eurofins | Calscience

# Analytical Report

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/L |
| Project: Pure Water | | | Page 4 of 6 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-14-001-22836** | **N/A** | **Aqueous** | **GC/MS V V** | **04/01/17** | **04/01/17 23:26** | **170401L029** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Acetone | ND | 20 | 1.00 | |
| Benzene | ND | 0.50 | 1.00 | |
| Bromobenzene | ND | 1.0 | 1.00 | |
| Bromochloromethane | ND | 1.0 | 1.00 | |
| Bromodichloromethane | ND | 1.0 | 1.00 | |
| Bromoform | ND | 1.0 | 1.00 | |
| Bromomethane | ND | 10 | 1.00 | |
| 2-Butanone | ND | 10 | 1.00 | |
| n-Butylbenzene | ND | 1.0 | 1.00 | |
| sec-Butylbenzene | ND | 1.0 | 1.00 | |
| tert-Butylbenzene | ND | 1.0 | 1.00 | |
| Carbon Disulfide | ND | 10 | 1.00 | |
| Carbon Tetrachloride | ND | 0.50 | 1.00 | |
| Chlorobenzene | ND | 1.0 | 1.00 | |
| Chloroethane | ND | 5.0 | 1.00 | |
| Chloroform | ND | 1.0 | 1.00 | |
| Chloromethane | ND | 10 | 1.00 | |
| 2-Chlorotoluene | ND | 1.0 | 1.00 | |
| 4-Chlorotoluene | ND | 1.0 | 1.00 | |
| Dibromochloromethane | ND | 1.0 | 1.00 | |
| 1,2-Dibromo-3-Chloropropane | ND | 5.0 | 1.00 | |
| 1,2-Dibromoethane | ND | 1.0 | 1.00 | |
| Dibromomethane | ND | 1.0 | 1.00 | |
| 1,2-Dichlorobenzene | ND | 1.0 | 1.00 | |
| 1,3-Dichlorobenzene | ND | 1.0 | 1.00 | |
| 1,4-Dichlorobenzene | ND | 1.0 | 1.00 | |
| Dichlorodifluoromethane | ND | 1.0 | 1.00 | |
| 1,1-Dichloroethane | ND | 1.0 | 1.00 | |
| 1,2-Dichloroethane | ND | 0.50 | 1.00 | |
| 1,1-Dichloroethene | ND | 1.0 | 1.00 | |
| t-1,2-Dichloroethene | ND | 1.0 | 1.00 | |
| 1,2-Dichloropropane | ND | 1.0 | 1.00 | |
| 1,3-Dichloropropane | ND | 1.0 | 1.00 | |
| 2,2-Dichloropropane | ND | 1.0 | 1.00 | |
| 1,1-Dichloropropene | ND | 1.0 | 1.00 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Return to Contents

eurofins | Calscience

# Analytical Report

| | | |
|---|---|---|
| AECOM | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | Preparation: | EPA 5030C |
| | Method: | EPA 8260B |
| | Units: | ug/L |
| Project: Pure Water | | Page 5 of 6 |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| c-1,3-Dichloropropene | ND | 0.50 | 1.00 | |
| t-1,3-Dichloropropene | ND | 0.50 | 1.00 | |
| Ethylbenzene | ND | 1.0 | 1.00 | |
| 2-Hexanone | ND | 10 | 1.00 | |
| Isopropylbenzene | ND | 1.0 | 1.00 | |
| p-Isopropyltoluene | ND | 1.0 | 1.00 | |
| Methylene Chloride | ND | 10 | 1.00 | |
| 4-Methyl-2-Pentanone | ND | 10 | 1.00 | |
| Naphthalene | ND | 10 | 1.00 | |
| n-Propylbenzene | ND | 1.0 | 1.00 | |
| Styrene | ND | 1.0 | 1.00 | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | 1.00 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | 1.00 | |
| Tetrachloroethene | ND | 1.0 | 1.00 | |
| Toluene | ND | 1.0 | 1.00 | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | 1.00 | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | 1.00 | |
| 1,1,1-Trichloroethane | ND | 1.0 | 1.00 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 10 | 1.00 | |
| 1,1,2-Trichloroethane | ND | 1.0 | 1.00 | |
| Trichloroethene | ND | 1.0 | 1.00 | |
| Trichlorofluoromethane | ND | 10 | 1.00 | |
| 1,2,3-Trichloropropane | ND | 5.0 | 1.00 | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | 1.00 | |
| 1,3,5-Trimethylbenzene | ND | 1.0 | 1.00 | |
| Vinyl Acetate | ND | 10 | 1.00 | |
| Vinyl Chloride | ND | 0.50 | 1.00 | |
| p/m-Xylene | ND | 1.0 | 1.00 | |
| o-Xylene | ND | 1.0 | 1.00 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 1.0 | 1.00 | |
| Tert-Butyl Alcohol (TBA) | ND | 10 | 1.00 | |
| Diisopropyl Ether (DIPE) | ND | 2.0 | 1.00 | |
| Ethyl-t-Butyl Ether (ETBE) | ND | 2.0 | 1.00 | |
| Tert-Amyl-Methyl Ether (TAME) | ND | 2.0 | 1.00 | |
| Ethanol | ND | 100 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 88 | 77-120 | |
| Dibromofluoromethane | 105 | 80-128 | |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Return to Contents

eurofins | Calscience

# Analytical Report

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| | | Units: | ug/L |
| Project: Pure Water | | | Page 6 of 6 |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | 80-129 | |
| Toluene-d8 | 97 | 80-120 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-14-001-22840** | **N/A** | **Aqueous** | **GC/MS V V** | **04/04/17** | **04/04/17 16:42** | **170404L033** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| c-1,2-Dichloroethene | ND | 1.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 1,4-Bromofluorobenzene | 91 | 77-120 | |
| Dibromofluoromethane | 99 | 80-128 | |
| 1,2-Dichloroethane-d4 | 93 | 80-129 | |
| Toluene-d8 | 98 | 80-120 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 3010A Total |
| | | Method: | EPA 6010B |
| Project: Pure Water | | | Page 1 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **17-03-2324-1** | **Sample** | **Aqueous** | **ICP 7300** | **04/03/17** | **04/04/17 11:23** | **170403SA5** |
| **17-03-2324-1** | **Matrix Spike** | **Aqueous** | **ICP 7300** | **04/03/17** | **04/04/17 11:26** | **170403SA5** |
| **17-03-2324-1** | **Matrix Spike Duplicate** | **Aqueous** | **ICP 7300** | **04/03/17** | **04/04/17 11:27** | **170403SA5** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 0.5000 | 0.4452 | 89 | 0.4258 | 85 | 72-132 | 4 | 0-10 | |
| Arsenic | 0.03963 | 0.5000 | 0.6080 | 114 | 0.5952 | 111 | 80-140 | 2 | 0-11 | |
| Barium | 0.3332 | 0.5000 | 0.8566 | 105 | 0.8613 | 106 | 87-123 | 1 | 0-6 | |
| Beryllium | ND | 0.5000 | 0.5616 | 112 | 0.5581 | 112 | 89-119 | 1 | 0-8 | |
| Cadmium | ND | 0.5000 | 0.5657 | 113 | 0.5645 | 113 | 82-124 | 0 | 0-7 | |
| Chromium | 0.01785 | 0.5000 | 0.5765 | 112 | 0.5756 | 112 | 86-122 | 0 | 0-8 | |
| Cobalt | 0.03281 | 0.5000 | 0.5703 | 107 | 0.5717 | 108 | 83-125 | 0 | 0-7 | |
| Copper | 0.05219 | 0.5000 | 0.6050 | 111 | 0.6069 | 111 | 78-126 | 0 | 0-7 | |
| Lead | ND | 0.5000 | 0.5604 | 112 | 0.5599 | 112 | 84-120 | 0 | 0-7 | |
| Molybdenum | 0.03162 | 0.5000 | 0.5434 | 102 | 0.5497 | 104 | 78-126 | 1 | 0-7 | |
| Nickel | 0.07863 | 0.5000 | 0.6144 | 107 | 0.6143 | 107 | 84-120 | 0 | 0-7 | |
| Selenium | ND | 0.5000 | 0.5550 | 111 | 0.5513 | 110 | 79-127 | 1 | 0-9 | |
| Silver | ND | 0.2500 | 0.04282 | 17 | 0.06243 | 25 | 86-128 | 37 | 0-7 | 3,4 |
| Thallium | ND | 0.5000 | 0.5242 | 105 | 0.5178 | 104 | 79-121 | 1 | 0-8 | |
| Vanadium | 0.04989 | 0.5000 | 0.5949 | 109 | 0.5976 | 110 | 88-118 | 0 | 0-7 | |
| Zinc | 0.1868 | 0.5000 | 0.7906 | 121 | 0.7848 | 120 | 89-131 | 1 | 0-8 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 7470A Total |
| | | Method: | EPA 7470A |
| Project: Pure Water | | | Page 2 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **PS-2** | **Sample** | **Aqueous** | **Mercury 07** | **04/07/17** | **04/07/17 14:53** | **170407SA2** |
| **PS-2** | **Matrix Spike** | **Aqueous** | **Mercury 07** | **04/07/17** | **04/07/17 15:00** | **170407SA2** |
| **PS-2** | **Matrix Spike Duplicate** | **Aqueous** | **Mercury 07** | **04/07/17** | **04/07/17 15:02** | **170407SA2** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.01000 | 0.008469 | 85 | 0.008481 | 85 | 55-133 | 0 | 0-20 | |

RPD: Relative Percent Difference. CL: Control Limits



Return to Contents

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: Pure Water | | | Page 3 of 4 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **17-03-2330-12** | **Sample** | **Aqueous** | **GC/MS V V** | **04/04/17** | **04/04/17 17:09** | **170404S015** |
| **17-03-2330-12** | **Matrix Spike** | **Aqueous** | **GC/MS V V** | **04/04/17** | **04/04/17 18:02** | **170404S015** |
| **17-03-2330-12** | **Matrix Spike Duplicate** | **Aqueous** | **GC/MS V V** | **04/04/17** | **04/04/17 18:28** | **170404S015** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50.00 | 43.07 | 86 | 42.65 | 85 | 22-178 | 1 | 0-26 | |
| Benzene | ND | 50.00 | 50.48 | 101 | 49.74 | 99 | 70-130 | 1 | 0-20 | |
| Bromobenzene | ND | 50.00 | 51.72 | 103 | 50.31 | 101 | 70-130 | 3 | 0-20 | |
| Bromochloromethane | ND | 50.00 | 48.12 | 96 | 48.05 | 96 | 70-132 | 0 | 0-20 | |
| Bromodichloromethane | ND | 50.00 | 48.22 | 96 | 47.83 | 96 | 69-135 | 1 | 0-20 | |
| Bromoform | ND | 50.00 | 50.76 | 102 | 51.63 | 103 | 70-133 | 2 | 0-20 | |
| Bromomethane | ND | 50.00 | 34.41 | 69 | 30.94 | 62 | 11-167 | 11 | 0-32 | |
| 2-Butanone | ND | 50.00 | 43.17 | 86 | 43.56 | 87 | 39-159 | 1 | 0-21 | |
| n-Butylbenzene | ND | 50.00 | 56.58 | 113 | 55.44 | 111 | 62-152 | 2 | 0-28 | |
| sec-Butylbenzene | ND | 50.00 | 54.91 | 110 | 54.28 | 109 | 70-143 | 1 | 0-24 | |
| tert-Butylbenzene | ND | 50.00 | 59.07 | 118 | 59.62 | 119 | 70-140 | 1 | 0-20 | |
| Carbon Disulfide | ND | 50.00 | 47.51 | 95 | 46.98 | 94 | 54-138 | 1 | 0-23 | |
| Carbon Tetrachloride | ND | 50.00 | 50.06 | 100 | 49.10 | 98 | 63-153 | 2 | 0-22 | |
| Chlorobenzene | ND | 50.00 | 51.54 | 103 | 50.88 | 102 | 70-130 | 1 | 0-20 | |
| Chloroethane | ND | 50.00 | 25.57 | 51 | 28.75 | 58 | 44-140 | 12 | 0-32 | |
| Chloroform | ND | 50.00 | 46.09 | 92 | 46.16 | 92 | 68-134 | 0 | 0-20 | |
| Chloromethane | ND | 50.00 | 39.63 | 79 | 39.37 | 79 | 20-158 | 1 | 0-40 | |
| 2-Chlorotoluene | ND | 50.00 | 54.34 | 109 | 53.57 | 107 | 70-137 | 1 | 0-20 | |
| 4-Chlorotoluene | ND | 50.00 | 53.35 | 107 | 53.27 | 107 | 70-130 | 0 | 0-20 | |
| Dibromochloromethane | ND | 50.00 | 50.35 | 101 | 49.40 | 99 | 70-133 | 2 | 0-20 | |
| 1,2-Dibromo-3-Chloropropane | ND | 50.00 | 47.41 | 95 | 47.14 | 94 | 67-133 | 1 | 0-20 | |
| 1,2-Dibromoethane | ND | 50.00 | 48.98 | 98 | 47.97 | 96 | 70-130 | 2 | 0-20 | |
| Dibromomethane | ND | 50.00 | 48.48 | 97 | 47.89 | 96 | 70-130 | 1 | 0-20 | |
| 1,2-Dichlorobenzene | ND | 50.00 | 52.40 | 105 | 52.40 | 105 | 70-130 | 0 | 0-20 | |
| 1,3-Dichlorobenzene | ND | 50.00 | 52.52 | 105 | 52.51 | 105 | 70-130 | 0 | 0-20 | |
| 1,4-Dichlorobenzene | ND | 50.00 | 50.46 | 101 | 50.74 | 101 | 70-130 | 1 | 0-20 | |
| Dichlorodifluoromethane | ND | 50.00 | 54.78 | 110 | 54.85 | 110 | 10-190 | 0 | 0-40 | |
| 1,1-Dichloroethane | ND | 50.00 | 49.43 | 99 | 49.17 | 98 | 64-130 | 1 | 0-20 | |
| 1,2-Dichloroethane | ND | 50.00 | 46.48 | 93 | 46.13 | 92 | 69-135 | 1 | 0-20 | |
| 1,1-Dichloroethene | ND | 50.00 | 50.23 | 100 | 49.63 | 99 | 51-153 | 1 | 0-21 | |
| c-1,2-Dichloroethene | ND | 50.00 | 50.51 | 101 | 50.54 | 101 | 56-146 | 0 | 0-20 | |
| t-1,2-Dichloroethene | ND | 50.00 | 51.52 | 103 | 51.48 | 103 | 68-134 | 0 | 0-20 | |
| 1,2-Dichloropropane | ND | 50.00 | 50.85 | 102 | 50.66 | 101 | 70-130 | 0 | 0-20 | |
| 1,3-Dichloropropane | ND | 50.00 | 47.18 | 94 | 46.51 | 93 | 70-130 | 1 | 0-20 | |
| 2,2-Dichloropropane | ND | 50.00 | 49.39 | 99 | 48.08 | 96 | 37-169 | 3 | 0-23 | |

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: Pure Water | | | Page 4 of 4 |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 50.00 | 49.79 | 100 | 50.00 | 100 | 66-132 | 0 | 0-20 | |
| c-1,3-Dichloropropene | ND | 50.00 | 46.44 | 93 | 46.63 | 93 | 67-139 | 0 | 0-20 | |
| t-1,3-Dichloropropene | ND | 50.00 | 47.93 | 96 | 46.94 | 94 | 58-136 | 2 | 0-20 | |
| Ethylbenzene | ND | 50.00 | 55.47 | 111 | 54.47 | 109 | 70-134 | 2 | 0-24 | |
| 2-Hexanone | ND | 50.00 | 45.81 | 92 | 44.90 | 90 | 59-149 | 2 | 0-20 | |
| Isopropylbenzene | ND | 50.00 | 55.58 | 111 | 54.86 | 110 | 70-141 | 1 | 0-27 | |
| p-Isopropyltoluene | ND | 50.00 | 54.09 | 108 | 53.67 | 107 | 65-143 | 1 | 0-39 | |
| Methylene Chloride | ND | 50.00 | 46.66 | 93 | 46.20 | 92 | 69-130 | 1 | 0-21 | |
| 4-Methyl-2-Pentanone | ND | 50.00 | 49.94 | 100 | 50.70 | 101 | 67-139 | 1 | 0-20 | |
| Naphthalene | ND | 50.00 | 52.40 | 105 | 56.25 | 112 | 61-139 | 7 | 0-20 | |
| n-Propylbenzene | ND | 50.00 | 55.67 | 111 | 54.91 | 110 | 70-140 | 1 | 0-24 | |
| Styrene | ND | 50.00 | 49.82 | 100 | 49.19 | 98 | 18-174 | 1 | 0-40 | |
| 1,1,1,2-Tetrachloroethane | ND | 50.00 | 52.76 | 106 | 52.39 | 105 | 70-135 | 1 | 0-20 | |
| 1,1,2,2-Tetrachloroethane | ND | 50.00 | 49.17 | 98 | 49.33 | 99 | 70-137 | 0 | 0-20 | |
| Tetrachloroethene | ND | 50.00 | 43.00 | 86 | 41.87 | 84 | 33-147 | 3 | 0-30 | |
| Toluene | ND | 50.00 | 52.95 | 106 | 52.56 | 105 | 70-130 | 1 | 0-20 | |
| 1,2,3-Trichlorobenzene | ND | 50.00 | 51.57 | 103 | 53.93 | 108 | 64-142 | 4 | 0-22 | |
| 1,2,4-Trichlorobenzene | ND | 50.00 | 53.37 | 107 | 54.47 | 109 | 60-144 | 2 | 0-24 | |
| 1,1,1-Trichloroethane | ND | 50.00 | 48.35 | 97 | 48.20 | 96 | 68-140 | 0 | 0-20 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | 50.00 | 55.46 | 111 | 55.10 | 110 | 21-190 | 1 | 0-40 | |
| 1,1,2-Trichloroethane | ND | 50.00 | 47.75 | 95 | 46.82 | 94 | 70-130 | 2 | 0-20 | |
| Trichloroethene | ND | 50.00 | 50.06 | 100 | 49.75 | 99 | 42-156 | 1 | 0-20 | |
| Trichlorofluoromethane | ND | 50.00 | 48.41 | 97 | 54.90 | 110 | 54-162 | 13 | 0-30 | |
| 1,2,3-Trichloropropane | ND | 50.00 | 47.13 | 94 | 46.23 | 92 | 67-130 | 2 | 0-20 | |
| 1,2,4-Trimethylbenzene | ND | 50.00 | 53.64 | 107 | 53.64 | 107 | 70-133 | 0 | 0-20 | |
| 1,3,5-Trimethylbenzene | ND | 50.00 | 54.93 | 110 | 53.91 | 108 | 70-139 | 2 | 0-20 | |
| Vinyl Acetate | ND | 50.00 | 46.24 | 92 | 45.74 | 91 | 10-190 | 1 | 0-40 | |
| Vinyl Chloride | ND | 50.00 | 35.35 | 71 | 34.87 | 70 | 59-137 | 1 | 0-20 | |
| p/m-Xylene | ND | 100.0 | 114.8 | 115 | 113.0 | 113 | 67-145 | 2 | 0-28 | |
| o-Xylene | ND | 50.00 | 53.79 | 108 | 53.56 | 107 | 70-142 | 0 | 0-31 | |
| Methyl-t-Butyl Ether (MTBE) | ND | 50.00 | 47.38 | 95 | 48.06 | 96 | 69-130 | 1 | 0-20 | |
| Tert-Butyl Alcohol (TBA) | ND | 250.0 | 260.5 | 104 | 259.1 | 104 | 70-132 | 1 | 0-20 | |
| Diisopropyl Ether (DIPE) | ND | 50.00 | 50.22 | 100 | 50.52 | 101 | 56-140 | 1 | 0-25 | |
| Ethyl-t-Butyl Ether (ETBE) | ND | 50.00 | 48.21 | 96 | 48.62 | 97 | 61-133 | 1 | 0-20 | |
| Tert-Amyl-Methyl Ether (TAME) | ND | 50.00 | 48.05 | 96 | 48.28 | 97 | 69-130 | 0 | 0-20 | |
| Ethanol | ND | 500.0 | 567.4 | 113 | 626.6 | 125 | 65-137 | 10 | 0-21 | |

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Quality Control - LCS/LCSD

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 3510C |
| | | Method: | EPA 8015B (M) |
| Project: Pure Water | | | Page 1 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| **099-15-472-642** | **LCS** | **Aqueous** | **GC 47** | **04/04/17** | **04/05/17 01:15** | **170404B02A** |
| **099-15-472-642** | **LCSD** | **Aqueous** | **GC 47** | **04/04/17** | **04/05/17 01:37** | **170404B02A** |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | 2000 | 1837 | 92 | 1857 | 93 | 69-123 | 1 | 0-30 | |

RPD: Relative Percent Difference. CL: Control Limits



Return to Contents

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 3010A Total |
| | | Method: | EPA 6010B |
| Project: Pure Water | | | Page 2 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **097-01-003-16394** | **LCS** | **Aqueous** | **ICP 7300** | **04/03/17** | **04/04/17 11:18** | **170403LA5** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | 0.5000 | 0.4073 | 81 | 80-120 | 73-127 | |
| Arsenic | 0.5000 | 0.5149 | 103 | 80-120 | 73-127 | |
| Barium | 0.5000 | 0.5439 | 109 | 80-120 | 73-127 | |
| Beryllium | 0.5000 | 0.5097 | 102 | 80-120 | 73-127 | |
| Cadmium | 0.5000 | 0.5333 | 107 | 80-120 | 73-127 | |
| Chromium | 0.5000 | 0.5277 | 106 | 80-120 | 73-127 | |
| Cobalt | 0.5000 | 0.5422 | 108 | 80-120 | 73-127 | |
| Copper | 0.5000 | 0.5363 | 107 | 80-120 | 73-127 | |
| Lead | 0.5000 | 0.5638 | 113 | 80-120 | 73-127 | |
| Molybdenum | 0.5000 | 0.5070 | 101 | 80-120 | 73-127 | |
| Nickel | 0.5000 | 0.5467 | 109 | 80-120 | 73-127 | |
| Selenium | 0.5000 | 0.5244 | 105 | 80-120 | 73-127 | |
| Silver | 0.2500 | 0.2685 | 107 | 80-120 | 73-127 | |
| Thallium | 0.5000 | 0.5509 | 110 | 80-120 | 73-127 | |
| Vanadium | 0.5000 | 0.4988 | 100 | 80-120 | 73-127 | |
| Zinc | 0.5000 | 0.5414 | 108 | 80-120 | 73-127 | |

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 7470A Total |
| | | Method: | EPA 7470A |
| Project: Pure Water | | | Page 3 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-04-008-8169** | **LCS** | **Aqueous** | **Mercury 07** | **04/07/17** | **04/07/17 14:51** | **170407LA2** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Mercury | 0.01000 | 0.008900 | 89 | 80-120 | |

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS/LCSD

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 3510C |
| | | Method: | EPA 8081A |
| Project: Pure Water | | | Page 4 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| **099-12-529-949** | **LCS** | **Aqueous** | **GC 44** | **04/04/17** | **04/06/17 16:16** | **170404L03** |
| **099-12-529-949** | **LCSD** | **Aqueous** | **GC 44** | **04/04/17** | **04/06/17 16:30** | **170404L03** |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | ME CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Alpha-BHC | 0.5000 | 0.5388 | 108 | 0.5378 | 108 | 50-135 | 36-149 | 0 | 0-25 | |
| Gamma-BHC | 0.5000 | 0.5439 | 109 | 0.5437 | 109 | 50-135 | 36-149 | 0 | 0-25 | |
| Beta-BHC | 0.5000 | 0.5223 | 104 | 0.5213 | 104 | 50-135 | 36-149 | 0 | 0-25 | |
| Heptachlor | 0.5000 | 0.4943 | 99 | 0.4952 | 99 | 50-135 | 36-149 | 0 | 0-25 | |
| Delta-BHC | 0.5000 | 0.5661 | 113 | 0.5651 | 113 | 50-135 | 36-149 | 0 | 0-25 | |
| Aldrin | 0.5000 | 0.4450 | 89 | 0.4453 | 89 | 50-135 | 36-149 | 0 | 0-25 | |
| Heptachlor Epoxide | 0.5000 | 0.5427 | 109 | 0.5447 | 109 | 50-135 | 36-149 | 0 | 0-25 | |
| Endosulfan I | 0.5000 | 0.5496 | 110 | 0.5509 | 110 | 50-135 | 36-149 | 0 | 0-25 | |
| Dieldrin | 0.5000 | 0.5398 | 108 | 0.5413 | 108 | 50-135 | 36-149 | 0 | 0-25 | |
| 4,4'-DDE | 0.5000 | 0.5415 | 108 | 0.5394 | 108 | 50-135 | 36-149 | 0 | 0-25 | |
| Endrin | 0.5000 | 0.5696 | 114 | 0.5704 | 114 | 50-135 | 36-149 | 0 | 0-25 | |
| Endrin Aldehyde | 0.5000 | 0.5256 | 105 | 0.5281 | 106 | 50-135 | 36-149 | 0 | 0-25 | |
| 4,4'-DDD | 0.5000 | 0.5569 | 111 | 0.5595 | 112 | 50-135 | 36-149 | 0 | 0-25 | |
| Endosulfan II | 0.5000 | 0.5511 | 110 | 0.5531 | 111 | 50-135 | 36-149 | 0 | 0-25 | |
| 4,4'-DDT | 0.5000 | 0.5476 | 110 | 0.5478 | 110 | 50-135 | 36-149 | 0 | 0-25 | |
| Endosulfan Sulfate | 0.5000 | 0.5313 | 106 | 0.5342 | 107 | 50-135 | 36-149 | 1 | 0-25 | |
| Methoxychlor | 0.5000 | 0.5210 | 104 | 0.5209 | 104 | 50-135 | 36-149 | 0 | 0-25 | |

Total number of LCS compounds: 17
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS/LCSD

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 3510C |
| | | Method: | EPA 8082 |
| Project: Pure Water | | | Page 5 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| **099-12-533-1272** | **LCS** | **Aqueous** | **GC 66** | **04/04/17** | **04/06/17 13:58** | **170404L04** |
| **099-12-533-1272** | **LCSD** | **Aqueous** | **GC 66** | **04/04/17** | **04/06/17 14:16** | **170404L04** |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | 2.000 | 2.030 | 102 | 2.040 | 102 | 50-135 | 0 | 0-25 | |
| Aroclor-1260 | 2.000 | 1.930 | 96 | 1.960 | 98 | 50-135 | 2 | 0-25 | |

RPD: Relative Percent Difference. CL: Control Limits



Return to Contents

eurofins | Calscience

# Quality Control - LCS/LCSD

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 3510C |
| | | Method: | EPA 8270C |
| Project: Pure Water | | | Page 6 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| **095-01-003-4354** | **LCS** | **Aqueous** | **GC/MS TT** | **04/03/17** | **04/04/17 17:23** | **170403L04A** |
| **095-01-003-4354** | **LCSD** | **Aqueous** | **GC/MS TT** | **04/03/17** | **04/04/17 17:45** | **170403L04A** |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | ME CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 100.0 | 91.65 | 92 | 92.00 | 92 | 61-120 | 51-130 | 0 | 0-20 | |
| Acenaphthylene | 100.0 | 88.82 | 89 | 88.22 | 88 | 55-120 | 44-131 | 1 | 0-20 | |
| Butyl Benzyl Phthalate | 100.0 | 101.9 | 102 | 99.75 | 100 | 56-122 | 45-133 | 2 | 0-20 | |
| 4-Chloro-3-Methylphenol | 100.0 | 90.68 | 91 | 94.69 | 95 | 52-120 | 41-131 | 4 | 0-20 | |
| 2-Chlorophenol | 100.0 | 85.92 | 86 | 87.13 | 87 | 47-120 | 35-132 | 1 | 0-20 | |
| 1,4-Dichlorobenzene | 100.0 | 53.90 | 54 | 53.41 | 53 | 36-120 | 22-134 | 1 | 0-20 | |
| Dimethyl Phthalate | 100.0 | 94.64 | 95 | 95.47 | 95 | 60-120 | 50-130 | 1 | 0-20 | |
| 2,4-Dinitrotoluene | 100.0 | 99.86 | 100 | 100.9 | 101 | 61-121 | 51-131 | 1 | 0-20 | |
| Fluorene | 100.0 | 91.64 | 92 | 91.60 | 92 | 67-120 | 58-129 | 0 | 0-20 | |
| N-Nitroso-di-n-propylamine | 100.0 | 87.41 | 87 | 91.03 | 91 | 39-123 | 25-137 | 4 | 0-20 | |
| Naphthalene | 100.0 | 74.85 | 75 | 75.62 | 76 | 54-120 | 43-131 | 1 | 0-20 | |
| 4-Nitrophenol | 100.0 | 45.00 | 45 | 44.53 | 45 | 14-120 | 0-138 | 1 | 0-20 | |
| Pentachlorophenol | 100.0 | 76.66 | 77 | 77.60 | 78 | 31-127 | 15-143 | 1 | 0-20 | |
| Phenol | 100.0 | 38.73 | 39 | 39.13 | 39 | 17-120 | 0-137 | 1 | 0-20 | |
| Pyrene | 100.0 | 94.56 | 95 | 93.34 | 93 | 58-124 | 47-135 | 1 | 0-20 | |
| 1,2,4-Trichlorobenzene | 100.0 | 64.07 | 64 | 63.67 | 64 | 49-120 | 37-132 | 1 | 0-20 | |

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: Pure Water | | | Page 7 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-14-001-22836** | **LCS** | **Aqueous** | **GC/MS V V** | **04/01/17** | **04/01/17 22:33** | **170401L029** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Acetone | 50.00 | 48.01 | 96 | 53-137 | 39-151 | |
| Benzene | 50.00 | 50.56 | 101 | 79-121 | 72-128 | |
| Bromobenzene | 50.00 | 53.15 | 106 | 80-120 | 73-127 | |
| Bromochloromethane | 50.00 | 51.00 | 102 | 80-122 | 73-129 | |
| Bromodichloromethane | 50.00 | 49.17 | 98 | 80-124 | 73-131 | |
| Bromoform | 50.00 | 51.74 | 103 | 73-127 | 64-136 | |
| Bromomethane | 50.00 | 44.31 | 89 | 50-150 | 33-167 | |
| 2-Butanone | 50.00 | 46.98 | 94 | 60-126 | 49-137 | |
| n-Butylbenzene | 50.00 | 53.98 | 108 | 72-138 | 61-149 | |
| sec-Butylbenzene | 50.00 | 52.69 | 105 | 77-131 | 68-140 | |
| tert-Butylbenzene | 50.00 | 57.49 | 115 | 80-125 | 72-132 | |
| Carbon Disulfide | 50.00 | 47.81 | 96 | 50-150 | 33-167 | |
| Carbon Tetrachloride | 50.00 | 49.44 | 99 | 65-143 | 52-156 | |
| Chlorobenzene | 50.00 | 52.53 | 105 | 80-120 | 73-127 | |
| Chloroethane | 50.00 | 60.53 | 121 | 62-128 | 51-139 | |
| Chloroform | 50.00 | 47.03 | 94 | 80-120 | 73-127 | |
| Chloromethane | 50.00 | 54.80 | 110 | 43-133 | 28-148 | |
| 2-Chlorotoluene | 50.00 | 54.60 | 109 | 80-121 | 73-128 | |
| 4-Chlorotoluene | 50.00 | 51.81 | 104 | 80-120 | 73-127 | |
| Dibromochloromethane | 50.00 | 51.33 | 103 | 80-123 | 73-130 | |
| 1,2-Dibromo-3-Chloropropane | 50.00 | 49.49 | 99 | 66-126 | 56-136 | |
| 1,2-Dibromoethane | 50.00 | 51.63 | 103 | 80-120 | 73-127 | |
| Dibromomethane | 50.00 | 50.51 | 101 | 80-120 | 73-127 | |
| 1,2-Dichlorobenzene | 50.00 | 52.12 | 104 | 80-120 | 73-127 | |
| 1,3-Dichlorobenzene | 50.00 | 51.34 | 103 | 80-120 | 73-127 | |
| 1,4-Dichlorobenzene | 50.00 | 49.51 | 99 | 80-120 | 73-127 | |
| Dichlorodifluoromethane | 50.00 | 73.69 | 147 | 50-150 | 33-167 | |
| 1,1-Dichloroethane | 50.00 | 50.10 | 100 | 72-126 | 63-135 | |
| 1,2-Dichloroethane | 50.00 | 47.68 | 95 | 76-120 | 69-127 | |
| 1,1-Dichloroethene | 50.00 | 50.53 | 101 | 66-132 | 55-143 | |
| c-1,2-Dichloroethene | 50.00 | 51.32 | 103 | 78-120 | 71-127 | |
| t-1,2-Dichloroethene | 50.00 | 52.51 | 105 | 66-132 | 55-143 | |
| 1,2-Dichloropropane | 50.00 | 50.94 | 102 | 80-120 | 73-127 | |
| 1,3-Dichloropropane | 50.00 | 48.78 | 98 | 80-120 | 73-127 | |
| 2,2-Dichloropropane | 50.00 | 38.07 | 76 | 50-150 | 33-167 | |
| 1,1-Dichloropropene | 50.00 | 49.51 | 99 | 75-123 | 67-131 | |
| c-1,3-Dichloropropene | 50.00 | 45.46 | 91 | 77-131 | 68-140 | |
| t-1,3-Dichloropropene | 50.00 | 47.71 | 95 | 76-136 | 66-146 | |

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: Pure Water | | | Page 8 of 10 |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Ethylbenzene | 50.00 | 55.79 | 112 | 80-120 | 73-127 | |
| 2-Hexanone | 50.00 | 47.90 | 96 | 63-123 | 53-133 | |
| Isopropylbenzene | 50.00 | 55.26 | 111 | 80-128 | 72-136 | |
| p-Isopropyltoluene | 50.00 | 51.63 | 103 | 73-133 | 63-143 | |
| Methylene Chloride | 50.00 | 48.16 | 96 | 61-133 | 49-145 | |
| 4-Methyl-2-Pentanone | 50.00 | 51.27 | 103 | 65-125 | 55-135 | |
| Naphthalene | 50.00 | 58.57 | 117 | 69-129 | 59-139 | |
| n-Propylbenzene | 50.00 | 56.05 | 112 | 80-128 | 72-136 | |
| Styrene | 50.00 | 51.12 | 102 | 80-126 | 72-134 | |
| 1,1,1,2-Tetrachloroethane | 50.00 | 54.45 | 109 | 80-129 | 72-137 | |
| 1,1,2,2-Tetrachloroethane | 50.00 | 49.44 | 99 | 74-122 | 66-130 | |
| Tetrachloroethene | 50.00 | 43.90 | 88 | 55-139 | 41-153 | |
| Toluene | 50.00 | 53.50 | 107 | 80-120 | 73-127 | |
| 1,2,3-Trichlorobenzene | 50.00 | 54.69 | 109 | 72-132 | 62-142 | |
| 1,2,4-Trichlorobenzene | 50.00 | 54.21 | 108 | 74-134 | 64-144 | |
| 1,1,1-Trichloroethane | 50.00 | 47.97 | 96 | 76-124 | 68-132 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 50.00 | 54.35 | 109 | 54-150 | 38-166 | |
| 1,1,2-Trichloroethane | 50.00 | 49.19 | 98 | 80-120 | 73-127 | |
| Trichloroethene | 50.00 | 51.24 | 102 | 79-121 | 72-128 | |
| Trichlorofluoromethane | 50.00 | 64.55 | 129 | 72-132 | 62-142 | |
| 1,2,3-Trichloropropane | 50.00 | 48.69 | 97 | 75-123 | 67-131 | |
| 1,2,4-Trimethylbenzene | 50.00 | 52.41 | 105 | 74-128 | 65-137 | |
| 1,3,5-Trimethylbenzene | 50.00 | 55.79 | 112 | 77-131 | 68-140 | |
| Vinyl Acetate | 50.00 | 41.75 | 84 | 50-150 | 33-167 | |
| Vinyl Chloride | 50.00 | 45.09 | 90 | 63-129 | 52-140 | |
| p/m-Xylene | 100.0 | 114.4 | 114 | 80-122 | 73-129 | |
| o-Xylene | 50.00 | 54.69 | 109 | 80-128 | 72-136 | |
| Methyl-t-Butyl Ether (MTBE) | 50.00 | 49.14 | 98 | 69-123 | 60-132 | |
| Tert-Butyl Alcohol (TBA) | 250.0 | 282.4 | 113 | 80-124 | 73-131 | |
| Diisopropyl Ether (DIPE) | 50.00 | 51.36 | 103 | 79-121 | 72-128 | |
| Ethyl-t-Butyl Ether (ETBE) | 50.00 | 48.76 | 98 | 71-125 | 62-134 | |
| Tert-Amyl-Methyl Ether (TAME) | 50.00 | 48.26 | 97 | 70-124 | 61-133 | |
| Ethanol | 500.0 | 630.2 | 126 | 53-149 | 37-165 | |

Total number of LCS compounds: 71
Total number of ME compounds: 0
Total number of ME compounds allowed: 4
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: Pure Water | | | Page 9 of 10 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-14-001-22840** | **LCS** | **Aqueous** | **GC/MS V V** | **04/04/17** | **04/04/17 15:49** | **170404L033** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Acetone | 50.00 | 39.49 | 79 | 53-137 | 39-151 | |
| Benzene | 50.00 | 48.67 | 97 | 79-121 | 72-128 | |
| Bromobenzene | 50.00 | 51.74 | 103 | 80-120 | 73-127 | |
| Bromochloromethane | 50.00 | 48.55 | 97 | 80-122 | 73-129 | |
| Bromodichloromethane | 50.00 | 48.17 | 96 | 80-124 | 73-131 | |
| Bromoform | 50.00 | 54.54 | 109 | 73-127 | 64-136 | |
| Bromomethane | 50.00 | 49.96 | 100 | 50-150 | 33-167 | |
| 2-Butanone | 50.00 | 45.84 | 92 | 60-126 | 49-137 | |
| n-Butylbenzene | 50.00 | 57.27 | 115 | 72-138 | 61-149 | |
| sec-Butylbenzene | 50.00 | 55.49 | 111 | 77-131 | 68-140 | |
| tert-Butylbenzene | 50.00 | 59.71 | 119 | 80-125 | 72-132 | |
| Carbon Disulfide | 50.00 | 40.41 | 81 | 50-150 | 33-167 | |
| Carbon Tetrachloride | 50.00 | 47.79 | 96 | 65-143 | 52-156 | |
| Chlorobenzene | 50.00 | 51.61 | 103 | 80-120 | 73-127 | |
| Chloroethane | 50.00 | 52.38 | 105 | 62-128 | 51-139 | |
| Chloroform | 50.00 | 44.65 | 89 | 80-120 | 73-127 | |
| Chloromethane | 50.00 | 48.90 | 98 | 43-133 | 28-148 | |
| 2-Chlorotoluene | 50.00 | 53.70 | 107 | 80-121 | 73-128 | |
| 4-Chlorotoluene | 50.00 | 54.27 | 109 | 80-120 | 73-127 | |
| Dibromochloromethane | 50.00 | 51.15 | 102 | 80-123 | 73-130 | |
| 1,2-Dibromo-3-Chloropropane | 50.00 | 51.44 | 103 | 66-126 | 56-136 | |
| 1,2-Dibromoethane | 50.00 | 50.48 | 101 | 80-120 | 73-127 | |
| Dibromomethane | 50.00 | 49.54 | 99 | 80-120 | 73-127 | |
| 1,2-Dichlorobenzene | 50.00 | 53.47 | 107 | 80-120 | 73-127 | |
| 1,3-Dichlorobenzene | 50.00 | 53.50 | 107 | 80-120 | 73-127 | |
| 1,4-Dichlorobenzene | 50.00 | 51.10 | 102 | 80-120 | 73-127 | |
| Dichlorodifluoromethane | 50.00 | 70.73 | 141 | 50-150 | 33-167 | |
| 1,1-Dichloroethane | 50.00 | 48.02 | 96 | 72-126 | 63-135 | |
| 1,2-Dichloroethane | 50.00 | 46.77 | 94 | 76-120 | 69-127 | |
| 1,1-Dichloroethene | 50.00 | 43.59 | 87 | 66-132 | 55-143 | |
| c-1,2-Dichloroethene | 50.00 | 50.08 | 100 | 78-120 | 71-127 | |
| t-1,2-Dichloroethene | 50.00 | 50.38 | 101 | 66-132 | 55-143 | |
| 1,2-Dichloropropane | 50.00 | 50.17 | 100 | 80-120 | 73-127 | |
| 1,3-Dichloropropane | 50.00 | 48.14 | 96 | 80-120 | 73-127 | |
| 2,2-Dichloropropane | 50.00 | 46.98 | 94 | 50-150 | 33-167 | |
| 1,1-Dichloropropene | 50.00 | 49.07 | 98 | 75-123 | 67-131 | |
| c-1,3-Dichloropropene | 50.00 | 48.81 | 98 | 77-131 | 68-140 | |
| t-1,3-Dichloropropene | 50.00 | 49.51 | 99 | 76-136 | 66-146 | |

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Quality Control - LCS

| | | | |
|---|---|---|---|
| AECOM | | Date Received: | 03/31/17 |
| 401 West A Street, Suite 1200 | | Work Order: | 17-03-2408 |
| San Diego, CA 92101-2421 | | Preparation: | EPA 5030C |
| | | Method: | EPA 8260B |
| Project: Pure Water | | | Page 10 of 10 |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Ethylbenzene | 50.00 | 54.83 | 110 | 80-120 | 73-127 | |
| 2-Hexanone | 50.00 | 48.52 | 97 | 63-123 | 53-133 | |
| Isopropylbenzene | 50.00 | 54.76 | 110 | 80-128 | 72-136 | |
| p-Isopropyltoluene | 50.00 | 55.15 | 110 | 73-133 | 63-143 | |
| Methylene Chloride | 50.00 | 45.68 | 91 | 61-133 | 49-145 | |
| 4-Methyl-2-Pentanone | 50.00 | 53.82 | 108 | 65-125 | 55-135 | |
| Naphthalene | 50.00 | 62.37 | 125 | 69-129 | 59-139 | |
| n-Propylbenzene | 50.00 | 54.38 | 109 | 80-128 | 72-136 | |
| Styrene | 50.00 | 49.69 | 99 | 80-126 | 72-134 | |
| 1,1,1,2-Tetrachloroethane | 50.00 | 52.93 | 106 | 80-129 | 72-137 | |
| 1,1,2,2-Tetrachloroethane | 50.00 | 50.13 | 100 | 74-122 | 66-130 | |
| Tetrachloroethene | 50.00 | 44.46 | 89 | 55-139 | 41-153 | |
| Toluene | 50.00 | 52.13 | 104 | 80-120 | 73-127 | |
| 1,2,3-Trichlorobenzene | 50.00 | 58.44 | 117 | 72-132 | 62-142 | |
| 1,2,4-Trichlorobenzene | 50.00 | 59.02 | 118 | 74-134 | 64-144 | |
| 1,1,1-Trichloroethane | 50.00 | 46.88 | 94 | 76-124 | 68-132 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 50.00 | 44.77 | 90 | 54-150 | 38-166 | |
| 1,1,2-Trichloroethane | 50.00 | 48.05 | 96 | 80-120 | 73-127 | |
| Trichloroethene | 50.00 | 51.04 | 102 | 79-121 | 72-128 | |
| Trichlorofluoromethane | 50.00 | 52.46 | 105 | 72-132 | 62-142 | |
| 1,2,3-Trichloropropane | 50.00 | 48.42 | 97 | 75-123 | 67-131 | |
| 1,2,4-Trimethylbenzene | 50.00 | 54.21 | 108 | 74-128 | 65-137 | |
| 1,3,5-Trimethylbenzene | 50.00 | 54.45 | 109 | 77-131 | 68-140 | |
| Vinyl Acetate | 50.00 | 48.21 | 96 | 50-150 | 33-167 | |
| Vinyl Chloride | 50.00 | 34.94 | 70 | 63-129 | 52-140 | |
| p/m-Xylene | 100.0 | 112.1 | 112 | 80-122 | 73-129 | |
| o-Xylene | 50.00 | 53.60 | 107 | 80-128 | 72-136 | |
| Methyl-t-Butyl Ether (MTBE) | 50.00 | 49.63 | 99 | 69-123 | 60-132 | |
| Tert-Butyl Alcohol (TBA) | 250.0 | 276.6 | 111 | 80-124 | 73-131 | |
| Diisopropyl Ether (DIPE) | 50.00 | 50.74 | 101 | 79-121 | 72-128 | |
| Ethyl-t-Butyl Ether (ETBE) | 50.00 | 50.53 | 101 | 71-125 | 62-134 | |
| Tert-Amyl-Methyl Ether (TAME) | 50.00 | 50.87 | 102 | 70-124 | 61-133 | |
| Ethanol | 500.0 | 273.0 | 55 | 53-149 | 37-165 | |

Total number of LCS compounds: 71
Total number of ME compounds: 0
Total number of ME compounds allowed: 4
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

eurofins | Calscience

# Sample Analysis Summary Report

Work Order: 17-03-2408



| Method | Extraction | Chemist ID | Instrument | Analytical Location |
|---|---|---|---|---|
| EPA 6010B | EPA 3010A Total | 935 | ICP 7300 | 1 |
| EPA 7470A | EPA 7470A Total | 868 | Mercury 07 | 1 |
| EPA 8015B (M) | EPA 3510C | 972 | GC 47 | 1 |
| EPA 8081A | EPA 3510C | 669 | GC 44 | 1 |
| EPA 8082 | EPA 3510C | 1028 | GC 66 | 1 |
| EPA 8260B | EPA 5030C | 1073 | GC/MS V V | 2 |
| EPA 8270C | EPA 3510C | 923 | GC/MS TT | 1 |

Return to Contents

eurofins | Calscience

# Glossary of Terms and Qualifiers

Work Order: 17-03-2408 Page 1 of 1

| Qualifiers | Definition |
|---|---|
| * | See applicable analysis comment. |
| < | Less than the indicated value. |
| > | Greater than the indicated value. |
| 1 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification. |
| 2 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control. |
| 4 | The MS/MSD RPD was out of control due to suspected matrix interference. |
| 5 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference. |
| 6 | Surrogate recovery below the acceptance limit. |
| 7 | Surrogate recovery above the acceptance limit. |
| B | Analyte was present in the associated method blank. |
| BU | Sample analyzed after holding time expired. |
| BV | Sample received after holding time expired. |
| CI | See case narrative. |
| E | Concentration exceeds the calibration range. |
| ET | Sample was extracted past end of recommended max. holding time. |
| HD | The chromatographic pattern was inconsistent with the profile of the reference fuel standard. |
| HDH | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected). |
| HDL | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected). |
| J | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated. |
| JA | Analyte positively identified but quantitation is an estimate. |
| ME | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean). |
| ND | Parameter not detected at the indicated reporting limit. |
| Q | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater. |
| SG | The sample extract was subjected to Silica Gel treatment prior to analysis. |
| X | % Recovery and/or RPD out-of-range. |
| Z | Analyte presence was not confirmed by second column or GC/MS analysis. |
| | Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis. |
| | Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time. |
| | A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations. |

Return to Contents

eurofins | Calscience

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

# CHAIN-OF-CUSTODY RECORD

Date 3/31/17

Page 1 of 1

WO NO. / LAB USE ONLY: **17-03-2408**

LABORATORY CLIENT: AECOM

ADDRESS: 4225 Executive Sq., Suite 1400

CITY: La Jolla STATE: CA ZIP: 92037

TEL: 858-210-9748 E-MAIL: adam.avakian@aecom.com

CLIENT PROJECT NAME / NO.: Pure Water Job → 60530732 Task → 01.01.05.20.00

P.O. NO.:

PROJECT CONTACT: Steve Fitzwilliam

LAB CONTACT OR QUOTE NO:

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT) Adam Avakian

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDD

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

Please email results to:

~~Steve~~ adam.avakian@aecom.com
david.schug@aecom.com
steven.fitzwilliam@aecom.com
lowell.woodbury@aecom.com

**REQUESTED ANALYSES**
Please check box or fill in blank as needed.

Model Gallardo

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | TPH(g) ☐ GRO | TPH(d) ☐ DRO | TPH ☐ C6-C36 ☐ C6-C44 | TPH Extended Range 8015 | BTEX / MTBE ☐ 8260 ☐ ____ | VOCs (8260) B | Oxygenates (8260) | Prep (5035) ☐ En Core ☐ Terra Core | SVOCs (8270) | Pesticides (8081) OCP Pesticides | PCBs (8082) 8081A | PAHs ☐ 8270 ☐ 8270 SIM | T22 Metals ☐ 6010/747X ☐ 6020/747X | Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PS-2 | 3/31/17 | 0925 | Ground Water | ~~12~~ 10 | 4 | 6 | | | | | X | | X | | | X | X | X | | X | | | | | | |
| 2 | Trip Blank | | | | 2 | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] EGI | 3/31/17 | 1415 |
| [signature] | Danny L EGI | 3/31/17 | 1910 |
| | | | |

2016-04-01-Revision



Return to Contents

eurofins | Calscience

WORK ORDER NUMBER: 17-03- 2408

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: AECOM

DATE: 03 / 31 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 3.3 °C (w/ CF): 3.3 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 671

**CUSTODY SEAL:**

| | | | | | |
|---|---|---|---|---|---|
| Cooler | ☐ Present and Intact | ☐ Present but Not Intact | ☑ Not Present | ☐ N/A | Checked by: 671 |
| Sample(s) | ☐ Present and Intact | ☐ Present but Not Intact | ☑ Not Present | ☐ N/A | Checked by: 1110 |

**SAMPLE CONDITION:**

| | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ MC 3/31/17 | ☑ | ☐ |
| ☑ Sampling date (-2) ☐ Sampling time ☑ Matrix (-2) ☐ Number of containers | | | |
| ☑ No analysis requested (-2) ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☑ | ☐ | ☐ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☑ | ☐ | ☐ |
| ☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** (Trip Blank Lot Number: 170323B)

**Aqueous:** ☐ VOA ☑ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☑ 250PB**n** ☐ 500AGB ☑ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☑ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1110

Reviewed by: 681



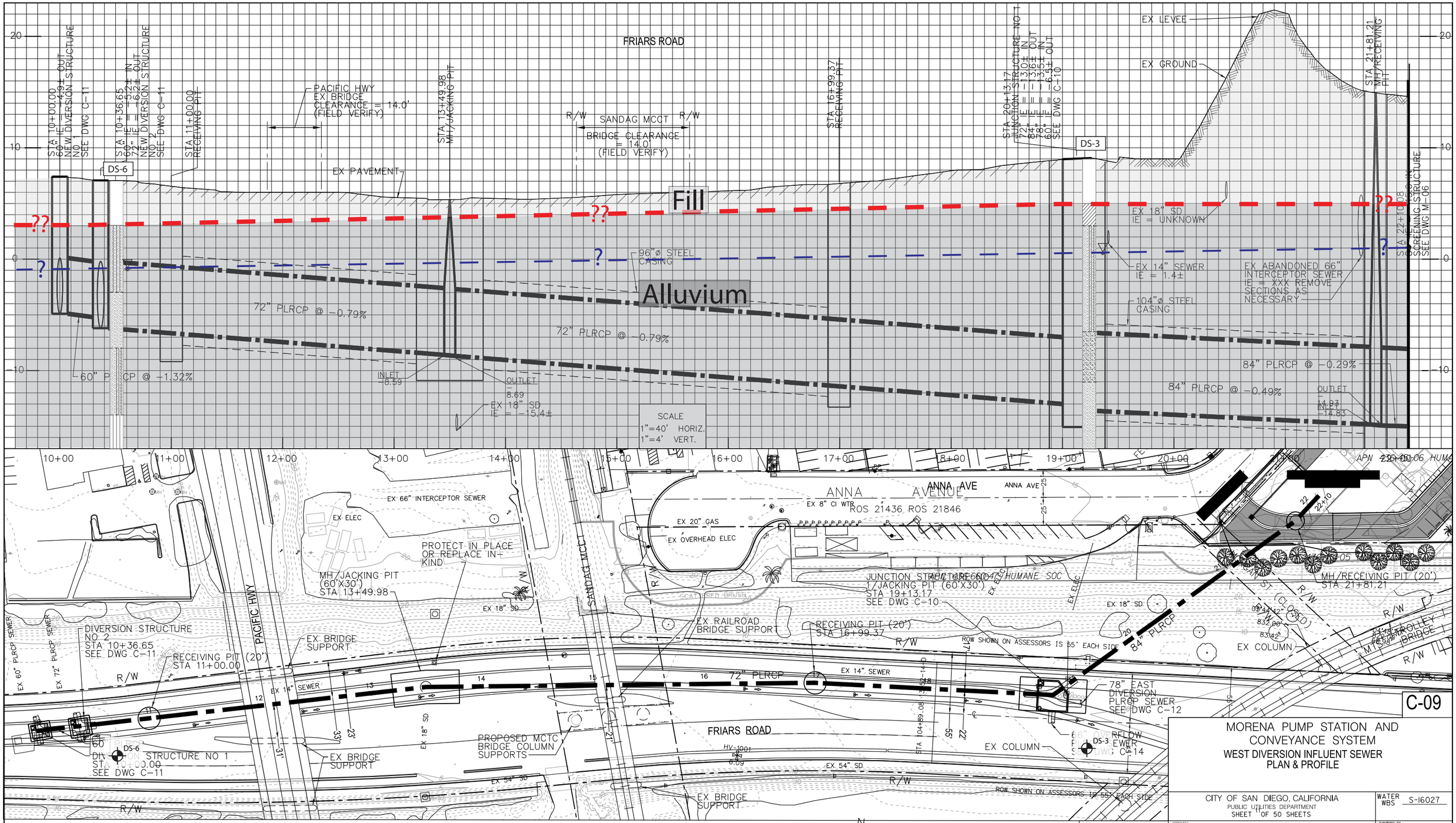
Return to Contents

This page intentionally left blank.

