODATE THE NEW STUB SHAFT PEDESTAL MOUNTS. RELOCATE SHAFT CENTERLINE TO MANUFACTURERS RECOMMENDED TOLERANCES FROM END WALL AND FLOOR.

REMOVE AND DEMOLISH EXISTING SHAFTS, SHAFT ANCHORAGES, BELTS, MOUNTING PLATES AND GROUT, 16 LOCATIONS.

REMOVE AND DEMOLISH EXISTING SHAFTS, SHAFT ANCHORAGES, BELTS, MOUNTING PLATES AND GROUT, 16 LOCATIONS.
REMOVE (E) WATERMAN "END" GATES AND INSTALL A NEW 30" X 30" COMPOSITE SLIDE GATE TO SEAL AGAINST 15' OF UNSEATING HEAD. FIELD VERIFY AND MATCH (E) SIDE.

CHIP OUT AND REPAIR A 5' LONG SECTION OF THE TOP OF (E) CONCRETE WALL.

NEW GATES MUST HAVE A WEDGE TYPE SEAL SUFFICIENT TO WITHSTAND 15' UNSEATING HEAD PER SPECIFICATIONS. CONSTRUCTION MUST BE TYPE 316L STAINLESS STEEL OR FIBERLITE OR APPROVED EQUAL, PER SPECIFICATIONS.

REPLACE 3 SLIDE GATES, SEE DECK PLAN FOR LOCATIONS.
SHOP DRAWING FOR (E) "END" GATES
FOR REFERENCE ONLY
EAST SEDIMENTATION TANK

WEST SEDIMENTATION TANK

CONTROL AND ALARM PANELS

NOT TO SCALE

SCADA WIRING NOTES:

ROUTE SIGNAL CONDUIT FROM EAST SIDE CONTROL PANEL TO CONTROL ROOM AS FOLLOWS:

A) 1" RIGID PVC COATED FOR ENTIRE PATH.
B) ROUTE TO FFR WALL AND UP 8'. ROUTE ALONG WALL WITH OTHER CONDUITS; TOTAL DISTANCE IS 75'.
C) ONE CORE IS REQUIRED TO ENTER THE BUILDING (8' CONCRETE).
D) THERE IS ABOUT 20' OF CONDUIT TO BE ROUTED ABOVE HANGING CEILING PANELS.
E) FIELD VERIFY DIMENSIONS.
F) COORDINATE EXACT PLACEMENT WITH OWNER PRIOR TO INSTALLATION.
G) RUN 6 SHELDED/ TWISTED PAIRS OF SIGNAL WIRES TO TERMINATION POINT IN CONTROL ROOM AND PROVIDE AN ADDITIONAL LENGTH OF 20' FOR EACH, COiled AND TAGGED.

INSTALL PVC COATED RIGID CONDUIT TO/FROM EAST CONTROL PANEL. INSTALL 1" RIGID PVC COATED FROM EAST PANEL TO WEST PANEL AND FROM WEST PANEL TO SCADA. SEE SCADA WIRING NOTES.

INSTALL TYPE 316L STAINLESS STEEL WEST CONTROL PANEL WITH ALARMS, LIGHTS AND SHUNT SWITCHES ON TYPE 316 SS UNISTRUT SUPPORT, TYP, PER SPECIFICATIONS, SEE DECK PLAN. WEST PANEL SHALL HAVE ADDITIONAL LIGHTS REPEATING THE RUN/ALARM CONDITION OF THE EAST CONTROL PANEL SEE SHEET 10.

TYPICAL UNISTRUT CONDUIT MOUNTING DETAIL

NOT TO SCALE