# APPENDIX D

This page intentionally left blank.

# WEST INFLUENT SEWER PLAN & PROFILE




MORENA PUMP STATION AND CONVEYANCE SYSTEM
WEST DIVERSION INFLUENT SEWER
PLAN & PROFILE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER — RAY H. FAKHOURY — No. 49036 Exp. 09/30/2019 — CIVIL — STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

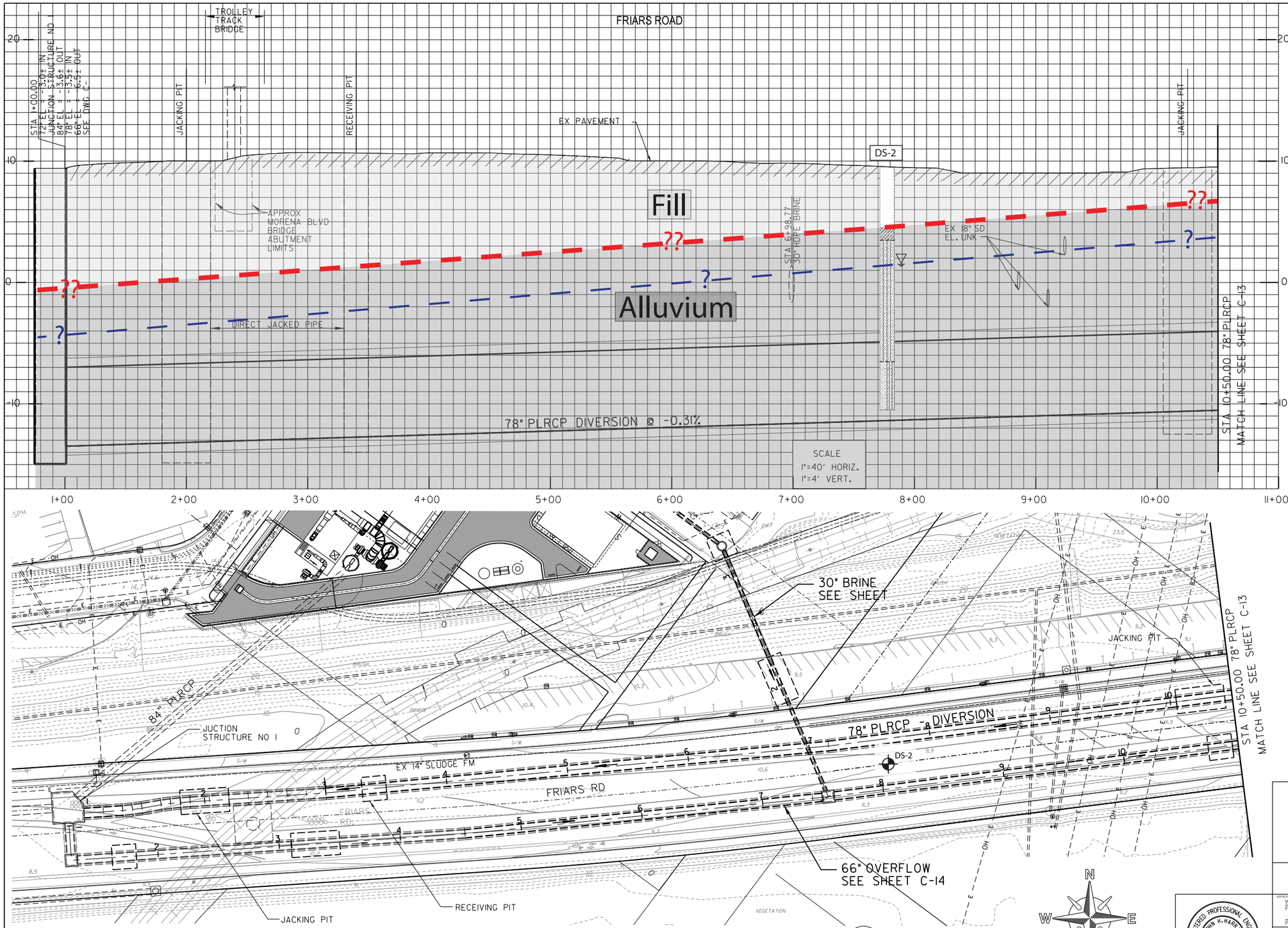
CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-11-D

S:\Projects\San Diego-City of\Morena Pump Sta (AECOM-02-16)\900 CAD\Sheets\Civil\Microstation\C-09.dgn
22-AUG-2017 15:22 JDitch $PLTDRVS$ $PENTBLS$

NOT FOR CONSTRUCTION – 60% SUBMITTAL







REFERENCE:
WATER:
SEWER:
STORM DRAIN:
GAS:
ELECTRIC:
CABLE TV:
TELEPHONE:
IMPROVEMENTS:
100' SCALE/FIELD BOOK:
THOMAS BROS.:
HGL:

RETIREMENTS:

NOTES:
1. FOR PIPE JOINT DETAIL SEE
2. FOR TYPICAL TRENCH DETAIL SEE

C-12

MORENA PUMP STATION AND CONVEYANCE SYSTEM
EAST DIVERSION INFLUENT SEWERS
78" DIVERSION SEWER
PLAN & PROFILE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER
PRINT NAME
DATE
RCE#

SUBMITTED BY: LAILA NASRAWI PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | MBI | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOHN H. HAZEN No. 38217 Exp. 3/31/19 CIVIL STATE OF CALIFORNIA

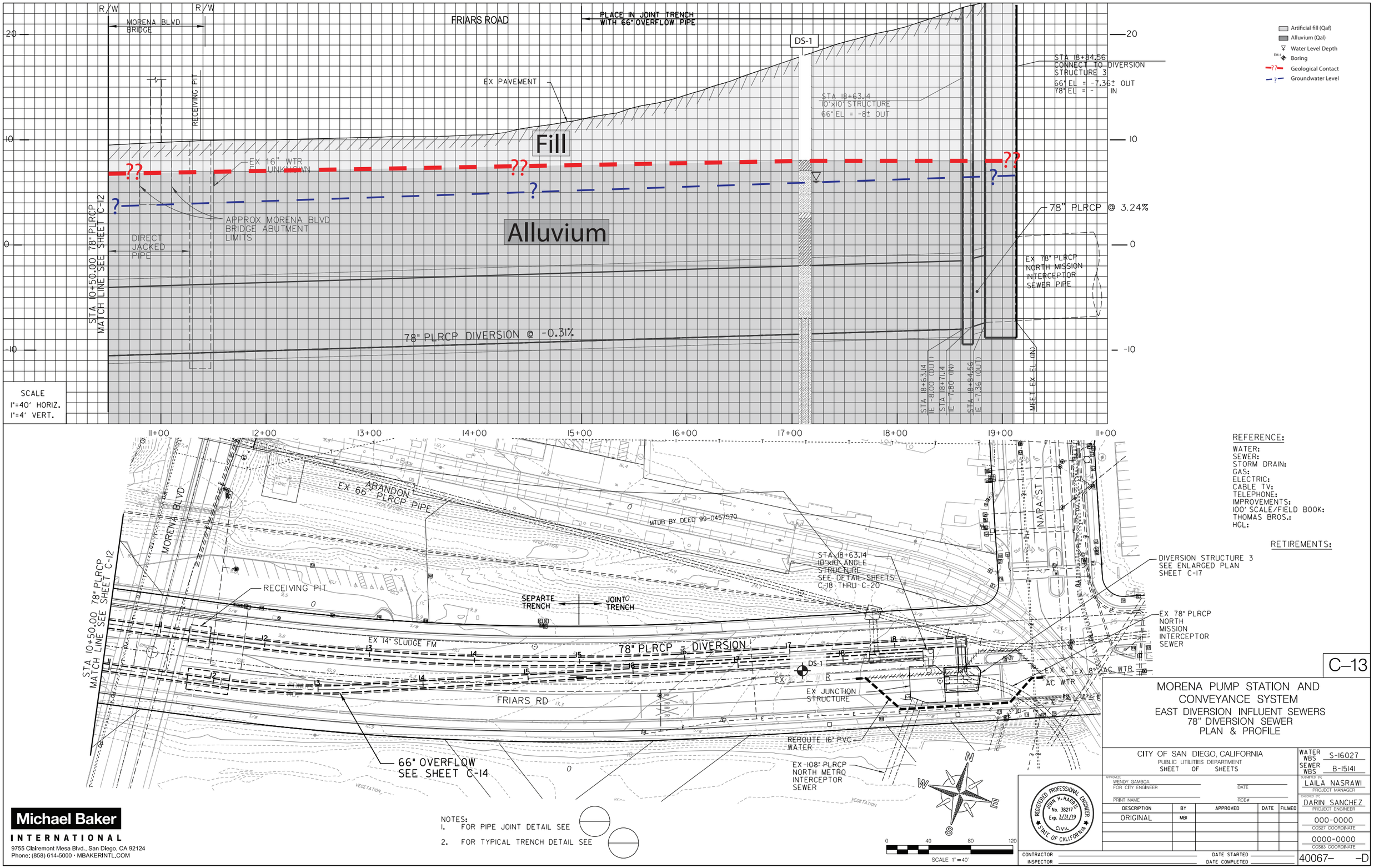
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067– –D

Michael Baker INTERNATIONAL
9755 Clairemont Mesa Blvd., San Diego, CA 92124
Phone: (858) 614-5000 · MBAKERINTL.COM

H:\PDATA\157879\CADD\Water\Div\MBI FRIARS RD DESIGN.dgn
22–AUG–2017 12:03 amanda.saour $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




REFERENCE:

WATER:
SEWER:
STORM DRAIN:
GAS:
ELECTRIC:
CABLE TV:
TELEPHONE:
IMPROVEMENTS:
100' SCALE/FIELD BOOK:
THOMAS BROS.:
HGL:

RETIREMENTS:

C-13

MORENA PUMP STATION AND CONVEYANCE SYSTEM
EAST DIVERSION INFLUENT SEWERS
78" DIVERSION SEWER
PLAN & PROFILE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | MBI | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOHN H. HARRIS No. 38217 Exp. 3/31/19 CIVIL STATE OF CALIFORNIA

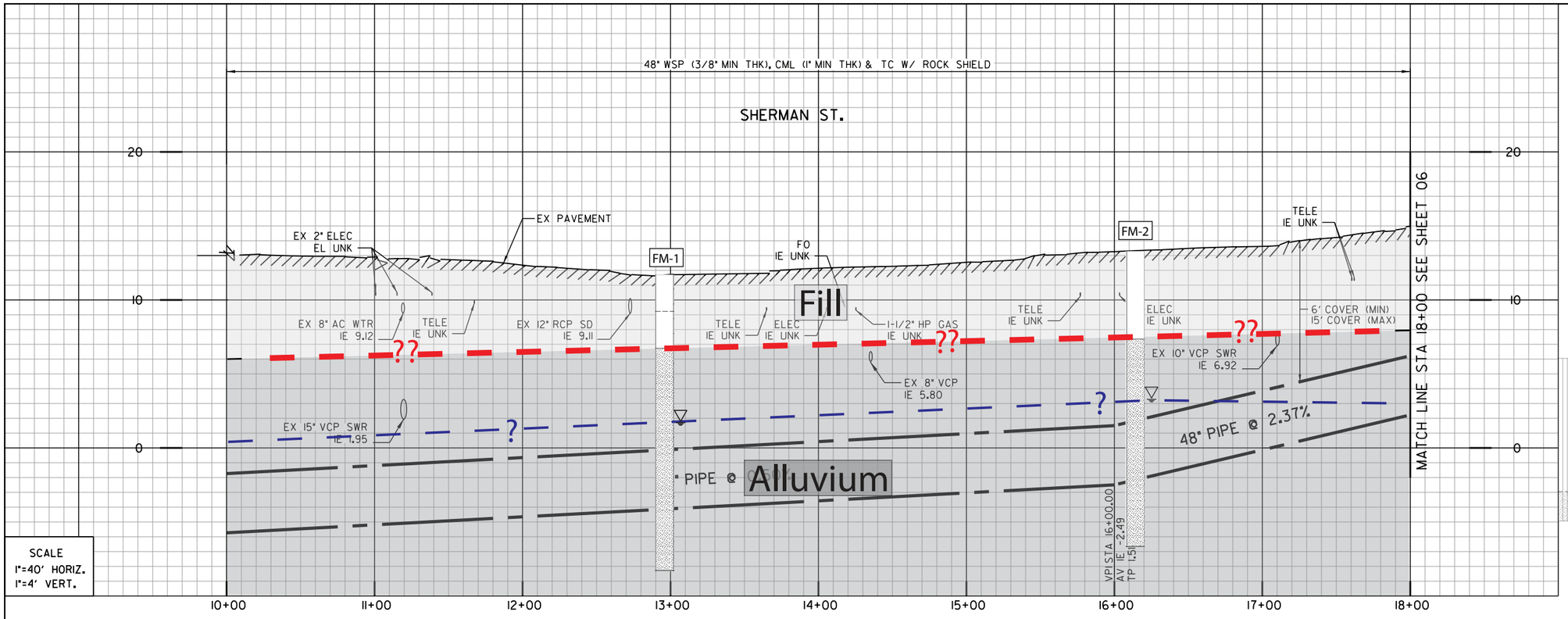
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067– –D


Michael Baker INTERNATIONAL
9755 Clairemont Mesa Blvd., San Diego, CA 92124
Phone: (858) 614-5000 · MBAKERINTL.COM


H:\PDATA\157879\CADD\Water\Div\MBI FRIARS RD DESIGN.dgn
22-AUG-2017 11:09 amanda.saour $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA 10+00.00
PUMP STATION CONNECTION
SEE PACKAGE A FOR
CONTINUATION

2 (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA 10+07.00
1- 45° HPI BEND

3 (102)
BY CONTRACTOR
FURNISH AND INSTALL
STA 10+18.41
1- 45° HPI BEND
BEGIN JOINT TRENCH
SEE TRENCH SECTION

4 (103)
BY CONTRACTOR
FURNISH AND INSTALL
STA 11+05.12
1- 45.15° HPI BEND

5 (104)
BY CONTRACTOR
FURNISH AND INSTALL
STA 11+40.88
1- 44.85° HPI BEND
END JOINT TRENCH

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

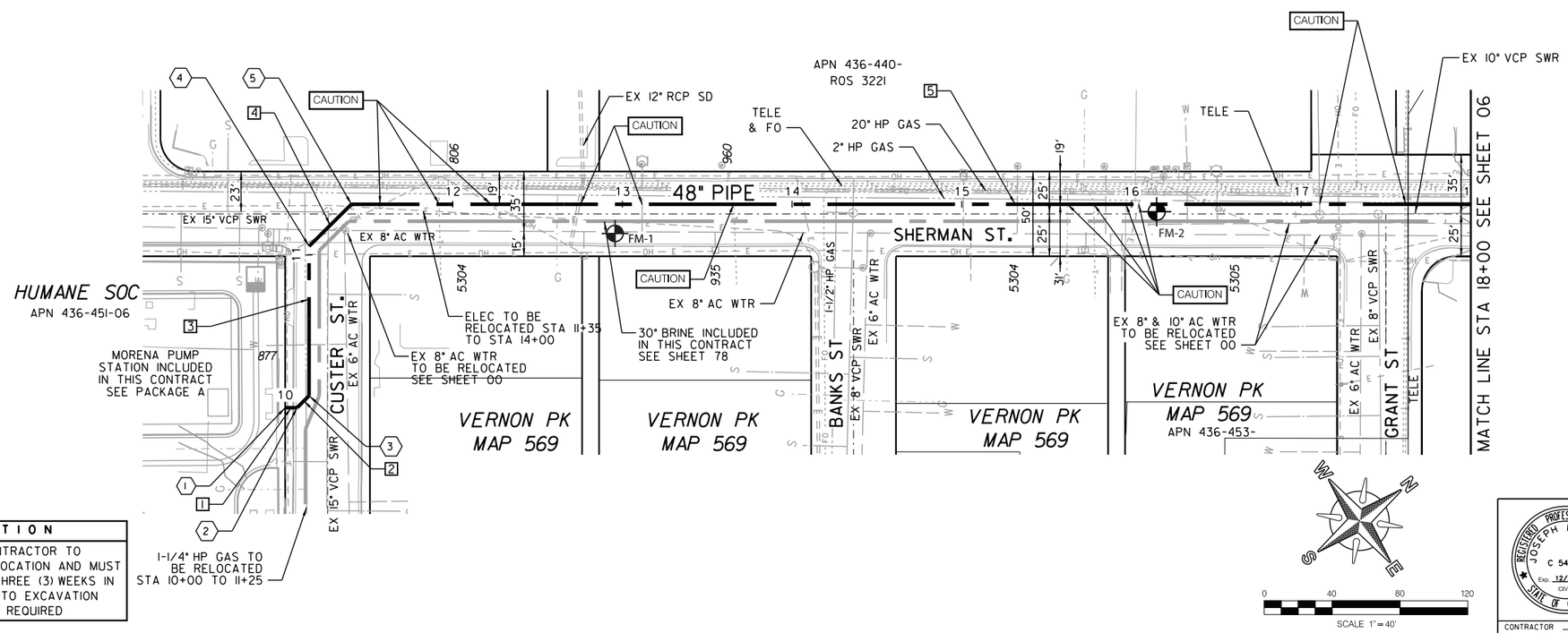
| | |
|---|---|
| WATER: | 10616-L, 10620-L |
| SEWER: | 9698-L, 10619-D |
| STORM DRAIN: | 10617-6 |
| GAS: | 15787-118930, 15787-118935 |
| ELECTRIC:, | 15787-118930, 15787-118935 |
| CABLE TV: | 105-210 |
| TELEPHONE: | BLR1969 |
| IMPROVEMENTS: | 10620-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 F3 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1858915.30 | 6269612.78 | MPS PL |
| 101 | 1858920.92 | 6269616.93 | HPI BEND |
| 102 | 1858932.21 | 6269615.24 | HPI BEND |
| 103 | 1858983.76 | 6269545.53 | HPI BEND |
| 104 | 1859019.14 | 6269540.32 | HPI BEND |
| 105 | | | |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N36° 29'00"E | | 7.00' | 48" WSP (CML&TC) |
| 2 | N08° 31'00"W | | 10.00' | 48" WSP (CML&TC) |
| 3 | N53° 31'00"W | | 88.13' | 48" WSP (CML&TC) |
| 4 | N08° 22'03"W | | 35.17' | 48" WSP (CML&TC) |
| 5 | N36° 29'00"E | | 659.71' | 48" WSP (CML&TC) |




CAUTION

20" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SHERMAN ST.

C-01

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 10+00 TO STA 18+00 SHERMAN ST.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 05 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

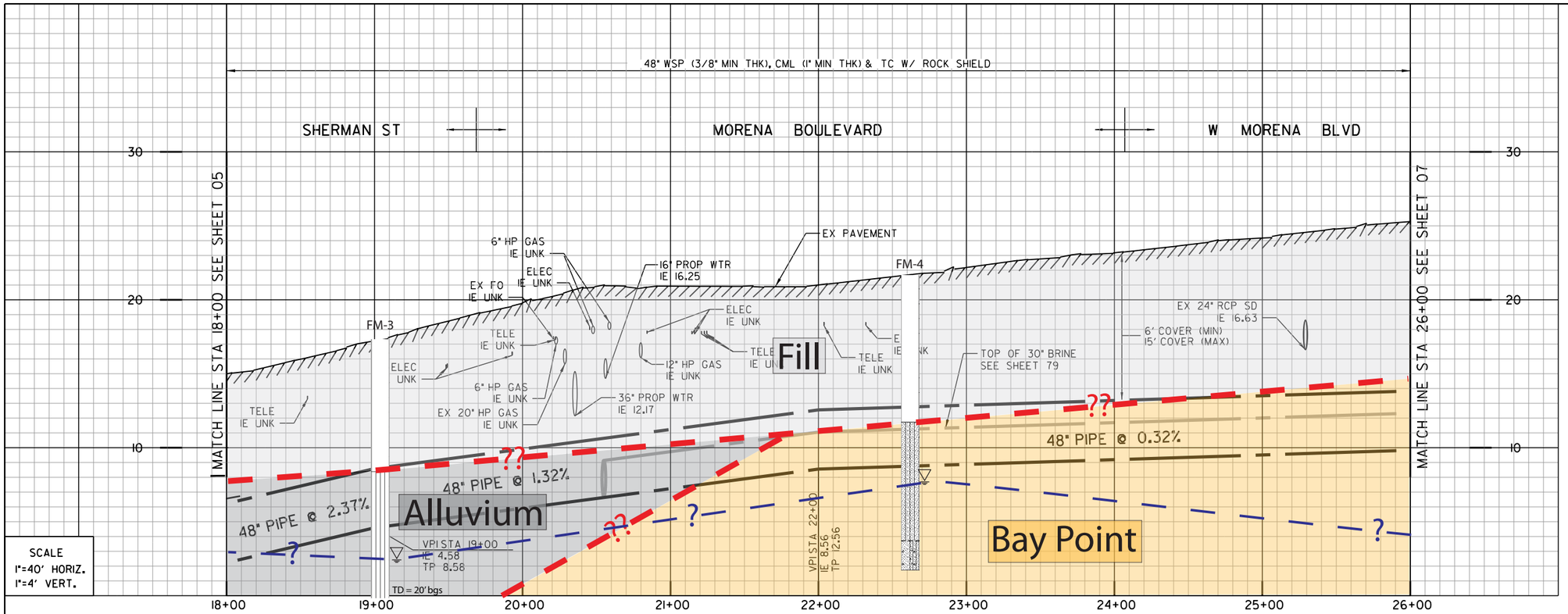
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-05-D

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM01.dgn
9/12017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (106) BY CONTRACTOR FURNISH AND INSTALL
STA 20+45.36
1- 31.87° HPI BEND
BEGIN JOINT TRENCH
SEE TRENCH SECTION

2 (107) BY CONTRACTOR FURNISH AND INSTALL
STA 20+81.30
1- 45° HPI BEND

3 (108) BY CONTRACTOR FURNISH AND INSTALL
STA 20+90.44
1- 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

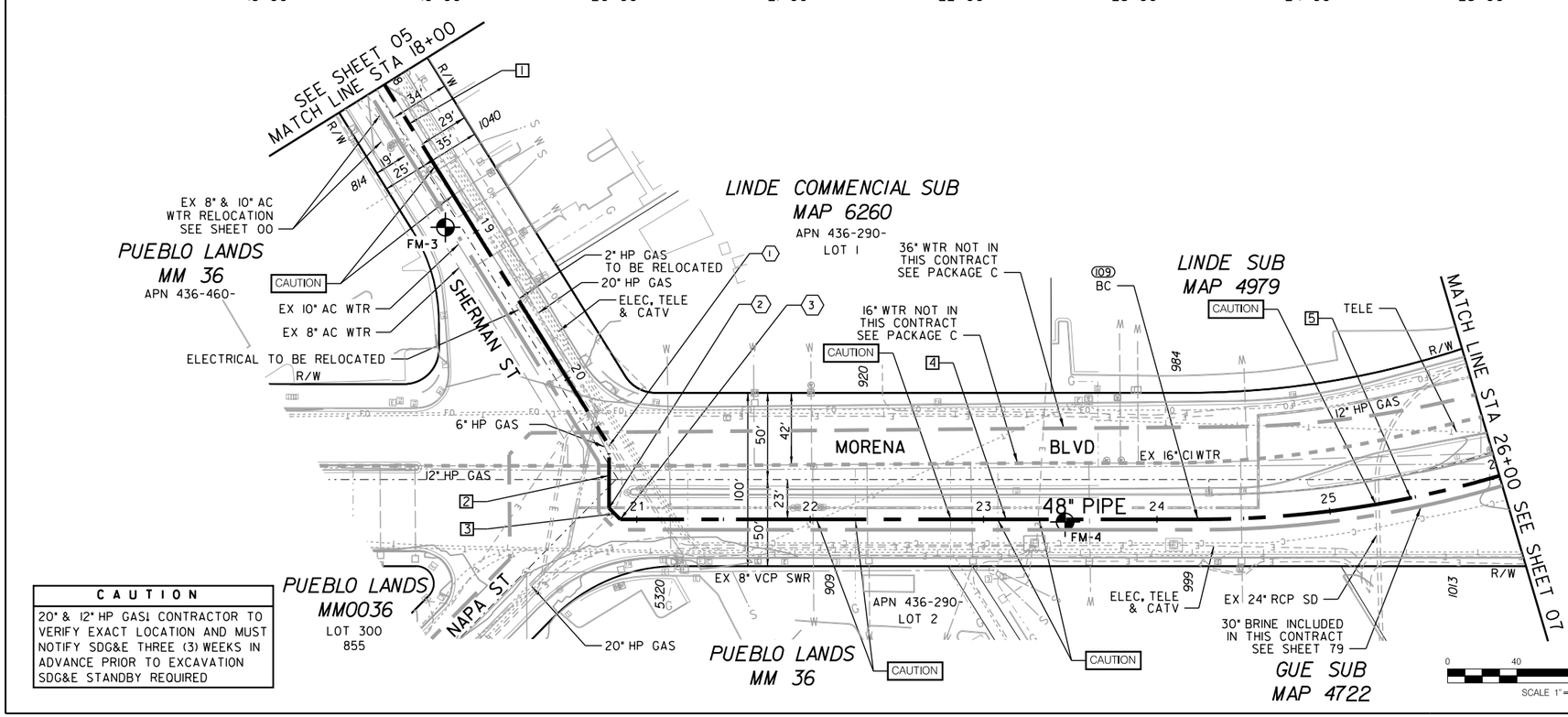
| | |
|---|---|
| WATER: | 7104-L,10616-L-D |
| SEWER: | 10437-D |
| STORM DRAIN: | 7203-D |
| GAS: | 15787-119840,15787-118945 |
| ELECTRIC: | 15787-119840,15787-118945 |
| CABLE TV: | 218-1710A |
| TELEPHONE: | UNI306BA, UNI308DC, BL01969 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 F3 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 106 | 1859745.71 | 6270077.62 | HPI BEND |
| 107 | 1859758.96 | 6270111.00 | HPI BEND |
| 108 | 1859767.38 | 6270114.63 | HPI BEND |
| 109 | 1860077.09 | 6269991.72 | BC |
| 110 | | | |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N36° 29'00"E | | 245.36' | 48" WSP (CML&TC) |
| 2 | N68° 21'14"E | | 35.91' | 48" WSP (CML&TC) |
| 3 | N23° 21'14"E | | 9.17' | 48" WSP (CML&TC) |
| 4 | N21° 38'46"W | | 333.21' | 48" WSP (CML&TC) |
| 5 | 16° 27'20" | 614' | 175.81' | 48" WSP (CML&TC) |




CAUTION

20" & 12" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-02

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 18+00 SHERMAN ST. TO STA 26+00 W. MORENA BLVD.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 06 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/12 CIVIL STATE OF CALIFORNIA

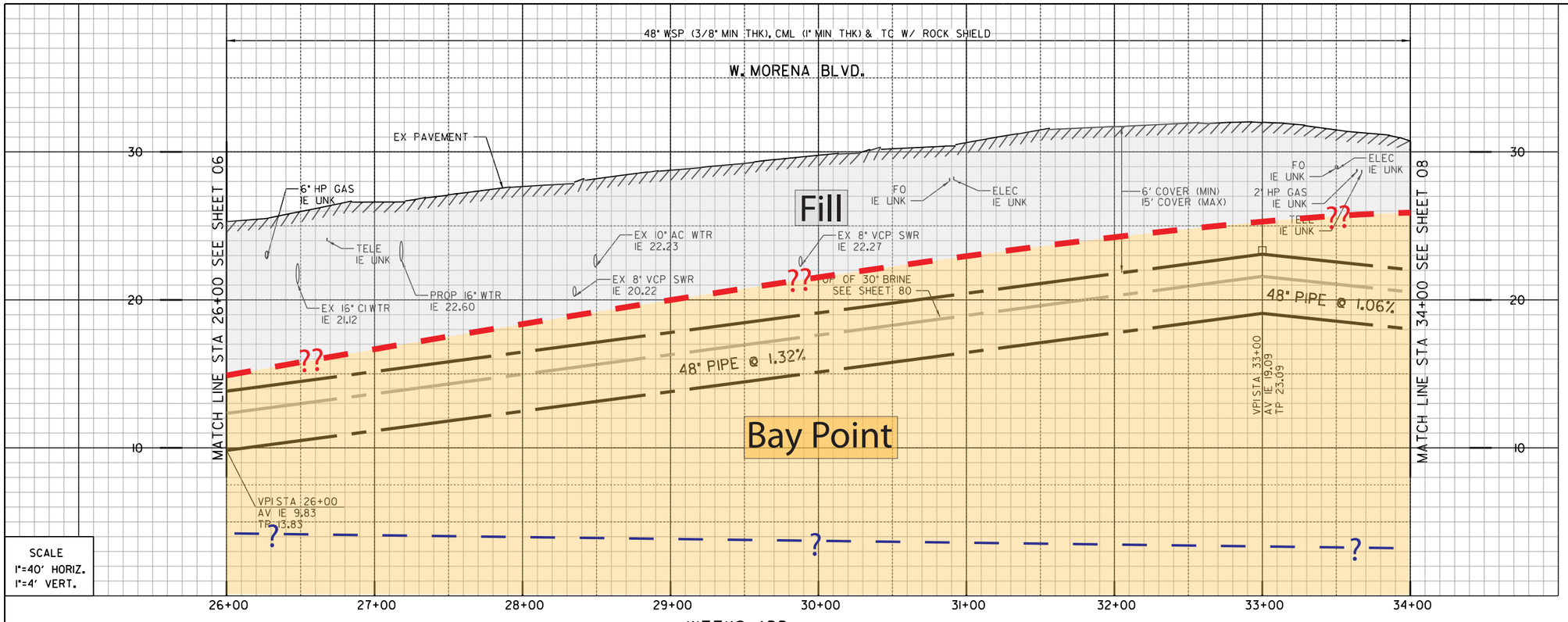
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

SEWER WBS B-15141
SUBMITTED BY LAILA NASRAWI PROJECT MANAGER
CHECKED BY DARIN SANCHEZ PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-06-D

SHERMAN STREET / WEST MORENA BOULEVARD

60% SUBMITTAL

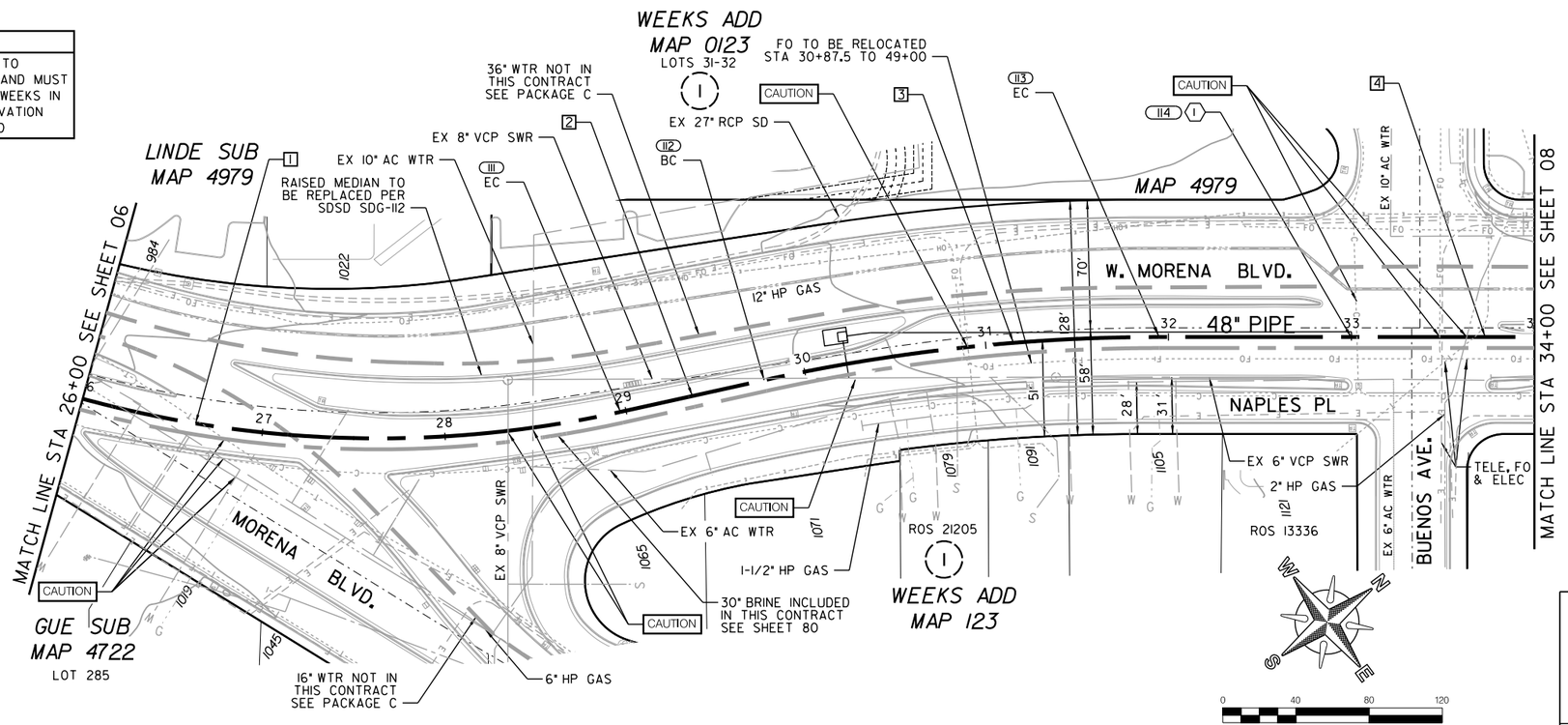
Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM02.dgn
9/12017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

**CAUTION**

12" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED




BY CONTRACTOR
FURNISH AND INSTALL
STA. 33+00.00
1- 6" COMBINATION REQUIRED
W/ AIR VALVE ODOR CONTROL BOX

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

**REFERENCE:**

| | |
|---|---|
| WATER: | 7321-L, 7322-L,8322-L |
| SEWER: | 1346-D |
| STORM DRAIN: | 7203-D |
| GAS: | 15780-118945,15780-118945 |
| ELECTRIC: | 15780-118945 |
| CABLE TV: | 218-1707B, 218-1710A |
| TELEPHONE: | BL01969 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E3, 1268 F3 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 111 | 1860410.68 | 6269672.63 | EC |
| 112 | 1860443.62 | 6269599.29 | BC |
| 113 | 1860553.57 | 6269412.03 | EC |
| 114 | | | ARV |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 27° 42'24" | 614' | 296.91' | 48" WSP (CML&TC) |
| 2 | N65° 48'33"W | | 80.39' | 48" WSP (CML&TC) |
| 3 | 12° 27'14" | 1001' | 217.58' | 48" WSP (CML&TC) |
| 4 | N53° 21'19"W | | 205.12' | 48" WSP (CML&TC) |

C-03

W. MORENA BLVD.

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 26+00 TO STA. 34+00 W. MORENA BLVD.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 07 OF SHEETS

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

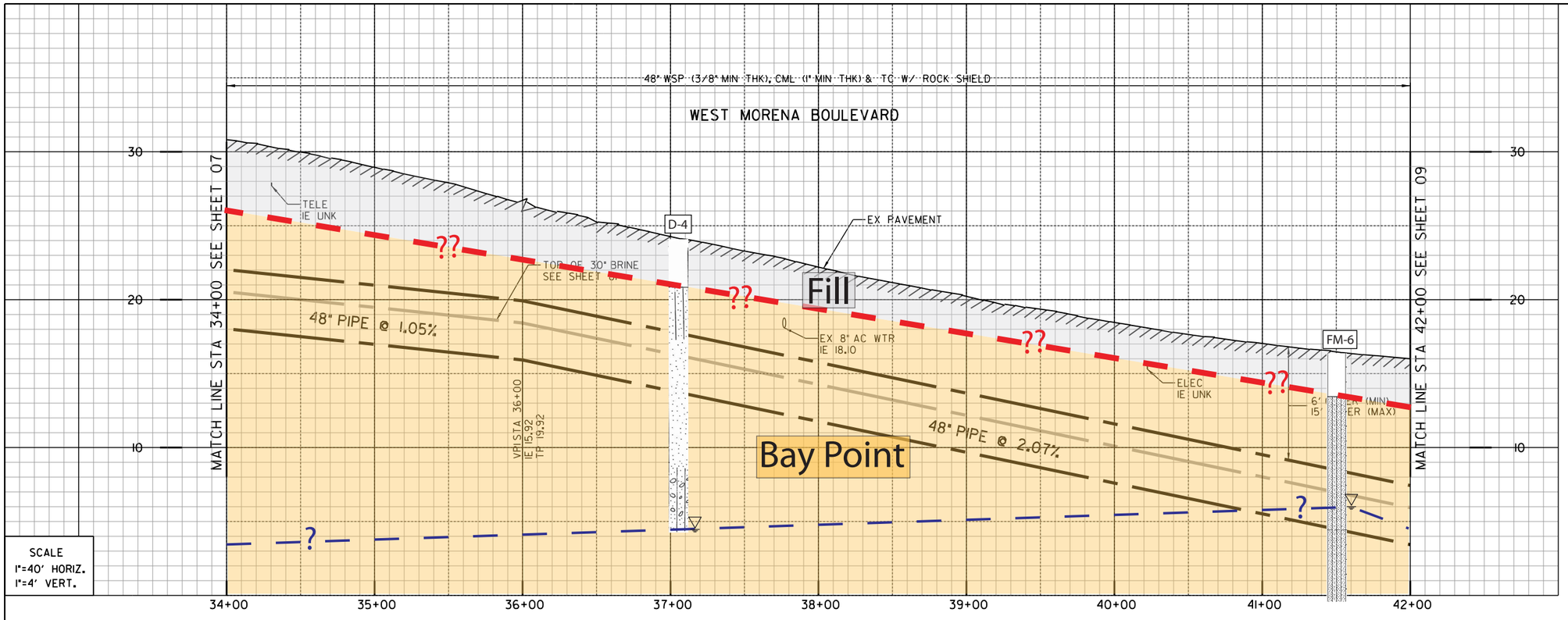
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

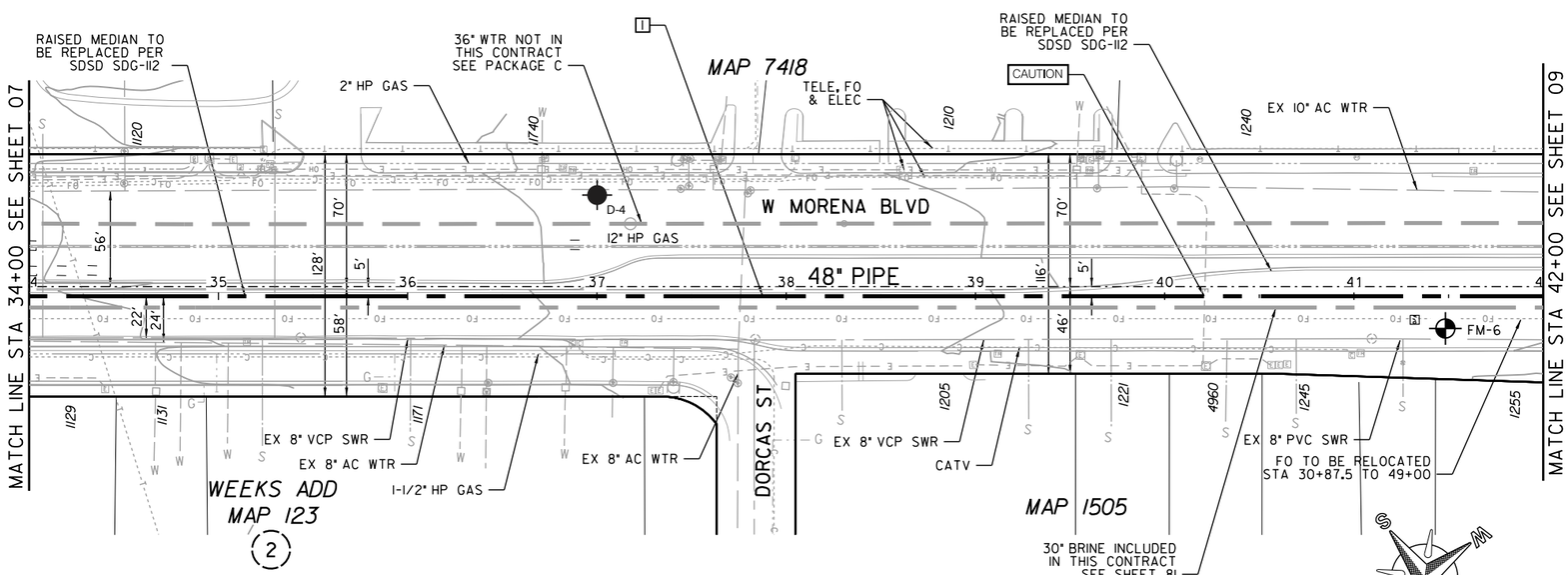
SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-07-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM03.dgn
9/6/2017 rothr1 $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




**CAUTION**

12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

REFERENCE:

| | |
|---|---|
| WATER: | 7321-L,15368-L |
| SEWER: | 1342-D |
| STORM DRAIN: | |
| GAS: | 15780-118950,15772-118955 |
| ELECTRIC: | 15780-118950 |
| CABLE TV: | |
| TELEPHONE: | BL01969 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E3 |
| HGL: | |

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 115 | | | |
| 116 | | | |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N53° 21'19"W | | 800.00' | 48" WSP (CML&TC) |

WEST MORENA BOULEVARD

C-04

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 34+00 TO STA 42+00 WEST MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 08 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

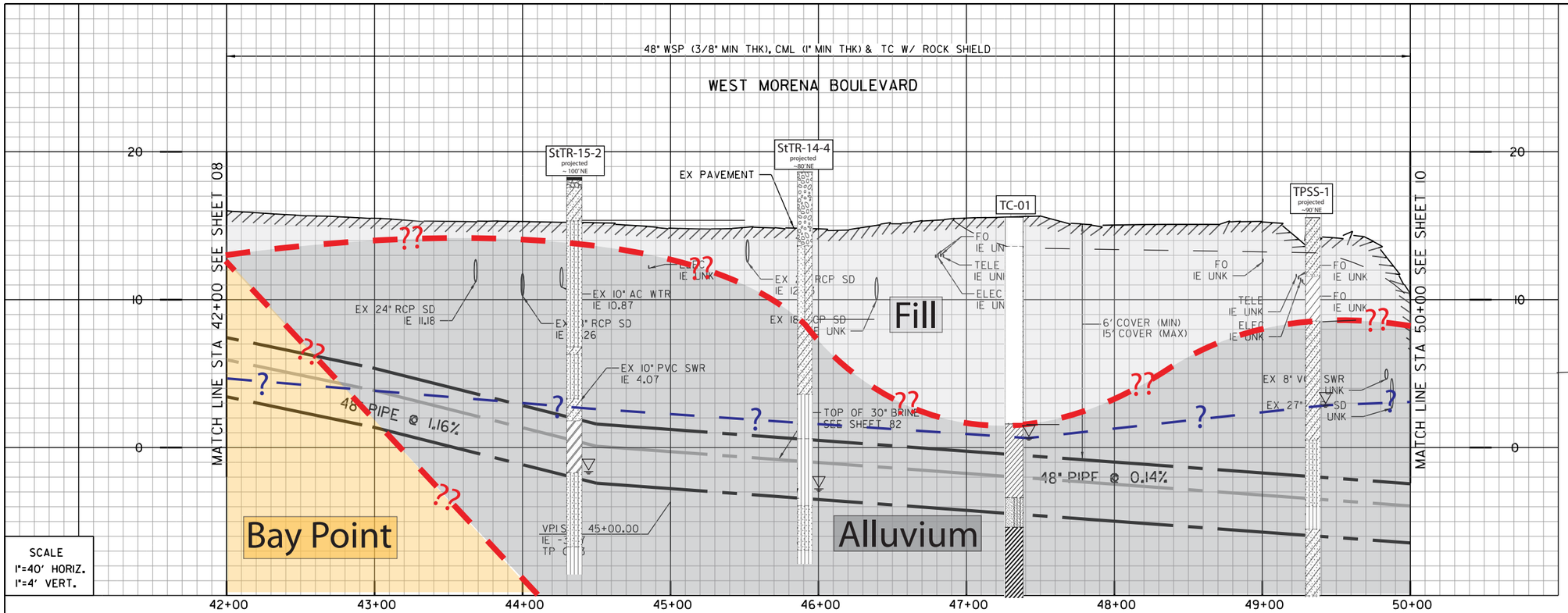
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-08-D

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM04.dgn
9/2017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (118)
BY CONTRACTOR
FURNISH AND INSTALL
STA 48+95.66
1 - 44.21° HPI BEND

2 (119)
BY CONTRACTOR
FURNISH AND INSTALL
STA 49+10.45
1 - 44.74° HPI BEND

3 (120)
BY CONTRACTOR
FURNISH AND INSTALL
STA 49+55.25
1 - 45° HPI BEND

4 (121)
BY CONTRACTOR
FURNISH AND INSTALL
STA 49+72.36
1 - 33.40° HPI BEND

5 (121)
BY CONTRACTOR
FURNISH AND INSTALL
STA 50+00
1 - AIR RELEASE VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

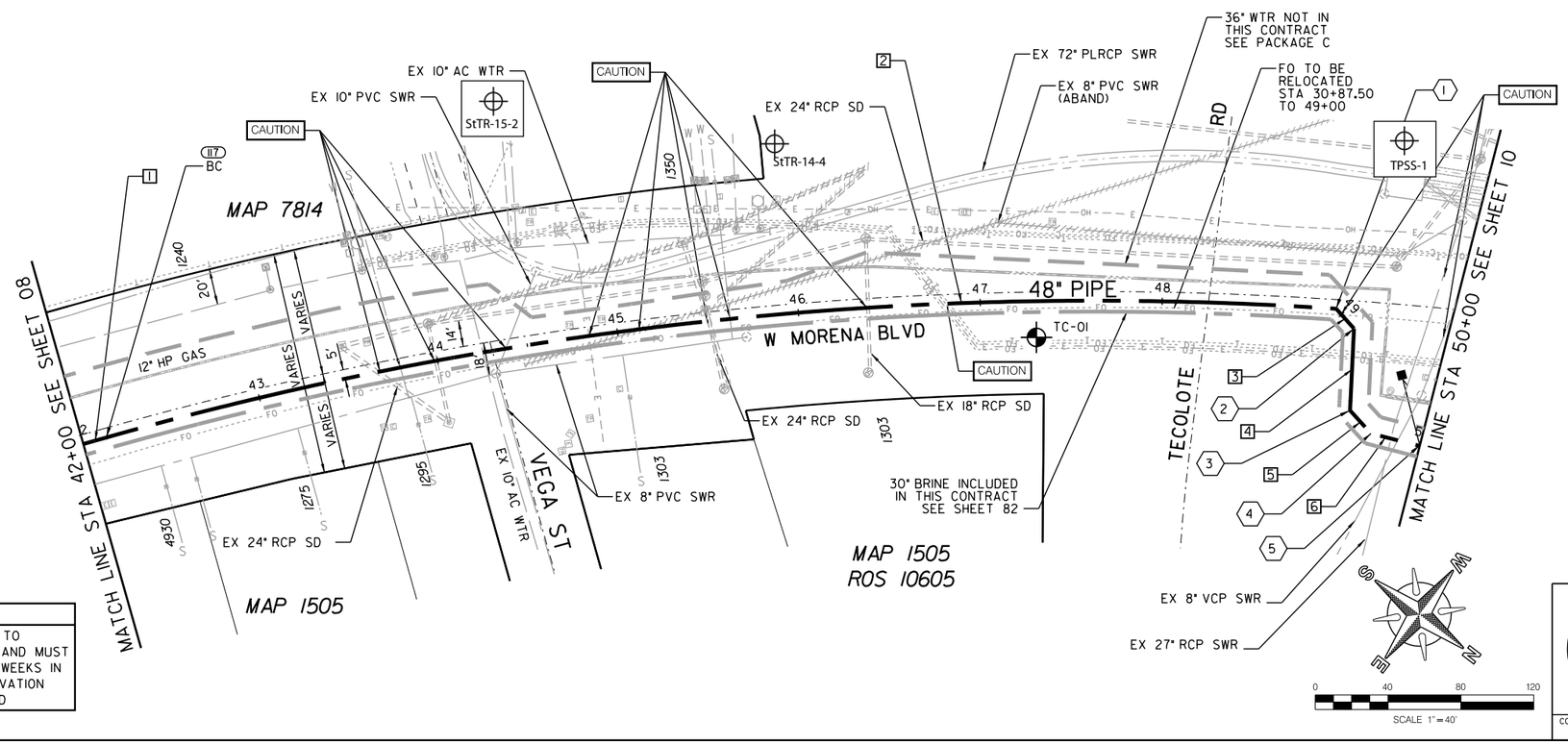
| | |
|---|---|
| WATER: | 15368-D, 15934-D |
| SEWER: | 30417-2-D, 28217-D |
| STORM DRAIN: | 3474-D |
| GAS: | 15772-118955, 15772-118950 |
| ELECTRIC: | 15772-118955 |
| CABLE TV: | |
| TELEPHONE: | BL01968, 104-211 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E2, 1268 E3 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 117 | 1861161.31 | 6268595.04 | BC |
| 118 | 1861653.65 | 6268127.15 | HPI BEND |
| 119 | 1861668.00 | 6268129.80 | HPI BEND |
| 120 | 1861693.68 | 6268166.76 | HPI BEND |
| 121 | 1861710.52 | 6268169.79 | HPI BEND |
| 122 | | | |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N53° 21'19"W | | 13.13' | 48" WSP (CML&TC) |
| 2 | 19° 36'07" | 1995' | 682.52' | 48" WSP (CML&TC) |
| 3 | N10° 27'54"E | | 14.60' | 48" WSP (CML&TC) |
| 4 | N55° 12'17"E | | 45.00' | 48" WSP (CML&TC) |
| 5 | N10° 12'17"E | | 17.11' | 48" WSP (CML&TC) |
| 6 | N23° 11'32"W | | 27.64' | 48" WSP (CML&TC) |




CAUTION

12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-05

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 42+00 TO STA 50+00 WEST MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 09 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

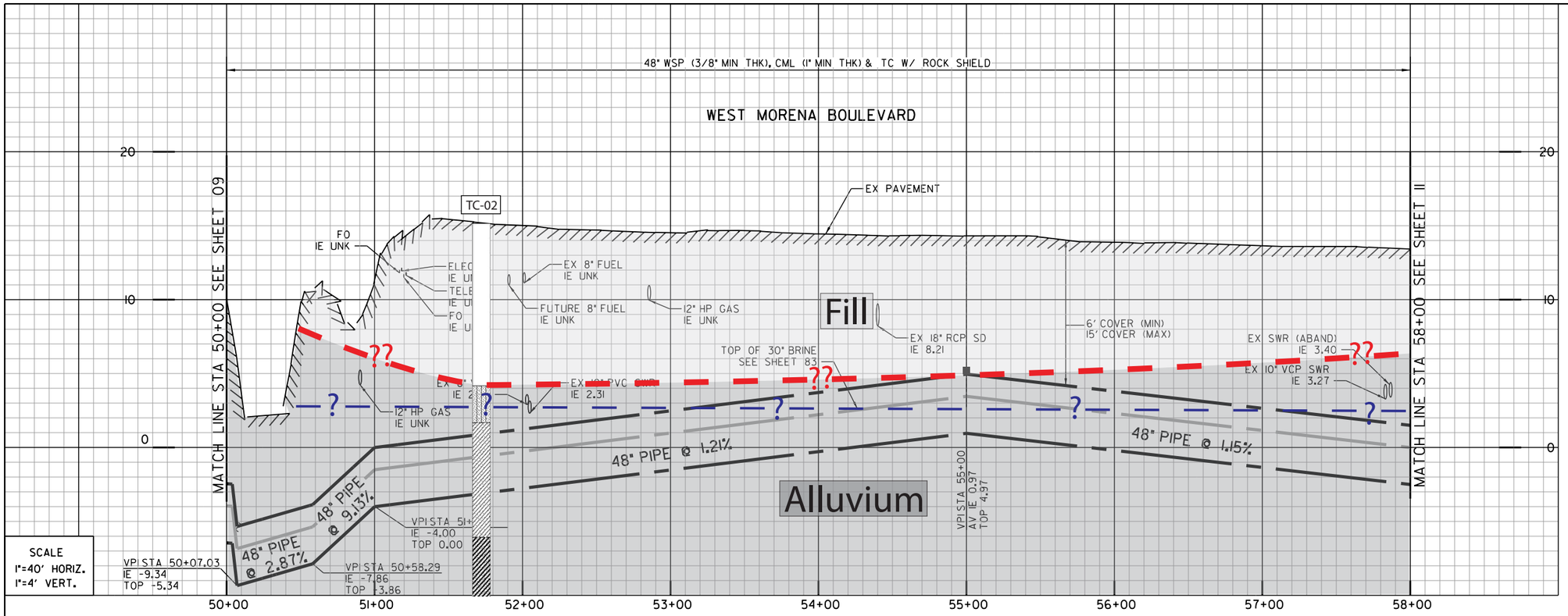
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-09-D

WEST MORENA BOULEVARD

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM05.dgn
9/2017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (124)
BY CONTRACTOR
FURNISH AND INSTALL
STA 50+49.47
1 - 45° HPI BEND

2 (125)
BY CONTRACTOR
FURNISH AND INSTALL
STA 50+77.57
1 - 22.50° HPI BEND

3 (126)
BY CONTRACTOR
FURNISH AND INSTALL
STA 51+36.30
1 - 61.52° HPI BEND

4 (XXX)
BY CONTRACTOR
FURNISH AND INSTALL
STA 55+00
1 - AIR RELEASE VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

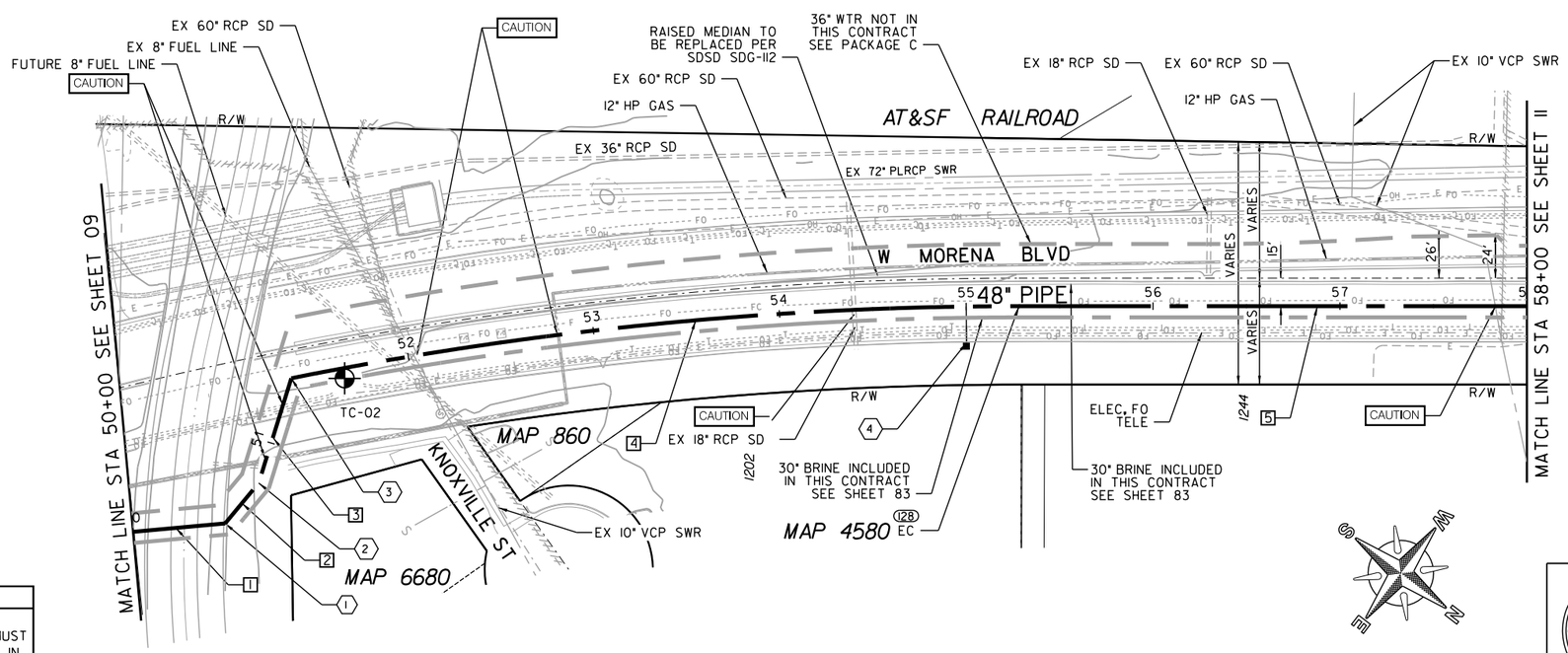
| | |
|---|---|
| WATER: | |
| SEWER: | 25119-D, 3502-D, 30777-D |
| STORM DRAIN: | 9510-D, 3475-D |
| GAS: | 15765-118960,15765-118965, 15772-118960 |
| ELECTRIC: | 15765-118960,15765-118965, 15772-118960 |
| CABLE TV: | 104-211,222-1704D |
| TELEPHONE: | |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E2 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 124 | 1861781.39 | 6268139.42 | HPI BEND |
| 125 | 1861791.83 | 6268113.33 | HPI BEND |
| 126 | 1861791.12 | 6268054.60 | HPI BEND |
| 127 | 1862149.66 | 6267897.84 | EC |
| 128 | | | |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N23° 11'32"W | | 49.47' | 48" WSP (CML&TC) |
| 2 | N68° 11'32"W | | 28.10' | 48" WSP (CML&TC) |
| 3 | N89° 18'28"E | | 58.73' | 48" WSP (CML&TC) |
| 4 | 11° 18'48" | 1985' | 391.95' | 48" WSP (CML&TC) |
| 5 | N17° 57'32"W | | 271.75' | 48" WSP (CML&TC) |




CAUTION

12" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-06

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 50+00 TO STA 58+00 WEST MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 10 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

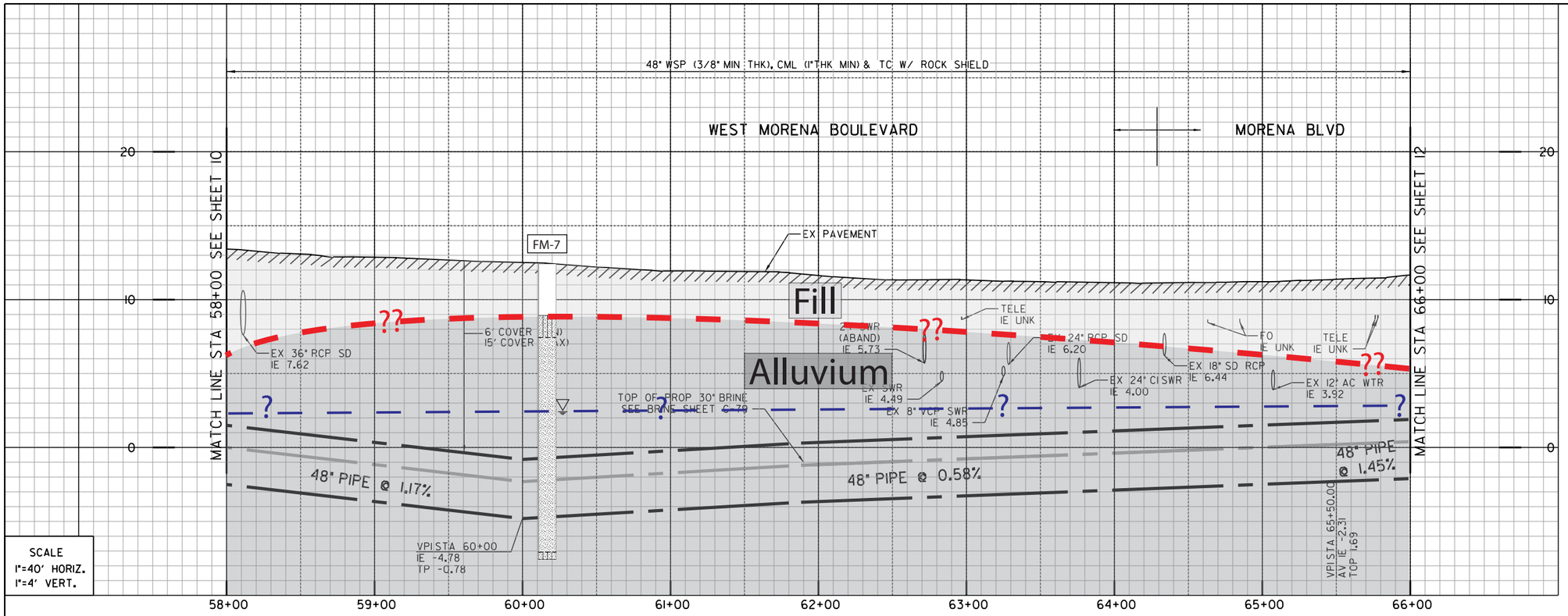
SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-10-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

WEST MORENA BOULEVARD

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM06.dgn
9/2017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (130)
BY CONTRACTOR
FURNISH AND INSTALL
STA 64+49.32
1 - 11.25° HPI BEND

2 (131)
BY CONTRACTOR
FURNISH AND INSTALL
STA 65+00.57
1 - 11.25° HPI BEND

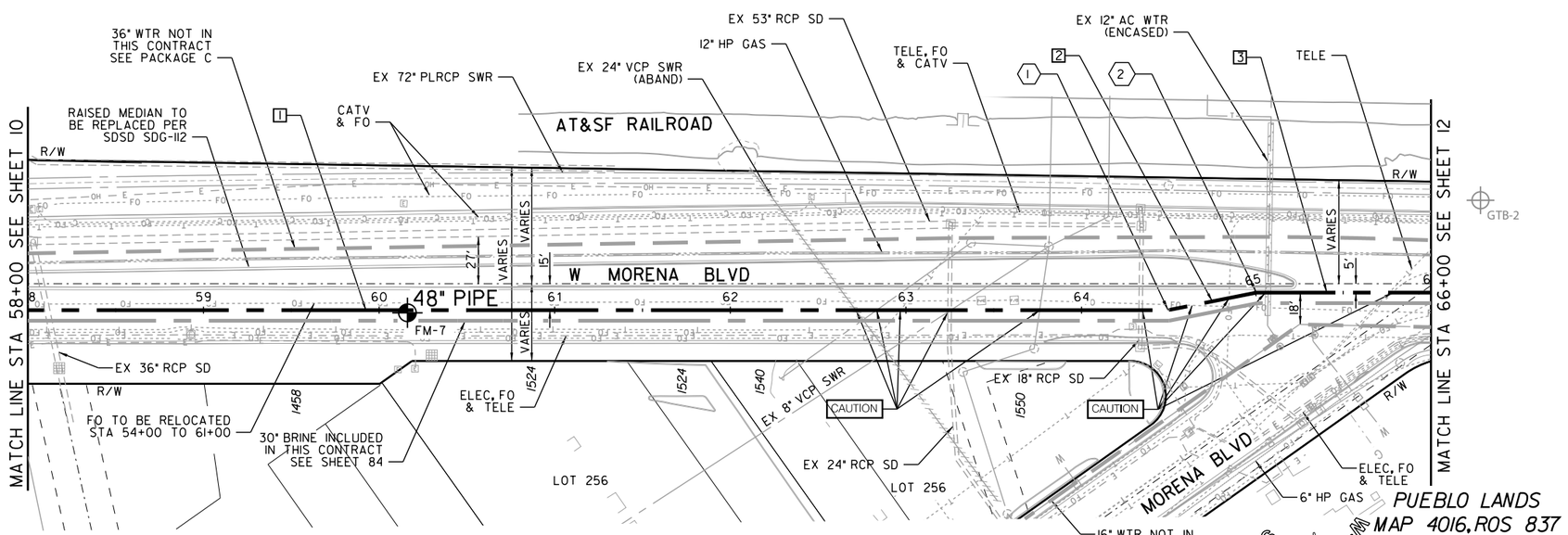
- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

WATER:
SEWER: 11835-D, 7104-D, 6066-D
STORM DRAIN: 25119-D, 1343-D, 6066-D, 12215-D
GAS: 15765-118965,15765-118970, 15765-118975
ELECTRIC: 15765-118965,15765-118970, 15765-118975
CABLE TV: 222-1740D,104-212, UTR-0417-153
TELEPHONE: BLP1967
IMPROVEMENTS:
100' SCALE/FIELD BOOK:
THOMAS BROS.: 1268 E2
HGL:

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 130 | 1863025.85 | 6267613.84 | HPI BEND |
| 131 | 1863070.59 | 6267588.83 | HPI BEND |
| 132 | | | |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N17° 57'32"W | | 649.32' | 48" WSP (CML&TC) |
| 2 | N29° 13'08"W | | 51.26' | 48" WSP (CML&TC) |
| 3 | N17° 57'32"W | | 99.43' | 48" WSP (CML&TC) |




**CAUTION**

6" & 12" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-07

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 58+00 TO STA 66+00 WEST MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 11 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE — RCE#
PRINT NAME

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

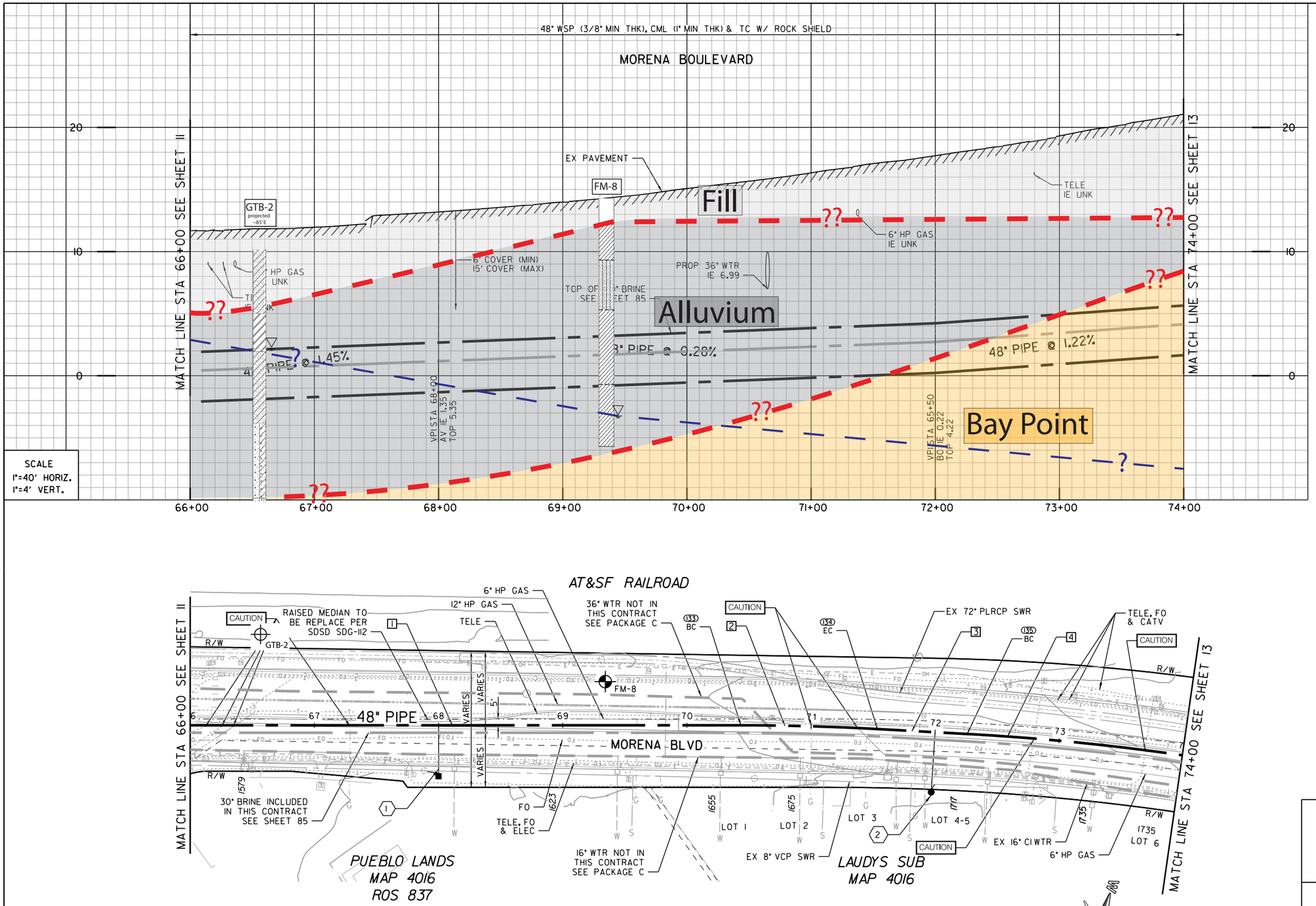
SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-11-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

WEST MORENA BOULEVARD / MORENA BOULEVARD

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM07.dgn
9/12017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 BY CONTRACTOR FURNISH AND INSTALL
STA 68+00
1- AIR RELEASE VALVE

2 BY CONTRACTOR FURNISH AND INSTALL
STA 72+00
1- BLOW OFF VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 6066-D |
| SEWER: | 25119-D, 6066-D |
| STORM DRAIN: | |
| GAS: | 15765-118980,15765-118985 |
| ELECTRIC: | 15765-118980,15765-118985 |
| CABLE TV: | 222-1704D, 104-212 |
| TELEPHONE: | BLP1967, BL01967 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E2 |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 133 | 1863586.99 | 6267421.45 | BC |
| 134 | 1863692.54 | 6267390.41 | EC |
| 135 | 1863762.54 | 6267371.89 | BC |
| 136 | | | |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N17° 57'32"W | | 443.42' | 48" WSP (CML&TC) |
| 2 | 03° 08'35" | 2006' | 110.04' | 48" WSP (CML&TC) |
| 3 | N14° 48'57"W | | 72.41' | 48" WSP (CML&TC) |
| 4 | 05° 00'40" | 1991' | 174.14' | 48" WSP (CML&TC) |

C-08

MORENA BOULEVARD

**CAUTION**

6" & 12" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SCALE 1" = 40'

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 66+00 TO STA 74+00 MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 12 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

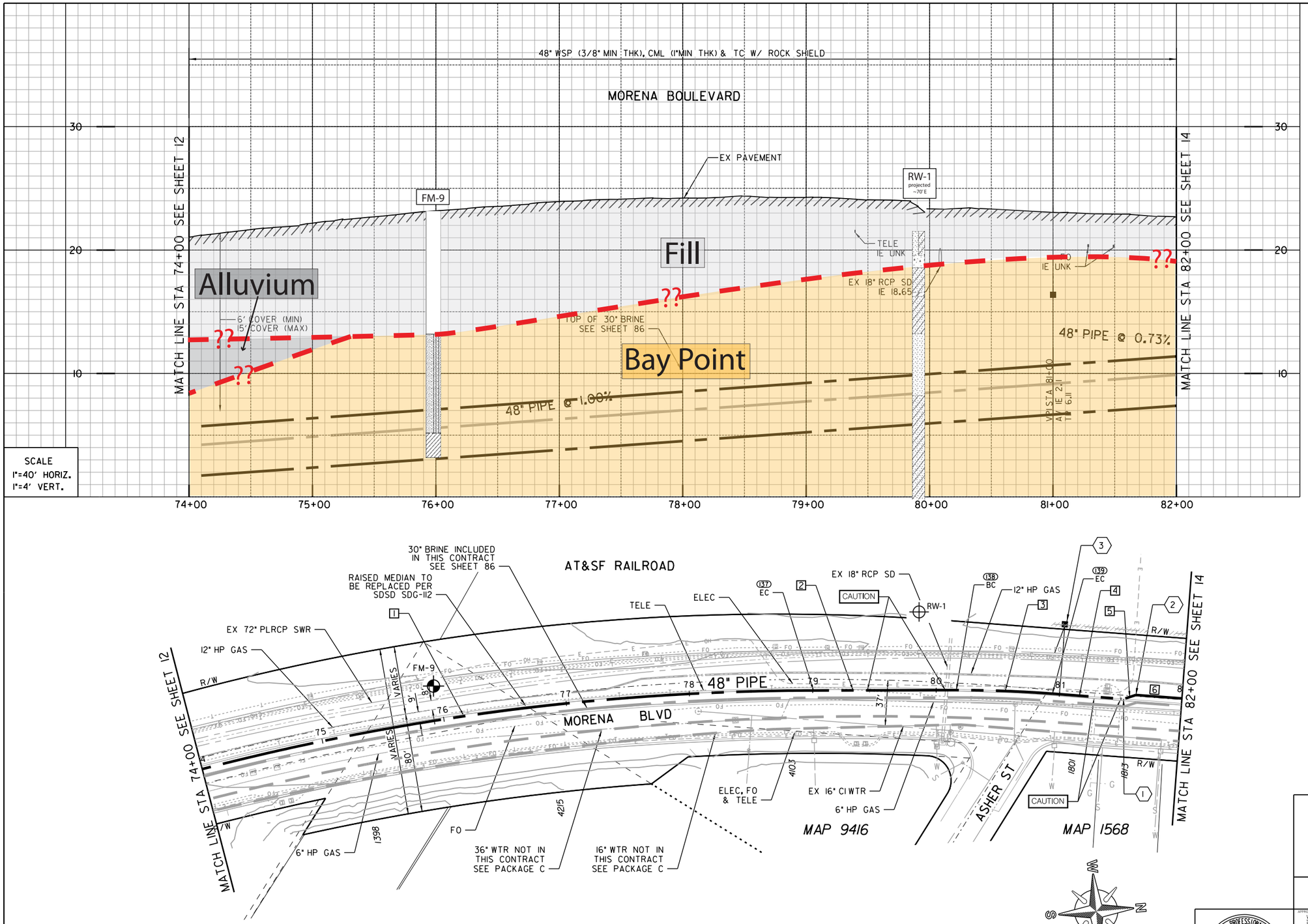
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-12-D

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM08.dgn
9/2017 rothr1 $PLTDRVS$ $PENTBLS$







1 (140)
BY CONTRACTOR
FURNISH AND INSTALL
STA 81+52.10
1-22.5° HPI BEND

2 (141)
BY CONTRACTOR
FURNISH AND INSTALL
STA 81+62.55
1-22.5° HPI BEND

3 (XXX)
BY CONTRACTOR
FURNISH AND INSTALL
STA 81+00
1-AIR RELEASE VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 6066-D |
| SEWER: | 25119-D, 1311-D |
| STORM DRAIN: | 3477-D |
| GAS: | 15765-118990,15765-118985 |
| ELECTRIC: | 15765-118990,15765-118985 |
| CABLE TV: | 104-212, 222-1704-B |
| TELEPHONE: | BL01967 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E1, 1268 E2 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 137 | 1864431.40 | 6267312.07 | EC |
| 138 | 1864546.77 | 6267321.35 | BC |
| 139 | 1864624.12 | 6267330.60 | EC |
| 140 | 1864681.22 | 6267339.68 | HPI BEND |
| 141 | 1864691.38 | 6267337.25 | HPI BEND |
| 142 | | | |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 14° 24'24" | 1991' | 500.62' | 48" WSP (CML&TC) |
| 2 | N04° 35'56"E | | 115.73' | 48" WSP (CML&TC) |
| 3 | 04° 26'08" | 1006' | 77.93' | 48" WSP (CML&TC) |
| 4 | N09° 02'13"E | | 57.81' | 48" WSP (CML&TC) |
| 5 | N13° 27'47"W | | 10.45' | 48" WSP (CML&TC) |
| 6 | N09° 02'13"E | | 37.45' | 48" WSP (CML&TC) |

C-09

MORENA BOULEVARD

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 74+00 TO STA 82+00 MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 13 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

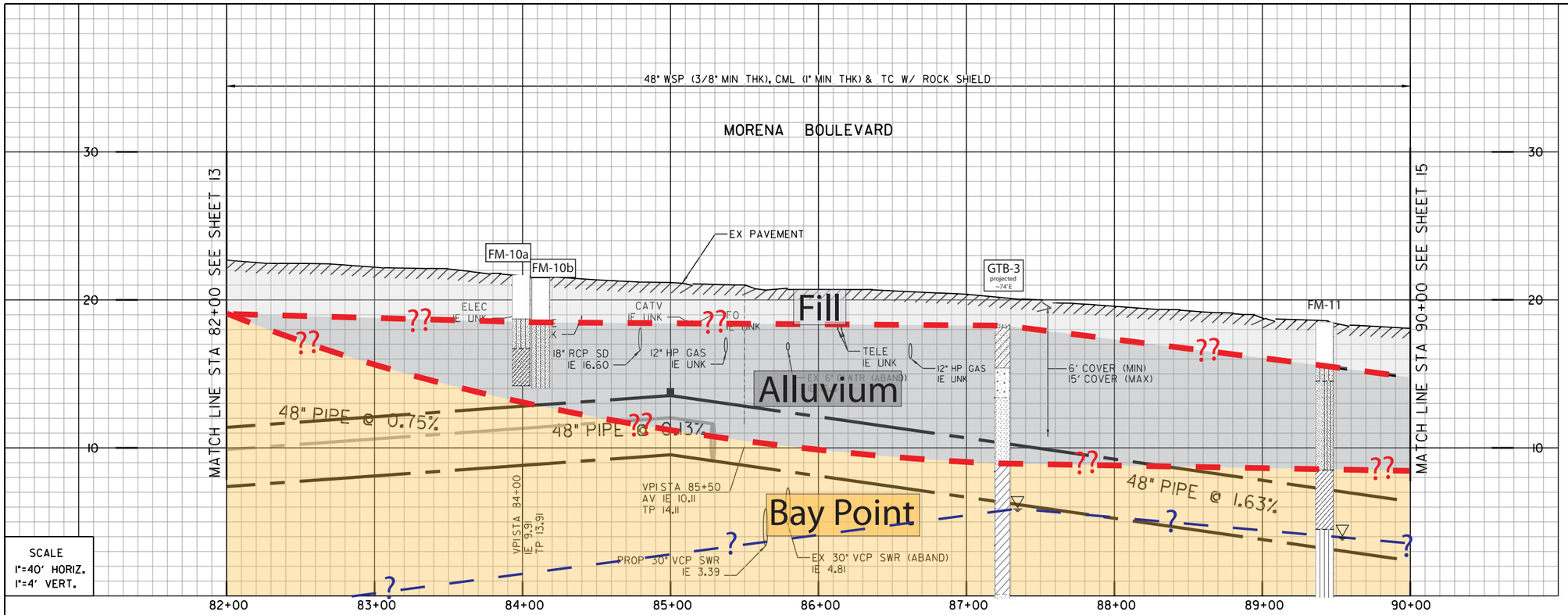
40067-13-D

60% SUBMITTAL

CAUTION

6" & 12" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM09.dgn
9/2017 rothr1 $PLTDRVS$ $PENTBLS$




1 (143)
BY CONTRACTOR
FURNISH AND INSTALL
STA 85+28.89
1 - 45° HPI BEND
END JOINT TRENCH CONSTRUCTION

2 (144)
BY CONTRACTOR
FURNISH AND INSTALL
STA 85+57.17
1 - 45° HPI BEND

3 (XXX)
BY CONTRACTOR
FURNISH AND INSTALL
STA 85+57.17
1-AIR RELEASE VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

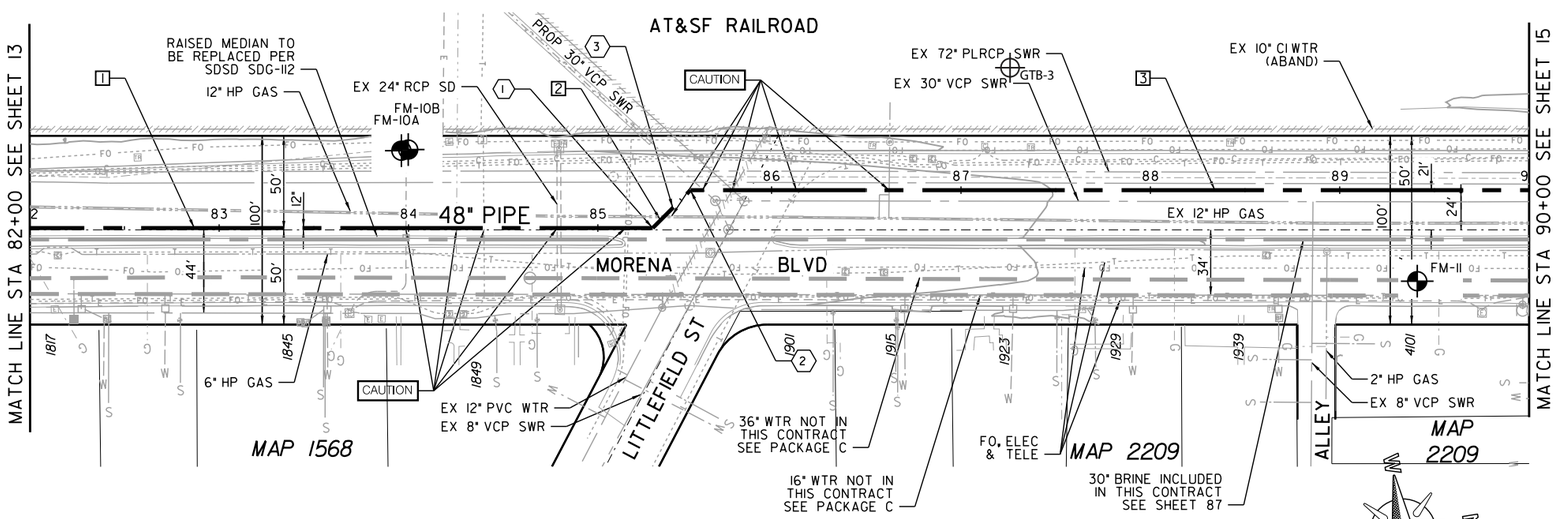
| | |
|---|---|
| WATER: | 7660-W, 3478-D |
| SEWER: | 25119-D, 1311-D, 1149-D, 7288-D |
| STORM DRAIN: | 3477-D, 3493-D |
| GAS: | 15765-118990,15765-118995 |
| ELECTRIC: | 15765-118990,15765-118995 |
| CABLE TV: | 222-1704-B, 224-1704-D, 104-213 |
| TELEPHONE: | BL01967 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E1 |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 143 | 1865053.17 | 6267394.79 | HPI BEND |
| 144 | 1865076.07 | 6267378.18 | HPI BEND |
| 145 | | | |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N09° 02'13"E | | 328.89' | 48" WSP (CML&TC) |
| 2 | N35° 57'47"W | | 28.28' | 48" WSP (CML&TC) |
| 3 | N09° 02'13"E | | 442.83' | 48" WSP (CML&TC) |




| CAUTION |
|---|
| 6" & 12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

C-10

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 82+00 TO STA 90+00 MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 14 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

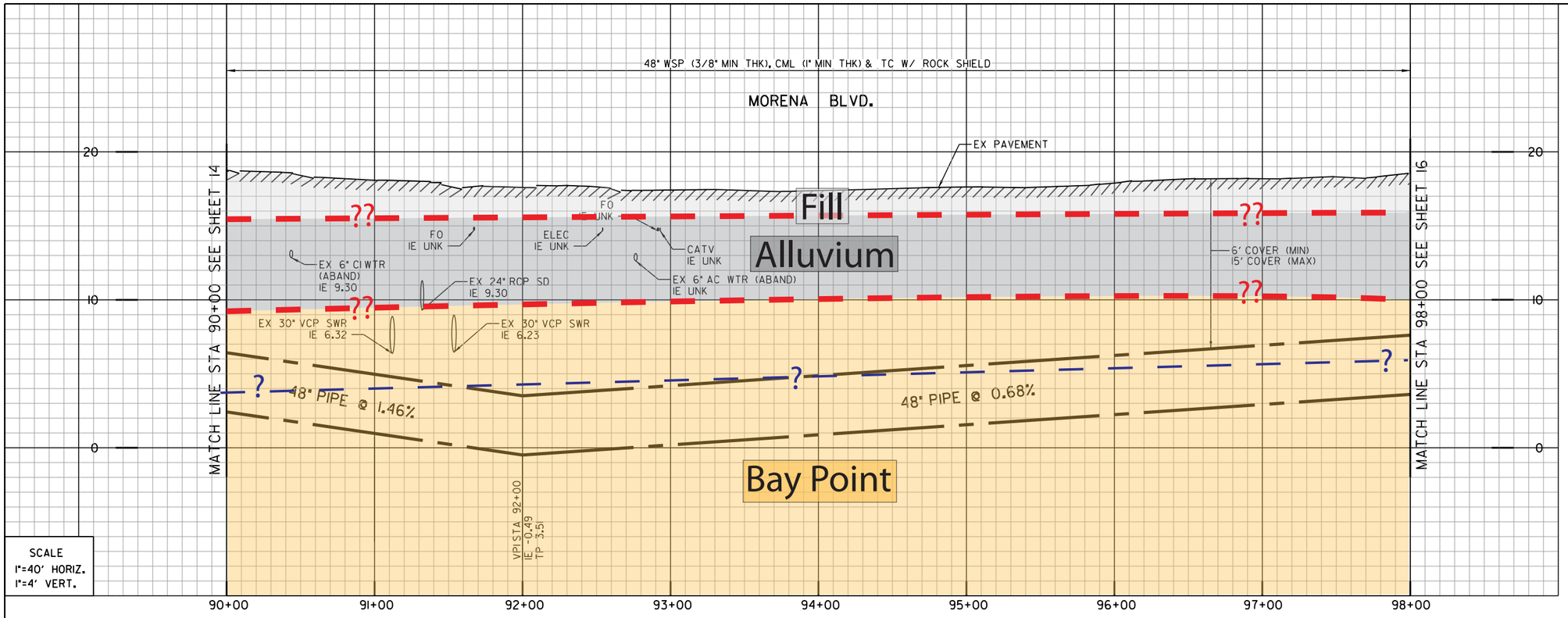
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-14-D

MORENA BOULEVARD

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM10.dgn
9/2017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (146)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 91+15.56
1 - 45° HPI BEND

2 (147)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 91+32.34
1 - 45° HPI BEND

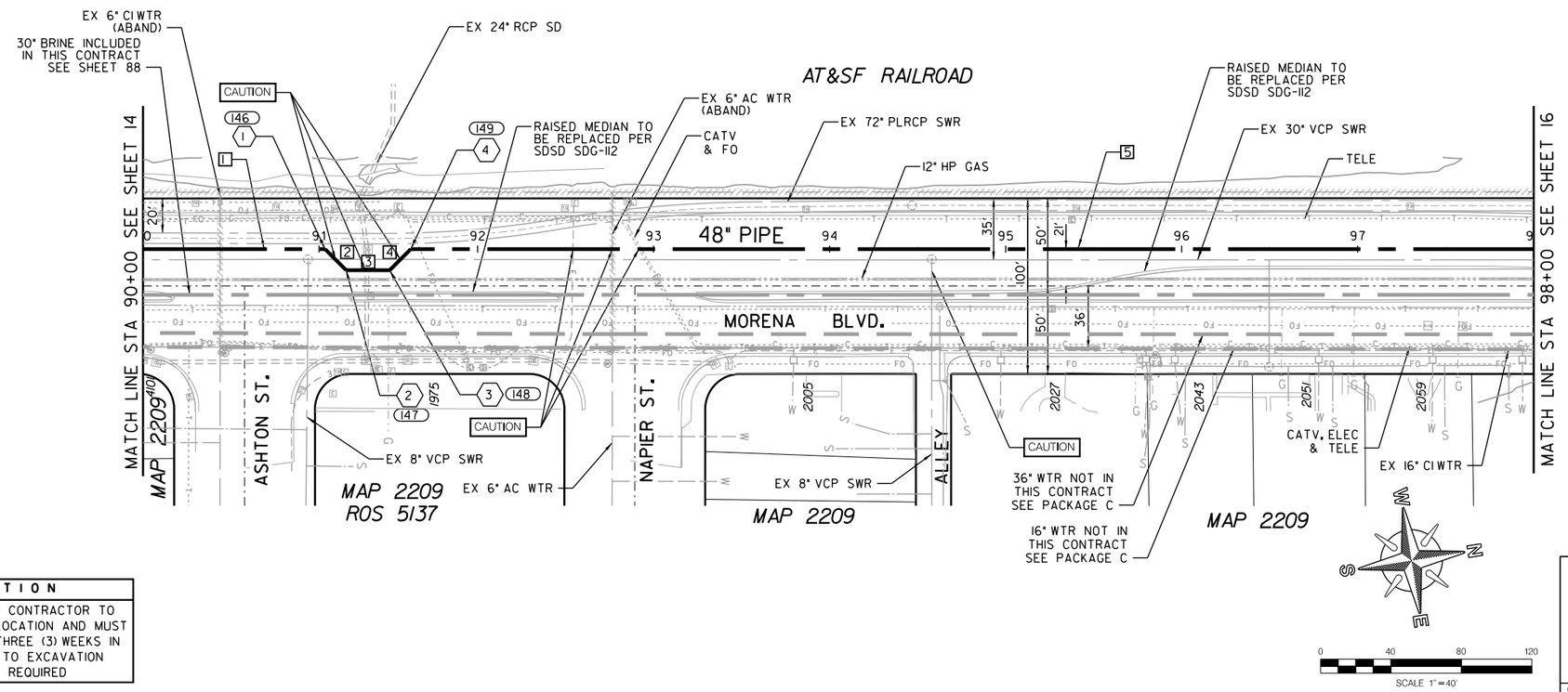
3 (148)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 91+57.32
1 - 45° HPI BEND

4 (149)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 91+74.12
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ??? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7660-W |
| SEWER: | 25119-D, 1311-D, 1149-D |
| STORM DRAIN: | 3477-D, 3478-D |
| GAS: | 15765-119000,15765-119005 |
| ELECTRIC: | 15765-119000,15765-119005 |
| CABLE TV: | 214-1704-B, 104-213 |
| TELEPHONE: | BLN 1967, BLO 1967 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1268 E1 |
| HGL: | |




COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 146 | 1865615.49 | 6267463.97 | HPI BEND |
| 147 | 1865625.46 | 6267477.71 | HPI BEND |
| 148 | 1865649.89 | 6267481.59 | HPI BEND |
| 149 | 1865663.63 | 6267471.63 | HPI BEND |
| 150 | | | |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N09° 02'13"E | | 103.37' | 48" WSP (CML&TC) |
| 2 | N54° 02'13"E | | 16.97' | 48" WSP (CML&TC) |
| 3 | N09° 02'13"E | | 24.74 | 48" WSP (CML&TC) |
| 4 | N35° 57'47"W | | 16.97' | 48" WSP (CML&TC) |
| 5 | N09° 02'13"E | | 637.95' | 48" WSP (CML&TC) |

C-11

MORENA BLVD.

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 90+00 TO STA. 98+00 MORENA BLVD.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 15 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

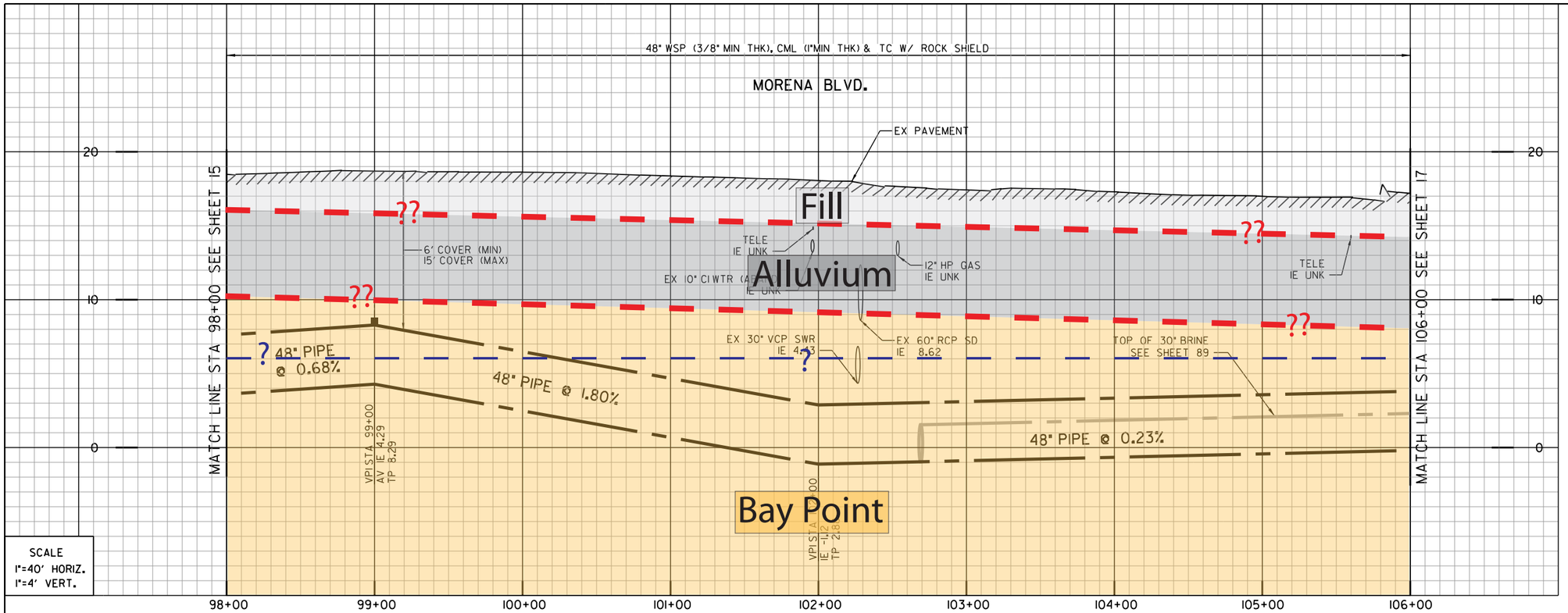
40067-15-D

CAUTION

6" & 12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM11.dgn
9/6/2017 rothr1 $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




1 (151)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 102+11.65
1 - 22.5° HPI BEND

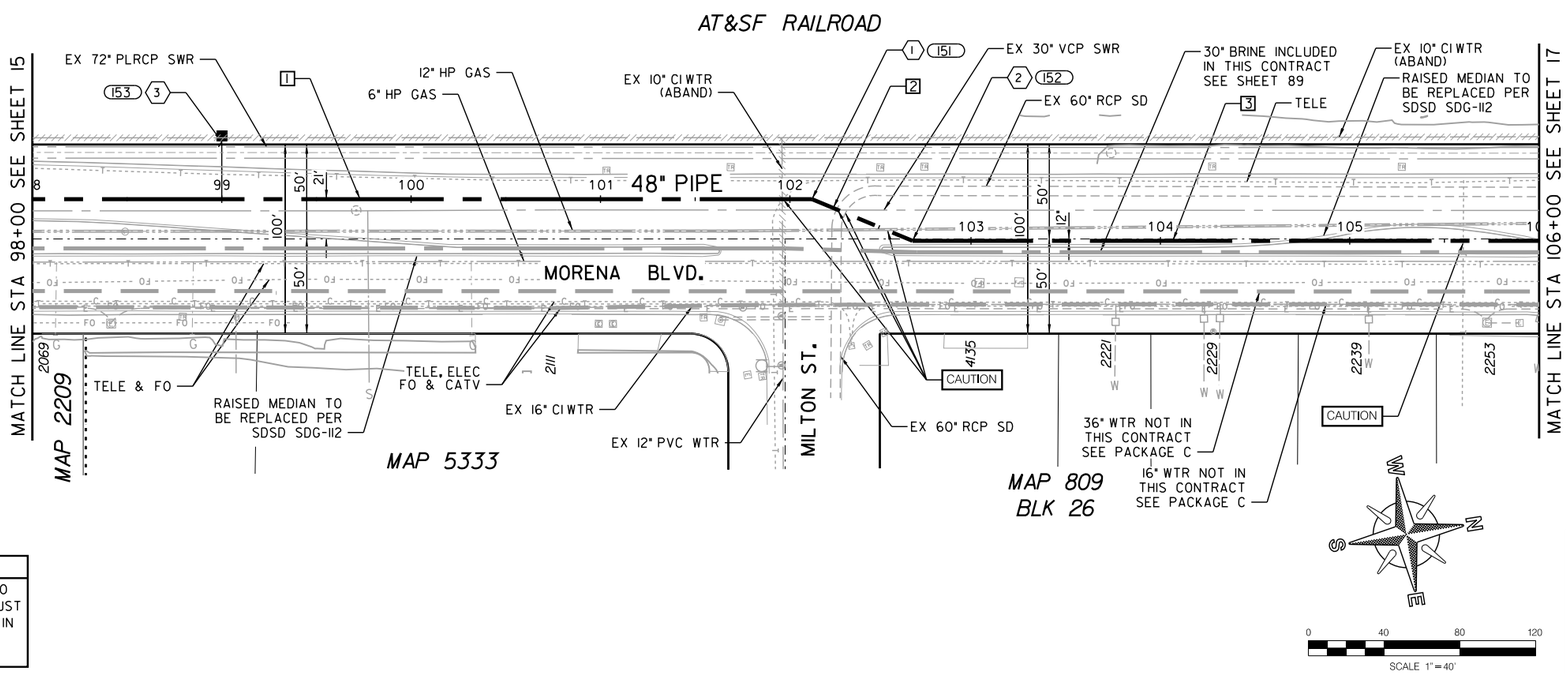
2 (152)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 102+69.14
1 - 22.5° HPI BEND
BEGIN JOINT TRENCH

3 (153)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 99+00
1 - AIR RELEASE VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 34257-D |
| SEWER: | 1150-D, 25119-D, 9355-L, 1310-D |
| STORM DRAIN: | 9355-L |
| GAS: | 15765-119005,15765-119010 15765-119015 |
| ELECTRIC: | 15765-119005,15765-119010 15765-119015 |
| CABLE TV: | 104-213, 226-1704-D |
| TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1248 E7, 1268 E1 |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 151 | 1866700.20 | 6267636.49 | HPI BEND |
| 152 | 1866749.19 | 6267666.56 | HPI BEND |
| 153 | | | ARV |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N09° 02'13"E | | 411.65' | 48" WSP (CML&TC) |
| 2 | N31° 32'13"E | | 57.49' | 48" WSP (CML&TC) |
| 3 | N09° 02'13"E | | 330.86' | 48" WSP (CML&TC) |

C-12

MORENA BLVD.

**CAUTION**

6" & 12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 98+00 TO STA. 106+00 MORENA BLVD.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 16 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

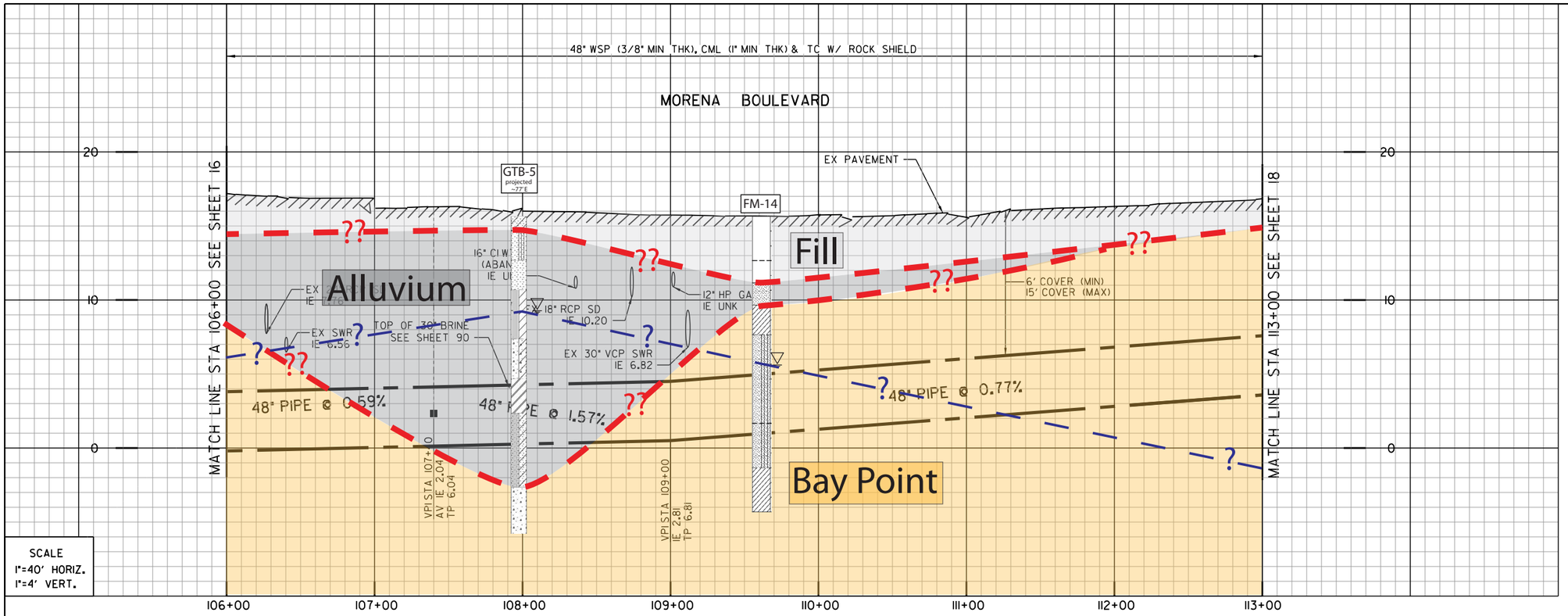
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-16-D

60% SUBMITTAL

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM12.dgn
9/6/2017 rothr1 $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (151)
BY CONTRACTOR
FURNISH AND INSTALL
STA 108+84.78
1- 22.5° HPI BEND

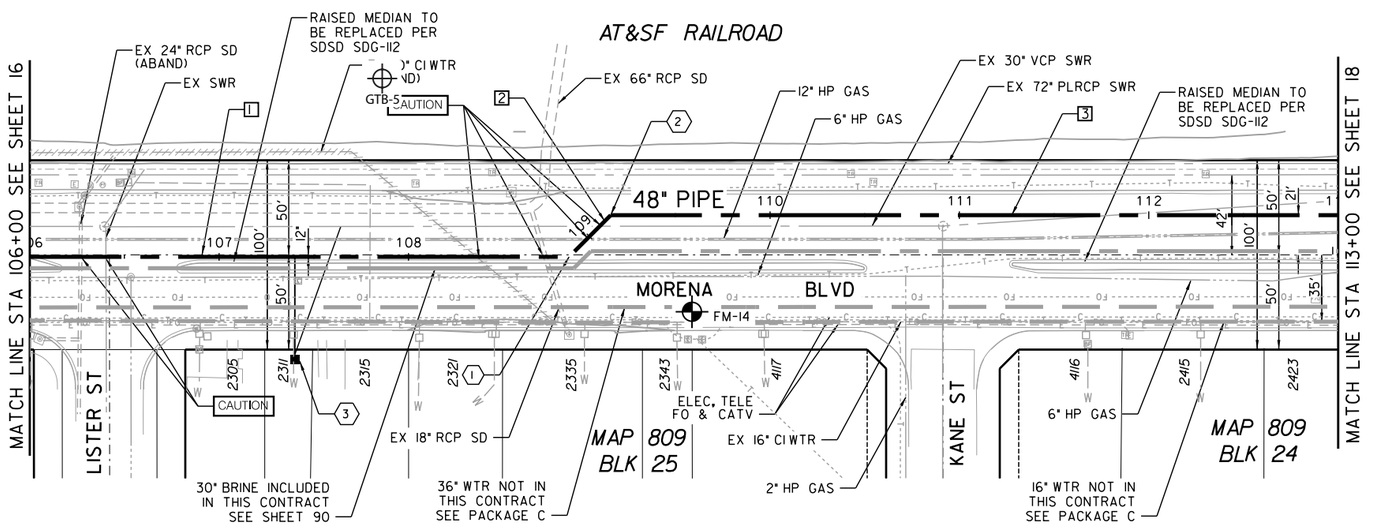
2 (152)
BY CONTRACTOR
FURNISH AND INSTALL
STA 109+15.89
1- 22.5° HPI BEND
END JOINT TRENCH CONSTRUCTION

3 (XXX)
BY CONTRACTOR
FURNISH AND INSTALL
STA 107+40.00
1- AIR RELEASE VALVE

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 5573-W, 7660-D |
| SEWER: | 25119-L, 1151-D |
| STORM DRAIN: | 3493-D, 9355-L |
| GAS: | 15765-119020,15765-119015 |
| ELECTRIC: | 15765-119020,15765-119015 |
| CABLE TV: | 226-1704-D |
| TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | 1248 E7 |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 151 | 1867357.19 | 6267763.26 | HPI BEND |
| 152 | 1867382.37 | 6267744.99 | HPI BEND |
| 153 | | | |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N09° 02'13"E | | 284.78' | 48" WSP (CML&TC) |
| 2 | N35° 57'47"W | | 31.11' | 48" WSP (CML&TC) |
| 3 | N09° 02'13"E | | 384.11' | 48" WSP (CML&TC) |

C–13

MORENA BOULEVARD

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA 106+00 TO STA 113+00 MORENA BOULEVARD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 17 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
DATE
PRINT NAME
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067–17–D

REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

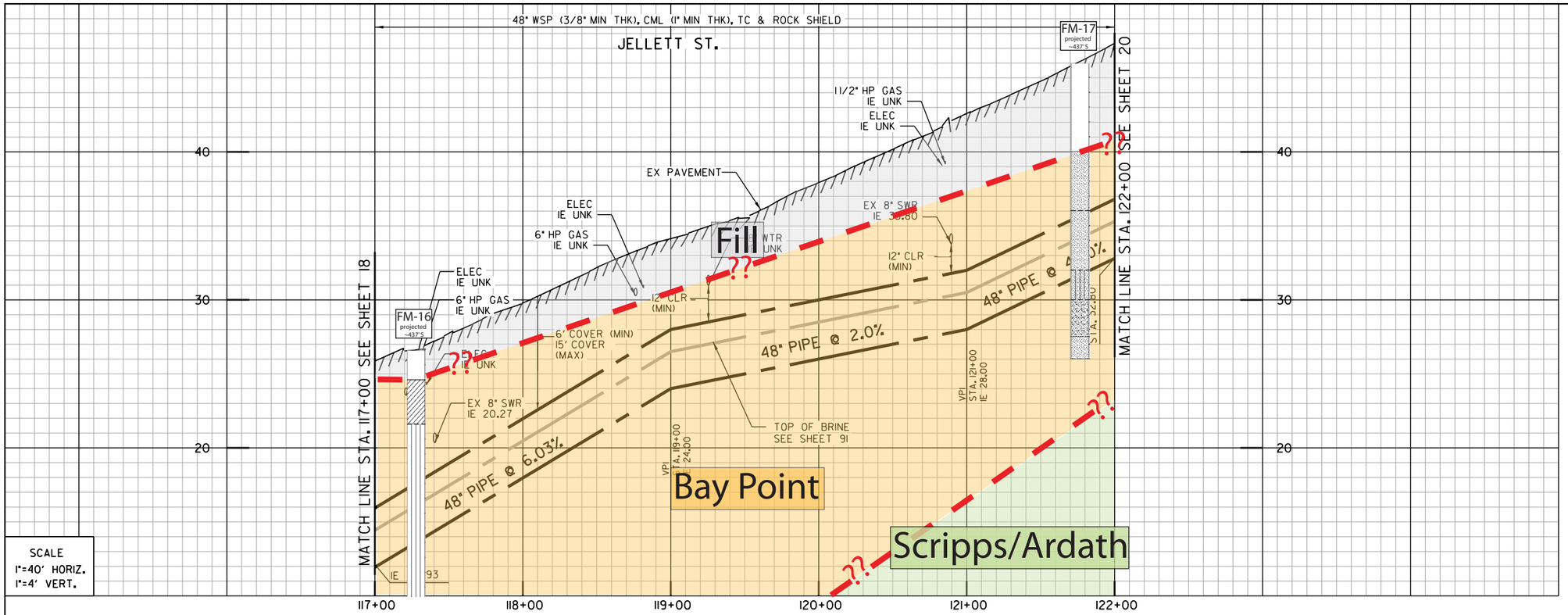
SCALE 1" = 40'

CAUTION

6" & 12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

Q:\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM13.dgn
9/12017 rothr1 $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 117+14.16
1-45° HPI BEND

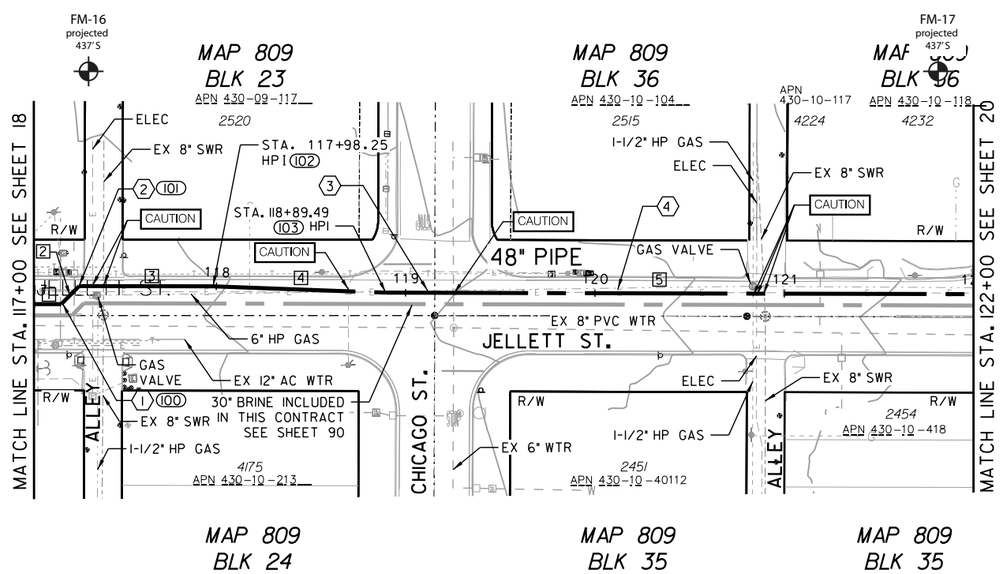
2 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 117+27.50
1-45° HPI BEND

3
BY OTHERS
FURNISH AND INSTALL
APPROX. STA. 118+00 TO 120+50
6" HP GAS TO BE REMOVED AND REPLACED

4
BY OTHERS
FURNISH AND INSTALL
APPROX. STA. 118+00 TO 122+50
ELECTRICAL LINE TO BE REMOVED AND REPLACED

RETIREMENTS:

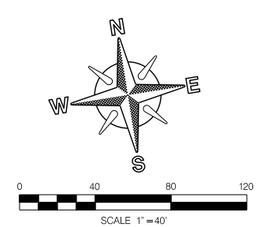
| | |
|---|---|
| WATER: | 5373-W |
| SEWER: | 1313-D, 1310-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119020, 15772-119020 |
| ELECTRIC: | NO INFO |
| CABLE TV: | PB0407DC |
| TELEPHONE: | BLM969 |
| IMPROVEMENTS: | |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1867966.68 | 6268023.62 | HPI BEND |
| 101 | 1867974.64 | 6268034.32 | HPI BEND |
| 102 | 1867963.64 | 6268104.22 | HPI |
| 103 | 1867946.32 | 6268193.80 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | S81° 09'05" E | ____ | 14.16' | 48" WSP (CML&TC) |
| 2 | N53° 19'54"E | ____ | 13.34' | 48" WSP (CML&TC) |
| 3 | S81° 03'25" E | ____ | 70.76' | 48" WSP (CML&TC) |
| 4 | S79° 03'25" E | ____ | 91.24' | 48" WSP (CML&TC) |
| 5 | S81° 00'17" E | ____ | 310.50' | 48" WSP (CML&TC) |

| CAUTION |
|---|
| 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |




C–15

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 117+00TO STA. 122+00 JELLETT STREET

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 19 OF __SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

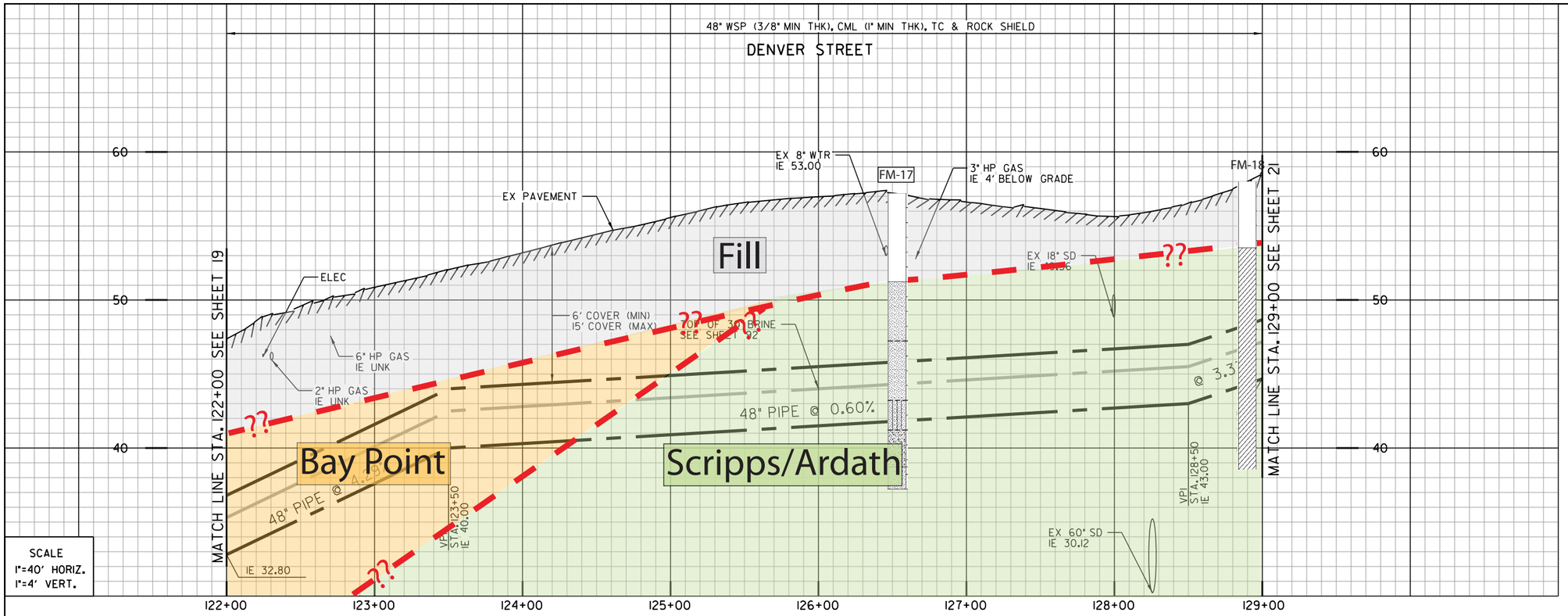
CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

40067–19–D

JELLETT ST.

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM15.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

(1) (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 122+23.79
1 - 45° HPI BEND

(2) (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 122+68.03
1 - 45° HPI BEND

(3)
BY OTHERS
FURNISH AND INSTALL
APPROX. STA. 122+00 TO 125+05
2" HP GAS TO BE REMOVED AND REPLACED

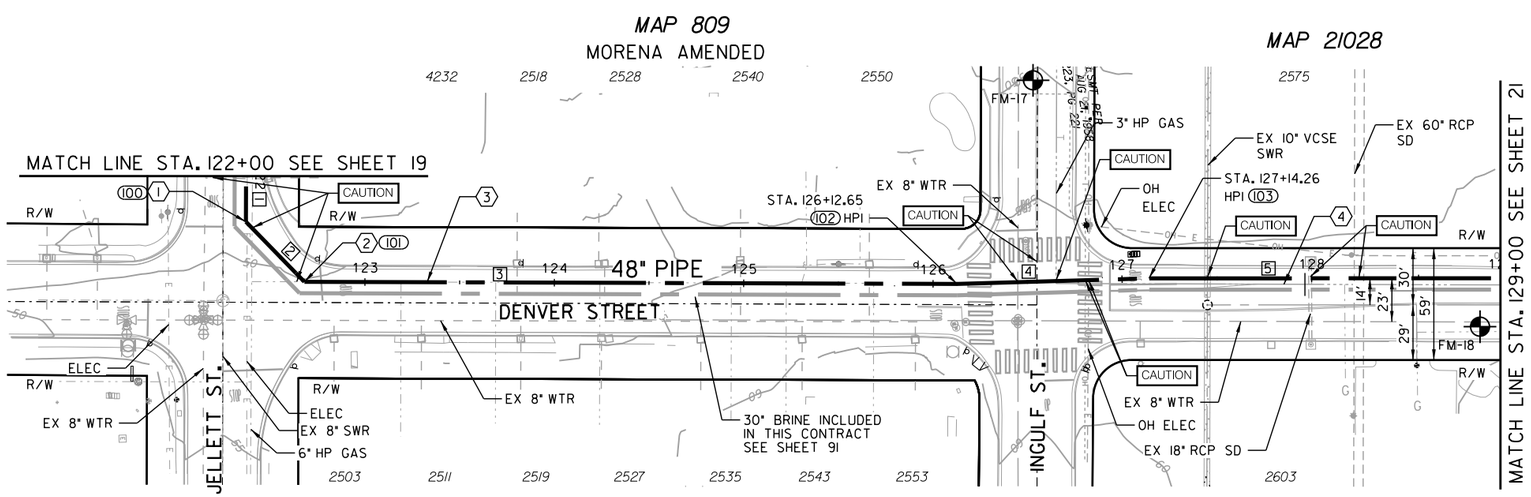
(4)
BY OTHERS
FURNISH AND INSTALL
APPROX. STA. 126+50 TO 129+00
3" HP GAS TO BE REMOVED AND REPLACED

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 38935-06-D |
| SEWER: | 9321-L, 9325-L, 5209-D, 20741-2-D |
| STORM DRAIN: | 5476-AD, 5207-D, 5209-D, 5210-D, 20741-2-D |
| GAS: | 15772-119025 |
| ELECTRIC: | 15772-119025 |
| CATV TV: | BLM1969 |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 5209-D, 10043-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

JELLETT ST./DENVER ST.




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1867894.05 | 6268523.98 | HPI BEND |
| 101 | 1867919.66 | 6268560.06 | HPI BEND |
| 102 | 1868260.00 | 6268614.21 | HPI |
| 103 | 1868360.62 | 6268626.89 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | S81° 00'17" E | | 23.79' | 48" WSP (CML&TC) |
| 2 | N54° 37'48"E | | 44.24' | 48" WSP (CML&TC) |
| 3 | N9° 02'23"E | | 344.62' | 48" WSP (CML&TC) |
| 4 | N7° 11'11"E | | 101.61' | 48" WSP (CML&TC) |
| 5 | N8° 50'00"E | | 185.74 | 48" WSP (CML&TC) |

C-16

| CAUTION |
|---|
| 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

SCALE 1"=40'

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 122+00 JELLETT ST. TO STA. 129+00 DENVER ST.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 20 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
PRINT NAME
DATE
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

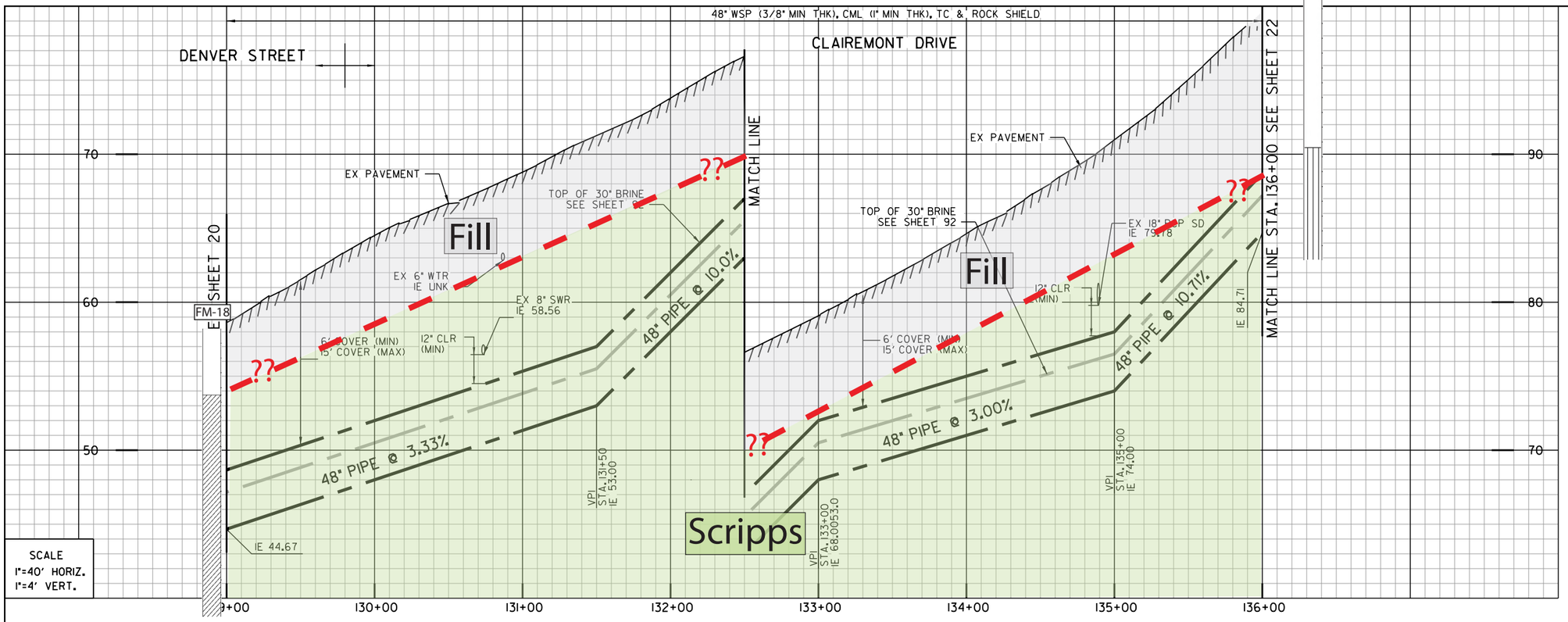
0000-0000
CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-20-D

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 130+52.83
1 - 45° HPI BEND

2 (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 131+05.43
1 - 45° HPI BEND

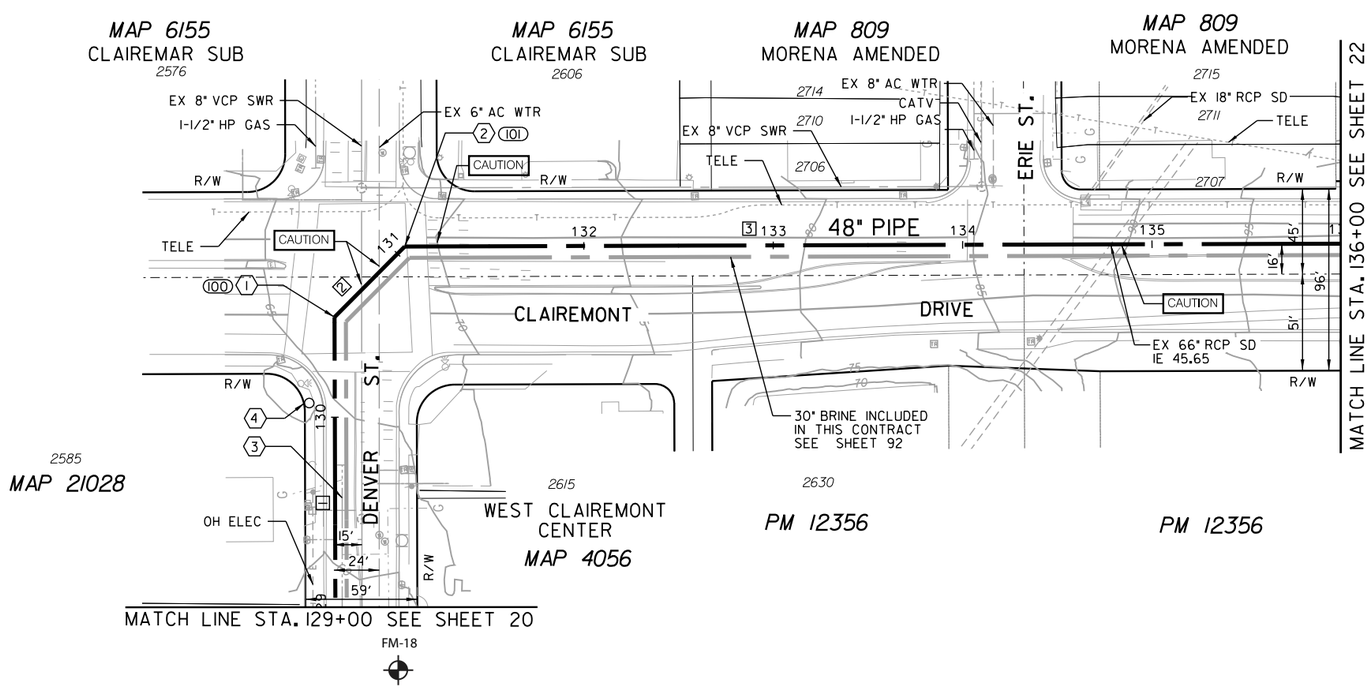
3
BY OTHERS
FURNISH AND INSTALL
APPROX. STA. 129+00 TO 130+00
3" HP GAS TO BE REMOVED AND REPLACED

4
BY OTHERS
FURNISH AND INSTALL
CATHODIC PROTECTION RECTIFIER

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-3 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 9321-L, 9325-L, 13236-2-D |
| STORM DRAIN: | 10044-L |
| GAS: | 1578-119030, 15772-119030 |
| ELECTRIC: | 1578-119030, 15772-119030 |
| CABLE TV: | BLM1968 |
| TELEPHONE: | 1578-119030 |
| IMPROVEMENTS: | 13236-2-D, 10043-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1868695.34 | 6268678.91 | HPI BEND |
| 101 | 1868726.39 | 6268721.37 | HPI BEND |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N8° 50'00" E | | 152.83' | 48" WSP (CML&TC) |
| 2 | N53° 50'00" E | | 52.60' | 48" WSP (CML&TC) |
| 3 | S81° 10'00" E | | 494.57' | 48" WSP (CML&TC) |

C-17

CLAIREMONT DRIVE

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAN

STA. 129+00 DENVER ST. TO STA. 136+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 21 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

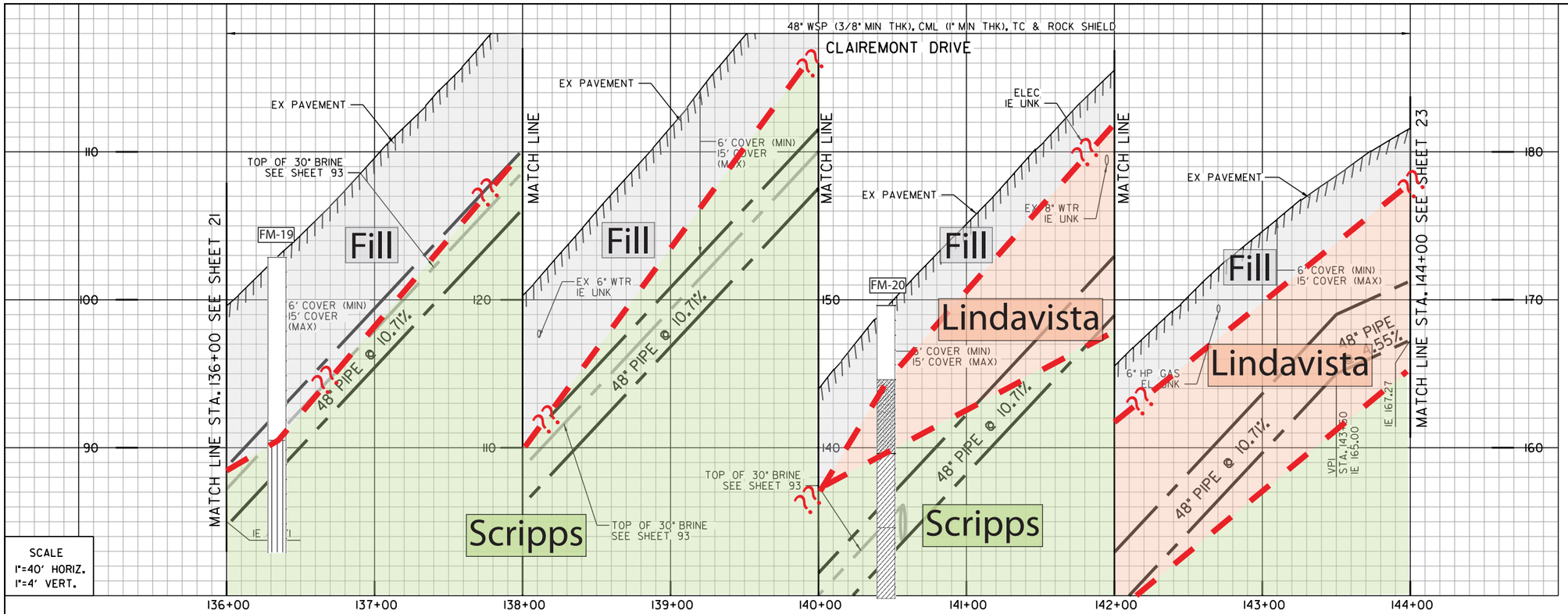
40067-21-D

N E S W

0 40 80 120
SCALE 1"=40'

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM17.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

60% SUBMITTAL

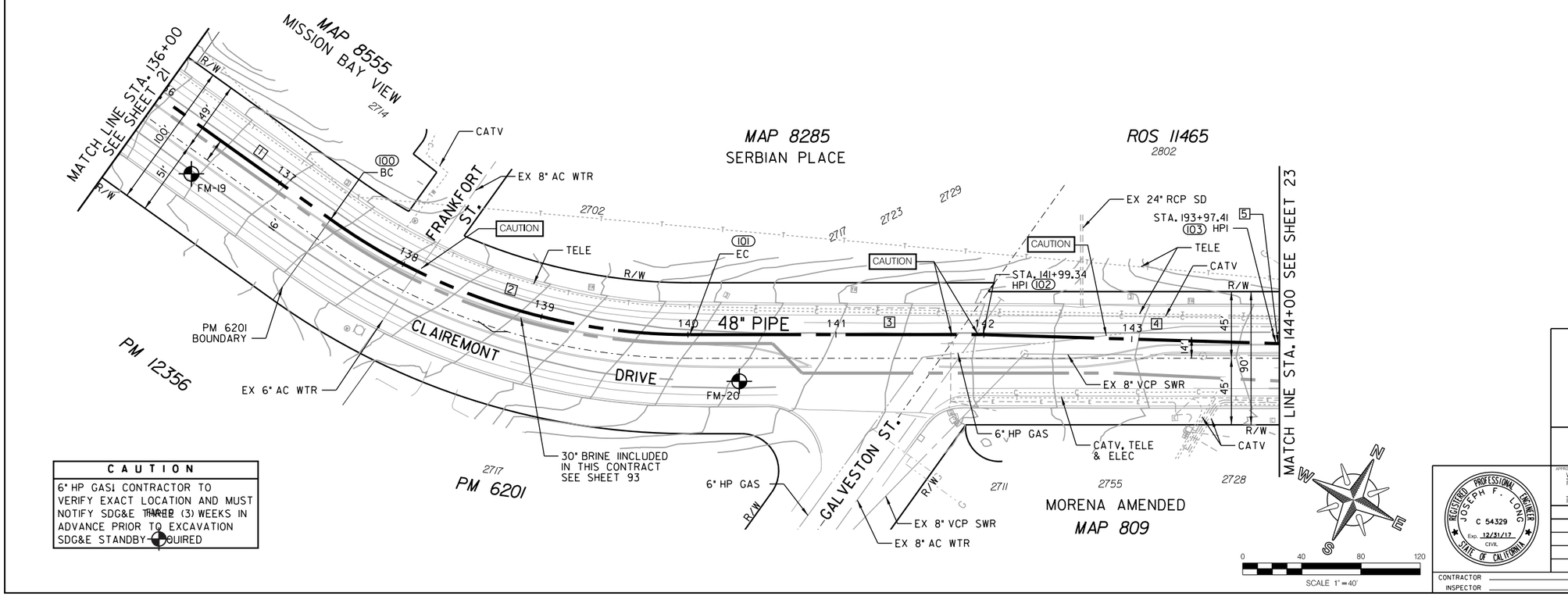



- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 17087-2-D |
| SEWER: | 8525-L, 8525B-L, 8528-L, 8529-L |
| STORM DRAIN: | 10045-L |
| GAS: | 15787-119030 |
| ELECTRIC: | 15787-119030 |
| CABLE TV: | MAP 5 |
| TELEPHONE: | BLM1969 |
| IMPROVEMENTS: | 10045-L, 17087-2-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE




| CAUTION |
|---|
| 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1868628.60 | 6269350.60 | BC |
| 101 | 1868668.31 | 6269602.38 | EC |
| 102 | 1868757.50 | 6269779.26 | HPI |
| 103 | 1868841.28 | 6269958.74 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | S81° 10'00" E | | 142.21' | 48" WSP (CML&TC) |
| 2 | 35° 35'30" | 417' | 259.04' | 48" WSP (CML&TC) |
| 3 | N63° 14'30" E | | 198.10' | 48" WSP (CML&TC) |
| 4 | N64° 58'39" E | | 198.07' | 48" WSP (CML&TC) |
| 5 | N63° 14'30" E | | 2.59' | 48" WSP (CML&TC) |

C-18

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 136+00 TO STA. 144+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 22 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

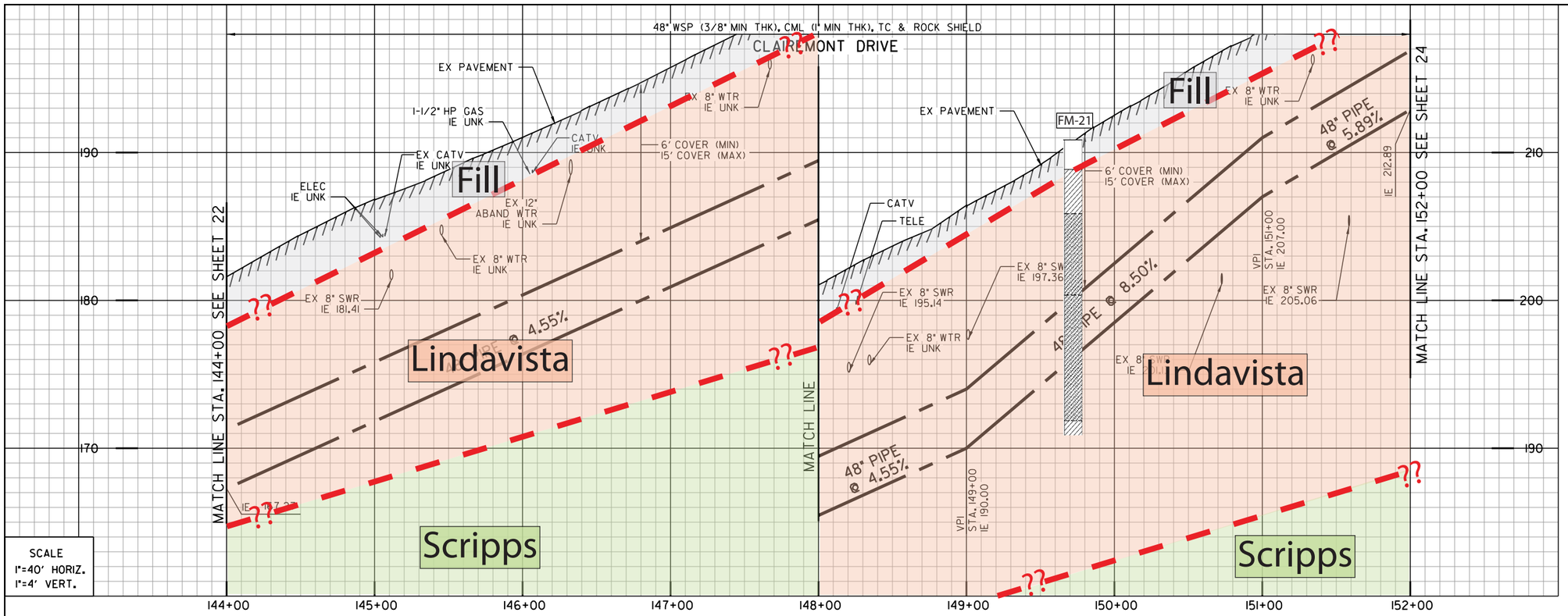
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-22-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM18.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



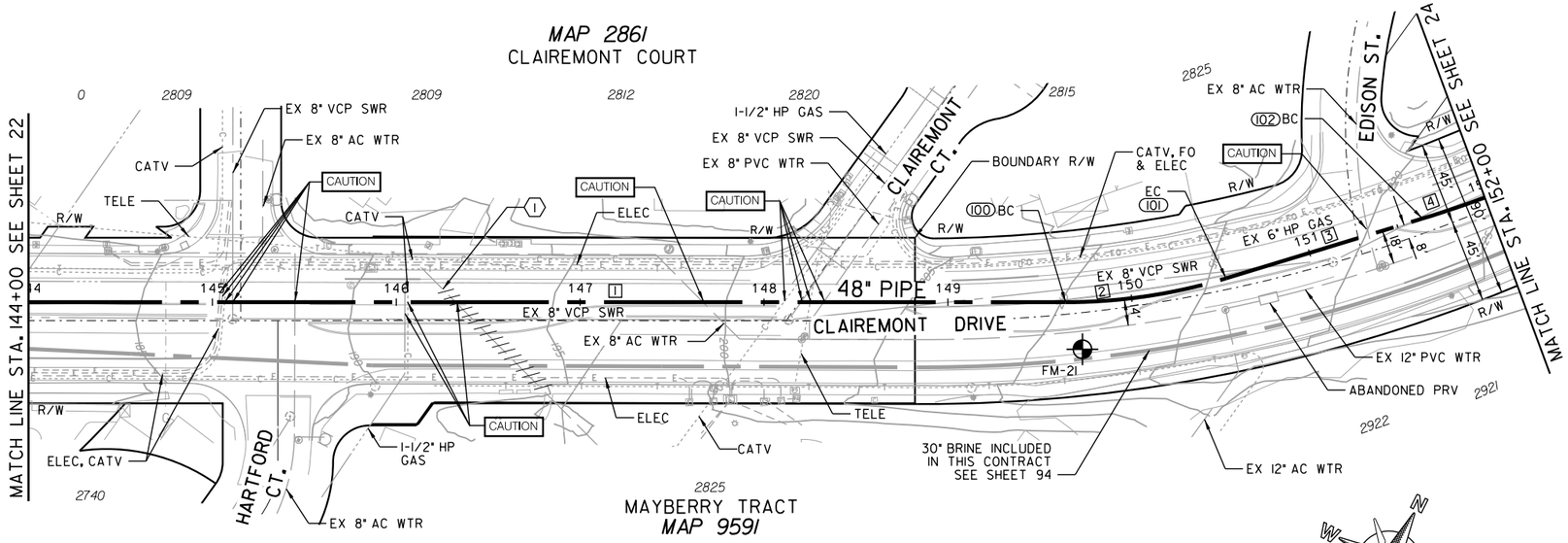

SCALE
1"=40' HORIZ.
1"=4' VERT.

1 BY CONTRACTOR
FURNISH AND INSTALL
DEMOLISH AND REMOVE ABANDONED 12" WATER
APPROX. 75 LF

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-2 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35034-2-D, 35034-9-D |
| SEWER: | 11411-L, 8525-L, 8525B-L, 8528-L, 8529-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15787-119030 |
| ELECTRIC: | 15787-119030,15794-119035 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLM1970 |
| IMPROVEMENTS: | 16889-2-D, 11411-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |



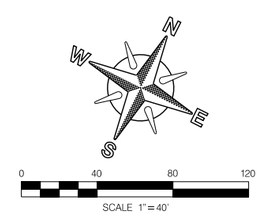

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1869096.39 | 6270464.69 | BC |
| 101 | 1869147.25 | 6270536.76 | EC |
| 102 | 1869224.23 | 6270617.40 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N63° 14'30" E | | 564.06' | 48" WSP (CML&TC) |
| 2 | 16° 54'29" | 300' | 88.53' | 48" WSP (CML&TC) |
| 3 | N46° 20'01" E | | 111.48' | 48" WSP (CML&TC) |
| 4 | 25° 35'21" | 600' | 35.95' | 48" WSP (CML&TC) |

C–19

CAUTION

6" HP GAS1 CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED




MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 144 + 00 TO STA. 152 + 00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 23 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

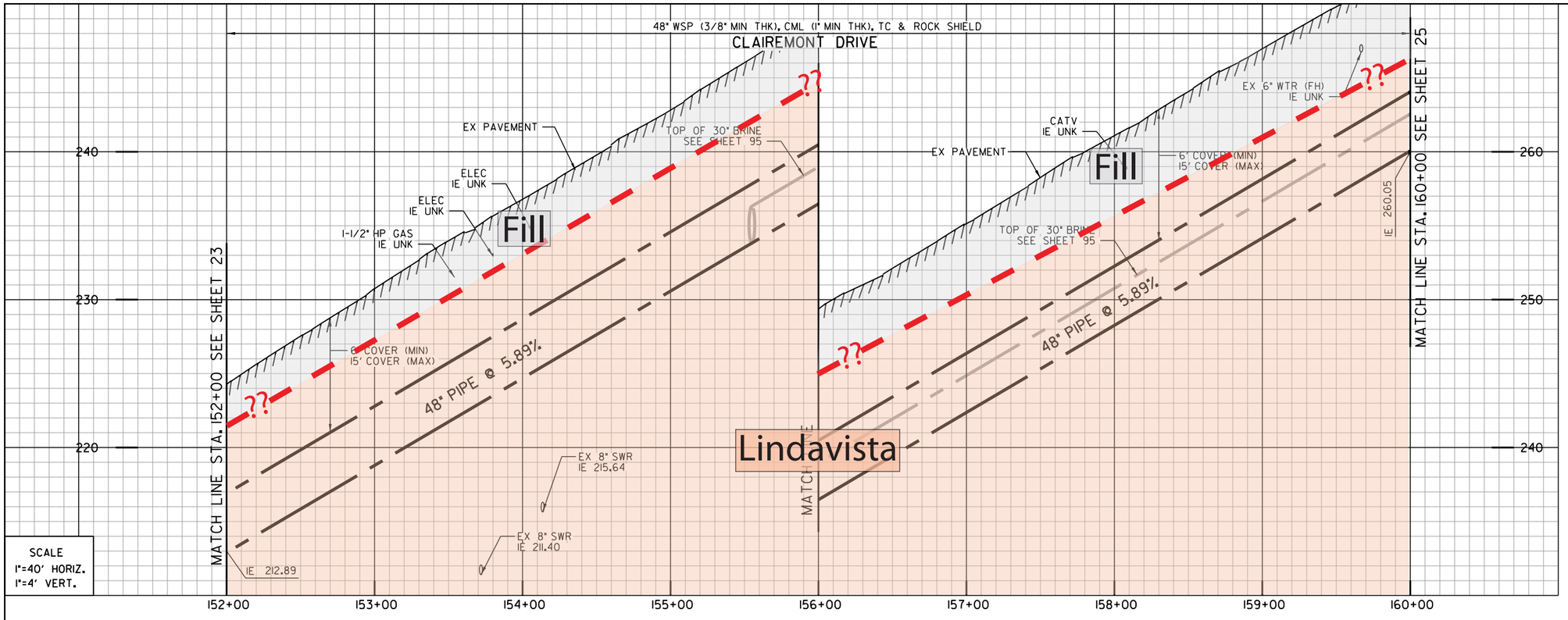
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

WATER WBS S-16027
SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-23-D

CLAIREMONT DRIVE

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM19.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



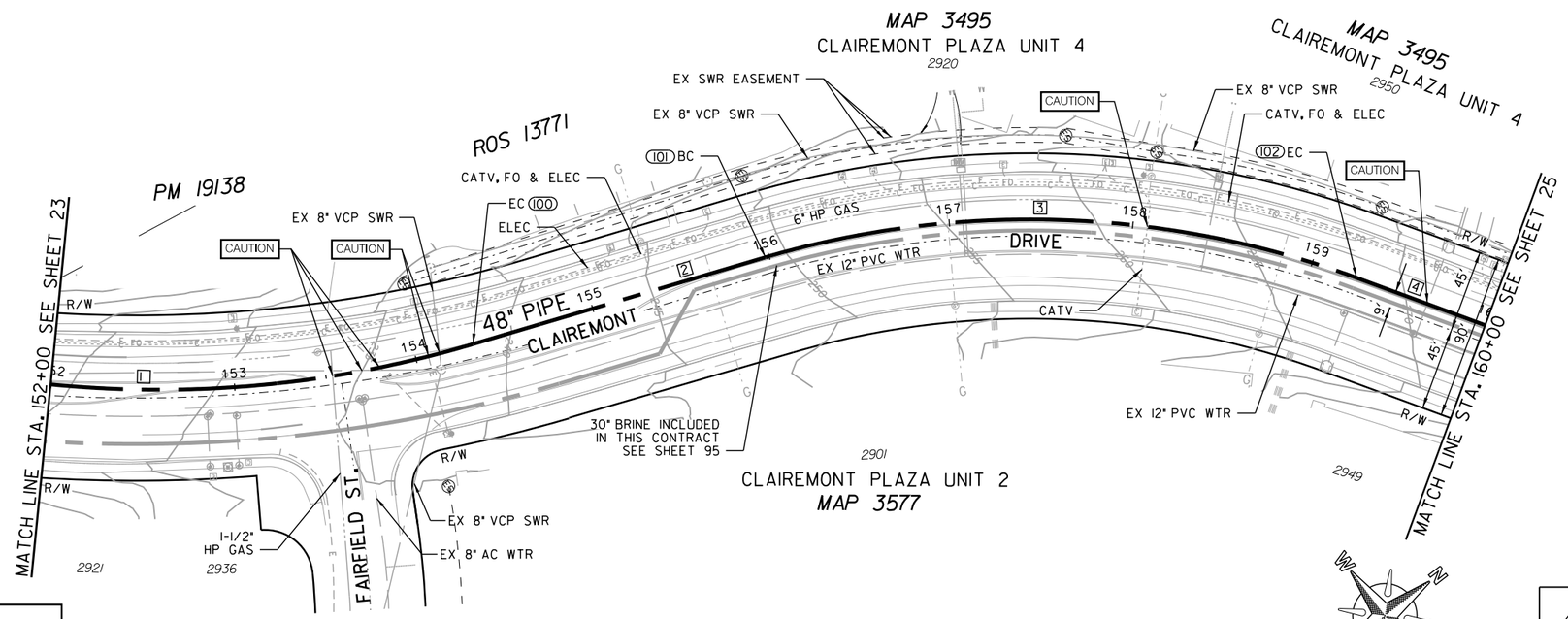

SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35034-2-D, 35034-3-D |
| SEWER: | 8784-L, 8525B-L, 8525-L, 8258-L, 8529-L, 12638-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15795-119035, 15795-119040 |
| ELECTRIC: | 15795-119035, 15802-19040 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| (100) | 1869445.73 | 6270764.23 | EC |
| (101) | 1869600.96 | 6270823.02 | BC |
| (102) | 1869850.22 | 6271026.83 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 25° 35'21" | 600' | 232.02' | 48" WSP (CML&TC) |
| 2 | N20° 44'39" E | | 165.99' | 48" WSP (CML&TC) |
| 3 | 36° 30'00" | 514' | 327.44' | 48" WSP (CML&TC) |
| 4 | N57° 31'24" E | | 74.55' | 48" WSP (CML&TC) |

C–20

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 152+00 TO STA. 160+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 24 OF SHEETS

SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

DESIGNED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

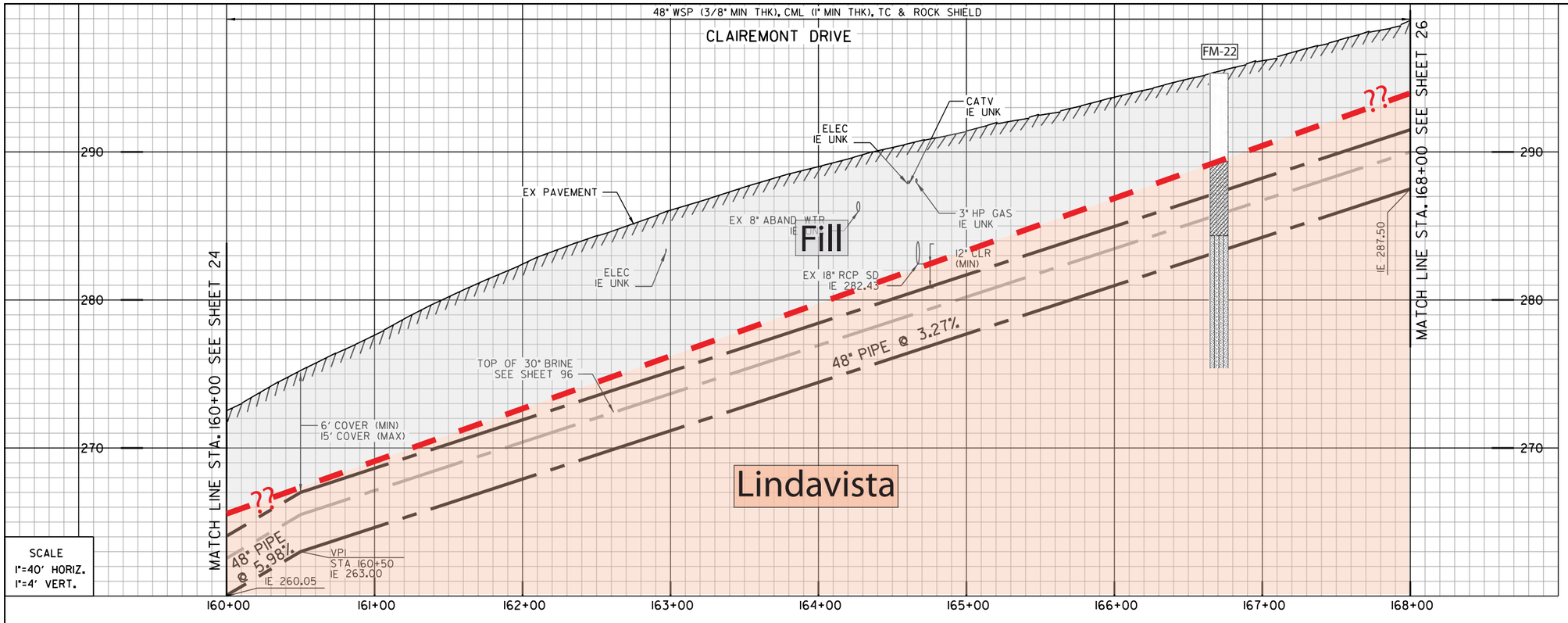
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067–24–D

CAUTION
6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900–CAD–GIS\910–CAD\20–SHEETS\60530732–SHT–C–FM20.dgn
9/1/2017 wangl10 FULL–BW with pen.pltcfg sd–full.tbl

60% SUBMITTAL



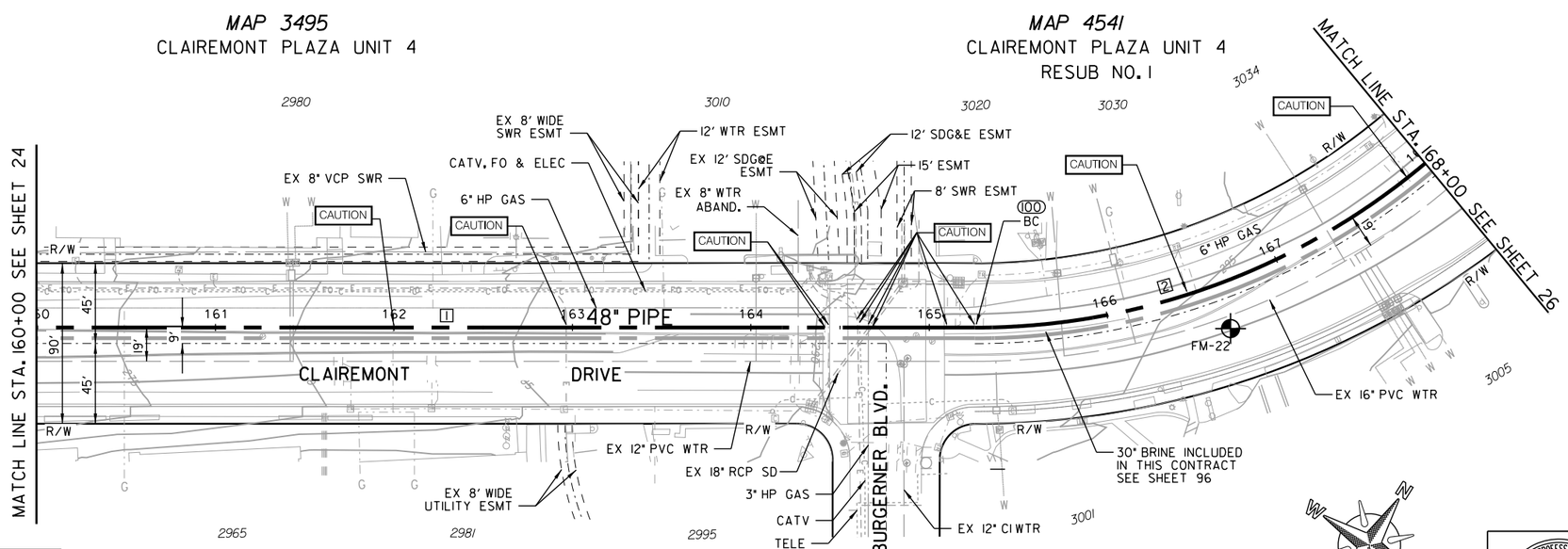

SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35034-3-D, 35034-4-D |
| SEWER: | 12639-L |
| STORM DRAIN: | 10047-L |
| GAS: | 15802-119040,15802-119045 |
| ELECTRIC: | 15802-19040 |
| CABLE TV: | MAP 5 & 8 |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1870172.44 | 6271533.06 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N57° 31'24" E | | 525.54' | 48" WSP (CML&TC) |
| 2 | 45° 34'51" | 391' | 274.46' | 48" WSP (CML&TC) |

C–21

MAP 3577
CLAIREMONT PLAZA UNIT 2

PM 11146

| CAUTION |
|---|
| 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

SCALE 1"=40'

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 160+00 TO STA. 168+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 25 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

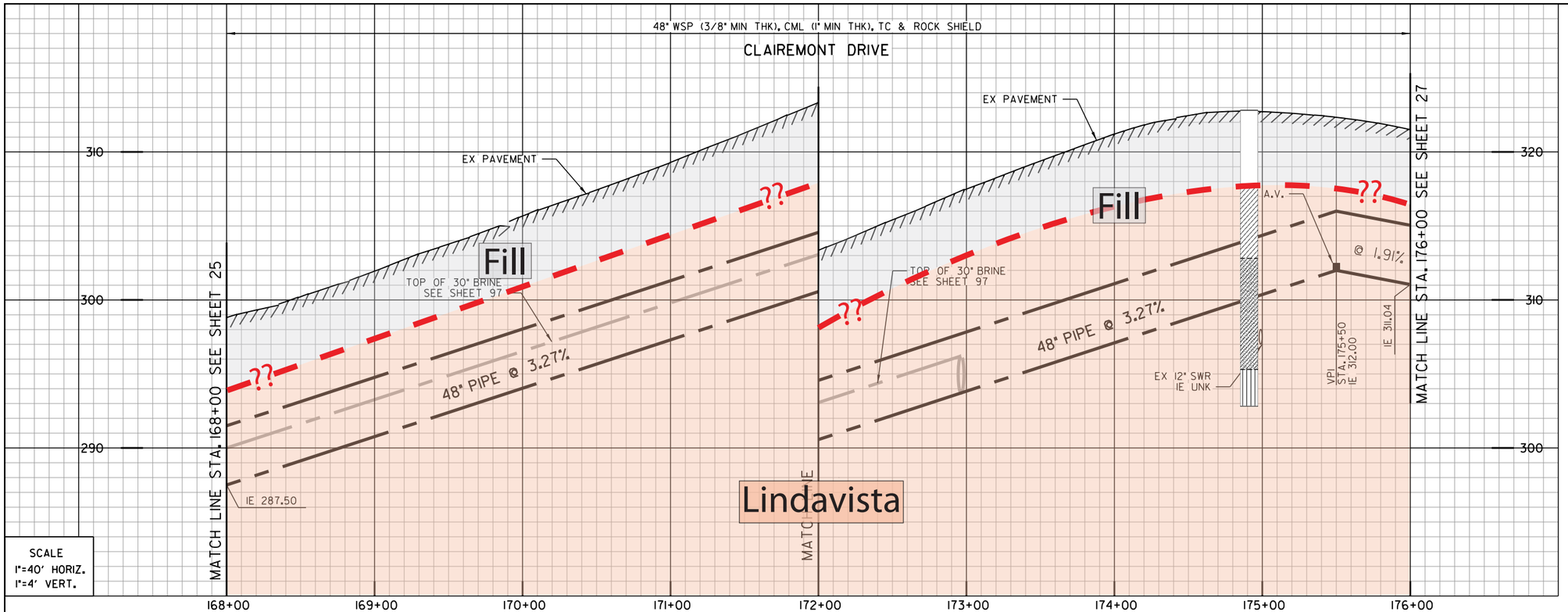
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-25-D

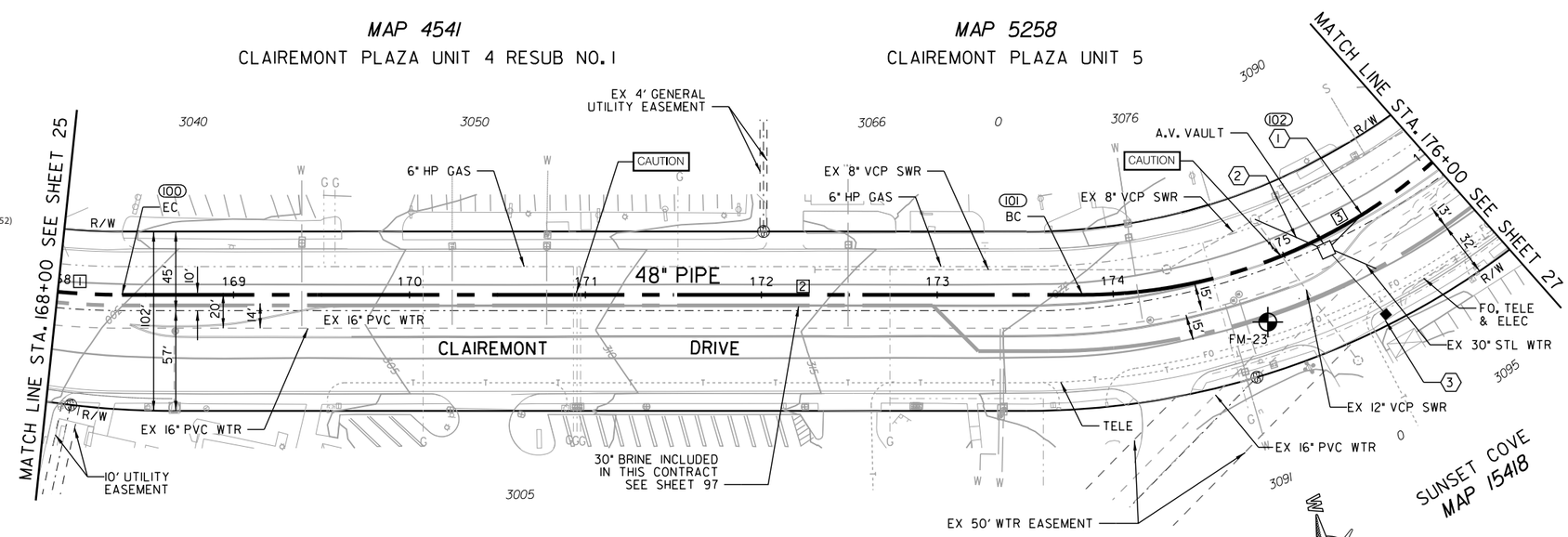
60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM21.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-2 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)




**CAUTION**

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

(1) (102)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 175+50
1-10" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL XX-XX

(2)
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

(3)
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

REFERENCE:

| | |
|---|---|
| WATER: | 35034-4-D, 35034-5-D |
| SEWER: | 9478-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15810-119050,15810-119055 |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLL1971 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1870420.23 | 6271705.82 | EC |
| 101 | 1870955.34 | 6271819.08 | BC |
| 102 | 1871120.19 | 6271807.51 | A.V. |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 45° 34'51" | 391' | 36.59' | 48" WSP (CML&TC) |
| 2 | N11° 58'19" E | | 546.99' | 48" WSP (CML&TC) |
| 3 | 45° 36'54" | 300' | 217.42' | 48" WSP (CML&TC) |

CLAIREMONT DRIVE

C-22

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 168+00 TO STA. 176+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 26 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

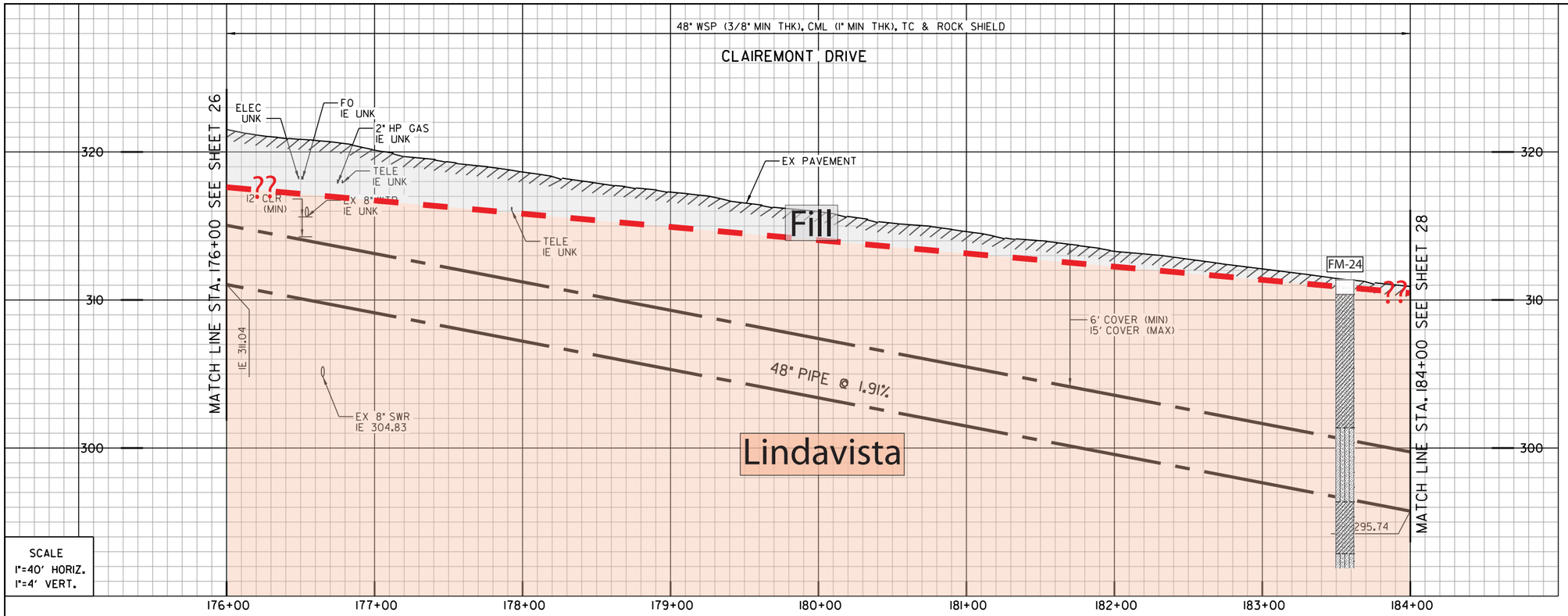
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-26-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM22.dgn
9/12/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



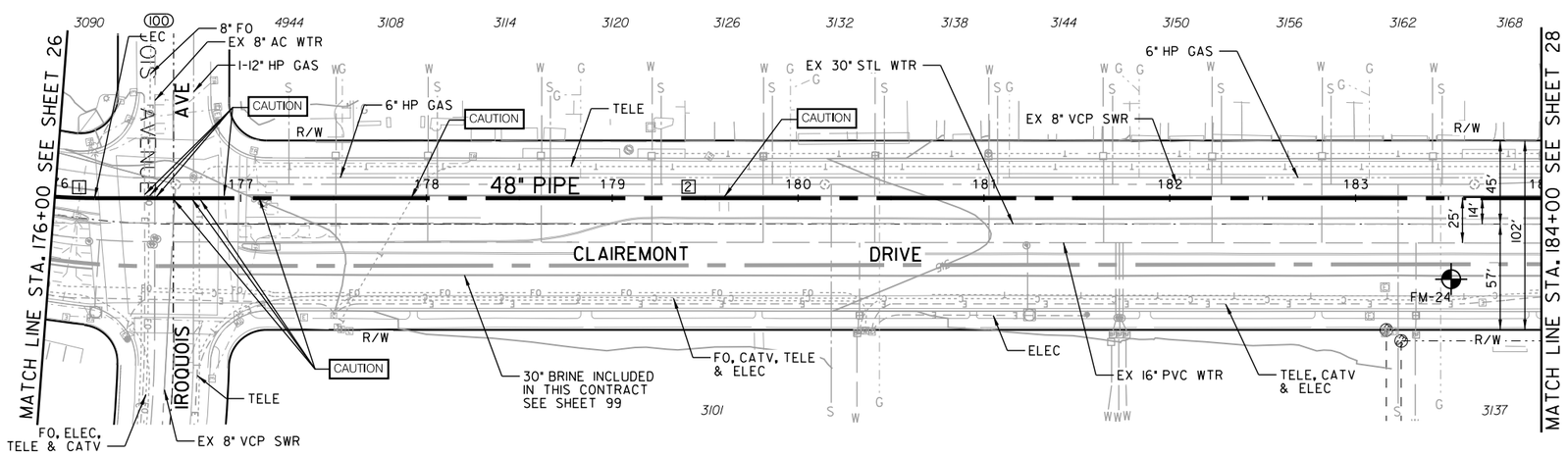

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

SCALE
1"=40' HORIZ.
1"=4' VERT.

REFERENCE:

| | |
|---|---|
| WATER: | 35033-2-D, 8524-L |
| SEWER: | 9478-L, 9479-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15802-119055,15802-119060 |
| ELECTRIC: | 15802-19055 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLK1971 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

MAP 2845
CLAIREMONT UNIT 5




CLAIREMONT GARDEN
MAP 2947

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 187183.78 | 6271775.36 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 45° 36'54" | 300' | 21.42' | 48" WSP (CML&TC) |
| 2 | N33° 38'35" W | | 778.58' | 48" WSP (CML&TC) |

C-23

CAUTION
6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SCALE 1"=40'

MORENA PUMP STATION AND CONVEYANCE SYSTEM
SEWER FORCEMAIN
STA. 176+00 TO STA. 184+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 27 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

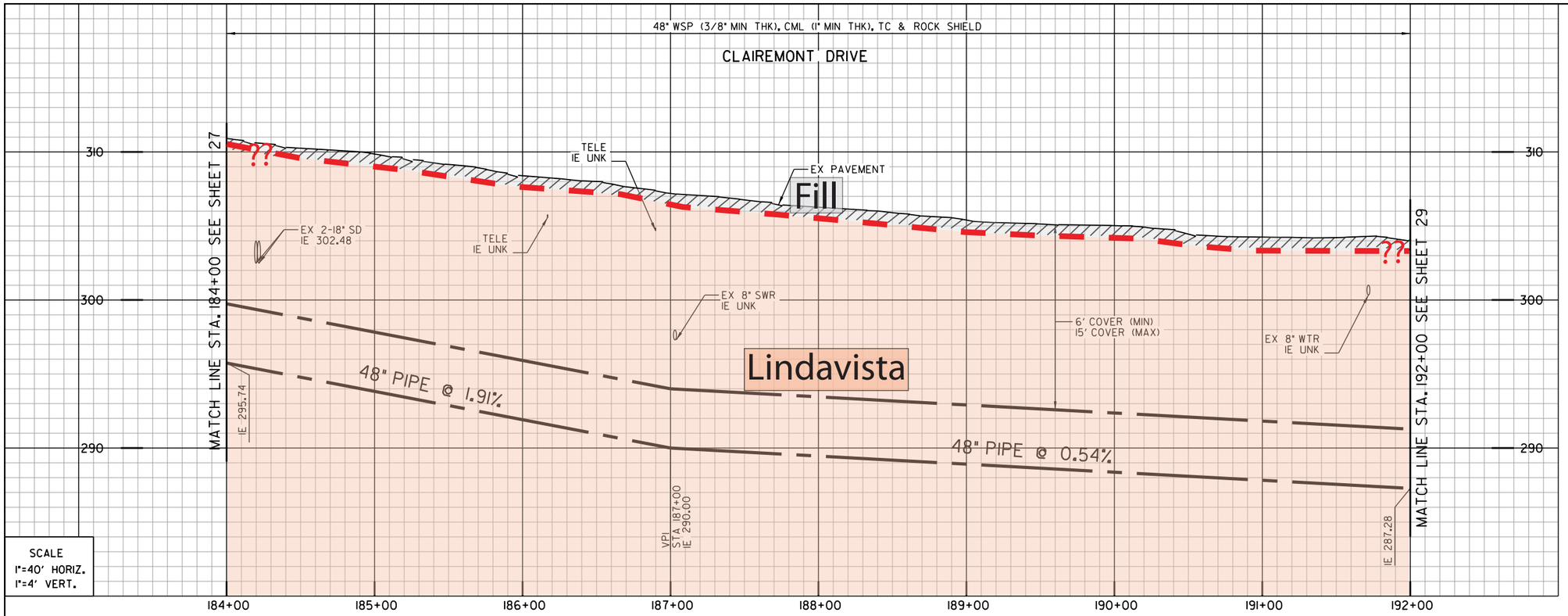
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-27-D

CLAIREMONT DRIVE

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM23.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



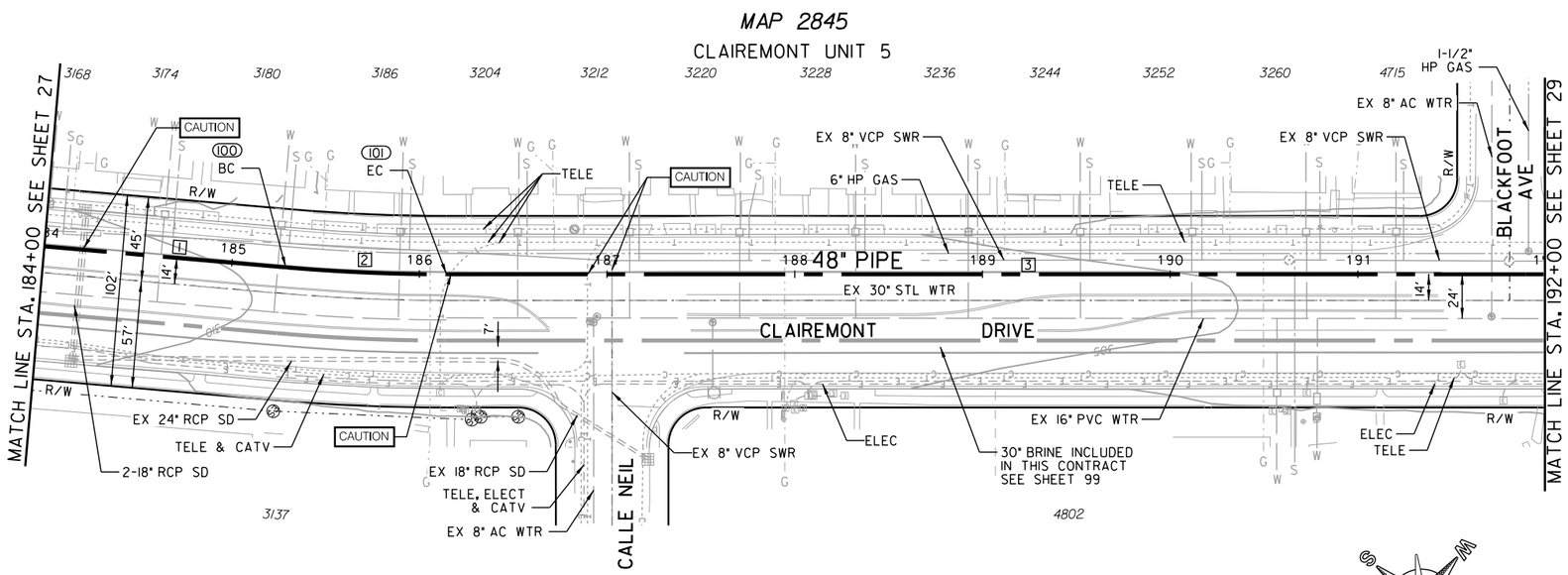

SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-3-D |
| SEWER: | 9479-L |
| STORM DRAIN: | 9954-L, 9479-L |
| GAS: | 15795-119065 |
| ELECTRIC: | 15802-19065 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLK1970 |
| IMPROVEMENTS: | 9954-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1871939.14 | 6271272.68 | BC |
| 101 | 1872008.35 | 6271222.14 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N33° 38'35" W | | 128.76' | 48" WSP (CML&TC) |
| 2 | 4° 58'53" | 986' | 85.72' | 48" WSP (CML&TC) |
| 3 | N38° 35'50" W | | 585.52' | 48" WSP (CML&TC) |

C-24

**CAUTION**

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SCALE 1" = 40'

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 184+00 TO STA. 192+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 28 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

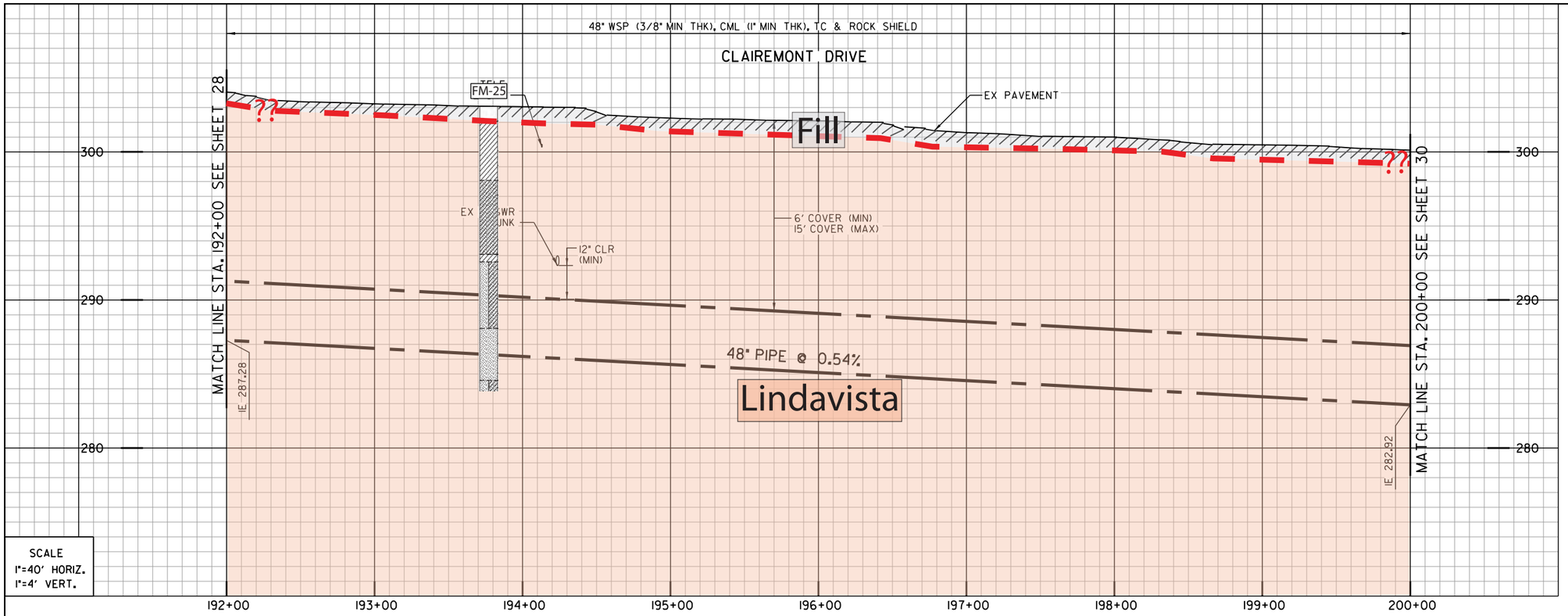
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-28-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM24.dgn
9/12/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

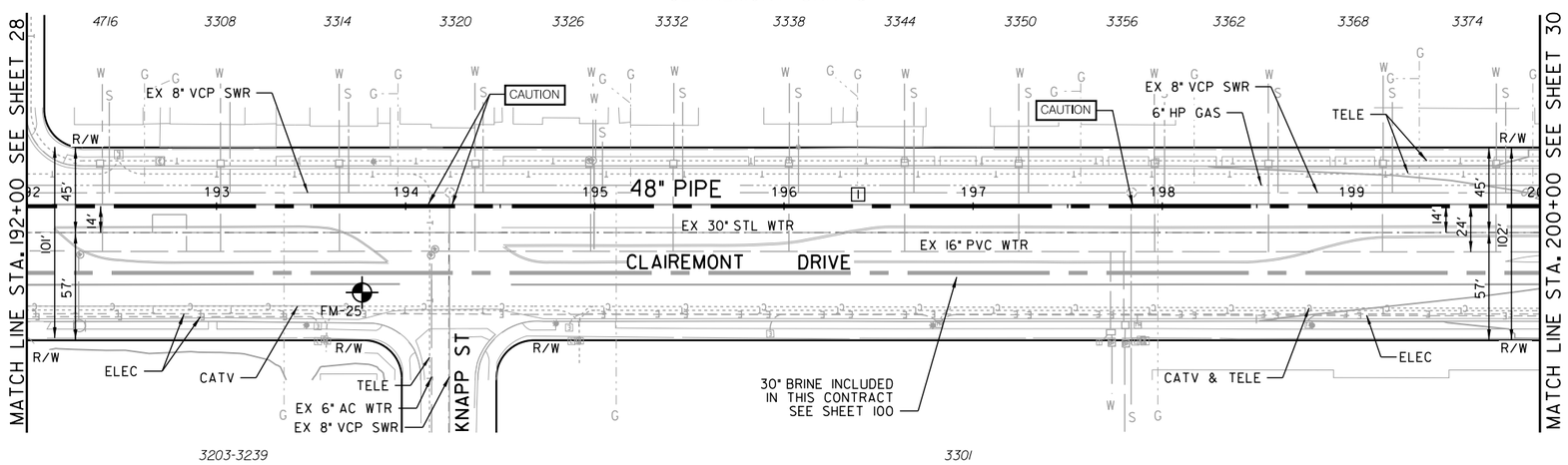
Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-4-D |
| SEWER: | 9480-L, 9971-L, 9766-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15795-119065,15795-119070 |
| ELECTRIC: | 15797-119070 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLK1970 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE

MAP 2845
CLAIREMONT UNIT 5




CLAIREMONT GARDEN
MAP 2947

CLAIREMONT GARDEN
MAP 2947

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N38° 35'50" W | | 800' | 48" WSP (CML&TC) |

C-25

| CAUTION |
|---|
| 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

0 40 80 120
SCALE 1" = 40'

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 192+00 TO STA. 200+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 29 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

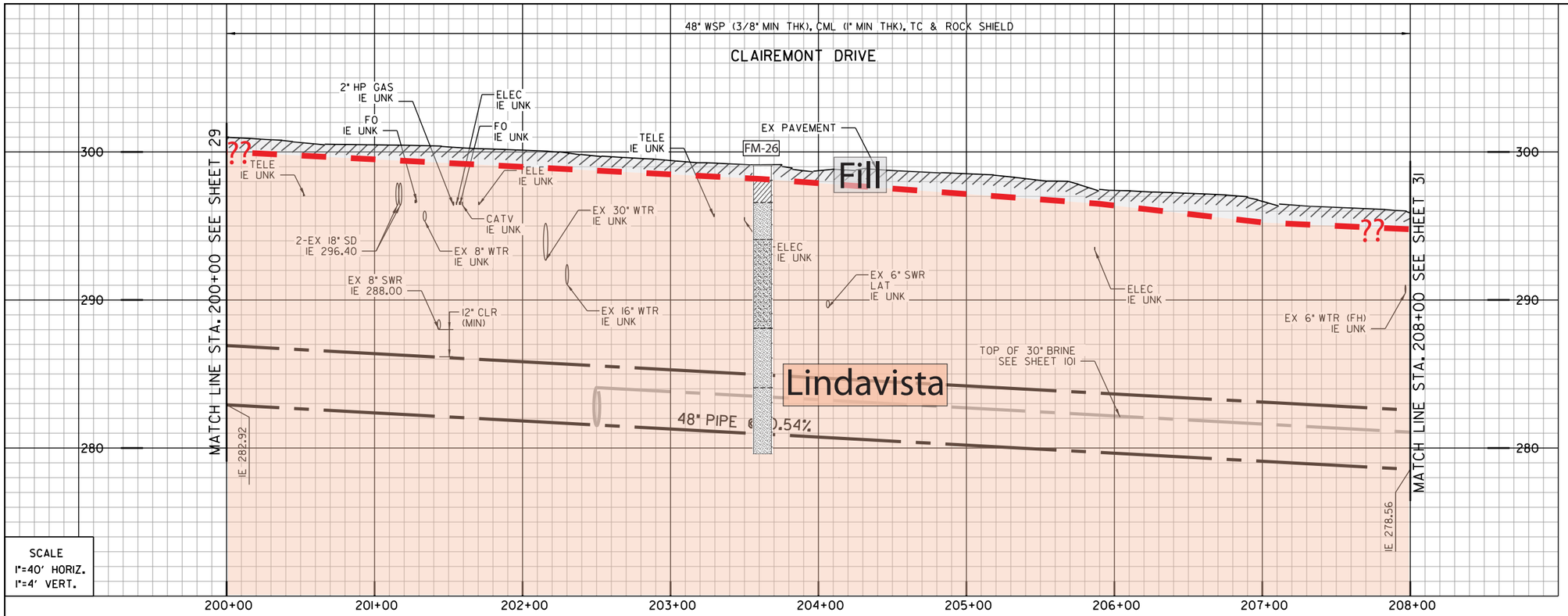
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-29-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM25.dgn
9/12/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 201+95.52
1 - 45° HPI BEND

2 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 202+50.18
1 - 45° HPI BEND

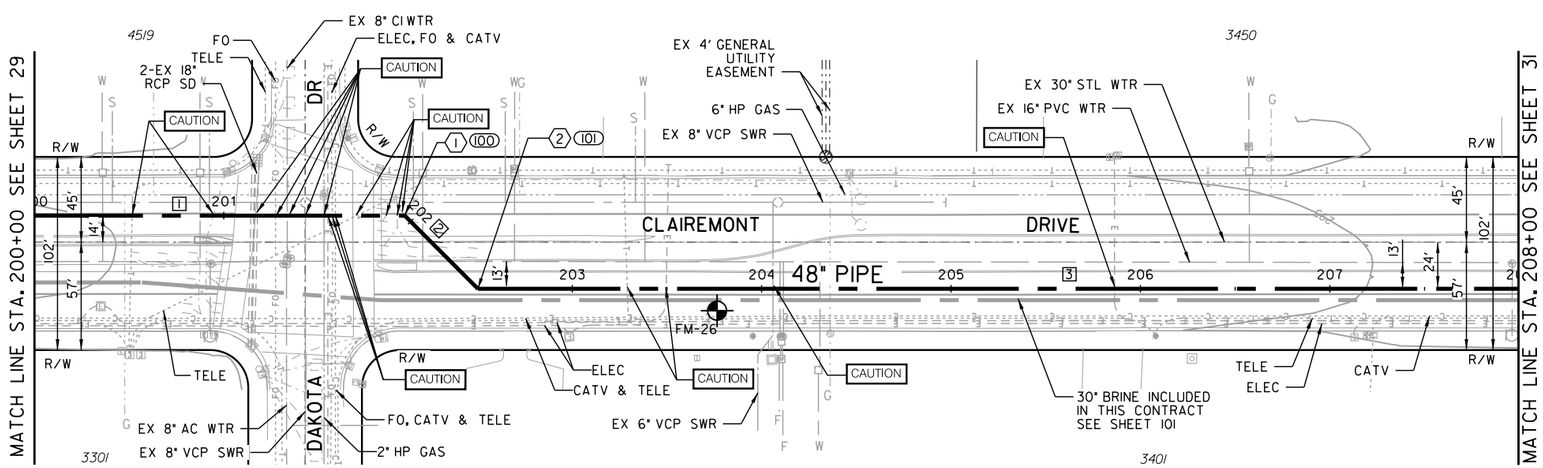
- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-5-D, 35033-4-D, 9480-L |
| SEWER: | 9478-L, 9766-L, 9486-L |
| STORM DRAIN: | 9766-L, 9486-L |
| GAS: | 15787-119075,15787-119095 |
| ELECTRIC: | 15787-119075,15787-119080 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLJ1969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

MAP 2845
CLAIREMONT UNIT 5

MAP 2865
CLAIREMONT UNIT 6




PUEBLO LANDS SUB. OF LOT 1207
MAP 842

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1873244.01 | 6270235.82 | HPI BEND |
| 101 | 1873298.34 | 6270241.91 | HPI BEND |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N38° 35'50" W | | 195.52' | 48" WSP (CML&TC) |
| 2 | N 6° 24'10" E | | 54.66' | 48" WSP (CML&TC) |
| 3 | N38° 35'50" W | | 549.82' | 48" WSP (CML&TC) |

C-26

CLAIREMONT DRIVE

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

CLAIREMONT DRIVE

STA. 200+00 TO STA. 208+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 30 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

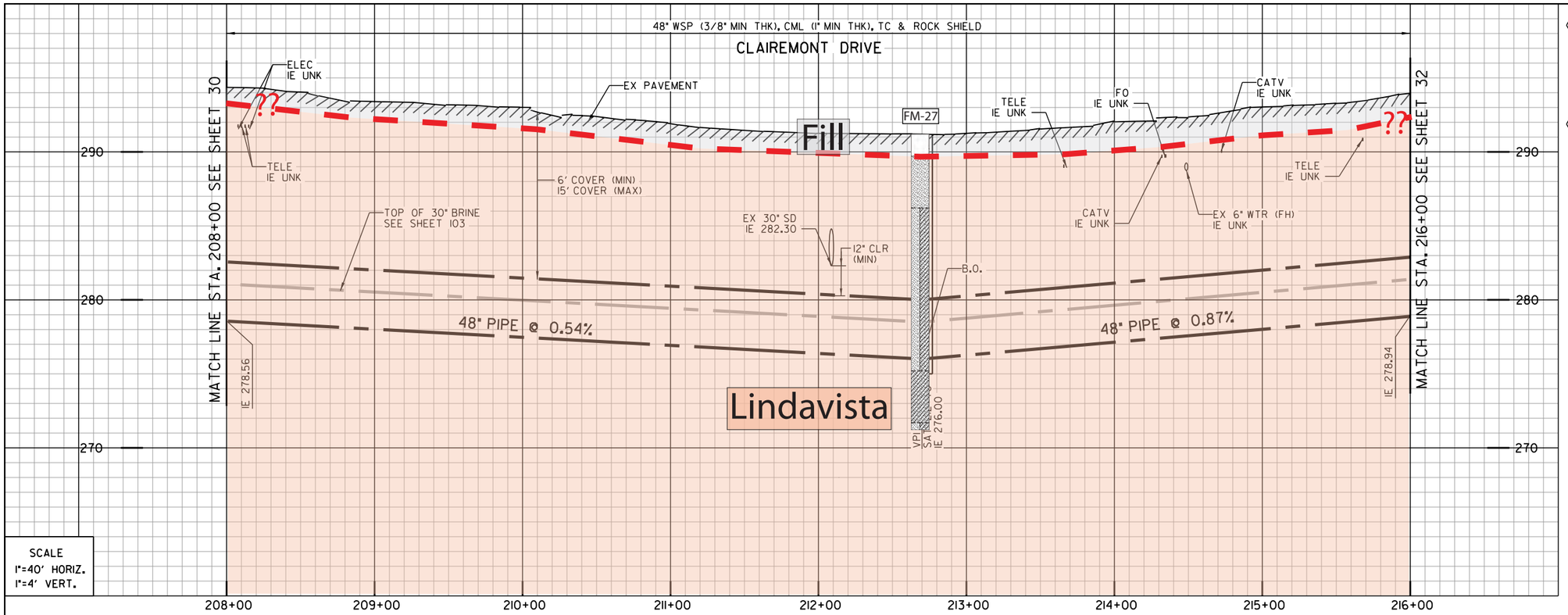
40067-30-D

SCALE 1"=40'

| CAUTION |
|---|
| 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM26.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 212+70
1- X" BLOW-OFF ASSY, LT
SEE DETAIL XX-XX

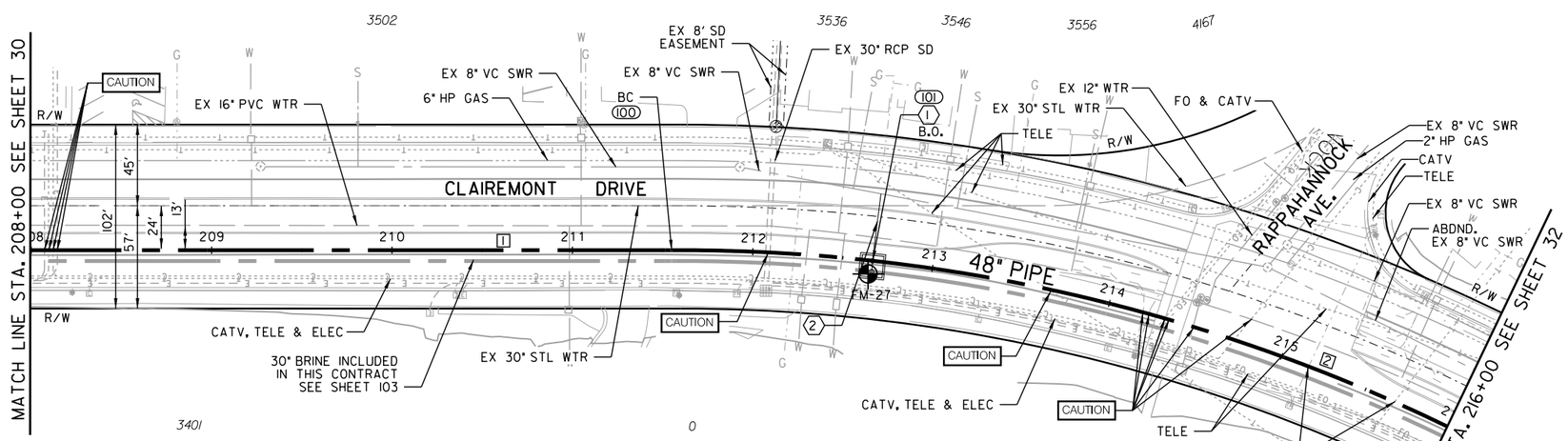
2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MAIN

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-6-D, 35033-5-D |
| SEWER: | 9641-L, 9753-AL |
| STORM DRAIN: | 9641-L |
| GAS: | 15787-119080 |
| ELECTRIC: | 15787-119080,15780-119085 |
| CABLE TV: | 29608-13-D |
| TELEPHONE: | BLJ1969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

MAP 2865
CLAIREMONT UNIT 6




PUEBLO LANDS SUB. OF LOT 1207
MAP 842

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| (100) | 1874002.83 | 6269679.58 | BC |
| (101) | 1874096.23 | 6269612.52 | B.O. |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N38° 35'50" W | | 351.59' | 48" WSP (CML&TC) |
| 2 | 32° 26'35" | 975' | 448.41' | 48" WSP (CML&TC) |

| CAUTION |
|---|
| 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

SCALE 1" = 40'

C-27

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 208+00 TO STA. 216+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 31 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

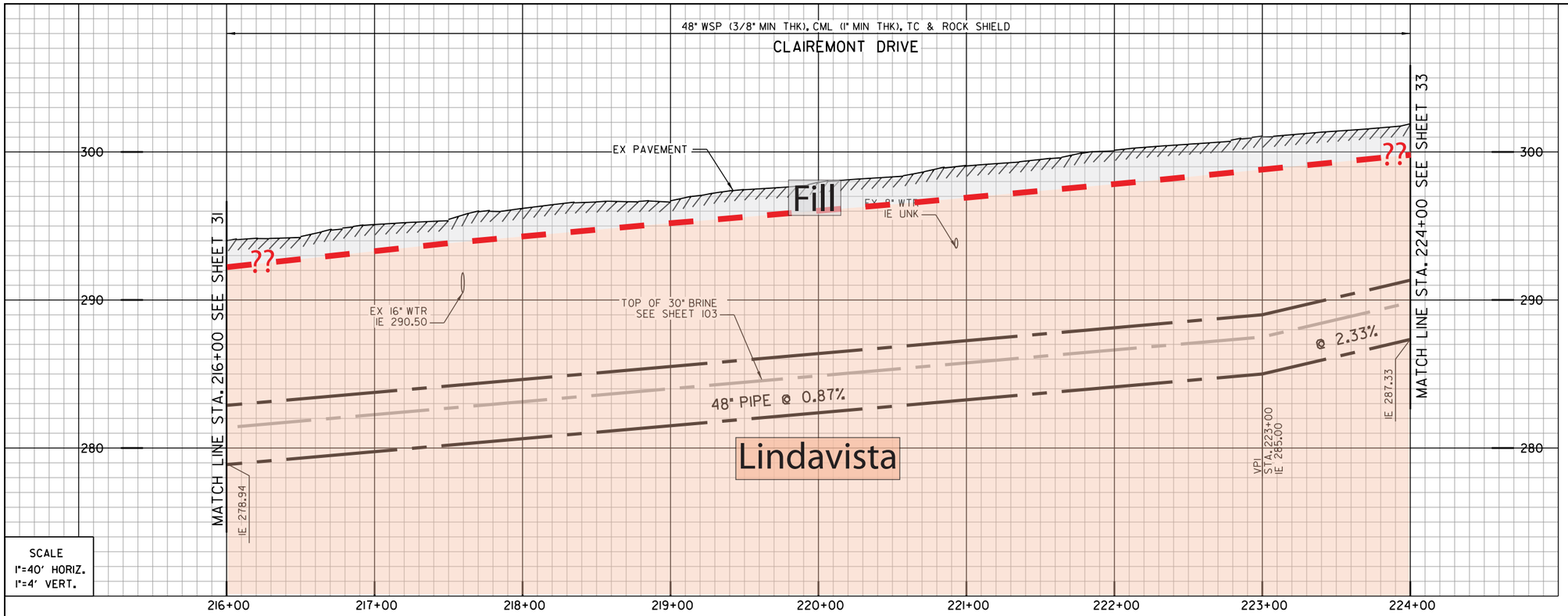
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-31-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

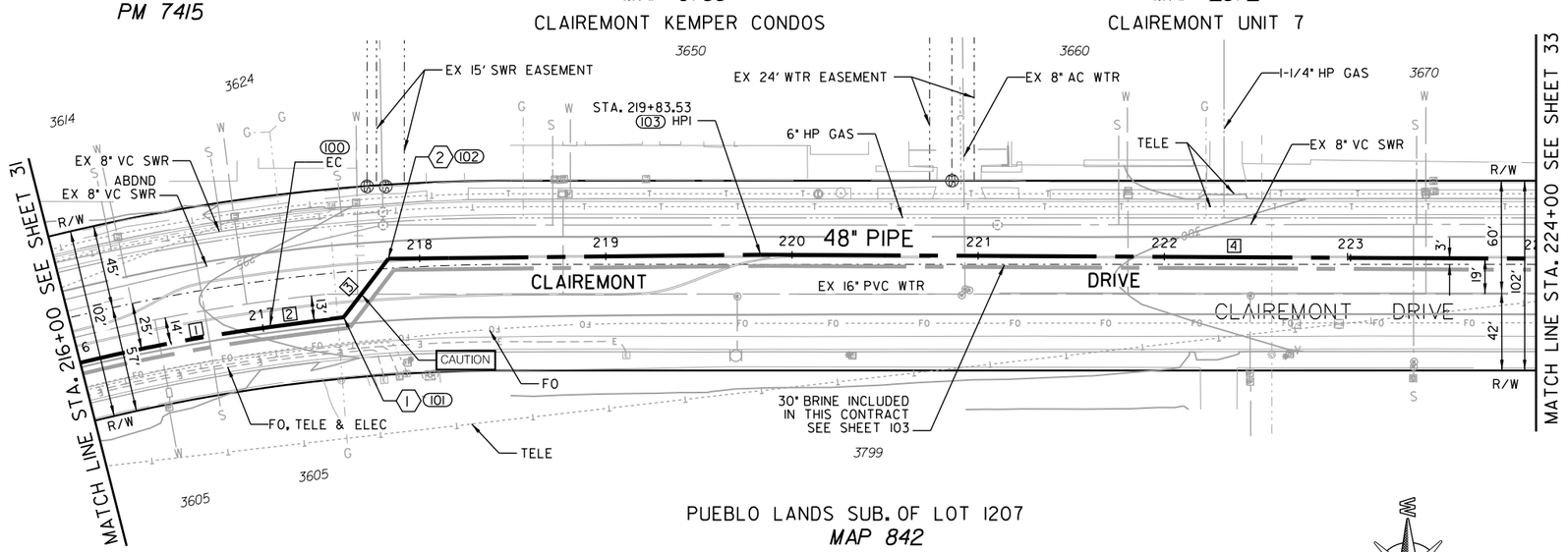
CLAIREMONT DRIVE

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM27.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.




**CAUTION**

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

1 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 217+43.67
1 - 45° HPI BEND

2 102
BY CONTRACTOR
FURNISH AND INSTALL
STA. 217+83.20
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-7-D |
| SEWER: | 9753-AL |
| STORM DRAIN: | NO INFO |
| GAS: | 15780-119090,15780-119095 |
| ELECTRIC: | NO INFO |
| CABLE TV: | 29608-13-D |
| TELEPHONE: | BLJ1969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1874504.87 | 6269468.18 | EC |
| 101 | 1874544.60 | 6269463.57 | HPI BEND |
| 102 | 1874569.15 | 6269432.58 | HPI BEND |
| 103 | 1874769.15 | 6269433.93 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 32° 26'35" | 975' | 103.67' | 48" WSP (CML&TC) |
| 2 | N6° 36'49" W | | 40' | 48" WSP (CML&TC) |
| 3 | N0° 23'11" E | | 39.53' | 48" WSP (CML&TC) |
| 4 | N1° 18'01" E | | 416.80' | 48" WSP (CML&TC) |

C-28

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 216+00 TO STA. 224+00 AT CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 32 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

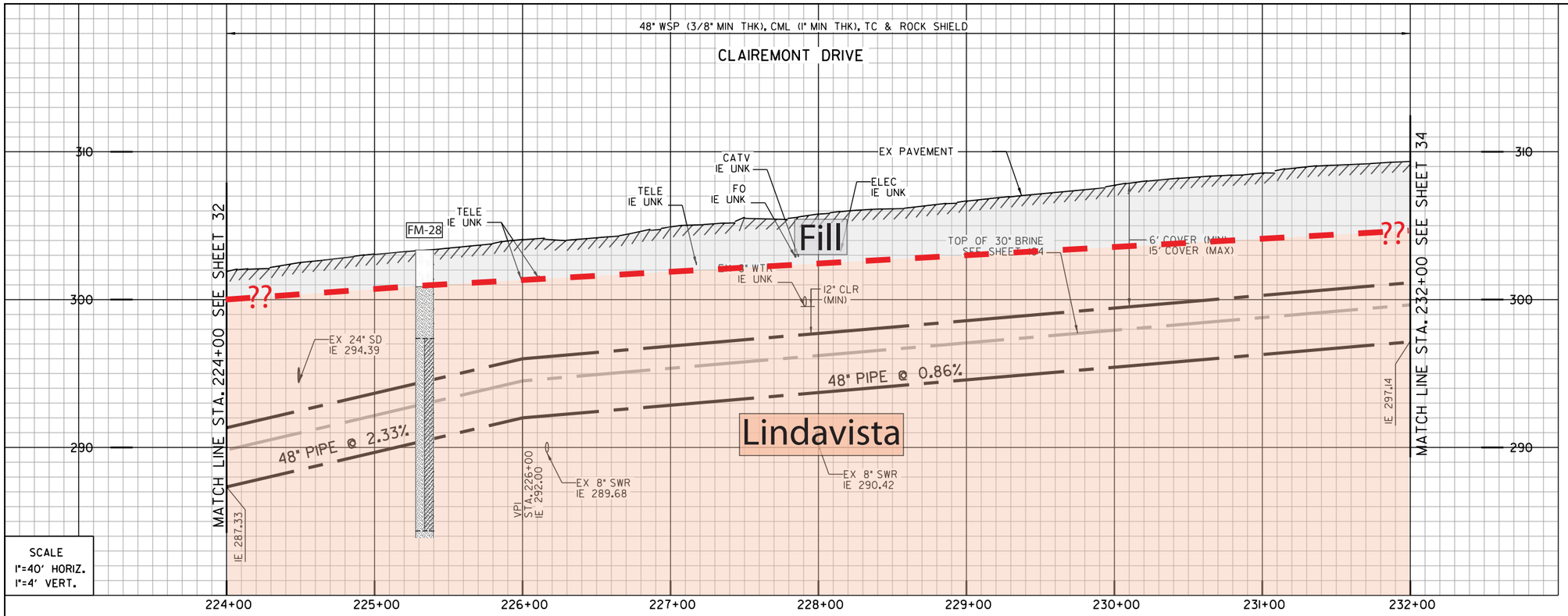
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-32-D

CLAIREMONT DRIVE

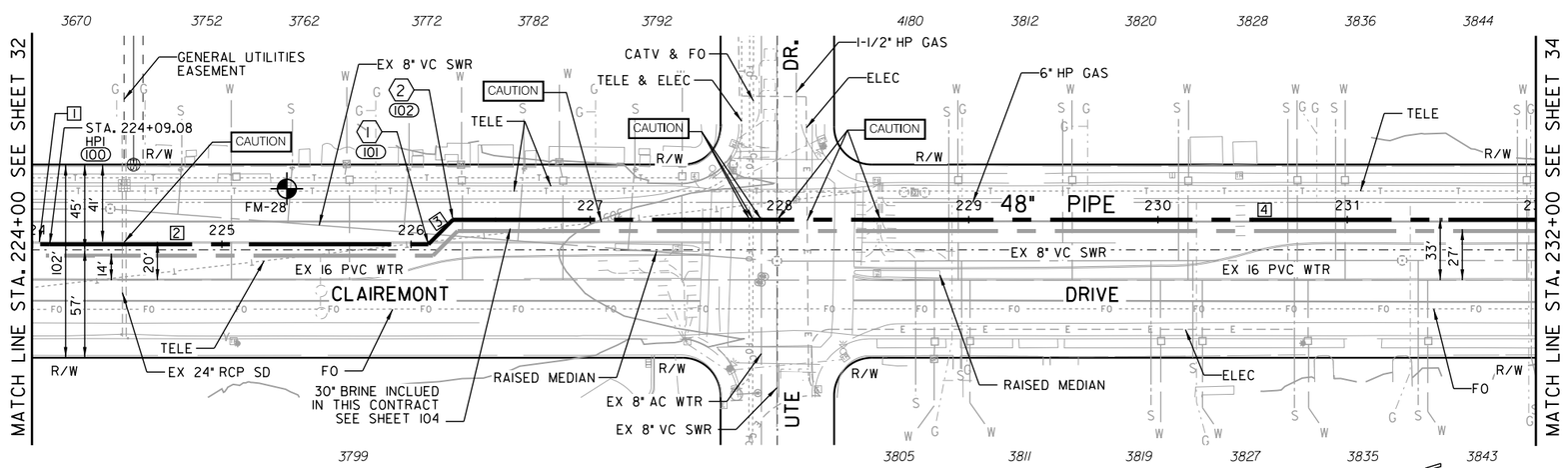
60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM28.dgn
9/12/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



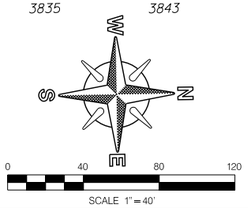

MAP 2872
CLAIREMONT UNIT 7

MAP 2872
CLAIREMONT UNIT 7




PUEBLO LANDS SUB. OF LOT 1207
MAP 842

CLAIREMONT UNIT 7
MAP 2872




**CAUTION**

6" HP GAS1 CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

(1) (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 226+09.08
1 - 45° HPI BEND

(2) (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 226+27.47
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-8-D |
| SEWER: | 9753-AL |
| STORM DRAIN: | 9753-AL |
| GAS: | 15780-119095,15780-119100 |
| ELECTRIC: | 15780-119100 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BL11969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1875194.92 | 6269443.60 | HPI |
| 101 | 1875394.89 | 6269447.11 | HPI BEND |
| 102 | 1875408.12 | 6269434.34 | HPI BEND |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N1° 18'01" E | | 9.09' | 48" WSP (CML&TC) |
| 2 | N1° 00'22" E | | 200' | 48" WSP (CML&TC) |
| 3 | N43° 59'38" W | | 18.38' | 48" WSP (CML&TC) |
| 4 | N1° 00'22" E | | 572.54' | 48" WSP (CML&TC) |

CLAIREMONT DRIVE

C-29

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 224+00 TO STA. 232+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 33 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

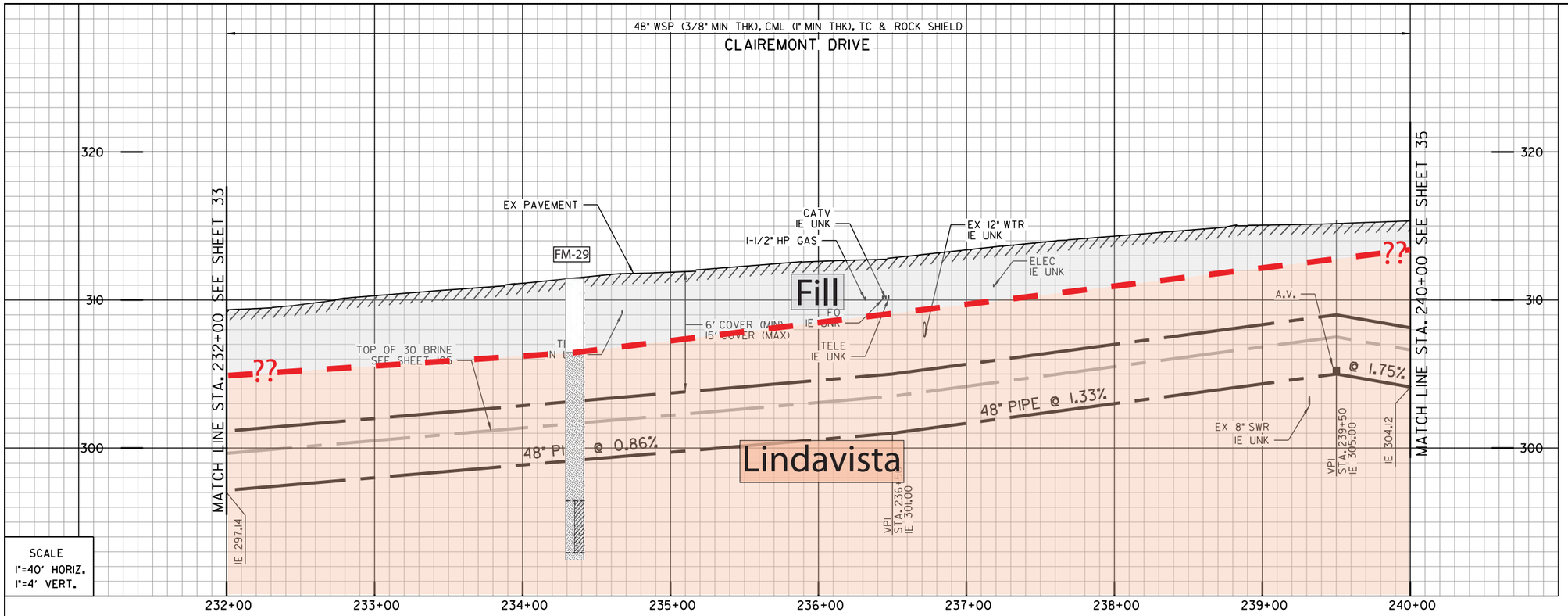
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

PREPARED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-33-D

60% SUBMITTAL




1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 239+50
1-3" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

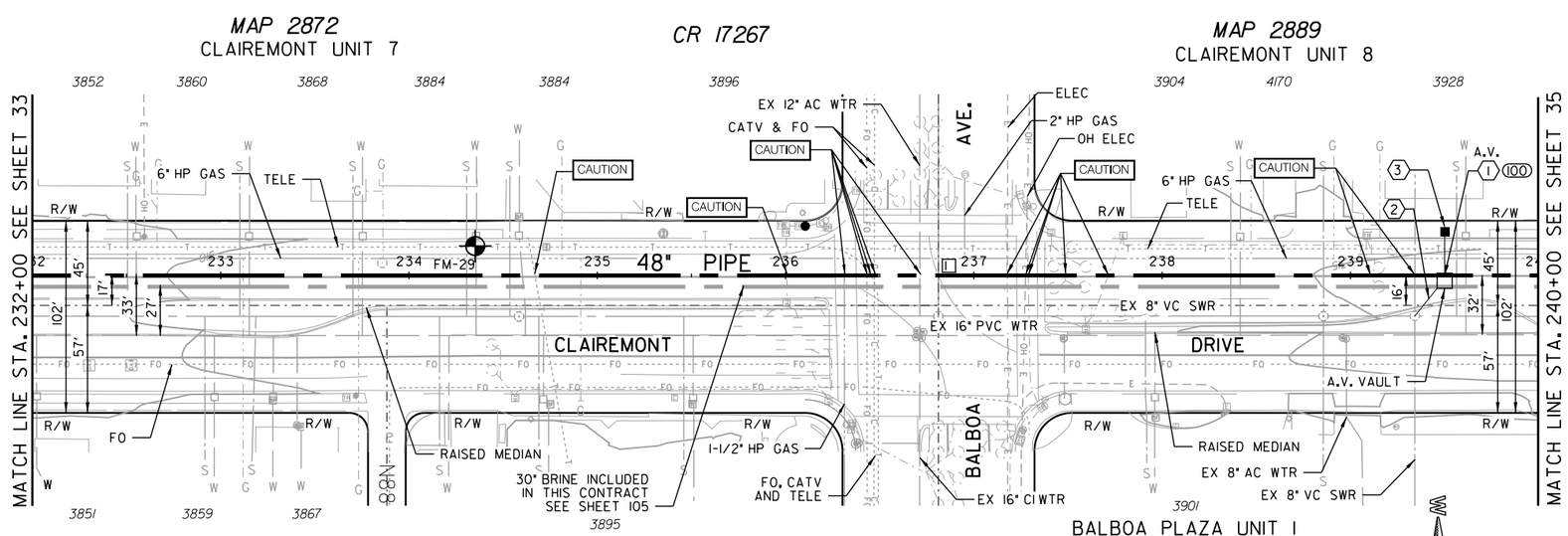
3
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

4
BY CONTRACTOR
FURNISH AND INSTALL
CATHODIC PROTECTION RECTIFIER

REFERENCE:

| | |
|---|---|
| WATER: | 35033-9-D, 35033-10-D |
| SEWER: | 9844-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15780-119105,15780-119110 |
| ELECTRIC: | 15787-119105,15780-119115 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BL11969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1876730.44 | 6269457.83 | A.V. |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N1° 00'22" E | | 800' | 48" WSP (CML&TC) |

**CAUTION**

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

CLAIREMONT DRIVE

C-30

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 232+00 TO STA. 240+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 34 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

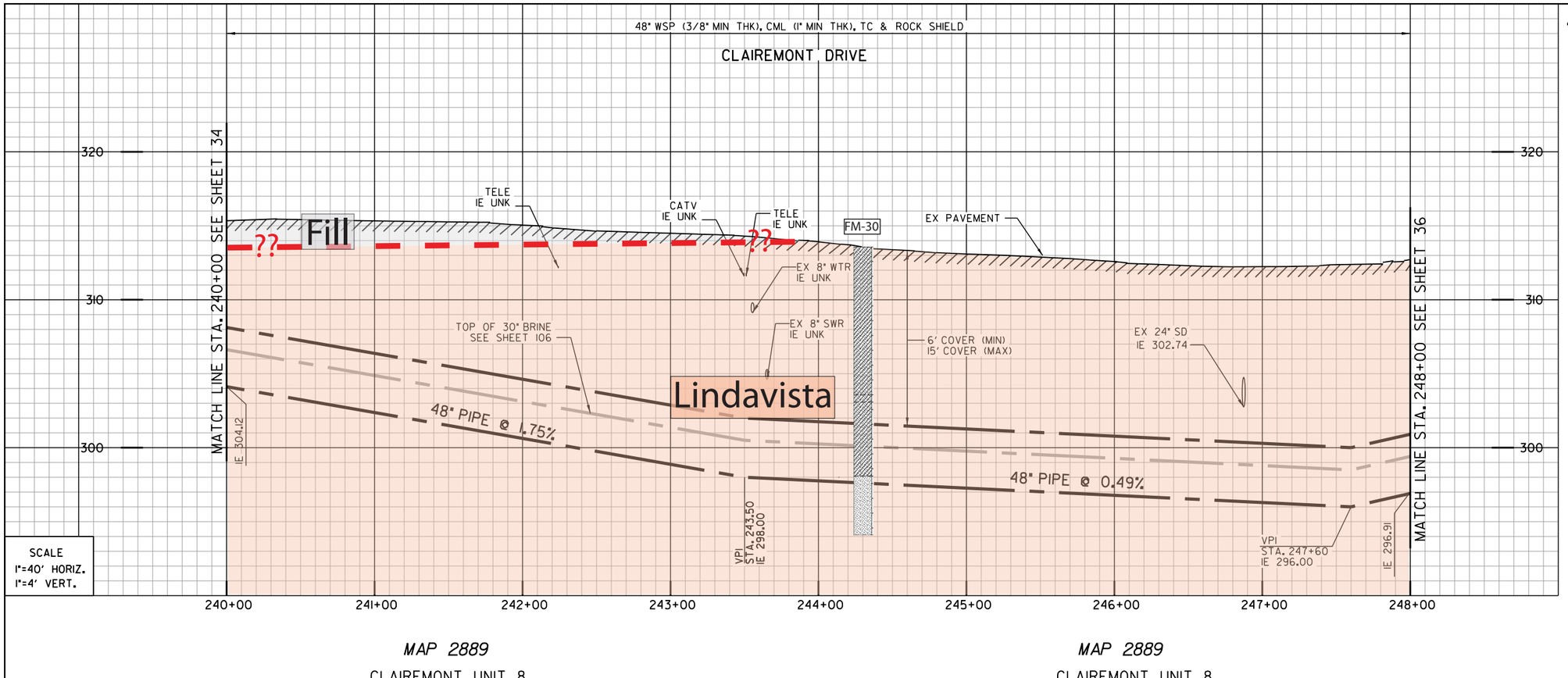
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-34-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM30.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

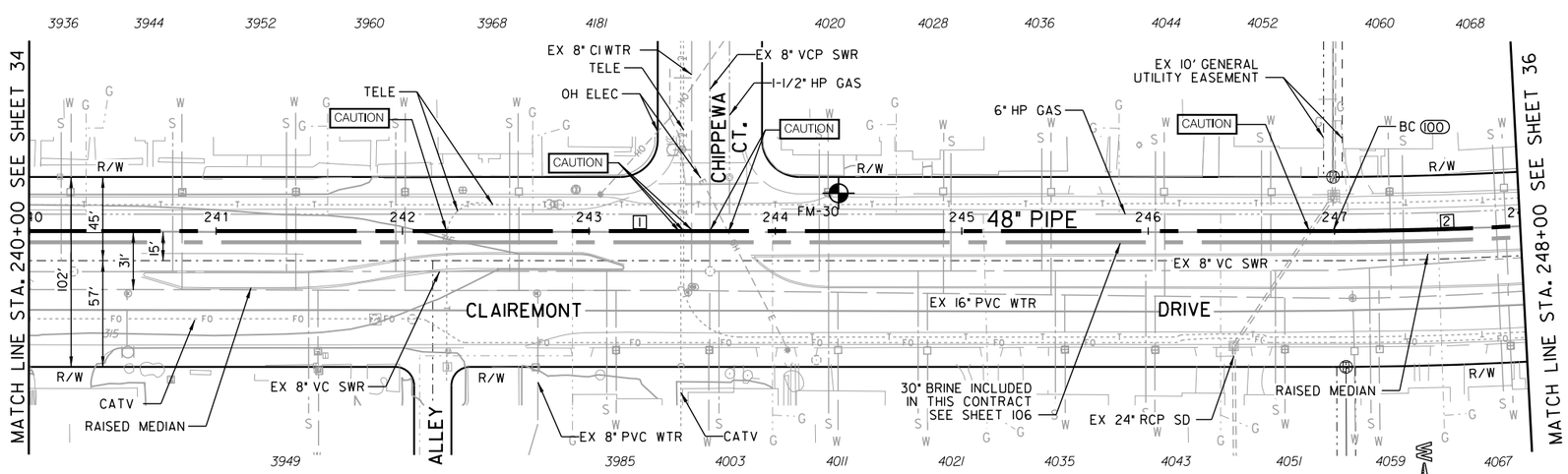
1 103
BY CONTRACTOR
FURNISH AND INSTALL
STA. 247+60
1- BLOW OFF VALVE
SEE PIPING DETAIL

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-10-D |
| SEWER: | 9844-L |
| STORM DRAIN: | 9867-L |
| GAS: | 15780-119115 |
| ELECTRIC: | 15780-119115 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLH1969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

MAP 2889
CLAIREMONT UNIT 8




MAP 2889
CLAIREMONT UNIT 8

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1877479.48 | 6269470.72 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N1° 00'22" E | | 699.15' | 48" WSP (CML&TC) |
| 2 | 37° 00'22" | 1984' | 100.85' | 48" WSP (CML&TC) |

C-31

CAUTION
6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SCALE 1"=40'

MORENA PUMP STATION AND CONVEYANCE SYSTEM
SEWER FORCEMAIN
STA. 240+00 TO STA. 248+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 35 OF SHEETS

SEWER WBS B-15141
SUBMITTED BY LAILA NASRAWI PROJECT MANAGER
CHECKED BY DARIN SANCHEZ PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-35-D

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

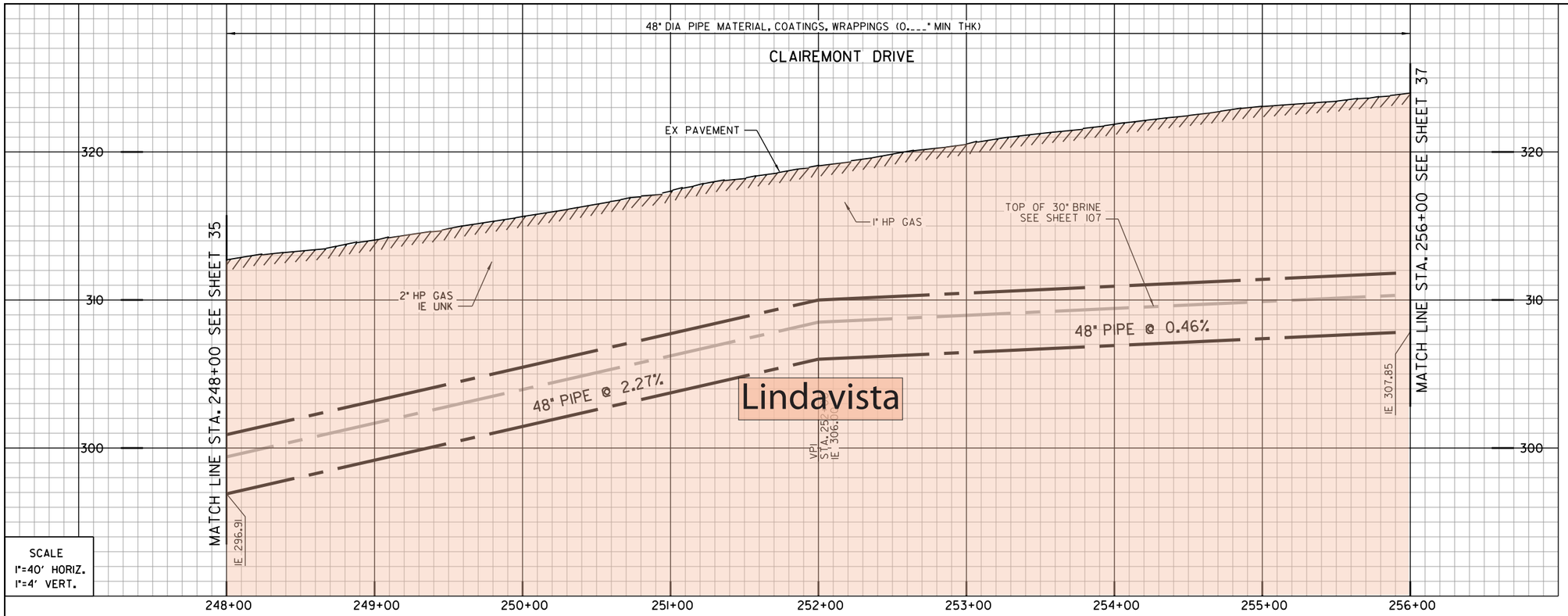
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

CLAIREMONT DRIVE

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM31.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



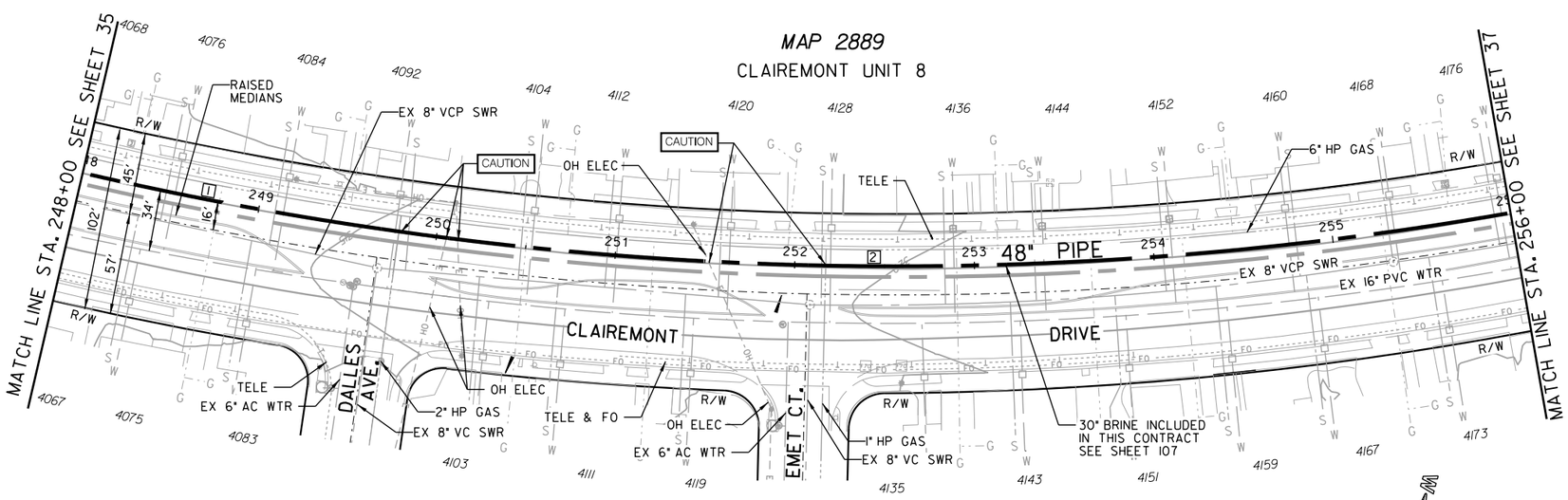

SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-11-D |
| SEWER: | 9844-L |
| STORM DRAIN: | NO INFO |
| GAS: | NO INFO |
| ELECTRIC: | 15780-119125 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLH1969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE




| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 37° 00'22" | 1984' | 800' | 48" WSP (CML&TC) |

C-32

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 248+00 TO STA. 256+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 36 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-36-D

CAUTION

6" HP GAS1 CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

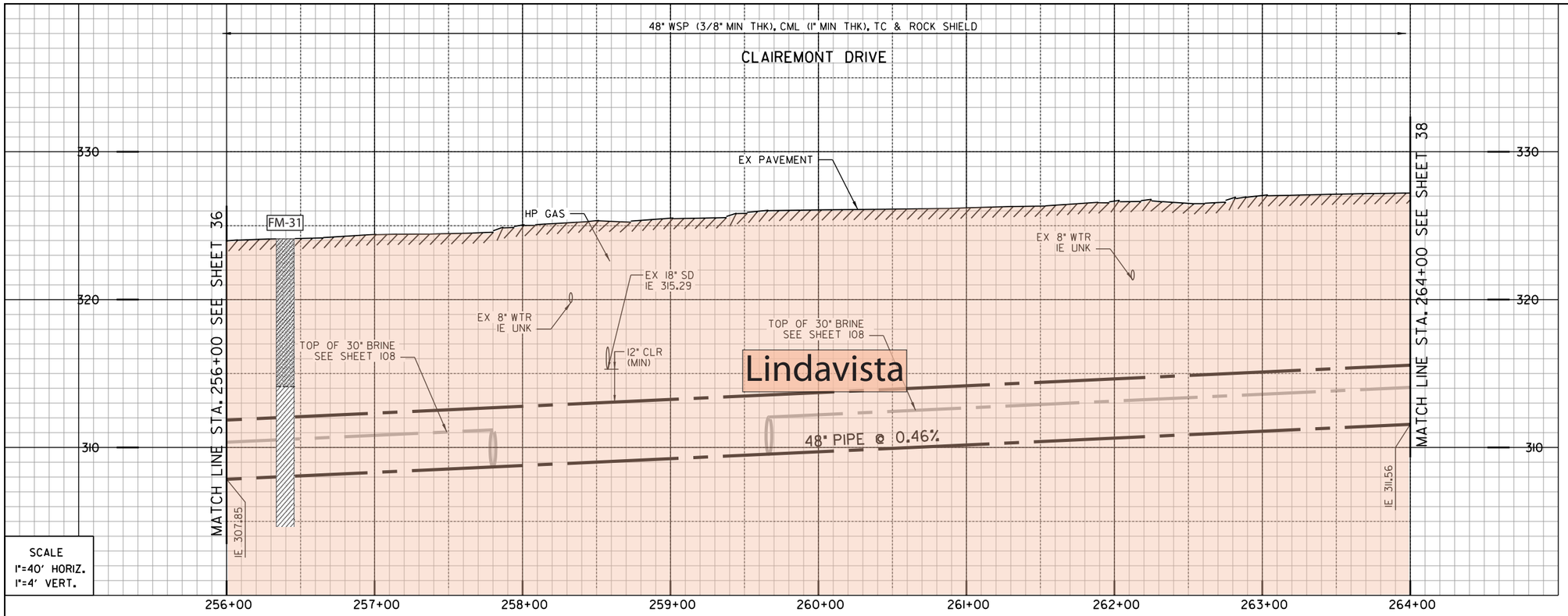
CLAIREMONT UNIT 8
MAP 2889

CLAIREMONT UNIT 8
MAP 2889

SCALE 1"=40'

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM32.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

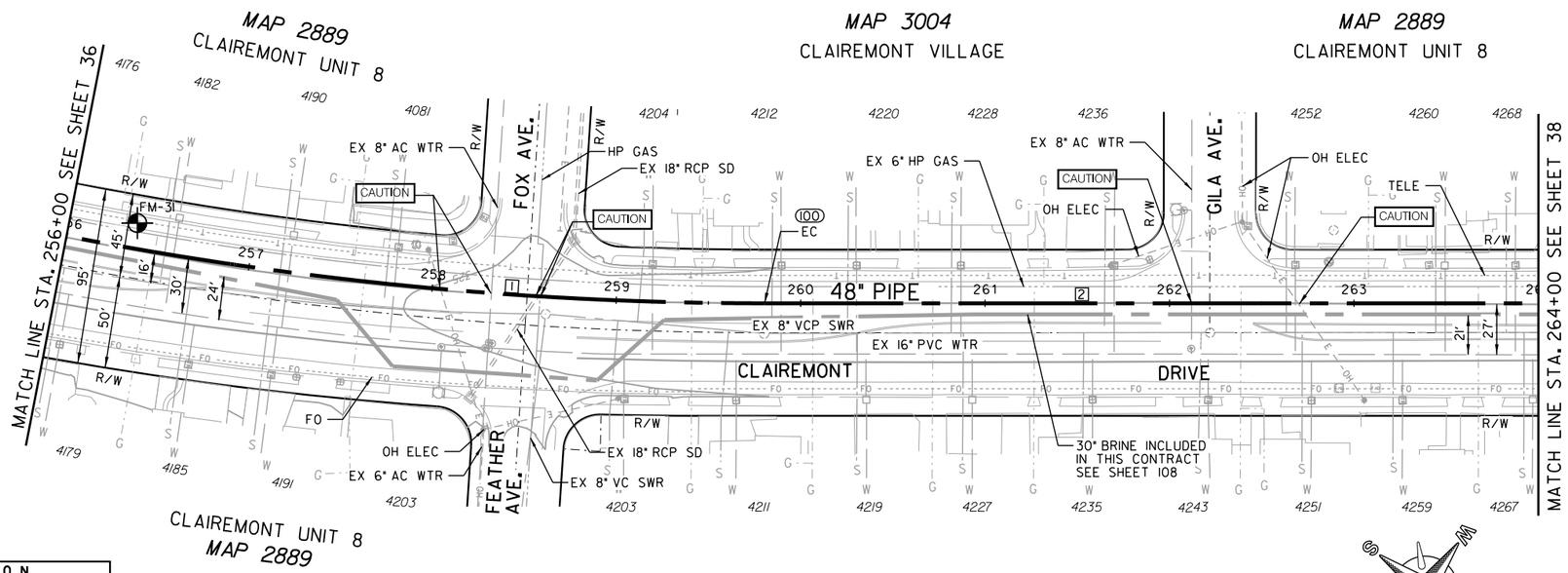



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-12-D, 35033-13-D |
| SEWER: | 9845-L |
| STORM DRAIN: | 9855-L |
| GAS: | 15780-119130 |
| ELECTRIC: | 15780-119125,15780-119130 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLH1968 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

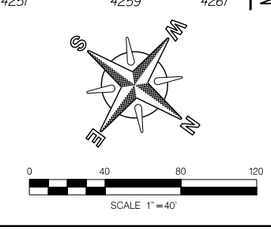



| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1878680.32 | 6269091.60 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 37° 00'22" | 1984' | 380.46' | 48" WSP (CML&TC) |
| 2 | N36° 00'09" W | | 419.54' | 48" WSP (CML&TC) |

**CAUTION**

6" HP GAS1 CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED




CLAIREMONT DRIVE

C-33

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 256+00 TO STA. 264+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 37 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

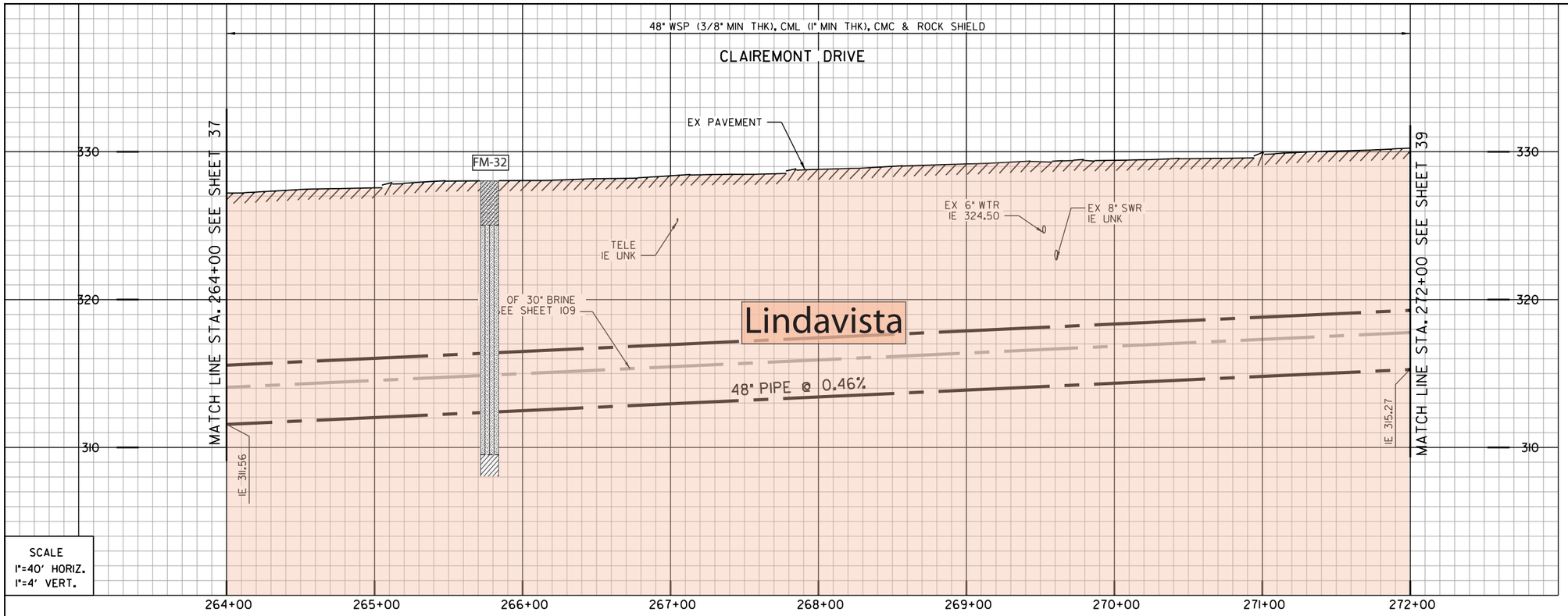
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-37-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM33.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

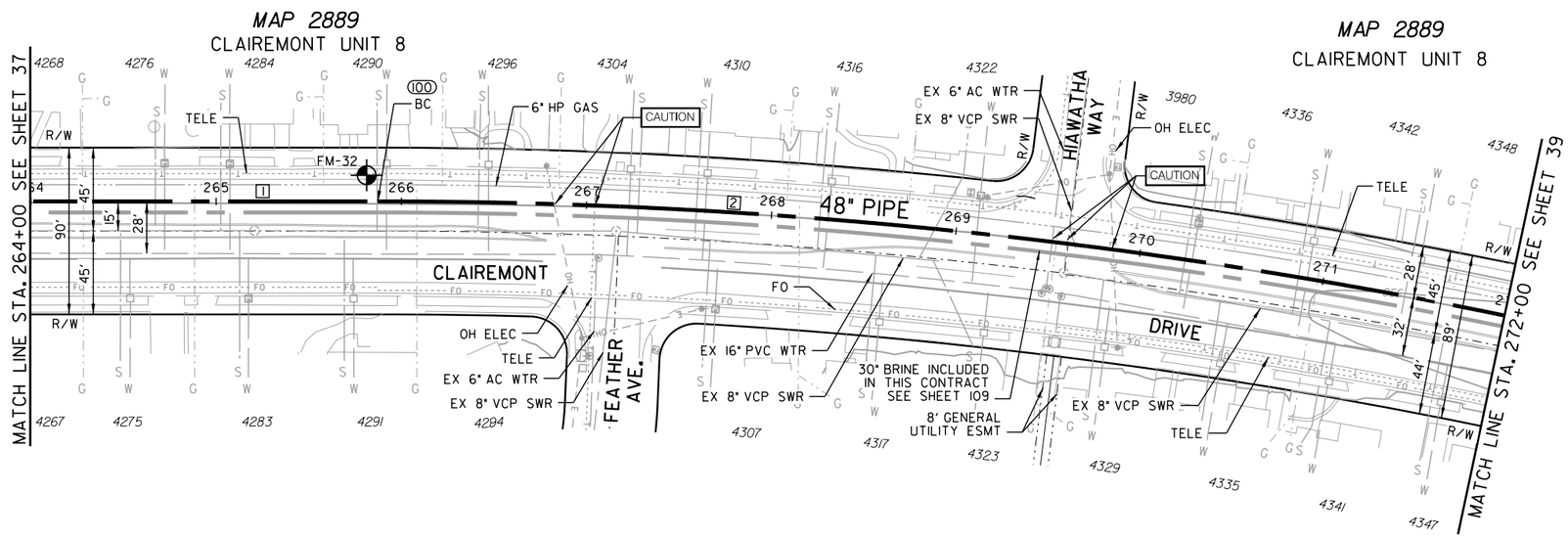



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35033-12-D,35033-13-D |
| SEWER: | 9846-L, 9854-L, 9858-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15772-119130,15772-119135,15772-119140 |
| ELECTRIC: | 15772-119135 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLH1968 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1879171.19 | 6268734.93 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N36° 00'09" W | | 187.22' | 48" WSP (CML&TC) |
| 2 | 13° 20'13" | 3015' | 612.78' | 48" WSP (CML&TC) |

CLAIREMONT UNIT 8
MAP 2889

CLAIREMONT UNIT 8
MAP 2889

**CAUTION**

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

0 40 80 120
SCALE 1" = 40'

C-34

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 264+00 TO STA. 272+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 38 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

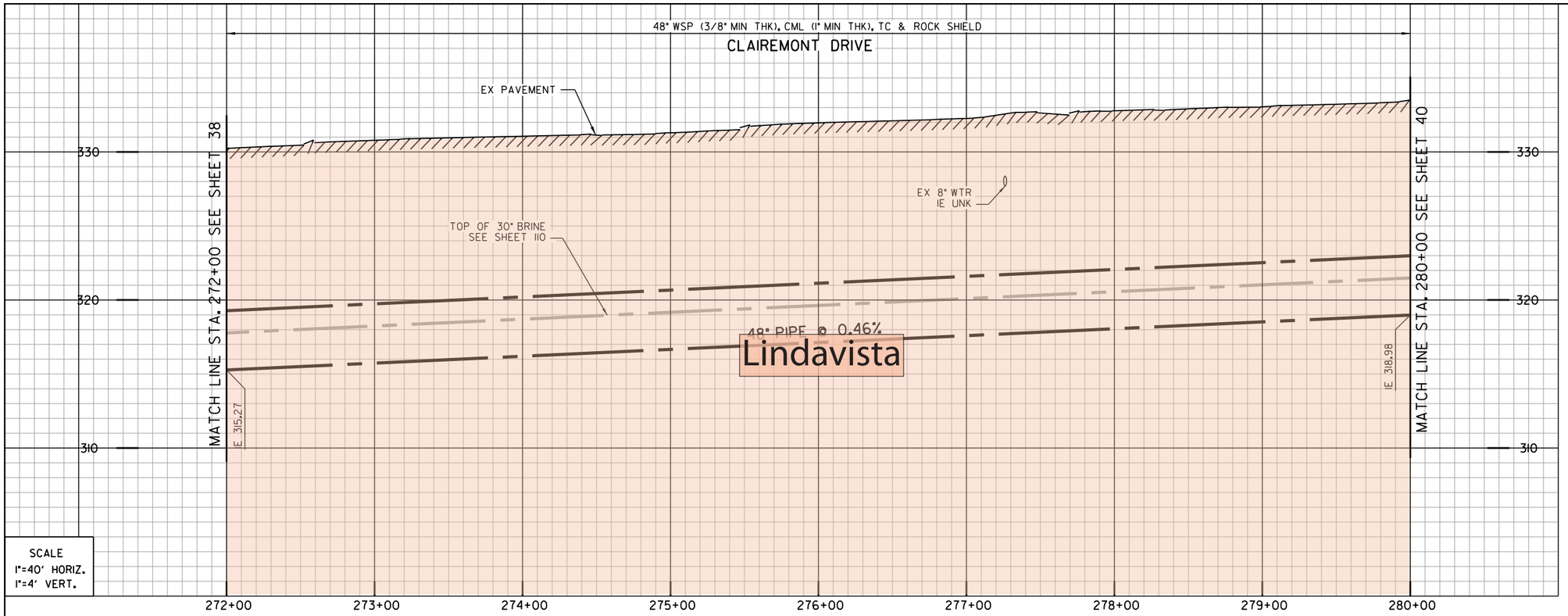
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

WATER WBS S-16027
SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-38-D

CLAIREMONT DRIVE

60% SUBMITTAL

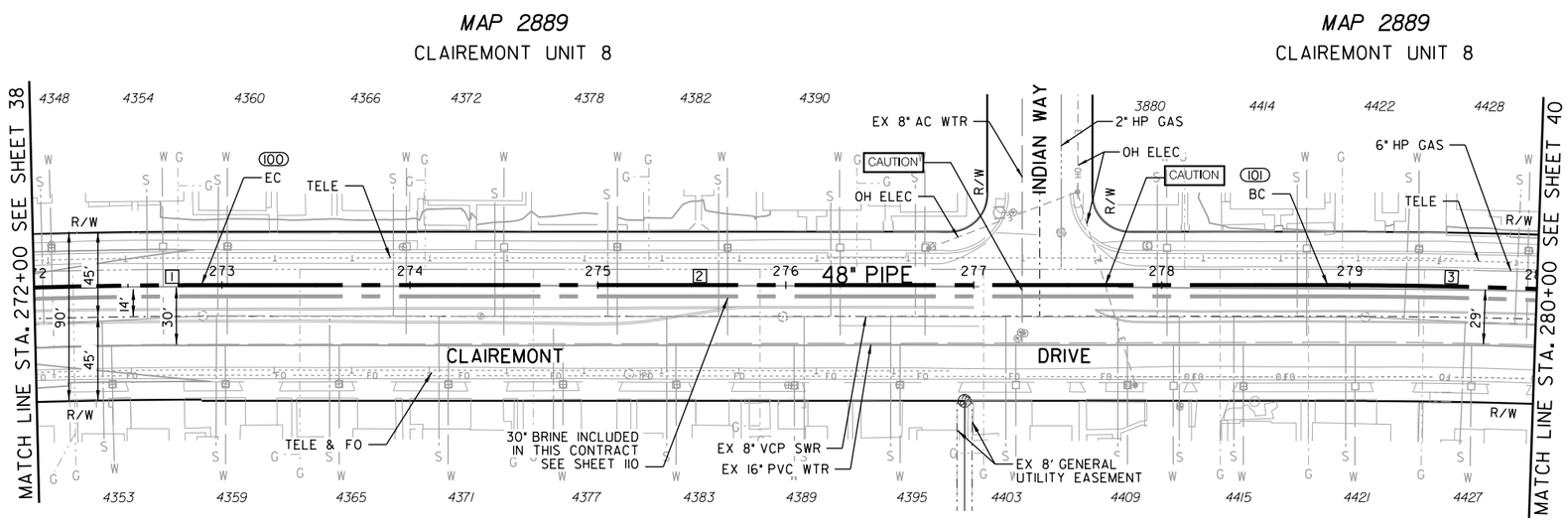
\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM34.dgn
9/12/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35032-2-D, 35033-14-D |
| SEWER: | 9847-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15772-119140, 15772-119145 |
| ELECTRIC: | 15772-119145 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLG1968 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1879781.41 | 6268391.48 | EC |
| 101 | 1880334.24 | 6268160.11 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 13° 20'13" | 3015' | 89.04' | 48" WSP (CML&TC) |
| 2 | N22° 42'39" W | | 599.29' | 48" WSP (CML&TC) |
| 3 | 12° 39'10" | 3012' | 111.67' | 48" WSP (CML&TC) |

CLAIREMONT UNIT 8
MAP 2889

| CAUTION |
|---|
| 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

0 40 80 120
SCALE 1" = 40'

C-35

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 272+00 TO STA. 280+00 AT CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 39 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

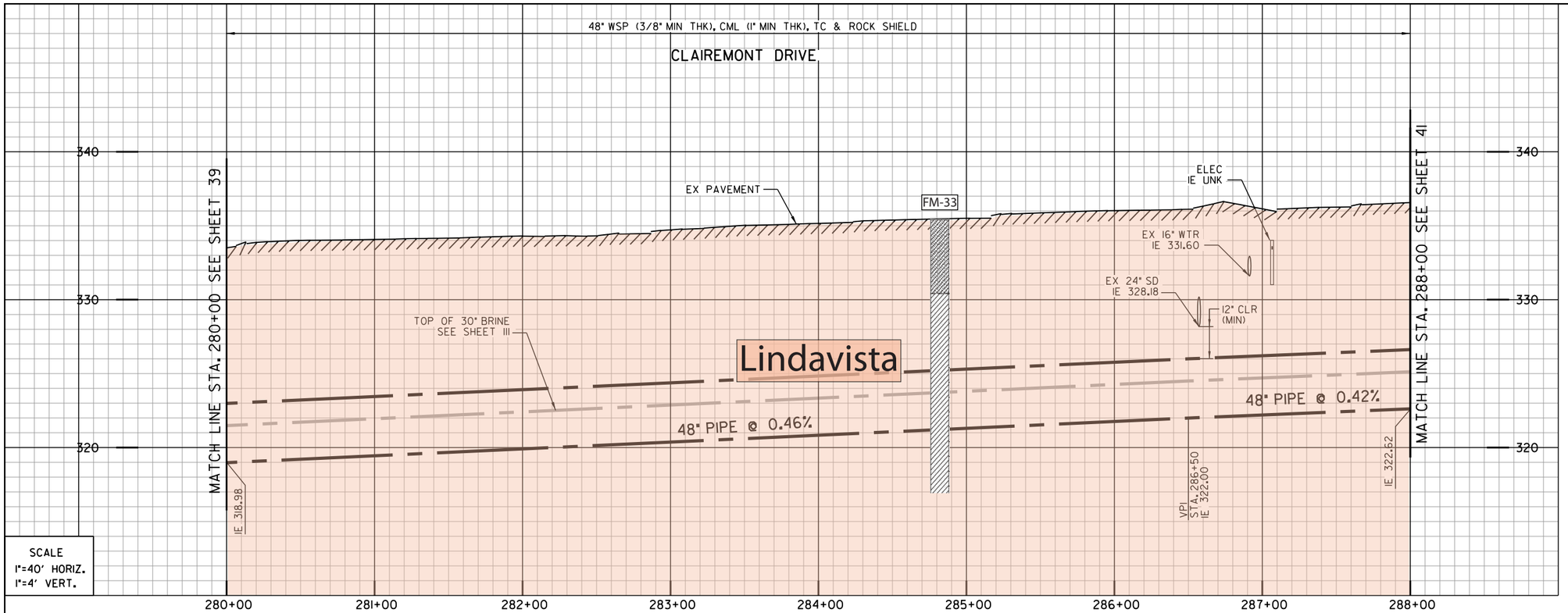
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-39-D

CLAIREMONT DRIVE

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (102)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 286+49.95
1 - 50° HPI BEND

2 (103)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 287+02.68
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35032-3-D |
| SEWER: | 37841-5-D, 9860-L, 9847-L, 9848-L |
| STORM DRAIN: | 9848-L |
| GAS: | 15765-119150 |
| ELECTRIC: | 15765-119150 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLF1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

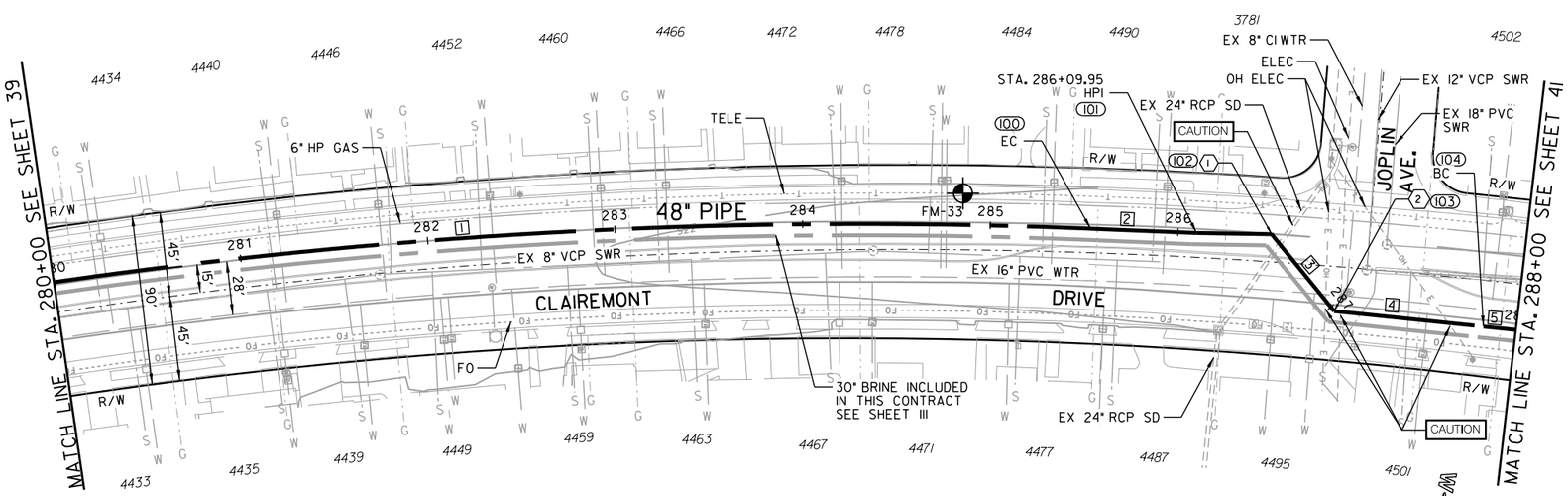
| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1880971.08 | 6267972.86 | EC |
| 101 | 1881026.69 | 6267963.00 | HPI |
| 102 | 1881065.89 | 6267955.04 | HPI BEND |
| 103 | 1881107.14 | 6267987.87 | HPI BEND |
| 104 | 1881186.63 | 6267978.84 | BC |

PROPOSED PIPE DATA TABLE

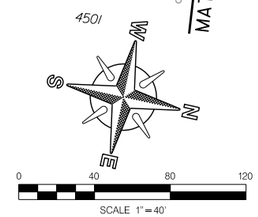
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 12° 39'10" | 3012' | 553.48' | 48" WSP (CML&TC) |
| 2 | N10° 03'29" W | | 56.48' | 48" WSP (CML&TC) |
| 3 | N11° 28'49" W | | 40' | 48" WSP (CML&TC) |
| 4 | N38° 31'11" E | | 52.73' | 48" WSP (CML&TC) |
| 5 | N6° 28'49" W | | 80' | 48" WSP (CML&TC) |
| 6 | 7° 33'28" | 2000' | 17.31' | 48" WSP (CML&TC) |

MAP 2889

CLAIREMONT UNIT 8




CLAIREMONT UNIT 8
MAP 2889




CAUTION

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

CLAIREMONT DRIVE

C-36

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 280+00 TO STA. 288+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 40 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

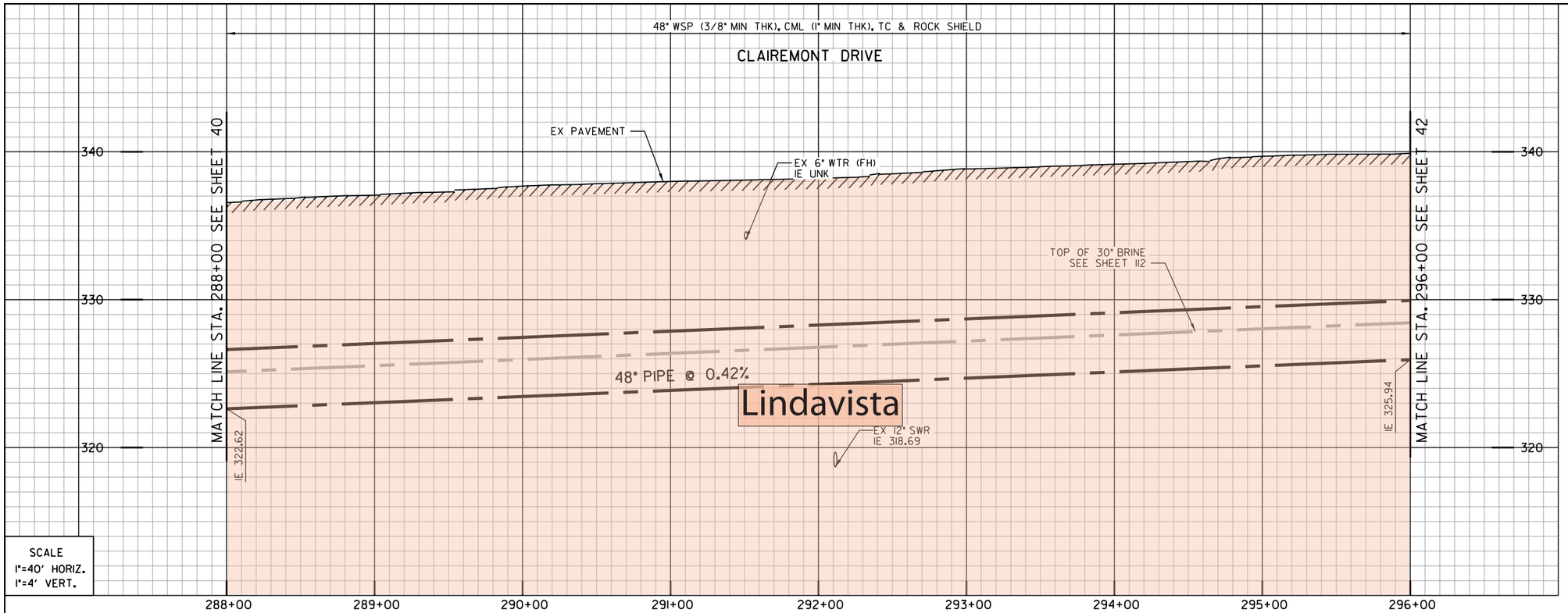
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-40-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM36.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

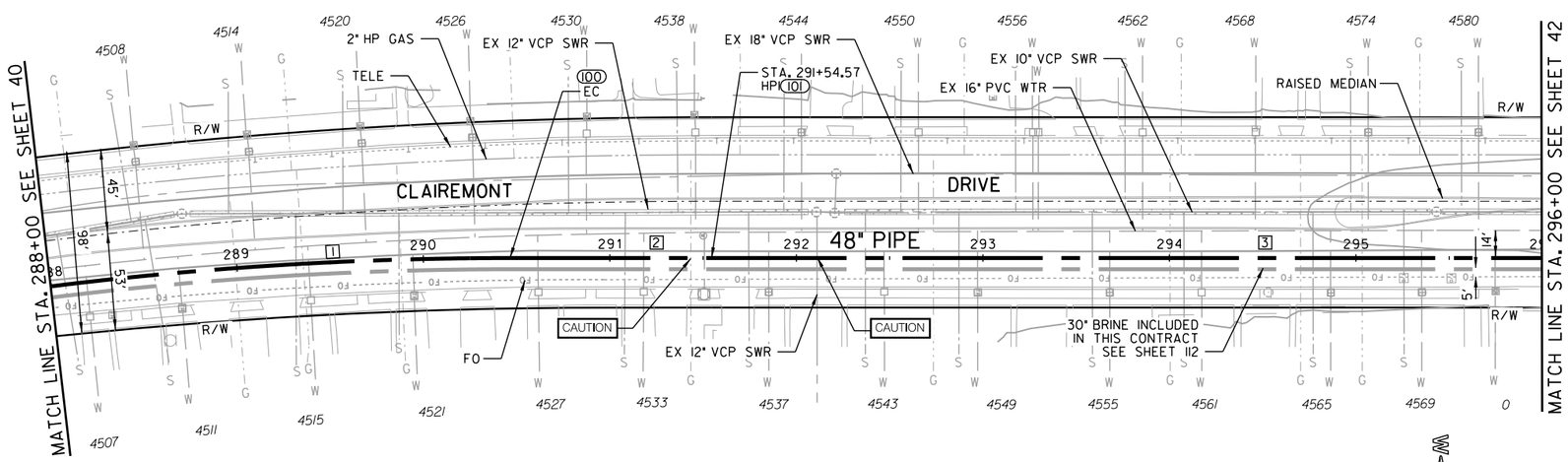
REFERENCE:

| | |
|---|---|
| WATER: | 35032-3-D, 35032-4-D |
| SEWER: | 9848-L, 9849-L, 37841-5-D, 37841-6-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119165 |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE

*MAP 3008*

CLAIREMONT UNIT 15




CLAIREMONT UNIT 9

*MAP 2902*

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1881449.90 | 6267965.24 | EC |
| 101 | 1881557.97 | 6267966.78 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 7° 33'28" | 2000' | 246.50' | 48" WSP (CML&TC) |
| 2 | N0° 48'59" E | | 108.08' | 48" WSP (CML&TC) |
| 3 | N0° 48'20" E | | 445.43' | 48" WSP (CML&TC) |

C-37

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 288+00 TO STA. 296+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 41 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-41-D

**CAUTION**

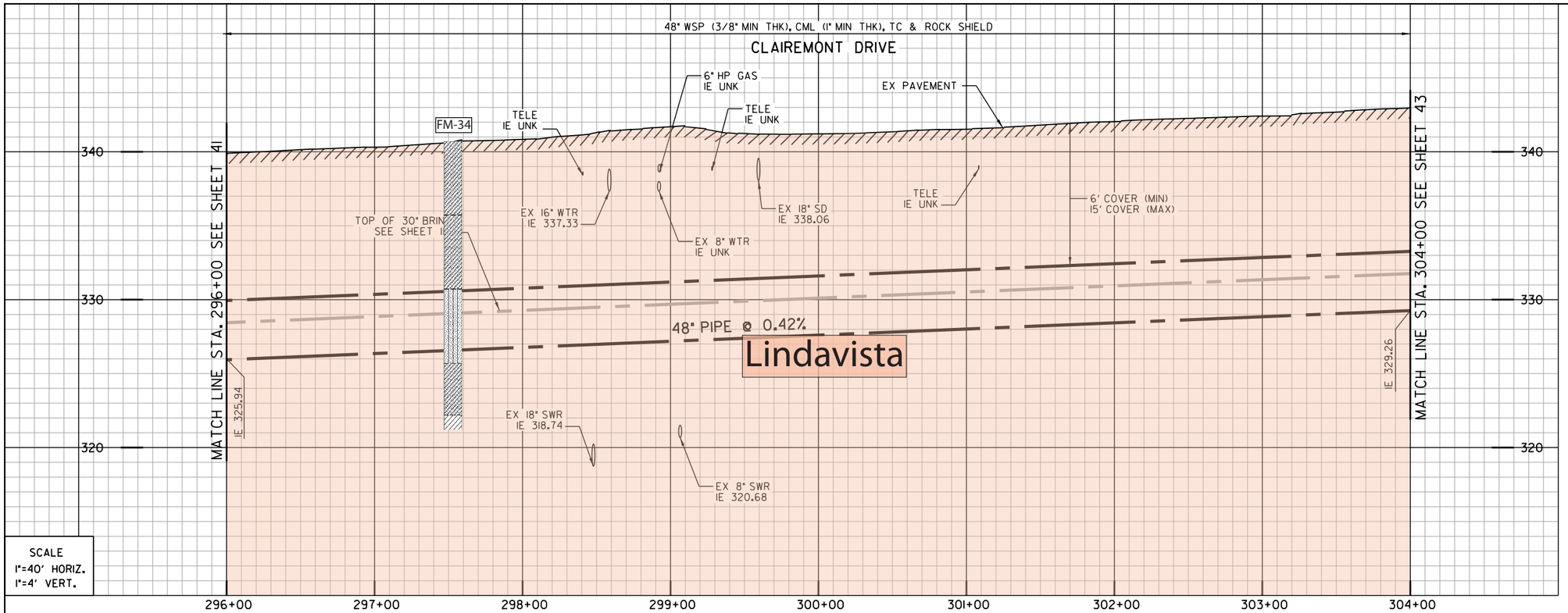
6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SCALE 1"=40'

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM37.dgn

9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 298+69.19
1-45° HPI BEND

2 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 299+34.71
1-45° HPI BEND

3
BY CONTRACTOR
FURNISH AND INSTALL
CATHODIC PROTECTION RECTIFIER

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

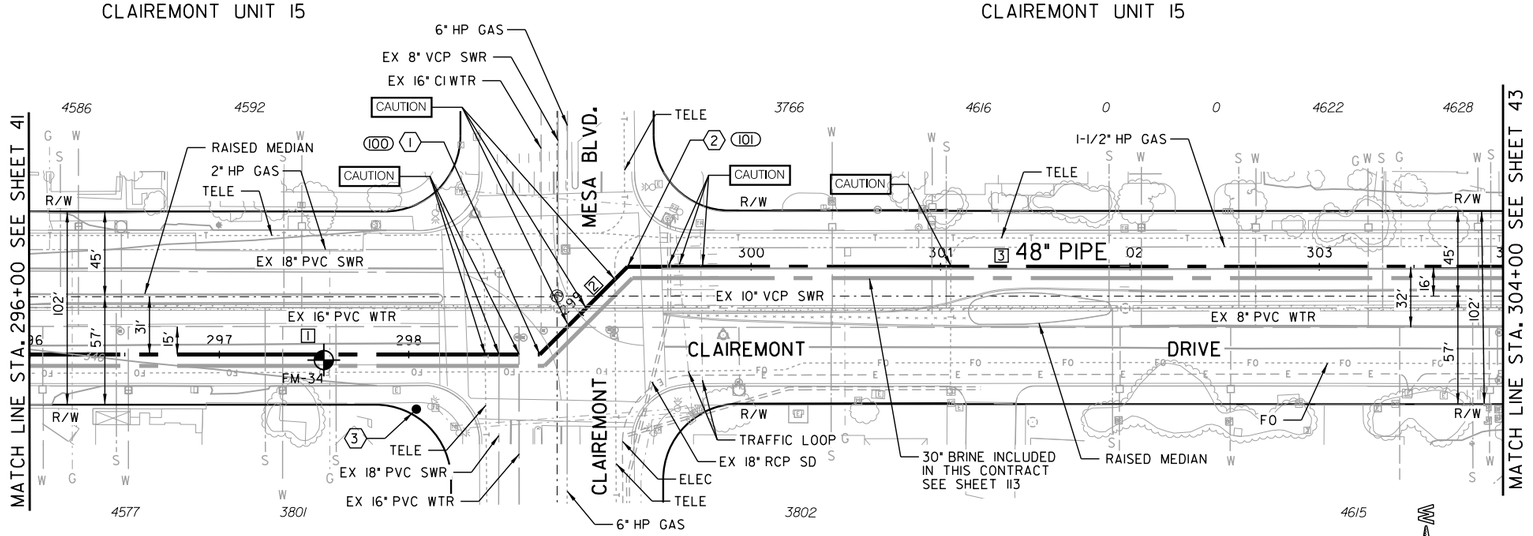
REFERENCE:

| | |
|---|---|
| WATER: | 35032-3-D, 35032-05-D |
| SEWER: | 37841-06-D, 9850-L, 9851-L |
| STORM DRAIN: | 13659-D |
| GAS: | 15765-119165 |
| ELECTRIC: | 15765-119170 |
| CABLE TV: | NO INFO |
| TELEPHONE: | BLF1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

CLAIREMONT DRIVE

MAP 3008
CLAIREMONT UNIT 15

MAP 3008
CLAIREMONT UNIT 15

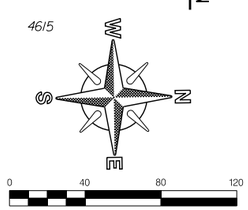



CAUTION

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

CLAIREMONT UNIT 9
MAP 2902

NORTH CLAIREMONT PLAZA (PM 1228)
MAP 3484




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1882272.51 | 6267976.83 | HPI BEND |
| 101 | 1882319.49 | 6267931.15 | HPI BEND |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N 0° 48'20" E | | 269.19' | 48" WSP (CML&TC) |
| 2 | N44° 11'40"W | | 65.53' | 48" WSP (CML&TC) |
| 3 | N 0° 48'20" E | | 465.29' | 48" WSP (CML&TC) |

C-38

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 296+00 TO STA. 304+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 42 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
DATE
PRINT NAME
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

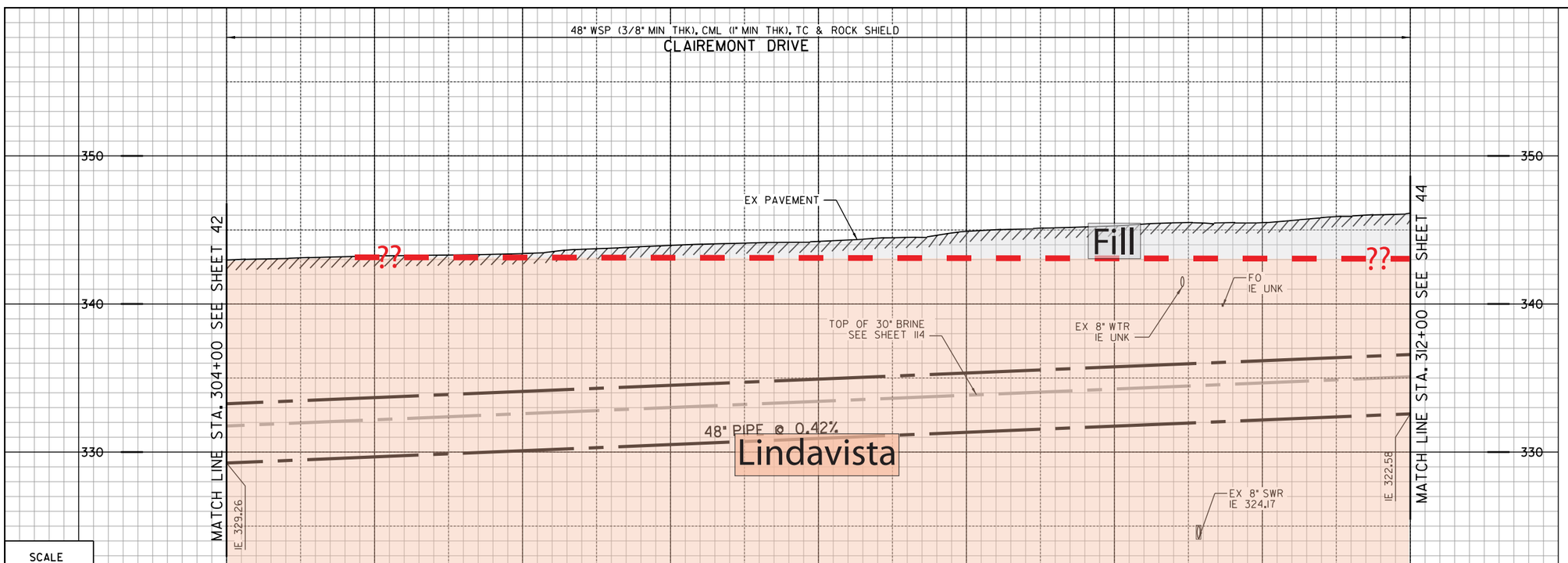
REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-42-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM38.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl



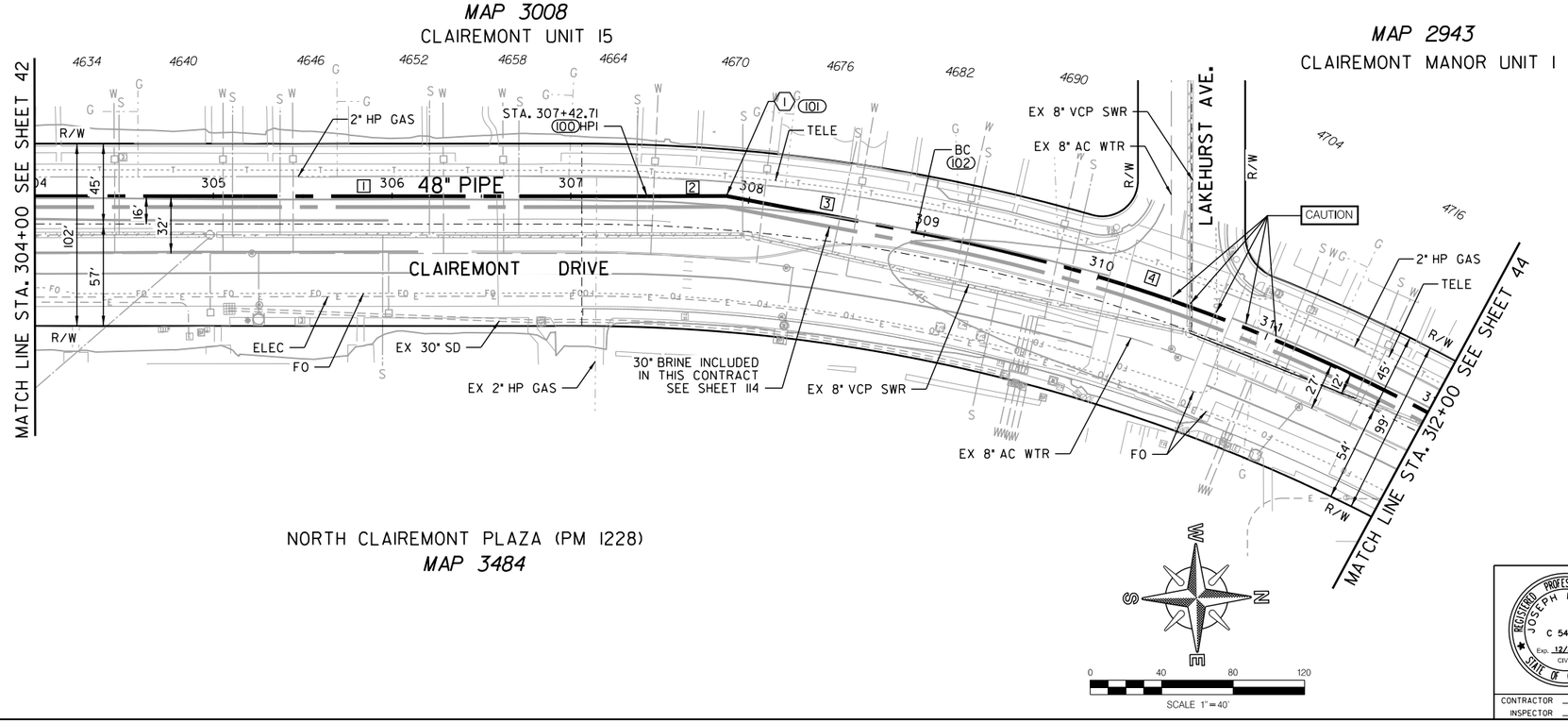

SCALE
1"=40' HORIZ.
1"=4' VERT.

1 BY CONTRACTOR FURNISH AND INSTALL
STA. 307+87.08
1- 11" HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 9850-L, 9861-L, 10288-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119170, 15765-119175, 15765-119175 |
| ELECTRIC: | 238-1707A |
| CABLE TV: | 30064-3-D |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1883127.41 | 6267942.51 | HPI |
| 101 | 1883171.78 | 6267942.96 | HPI BEND |
| 102 | 1883277.50 | 6267964.61 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N0° 48'20" E | | 342.71' | 48" WSP (CML&TC) |
| 2 | N0° 34'39" E | | 44.37' | 48" WSP (CML&TC) |
| 3 | N11° 34'39" E | | 107.92' | 48" WSP (CML&TC) |
| 4 | 45° 44'01" | 1012' | 305.00' | 48" WSP (CML&TC) |

C-39

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 304+00 TO STA. 312+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 43 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

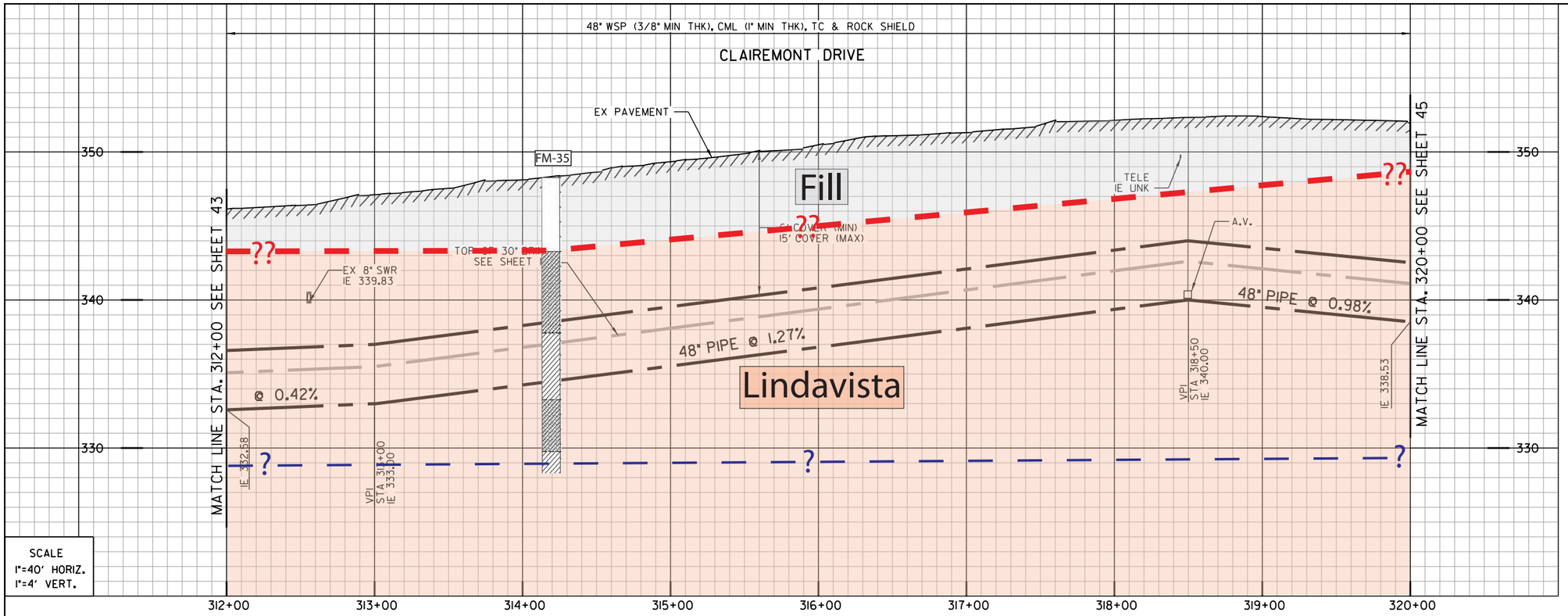
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-43-D

CLAIREMONT DRIVE

60% SUBMITTAL

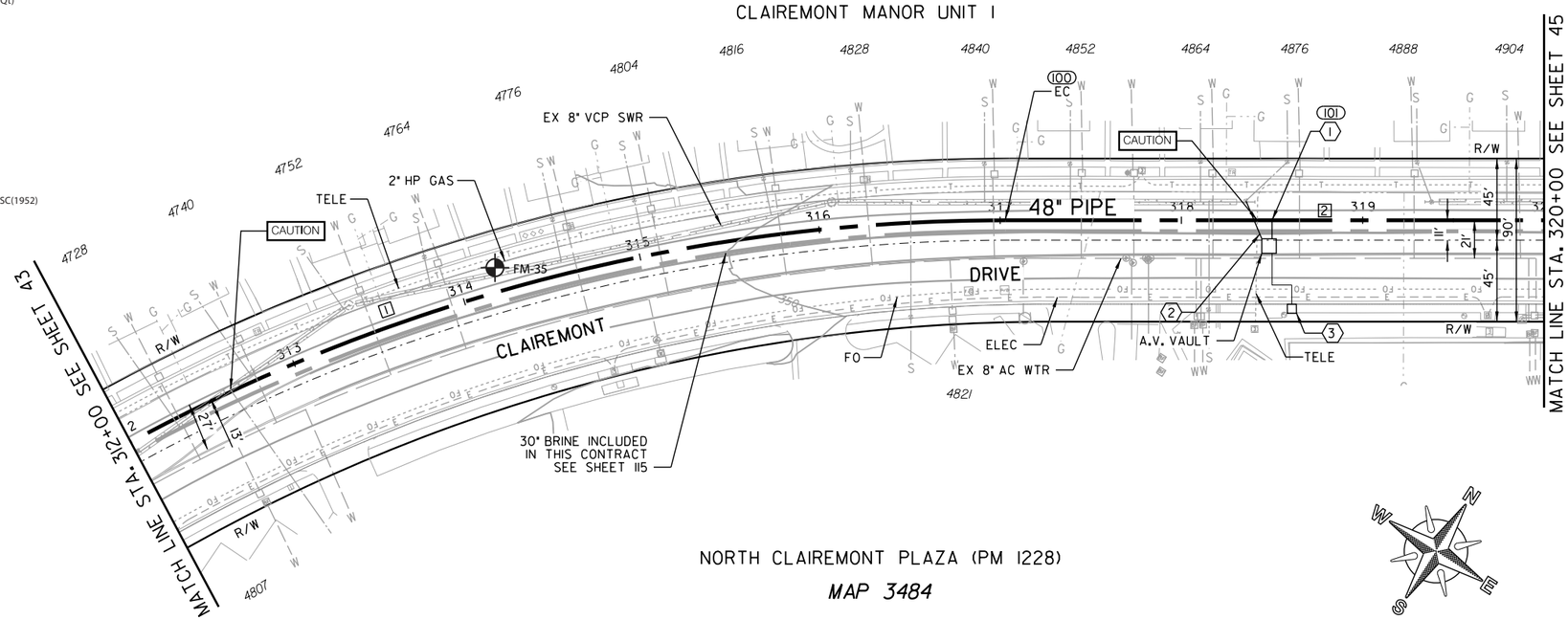
\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM39.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

MAP 2943
CLAIREMONT MANOR UNIT 1




NORTH CLAIREMONT PLAZA (PM 1228)
MAP 3484

SCALE 1"=40'

1 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 318+50
1-3" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

3
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 10288-L,10289-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119180 |
| ELECTRIC: | 15742-119305 |
| CABLE TV: | 238-1707A |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 10288-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1883926.12 | 6268409.47 | EC |
| 101 | 1884005.62 | 6268533.37 | A.V. |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 45° 44'01" | 1012' | 502.78' | 48" WSP (CML&TC) |
| 2 | N 57° 18'41" E | | 297.22' | 48" WSP (CML&TC) |

CLAIREMONT DRIVE

C-40

MORENA PUMP STATION AND
CONVEYANCE SYSTEM
SEWER FORCEMAIN

STA. 312+00 TO STA. 320+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 44 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

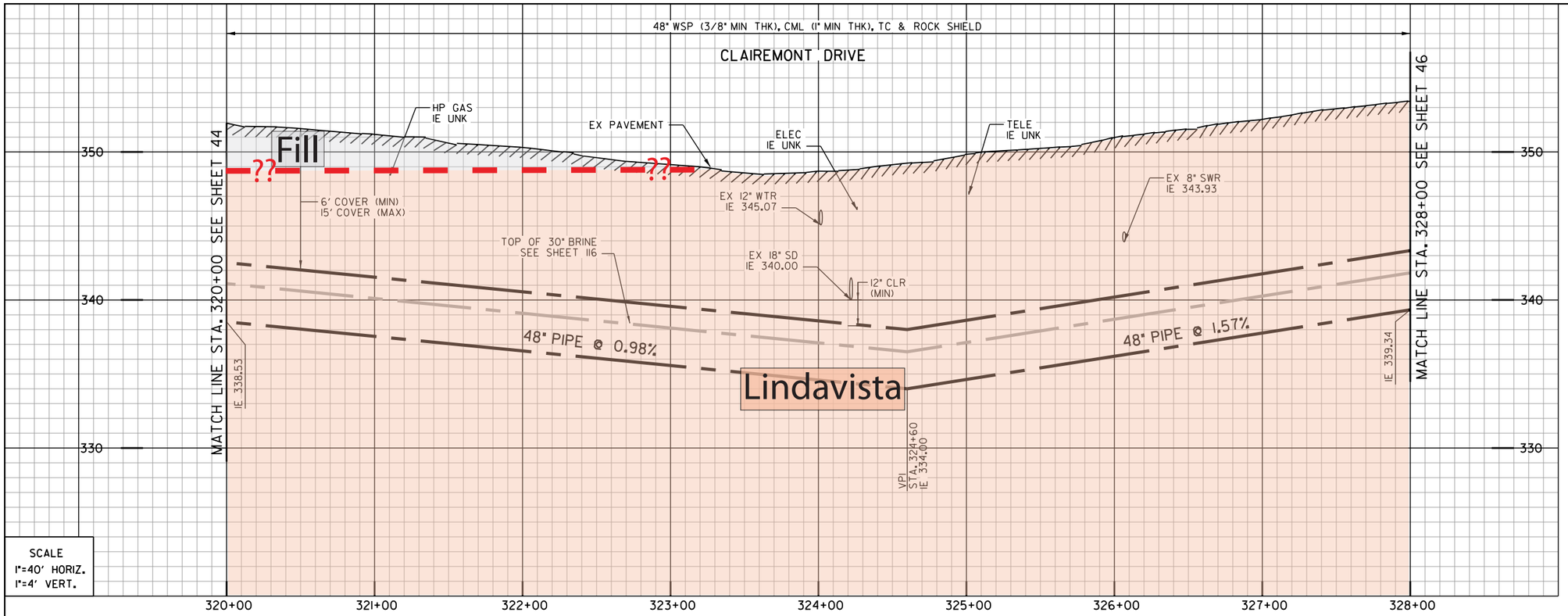
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-44-D

60% SUBMITTAL

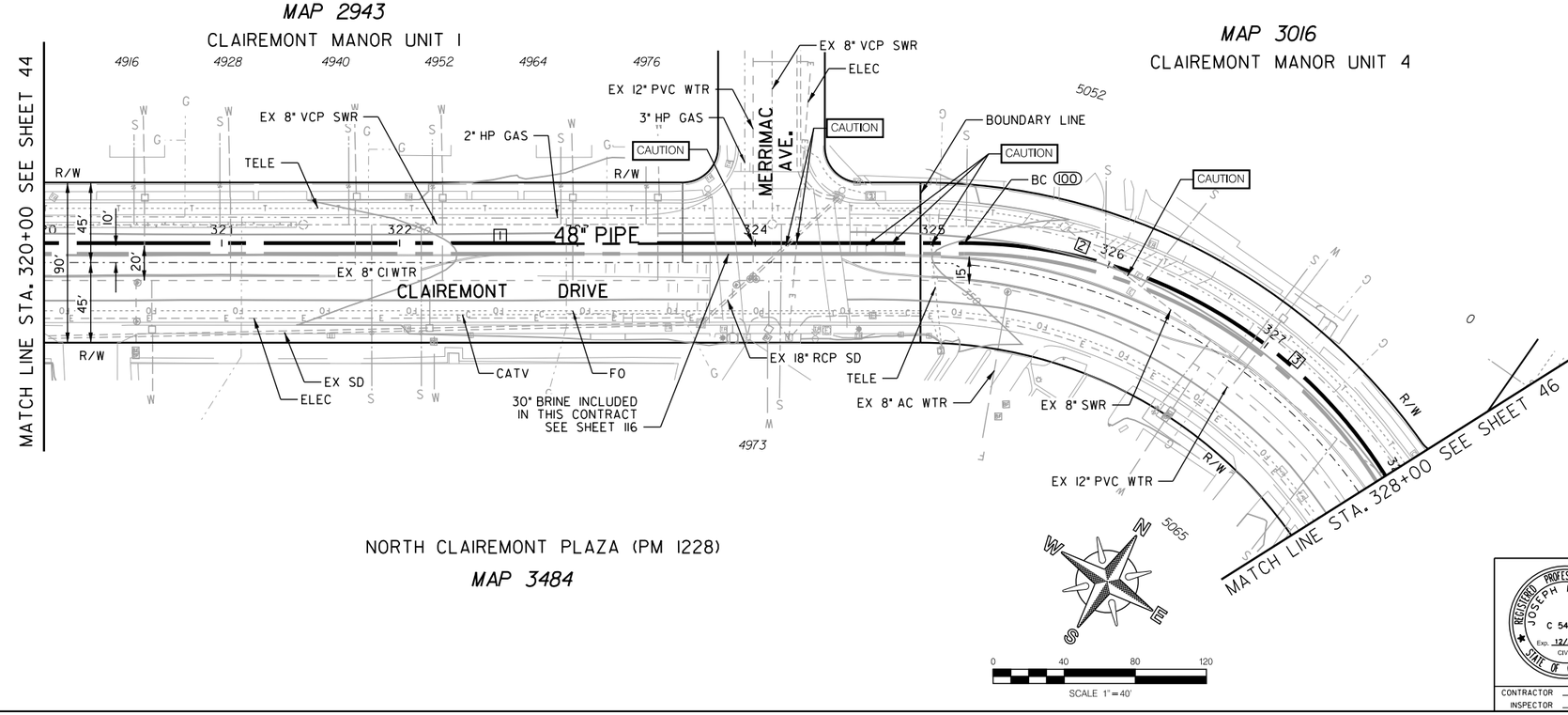



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
?? Geological Contact
? Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35032-9-D, 35032-10-D |
| SEWER: | 10289-L, 10556-L |
| STORM DRAIN: | 10293-L |
| GAS: | 15765-119185 |
| ELECTRIC: | 15789-119185 |
| CABLE TV: | BLE1968 |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 10084-L, 10289-L, 10556-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1884366.11 | 6269095.13 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N57° 18'41" E | | 517.48' | 48" WSP (CML&TC) |
| 2 | 74° 14'05" | 280' | 282.52' | 48" WSP (CML&TC) |

C-41

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 320+00 TO STA. 328+00 CLAIREMONT DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 45 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
DATE
PRINT NAME
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

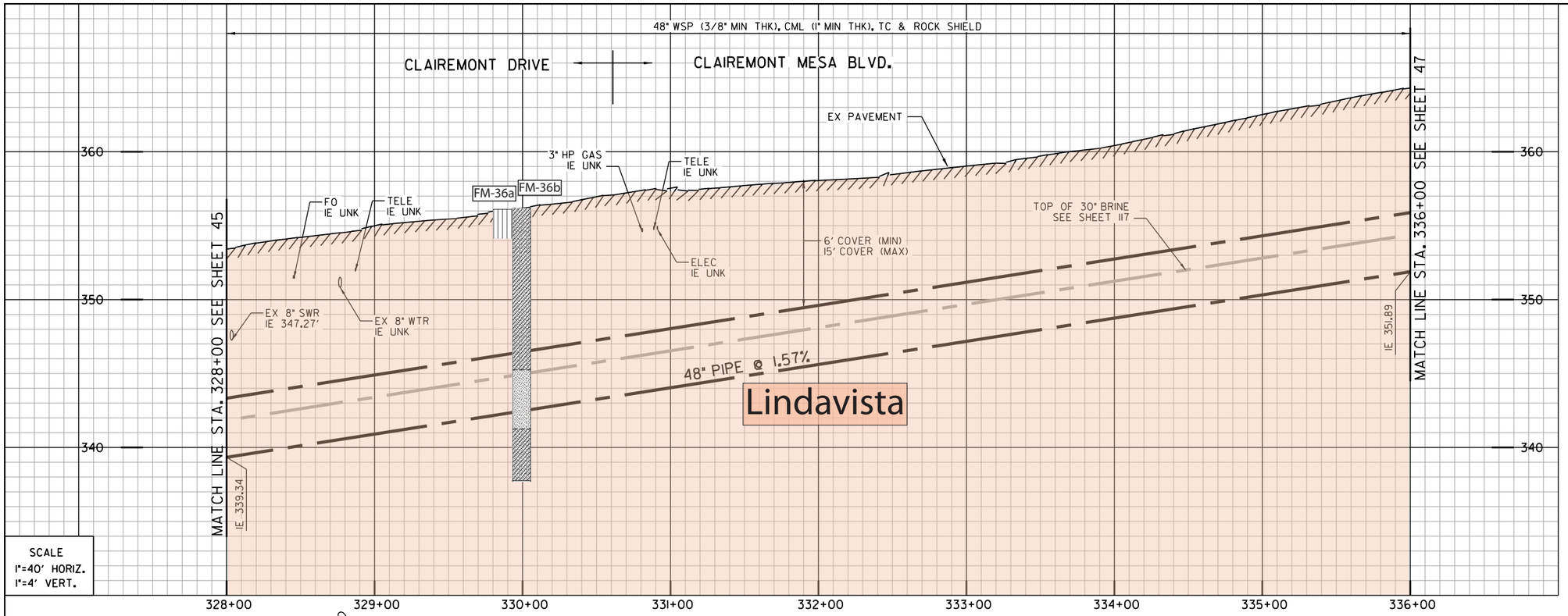
REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

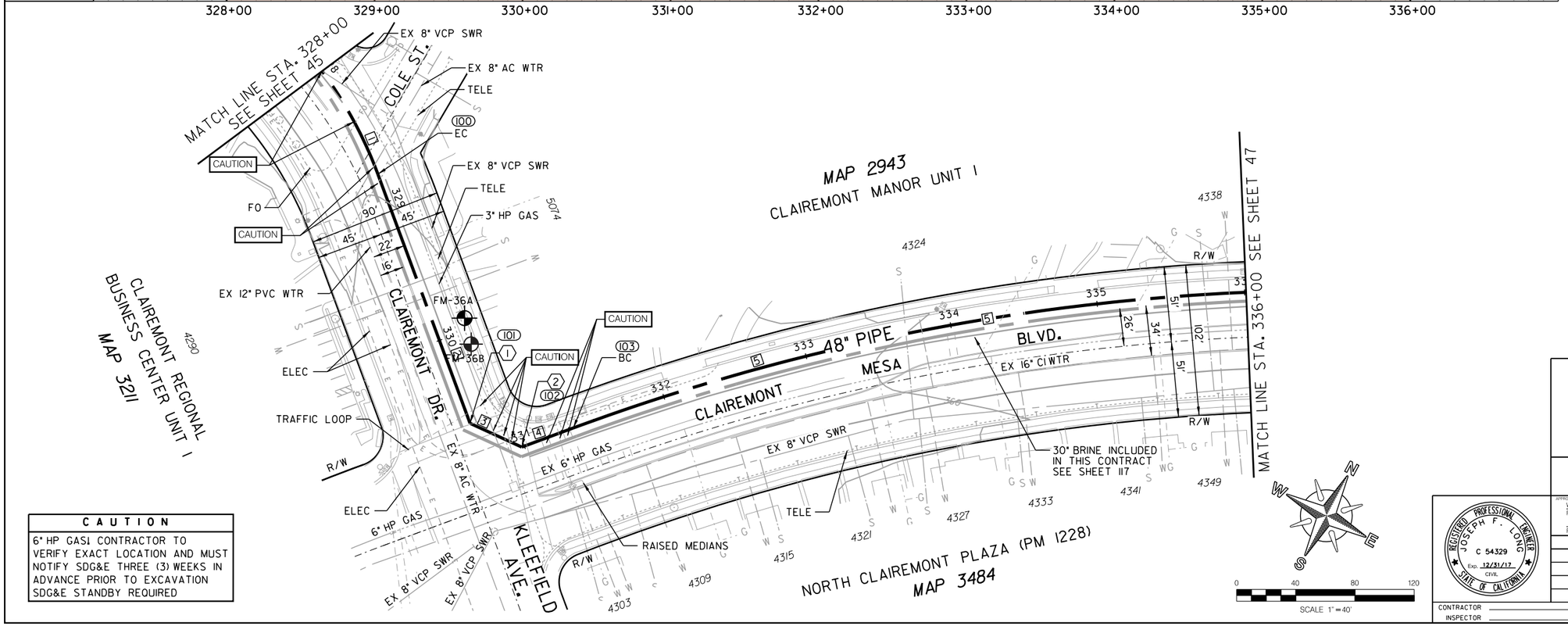
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-45-D

CLAIREMONT DRIVE

60% SUBMITTAL




**CAUTION**

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

(1) (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 330+59.69
1-45° HPI BEND

(2) (102)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 330+98.14
1-45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 35032-8-D |
| SEWER: | 10084-L, 10550-L, 10551-L, 10556-L, |
| STORM DRAIN: | NO INFO |
| GAS: | 15787-119185 |
| ELECTRIC: | 15787-119185 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 10556-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1884340.02 | 6269432.06 | EC |
| 101 | 1884221.02 | 6269566.34 | HPI BEND |
| 102 | 1884223.34 | 6269604.73 | HPI BEND |
| 103 | 1884251.20 | 6269629.42 | BC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| | 74° 14'05" | 280' | 80.26' | 48" WSP (CML&TC) |
| | S48° 27'14" E | | 179.43' | 48" WSP (CML&TC) |
| | N86° 32'46" E | | 38.45' | 48" WSP (CML&TC) |
| | N41° 32'46" E | | 37.23' | 48" WSP (CML&TC) |
| | 48° 57'57" | 1050' | 464.63' | 48" WSP (CML&TC) |

C-42

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 328+00 AT CLAIREMONT DR. TO STA. 336+00 AT CLAIREMONT MESA BLVD.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 46 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

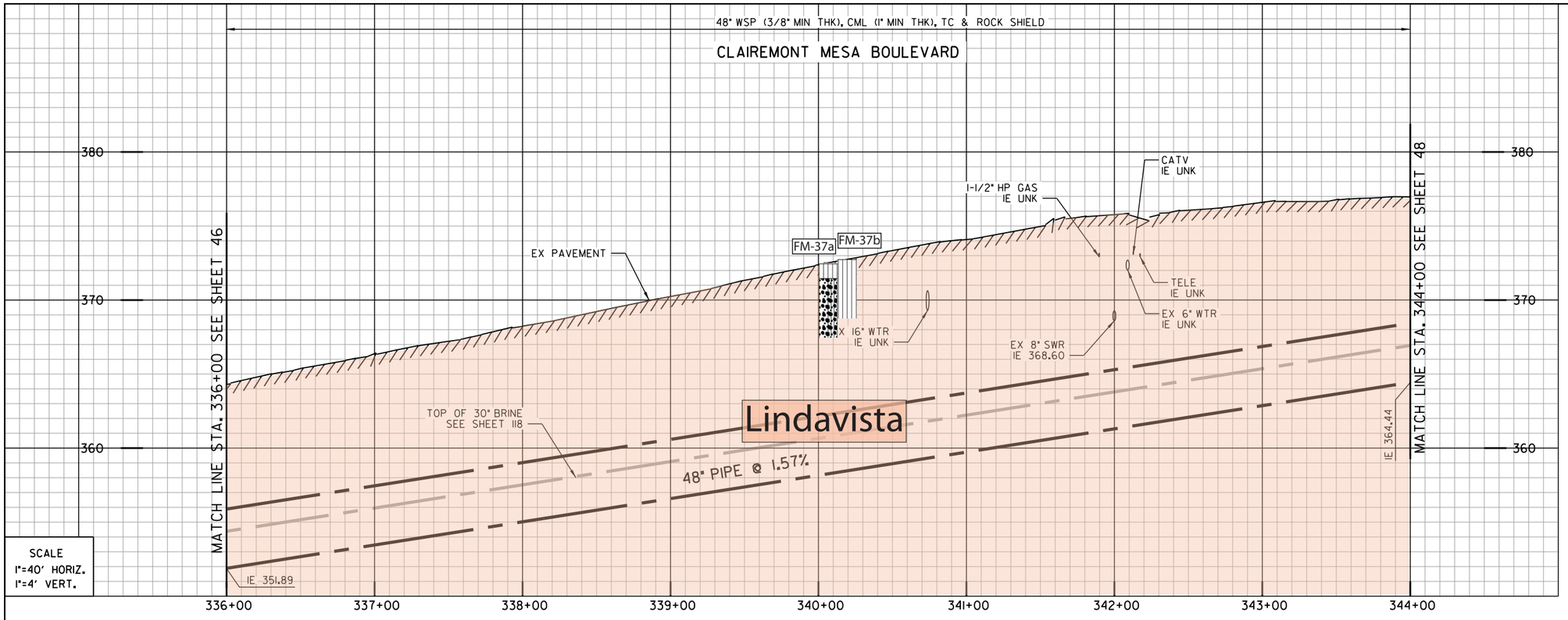
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

WATER WBS S-16027
SEWER WBS B-15141
SUBMITTED BY: LAILA NASRAWI PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-46-D

CLAIREMONT DR. \ CLAIREMONT MESA BLVD.

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM42.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

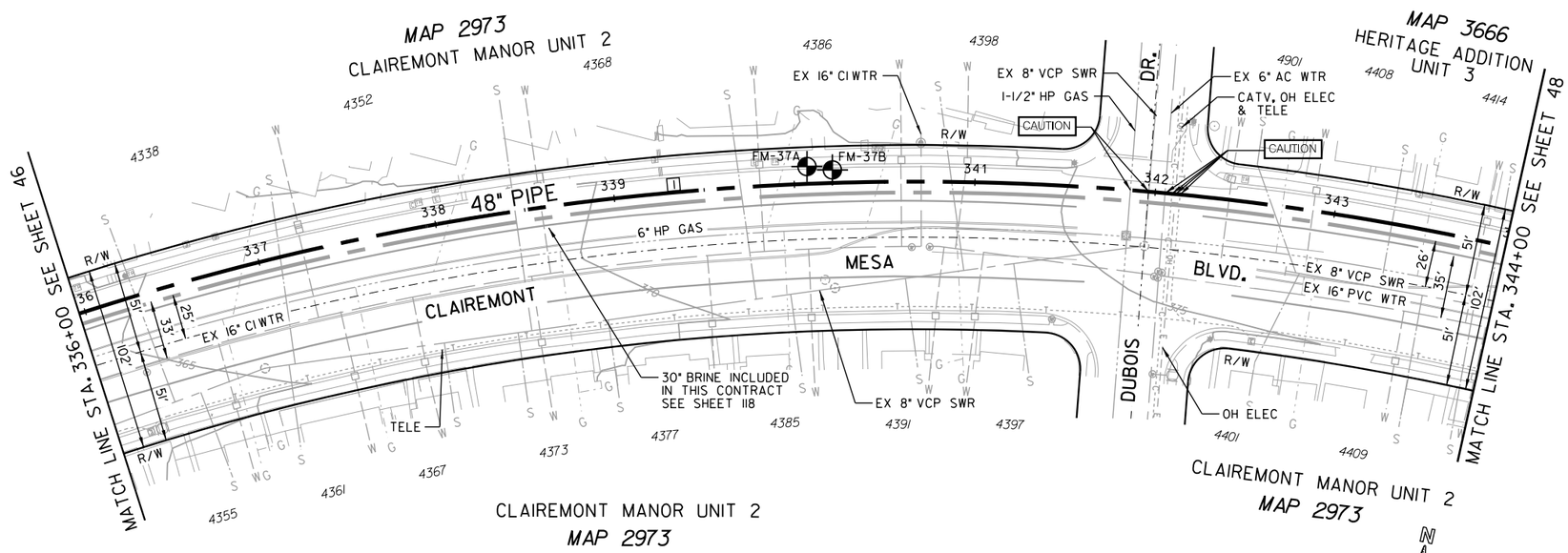



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

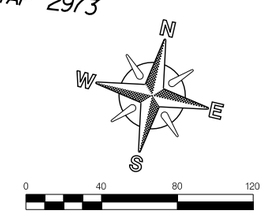
REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 10552-L, 10553-L, 10557-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15787-19190,15797-119185 |
| ELECTRIC: | 15795-119190 |
| CABLE TV: | BLE1970 |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 10551-L, 10552-L, 10553-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 48° 57'57" | 1505' | 800' | 48" WSP (CML&TC) |

| CAUTION |
|---|
| 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |




C-43

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 336+00 TO 344+00 CLAIREMONT MESA BLVD.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 47 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

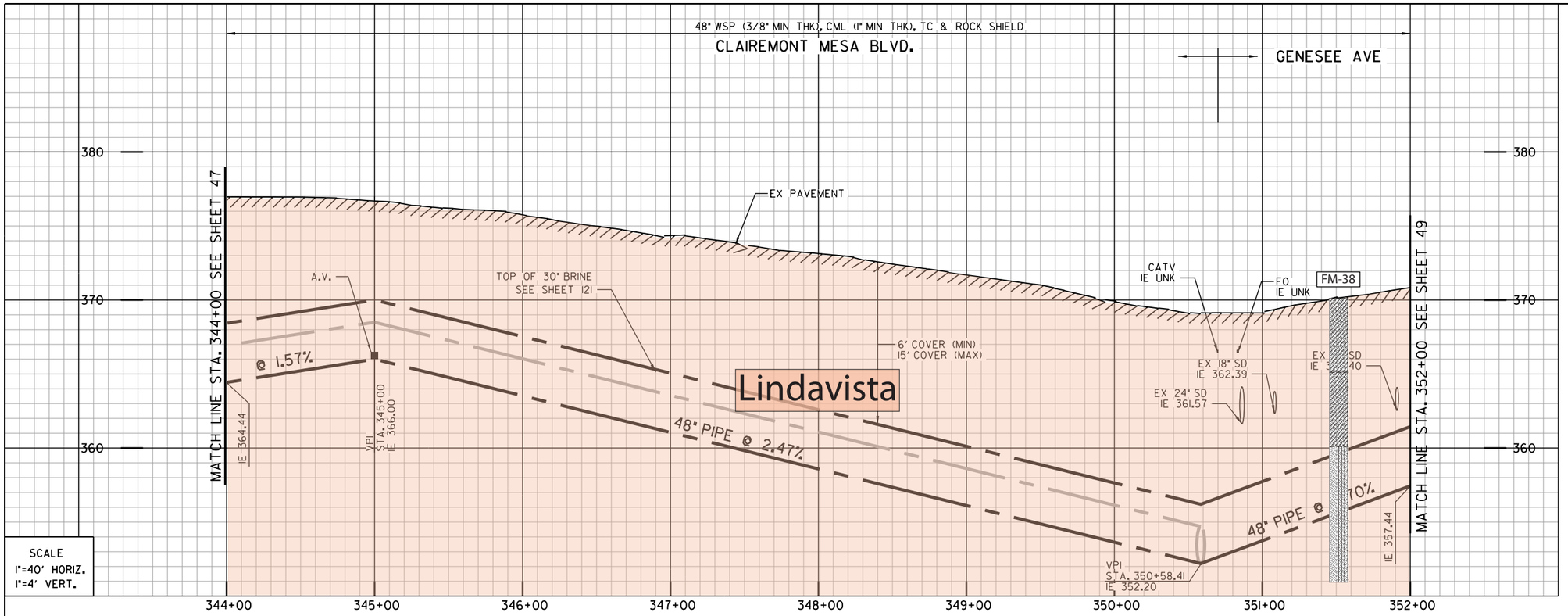
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-47-D

CLAIREMONT MESA BOULEVARD

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 345+00
1-6" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

2 102
BY CONTRACTOR
FURNISH AND INSTALL
STA. 350+58.14
1- 45° HPI BEND

3 103
BY CONTRACTOR
FURNISH AND INSTALL
STA. 350+99.60
1- 45° HPI BEND

4
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MAIN

5
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 10557-L, 10558-L |
| STORM DRAIN: | 4426-D, 10558-L |
| GAS: | 15787-119190 |
| ELECTRIC: | 15802-119190 |
| CABLE TV: | NO. 238-1707A, BLE1970 |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 10558-L |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

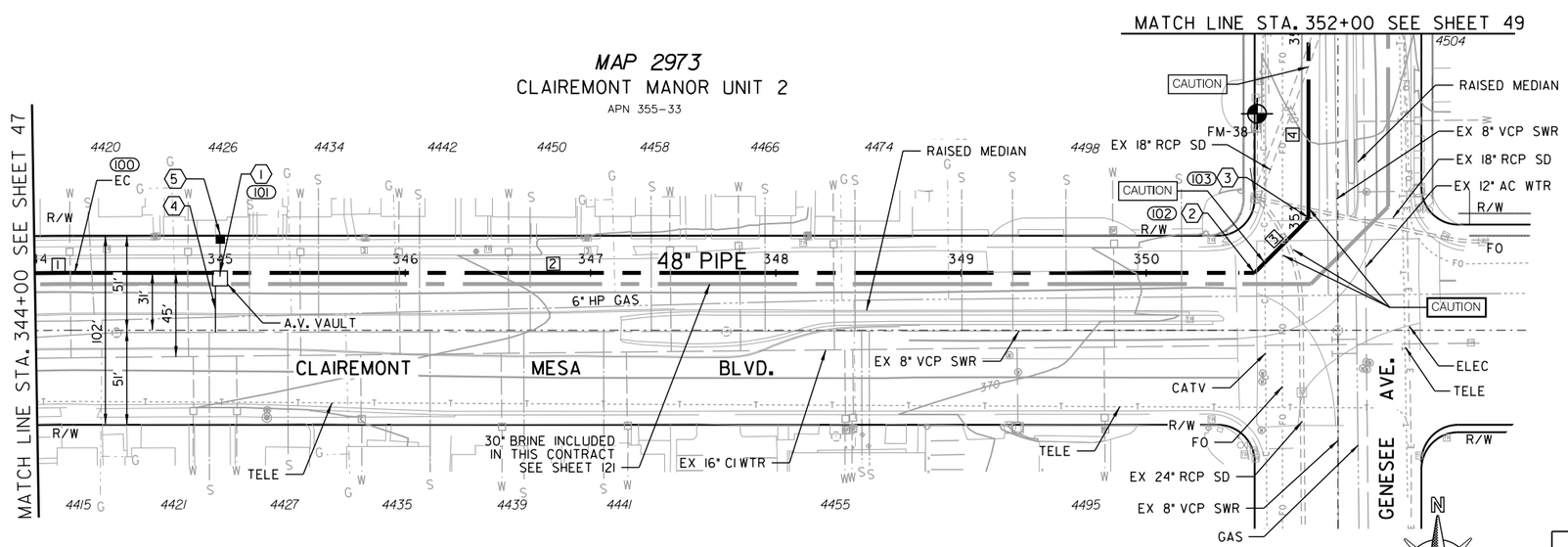
| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1884756.92 | 6270769.71 | EC |
| 101 | 1884756.15 | 6270848.14 | A.V. |
| 102 | 1884750.64 | 6271406.53 | HPI BEND |
| 103 | 1884779.47 | 6271435.94 | HPI BEND |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 48° 57'57" | 1505' | 21.56' | 48" WSP (CML&TC) |
| 2 | S89° 26'05" E | | 626.85' | 48" WSP (CML&TC) |
| 3 | N45° 33'55" E | | 41.19' | 48" WSP (CML&TC) |
| 4 | N 0° 33'55" E | | 100.40' | 48" WSP (CML&TC) |

CLAIREMONT MESA BLVD./GENESS AVE.

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)




CLAIREMONT MANOR UNIT 2
MAP 2973

CLAIREMONT GENESEE
PLAZA UNIT 2
MAP 6094

CAUTION

6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

0 40 80 120
SCALE 1"=40'

C-44

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 344+00 CLAIREMONT MESA BLVD. TO STA. 352+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 48 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

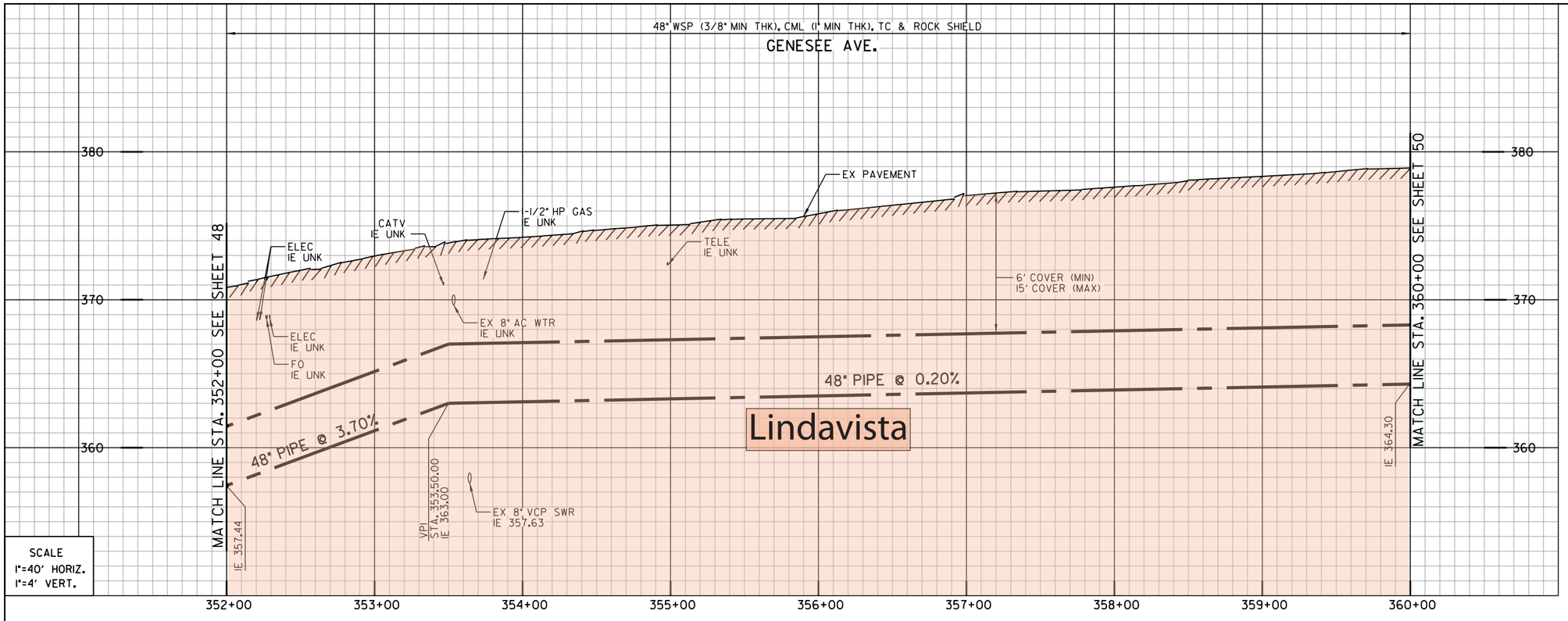
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-48-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM44.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

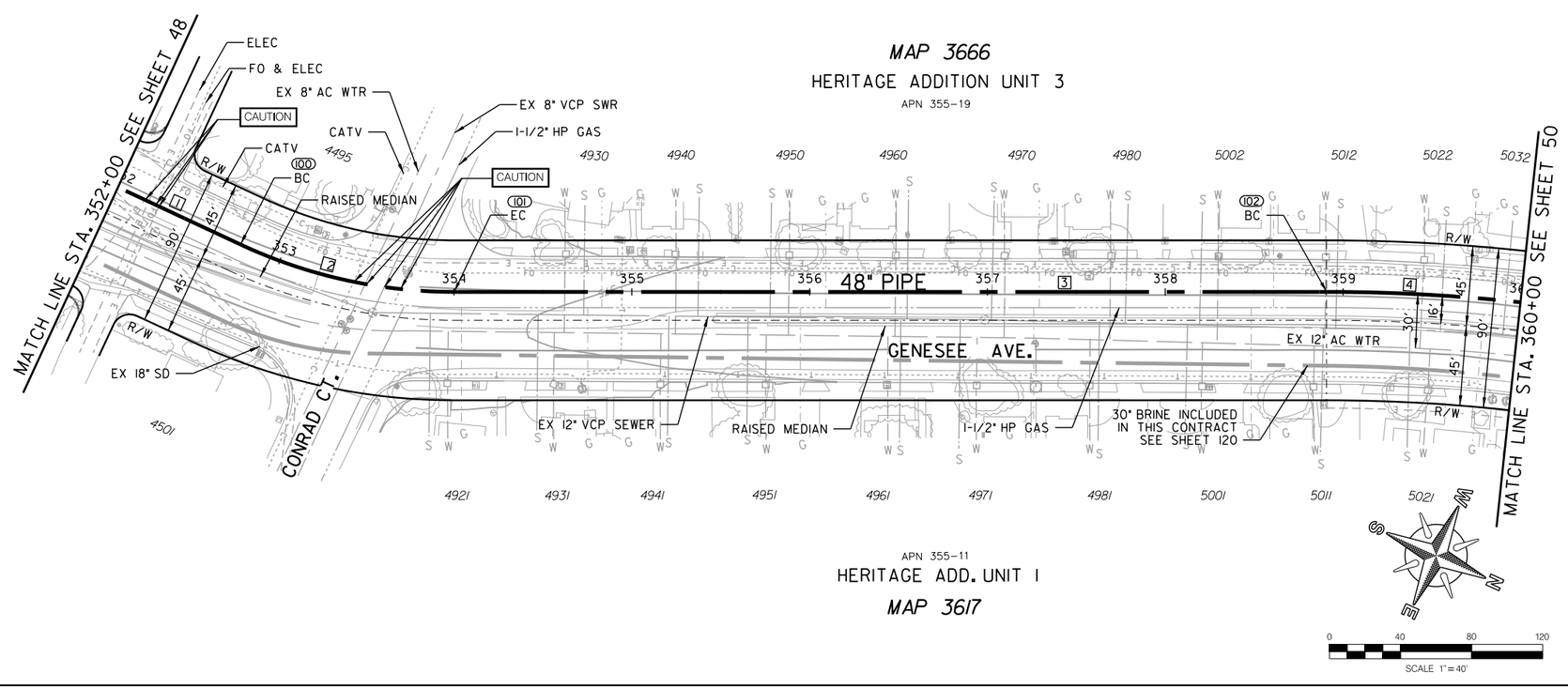



SCALE
1"=40' HORIZ.
1"=4' VERT.

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 4681-D |
| SEWER: | 4426-D, 4428-D, 4680-D, 4681-D |
| STORM DRAIN: | 4426-L |
| GAS: | 15802-11910, 15802-119195 |
| ELECTRIC: | 15802-19040 |
| CABLE TV: | NO INFO |
| TELEPHONE: | PB0812CC |
| IMPROVEMENTS: | 4426-D, 4428-D, 4682-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1884955.90 | 6271437.68 | BC |
| 101 | 1885076.29 | 6271412.21 | EC |
| 102 | 1885522.94 | 6271209.05 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N 0° 33'55" E | | 76.07' | 48" WSP (CML&TC) |
| 2 | 25° 01'28" | 284' | 124.04' | 48" WSP (CML&TC) |
| 3 | N24° 27'33" W | | 490.68' | 48" WSP (CML&TC) |
| 4 | 8° 01'40 | 1016' | 109.24' | 48" WSP (CML&TC) |

GENESEE AVE.

C-45

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 352+00 TO STA. 360+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 49 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

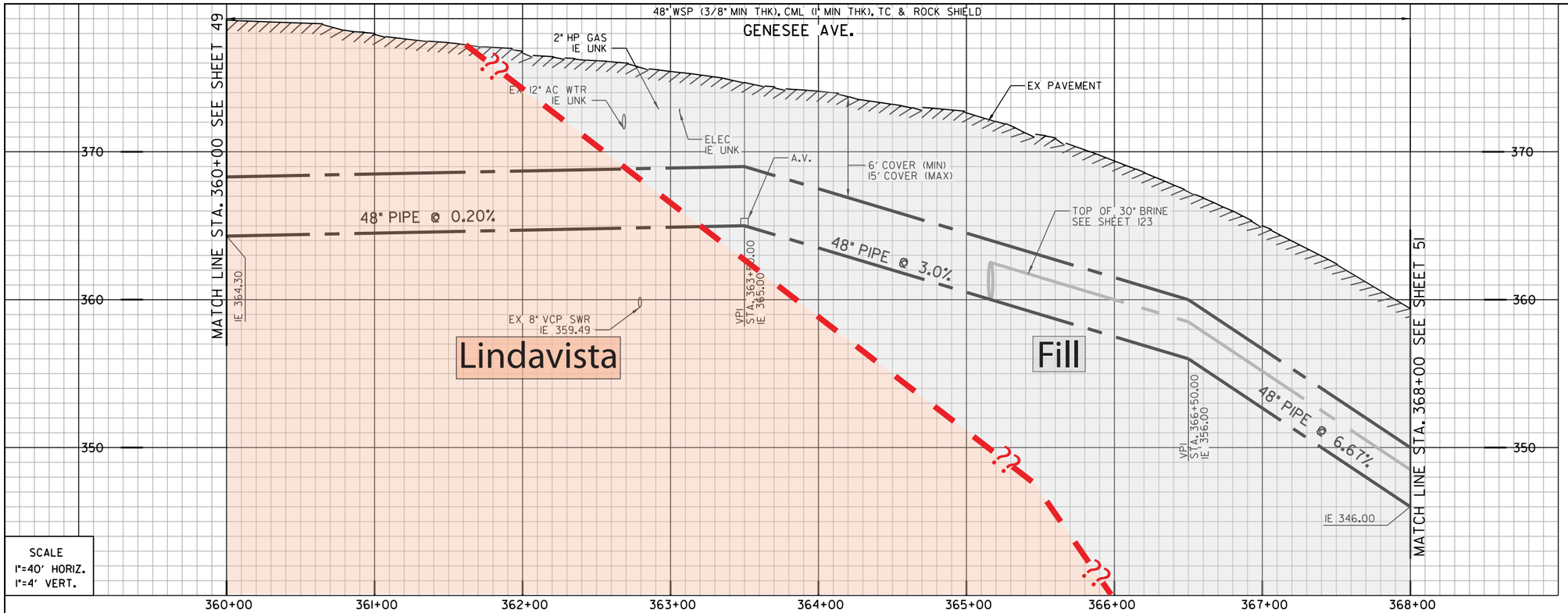
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-49-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM45.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




1 (102)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 364+64.05
1 - 45° HPI BEND

2 (103)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 365+16.38
1 - 45° HPI BEND
BEGIN JOINT TRENCH
SEE SECTION DETAIL

3 (104)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 363+50.00
1-3" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

4
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

5
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 4428-D, 4680-D |
| STORM DRAIN: | NO INFO |
| GAS: | NO INFO |
| ELECTRIC: | 15795-119200, 15802-119195 |
| CABLE TV: | 15795-119200, 15802-119195 |
| TELEPHONE: | PB06126D, PB08126C |
| IMPROVEMENTS: | 4428-D, 4680-D, 4682-D, 5100-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

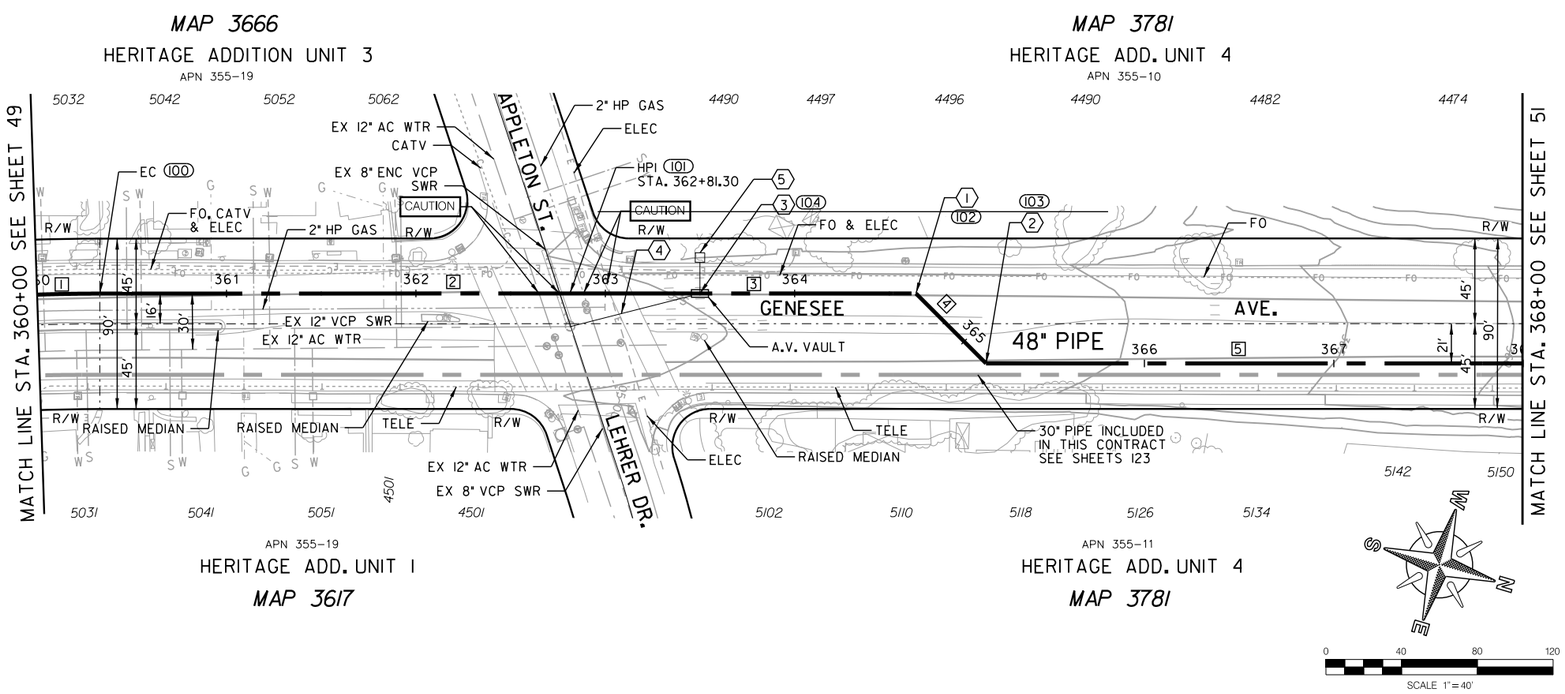
COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1885656.22 | 6271159.36 | EC |
| 101 | 1885894.27 | 6271089.16 | HPI |
| 102 | 1886069.58 | 6271037.53 | HPI BEND |
| 103 | 1886115.53 | 6271062.57 | HPI BEND |
| 104 | 1885960.27 | 6271070.05 | A.V. |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 8° 01'40 | 1016' | 33.11' | 48" WSP (CML&TC) |
| 2 | N16° 25'53" W | | 248.19' | 48" WSP (CML&TC) |
| 3 | N16° 24'33" W | | 182.75' | 48" WSP (CML&TC) |
| 4 | N28° 35'27" E | | 52.33' | 48" WSP (CML&TC) |
| 5 | N16° 24'33" W | | 283.62' | 48" WSP (CML&TC) |

GENESEE AVE.




C-46

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 360+00 TO STA. 368+00 AT GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 50 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
PRINT NAME
DATE
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

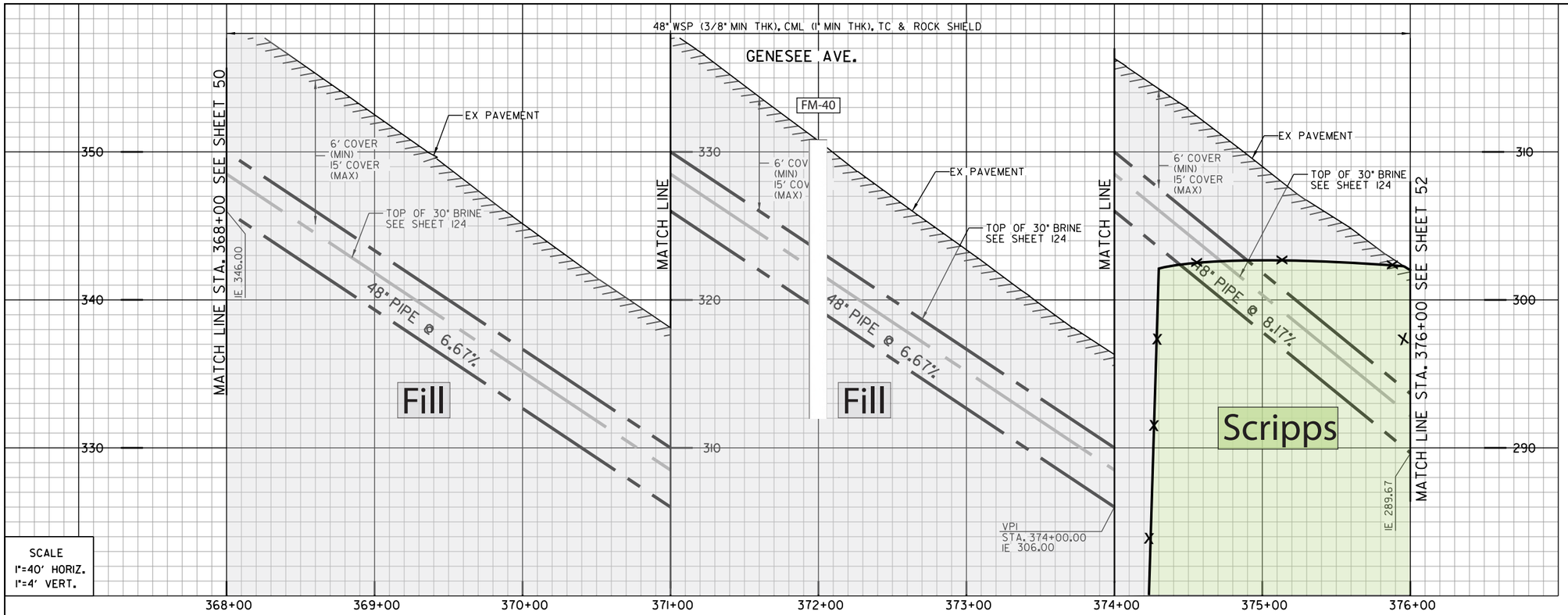
40067-50-D

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

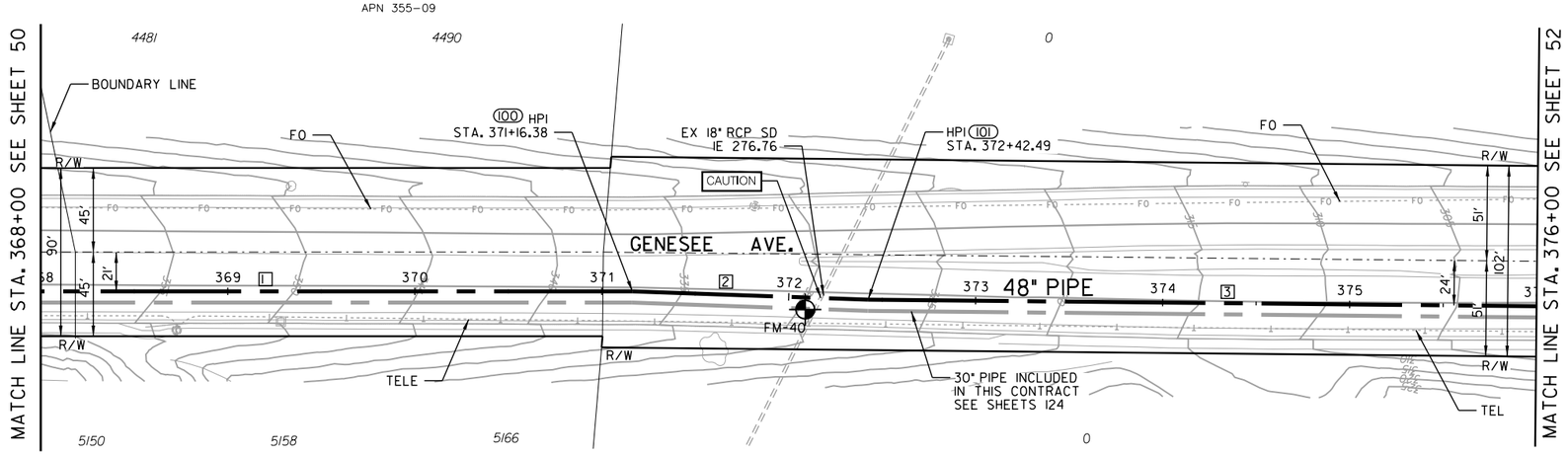
60% SUBMITTAL




Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | NO INFO |
| STORM DRAIN: | 11832-2-D |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | PB06612BB, PB06612BD |
| IMPROVEMENTS: | 11832-2-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1886691.09 | 6270893.07 | HPI |
| 101 | 1886813.24 | 6270861.69 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N16° 24'33" W | | 316.38' | 48" WSP (CML&TC) |
| 2 | N14° 24'33" W | | 126.12' | 48" WSP (CML&TC) |
| 3 | N15° 50'32" W | | 357.51 | 48" WSP (CML&TC) |

GENESEE AVE.

C-47

MORENA PUMP STATION AND CONVEYANCE SYSTEM
SEWER FORCEMAIN
STA. 368+00 TO STA. 376+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 51 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

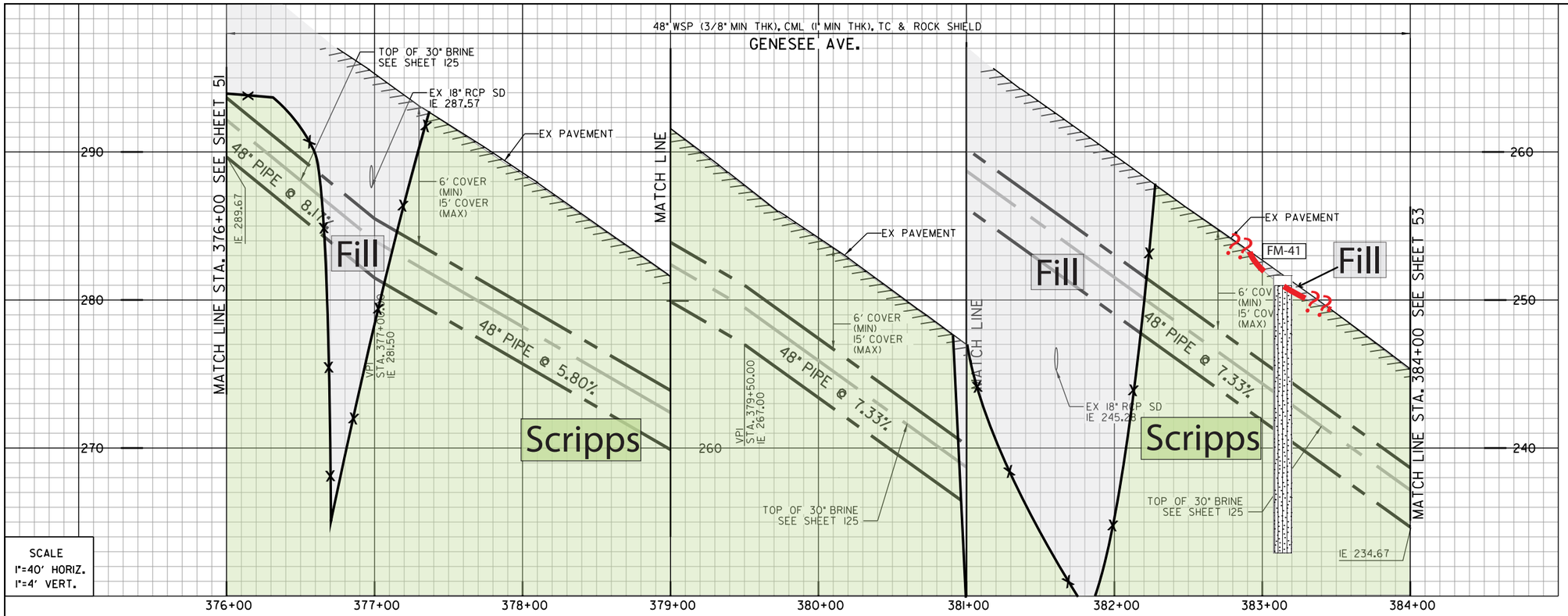
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

DESIGNED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-51-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL

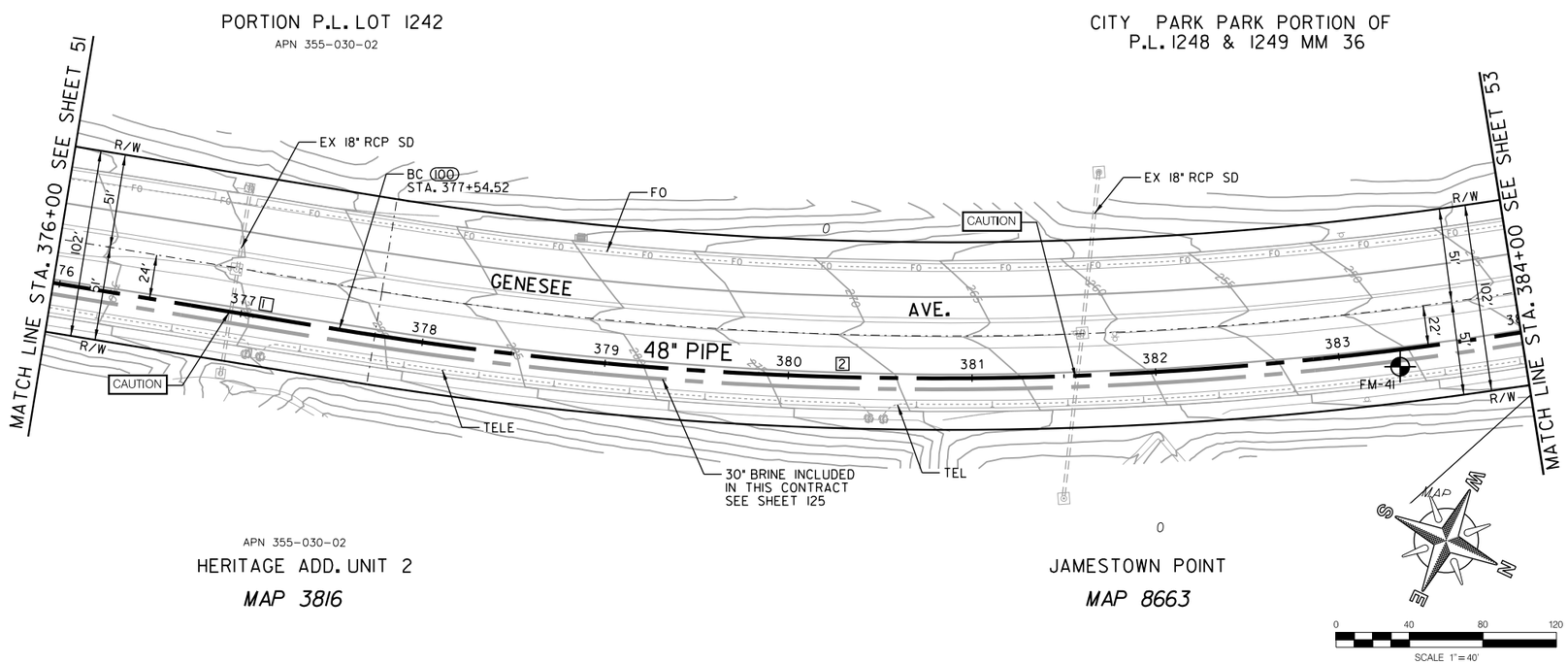
\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM47.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

## REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | NO INFO |
| STORM DRAIN: | 11832-7-D, 11862-2-D, 11862-3-D |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | PB06141DC, PB06141DD |
| IMPROVEMENTS: | 11862-2-D, 11862-3-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| (100) | 1887305.50 | 6270722.00 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N15° 50'32" W | | 154.19' | 48" WSP (CML&TC) |
| 2 | 27° 14'56" | 2024' | 645.81' | 48" WSP (CML&TC) |

GENESEE AVE.

C-48

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 376+00 TO STA. 384+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 52 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

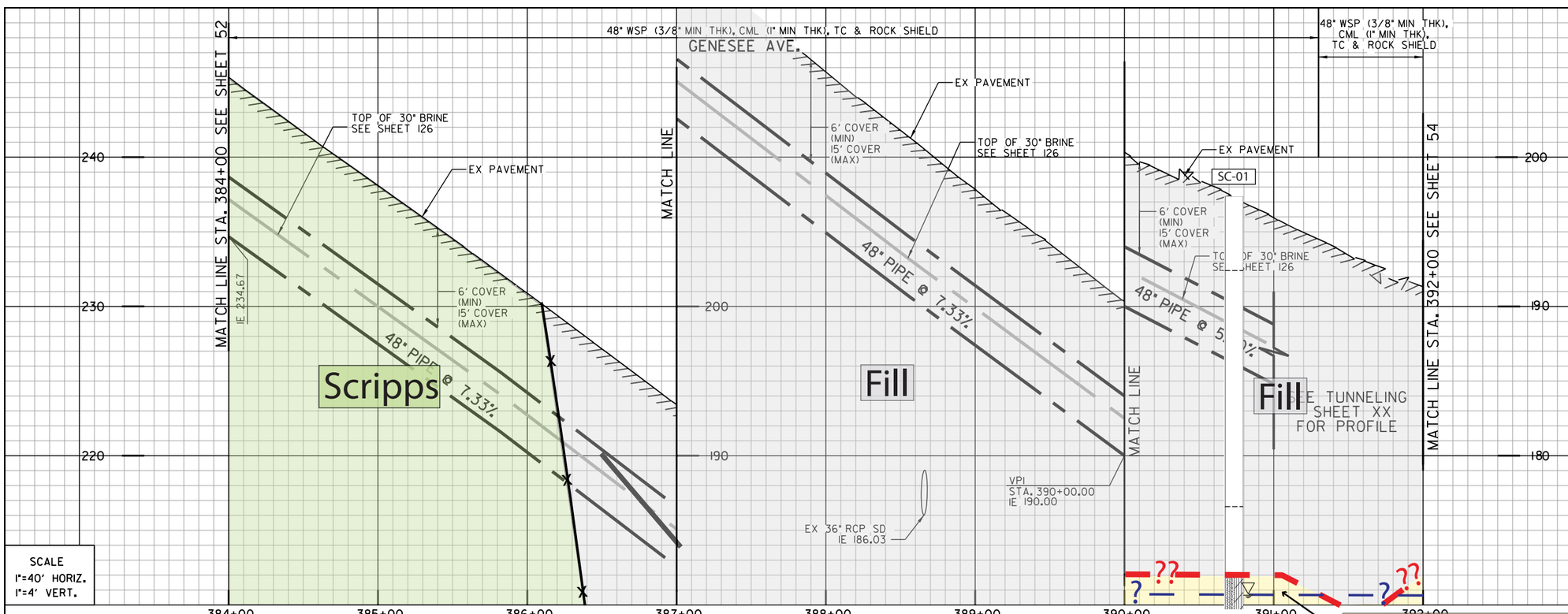
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-52-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM48.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 101 DUAL TRENCH TUNNEL LAUNCH PIT
STA. 390+16.67
1-45° HPI BEND

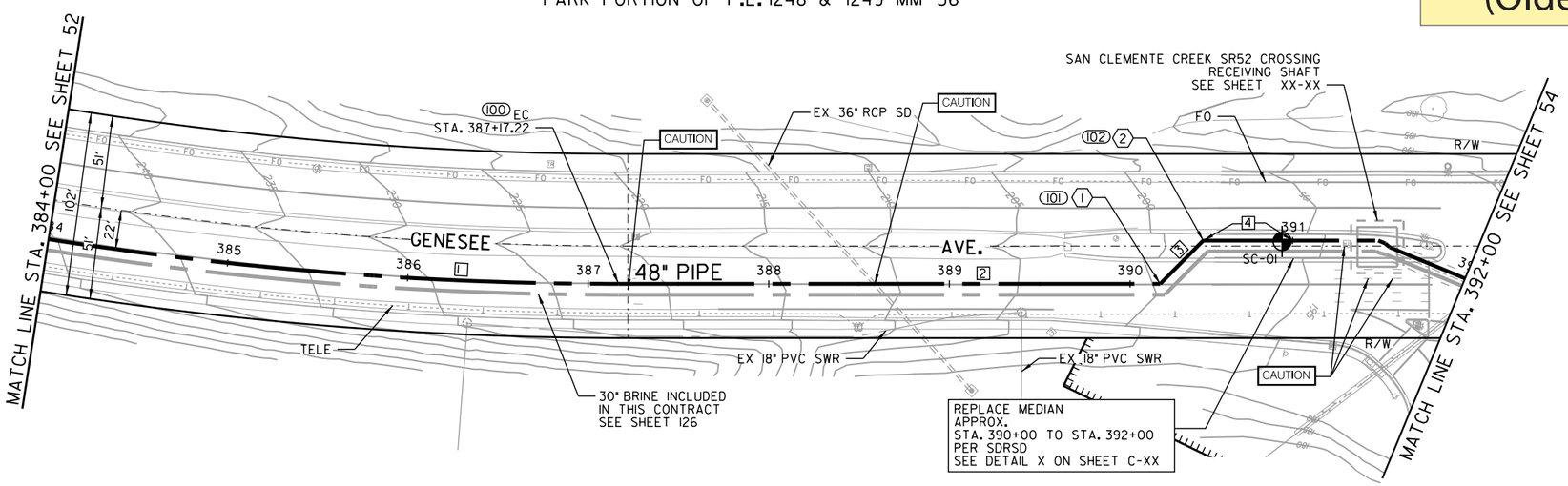
2 102 BY CONTRACTOR FURNISH AND INSTALL
STA. 390+50.51
1-45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 14156-D |
| STORM DRAIN: | 11832-3-D, 11832-7-D |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0613D |
| IMPROVEMENTS: | 11832-3-D |
| 100' SCALE/FIELD BOOK: | |
| OTHER REFS.: | |

PARK PORTION OF P.L. 1248 & 1249 MM 36




PORTION PUEBLO LOT 124 MM 36

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1888135.69 | 6270252.94 | EC |
| 101 | 1888354.70 | 6270048.06 | HPI BEND |
| 102 | 1888355.72 | 6270014.24 | HPI BEND |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 27° 14'56" | 2024' | 316.77' | 48" WSP (CML&TC) |
| 2 | N43° 05'28" W | | 299.90' | 48" WSP (CML&TC) |
| 3 | N88° 15'46" W | | 33.84' | 48" WSP (CML&TC) |
| 4 | N43° 05'28" W | | 49.49' | 48" WSP (CML&TC) |

GENESEE AVE.

C-49

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 384+00 TO STA. 392+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 53 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

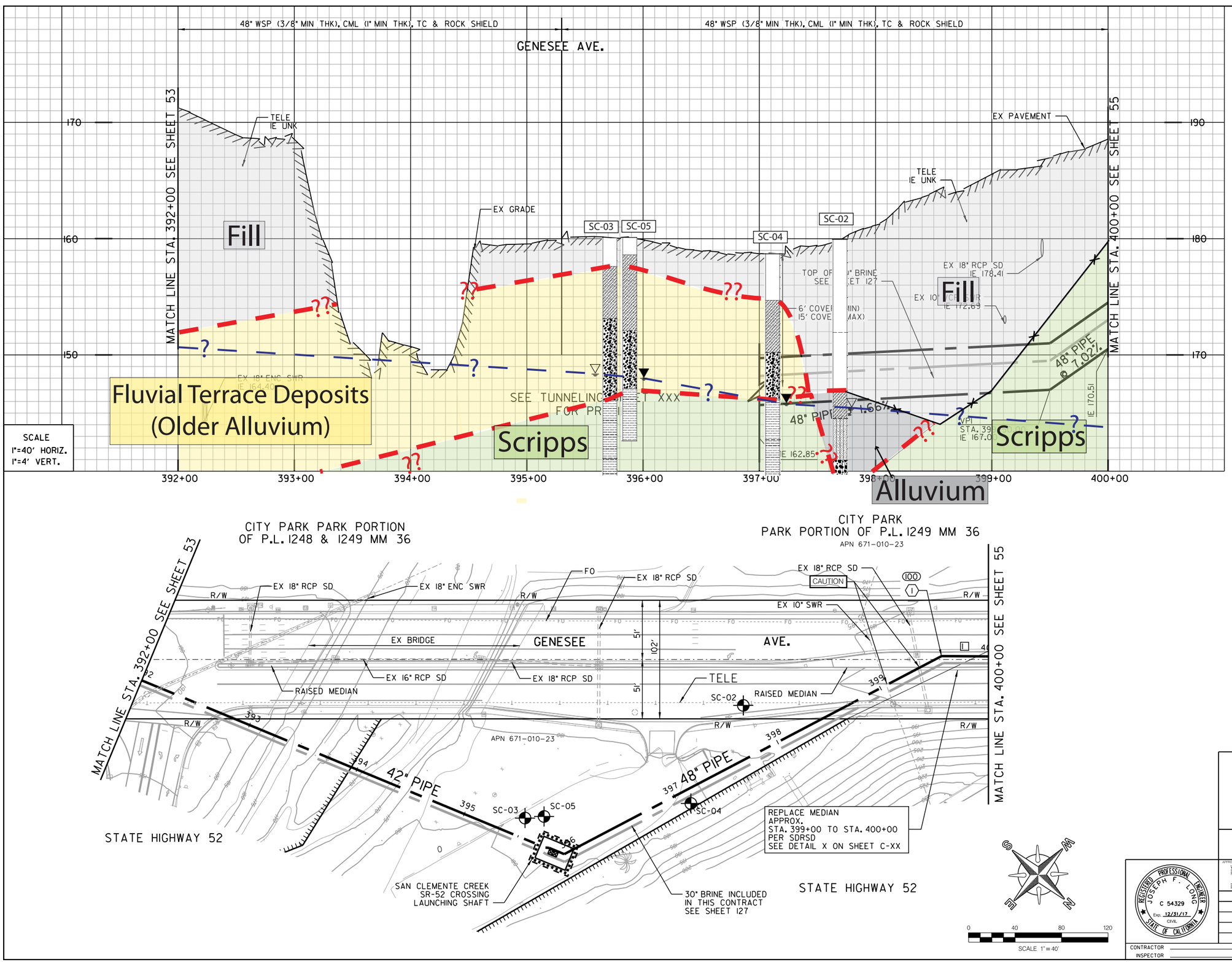
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-53-D

0 40 80 120
SCALE 1"=40'

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM49.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 399+59.26
1- 28° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 13386-4-D, 13386-5-D |
| STORM DRAIN: | 11832-4-D, 11832-8-D |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0613A |
| IMPROVEMENTS: | 11832-4-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1888963.72 | 6269445.45 | HPI BEND |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N42° 46'59" W | | 40.74' | 48" WSP (CML&TC) |

GENESEE AVE.

C-50

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 392+00 TO STA. 400+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 54 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

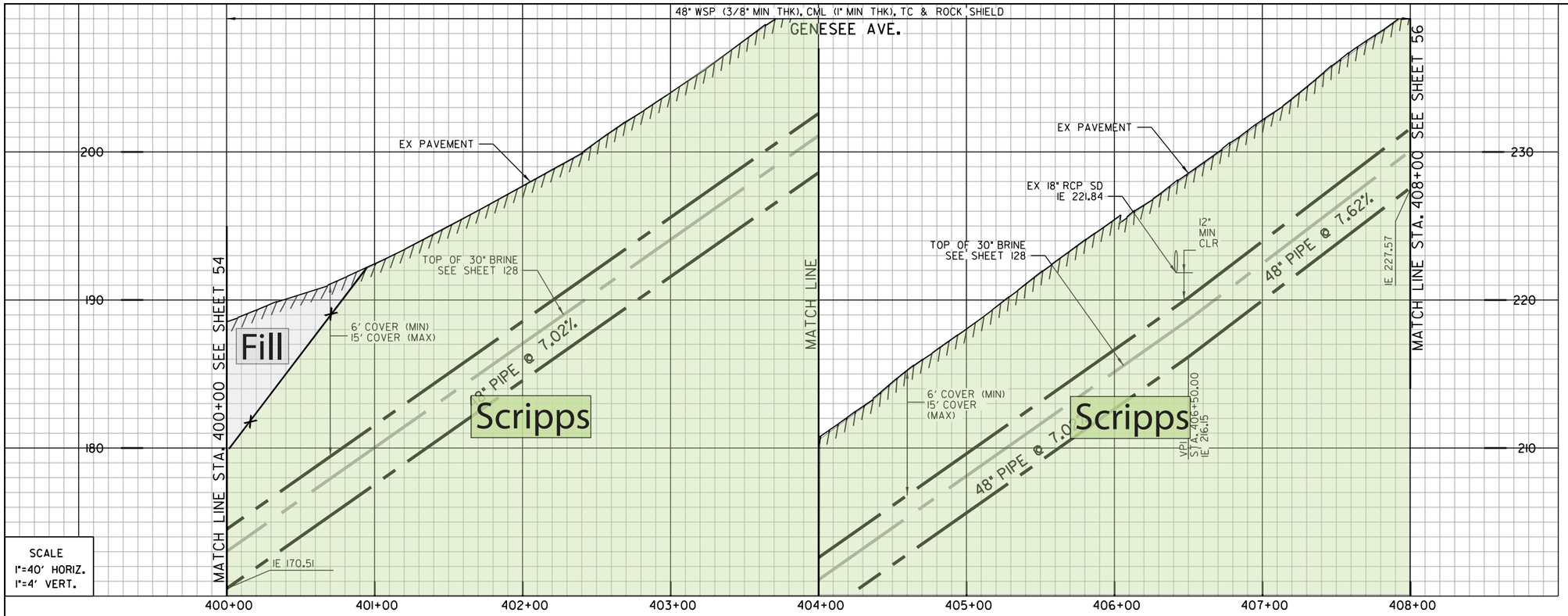
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

DESIGNED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-54-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL

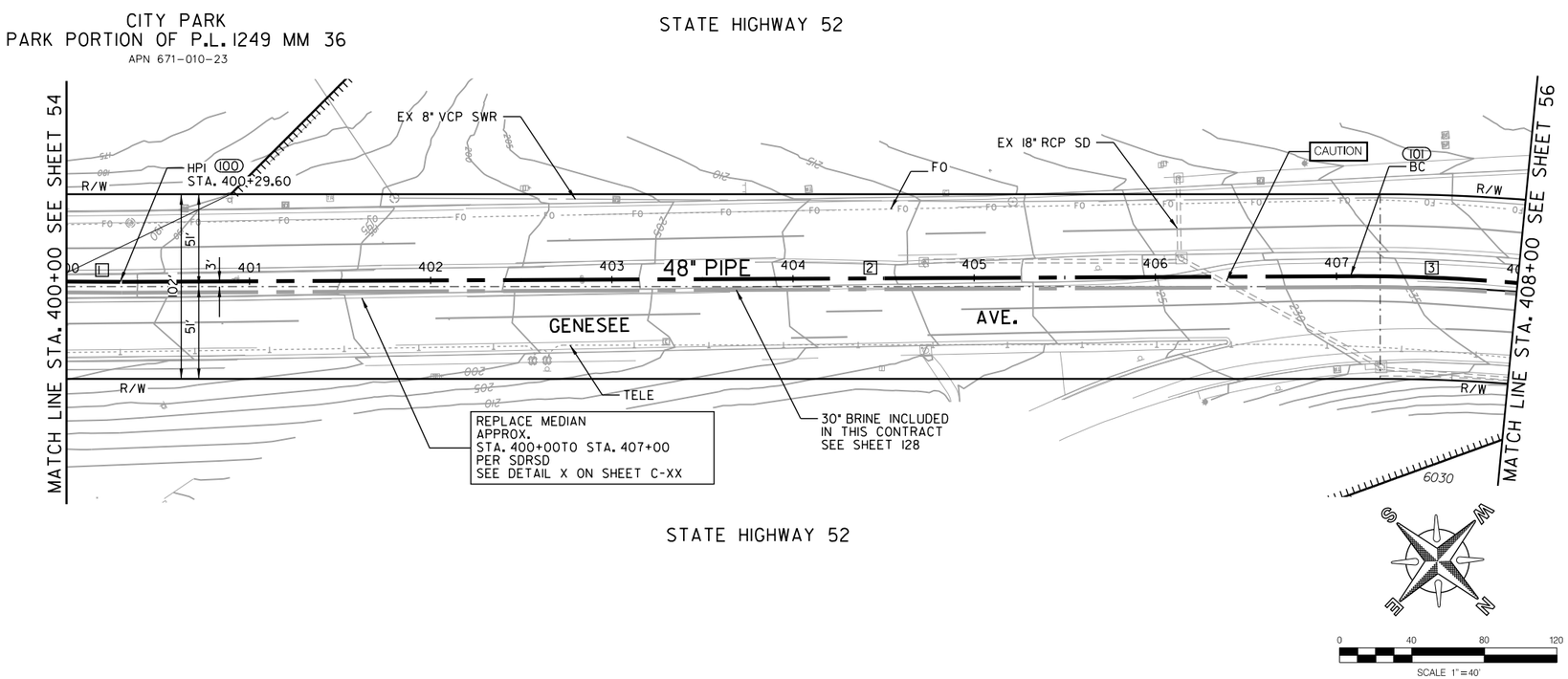



SCALE
1"=40' HORIZ.
1"=4' VERT.

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ??? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | NO INFO |
| STORM DRAIN: | NO INFO |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0613A |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| (100) | 1889015.34 | 6269397.68 | HPI |
| (101) | 1889509.10 | 6268931.47 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N42° 46'59" W | | 29.60' | 48" WSP (CML&TC) |
| 2 | N43° 21'22" W | | 678.13' | 48" WSP (CML&TC) |
| 3 | 49° 03'20" | 1006' | 92.27' | 48" WSP (CML&TC) |

GENESEE AVE.

C-51

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 400+00 TO STA. 408+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 55 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
DATE
PRINT NAME
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

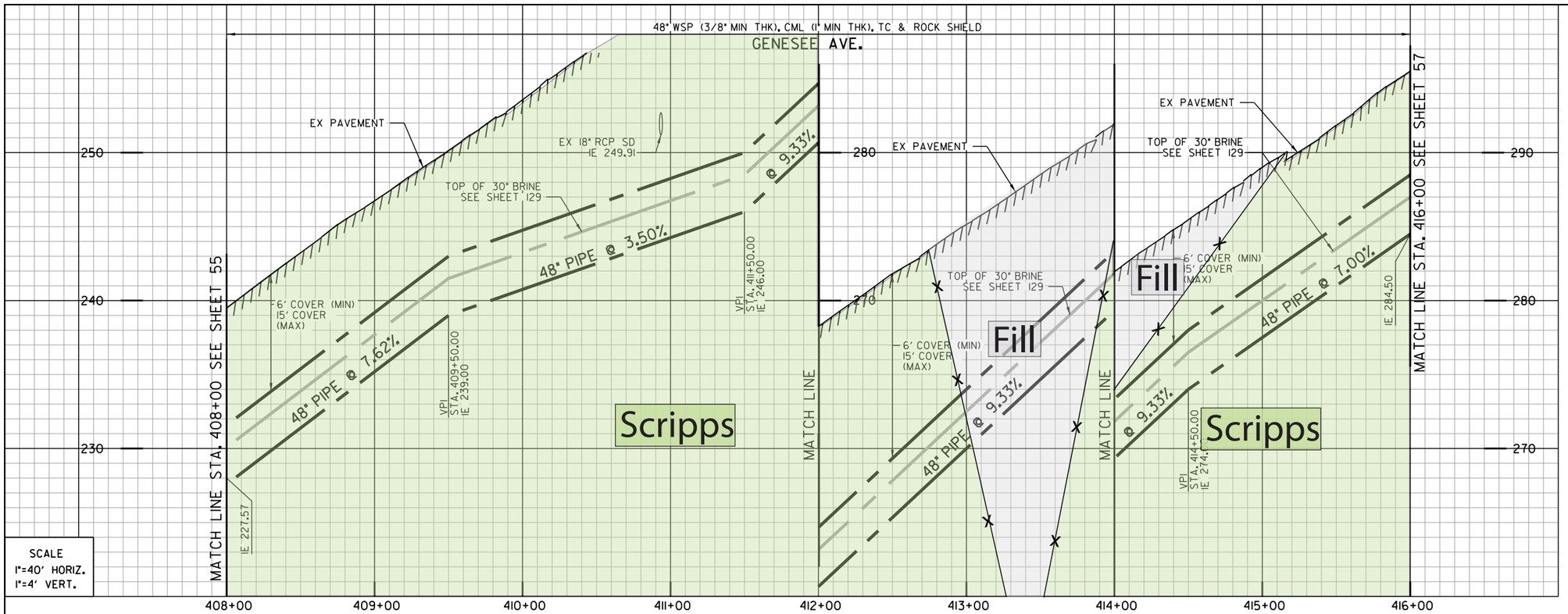
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-55-D

SCALE 1"=40'

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM51.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

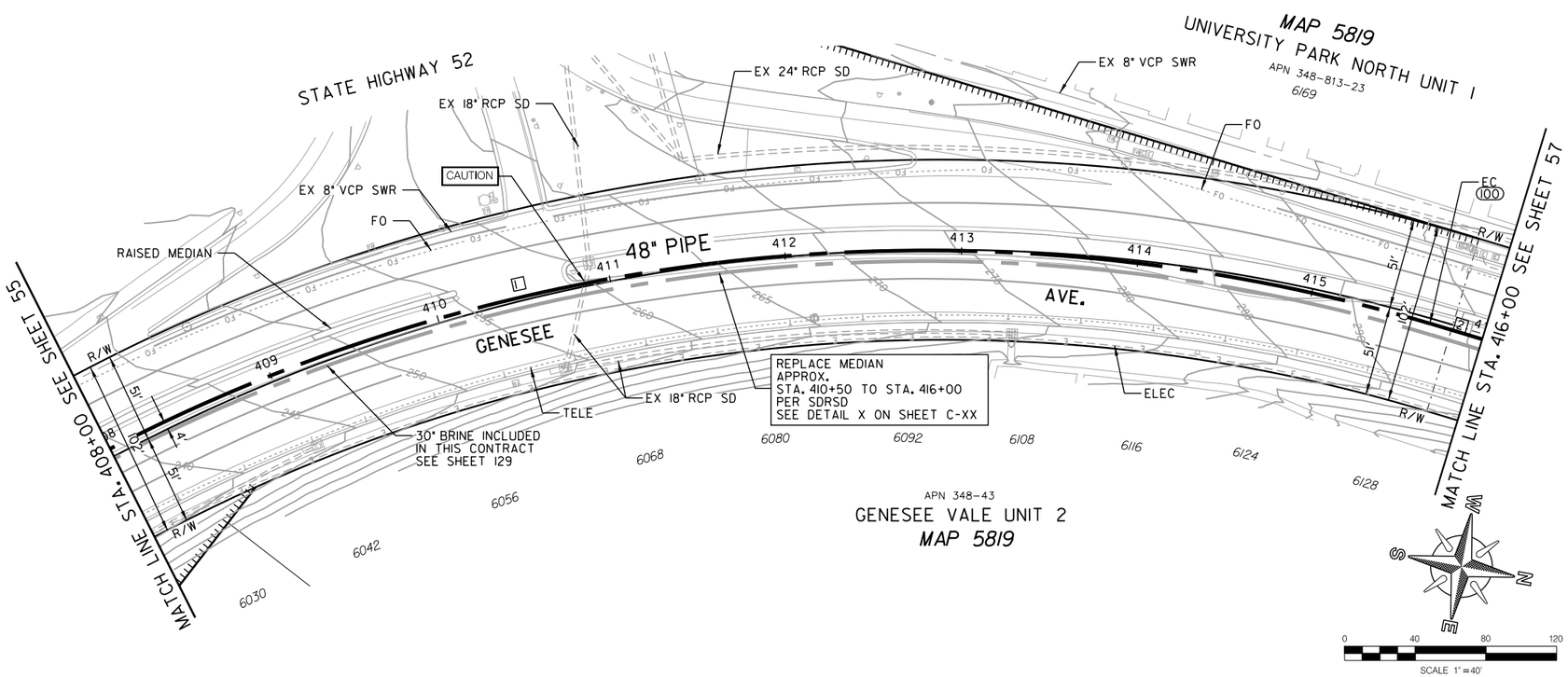



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 12875-10-D |
| STORM DRAIN: | 11832-5-D, 11832-7-D, 12875-9-D |
| GAS: | 15772-119245 |
| ELECTRIC: | 15772-119245 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | RE041IDB |
| 100' SCALE/FIELD BOOK: | NO INFO |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1890299.66 | 626866.90 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 49° 03'20" | 1006' | 769.04' | 48" WSP (CML&TC) |
| 2 | N 6° 00'00" E | | 30.96' | 48" WSP (CML&TC) |

C-52

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 408+00 TO STA. 416+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 56 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

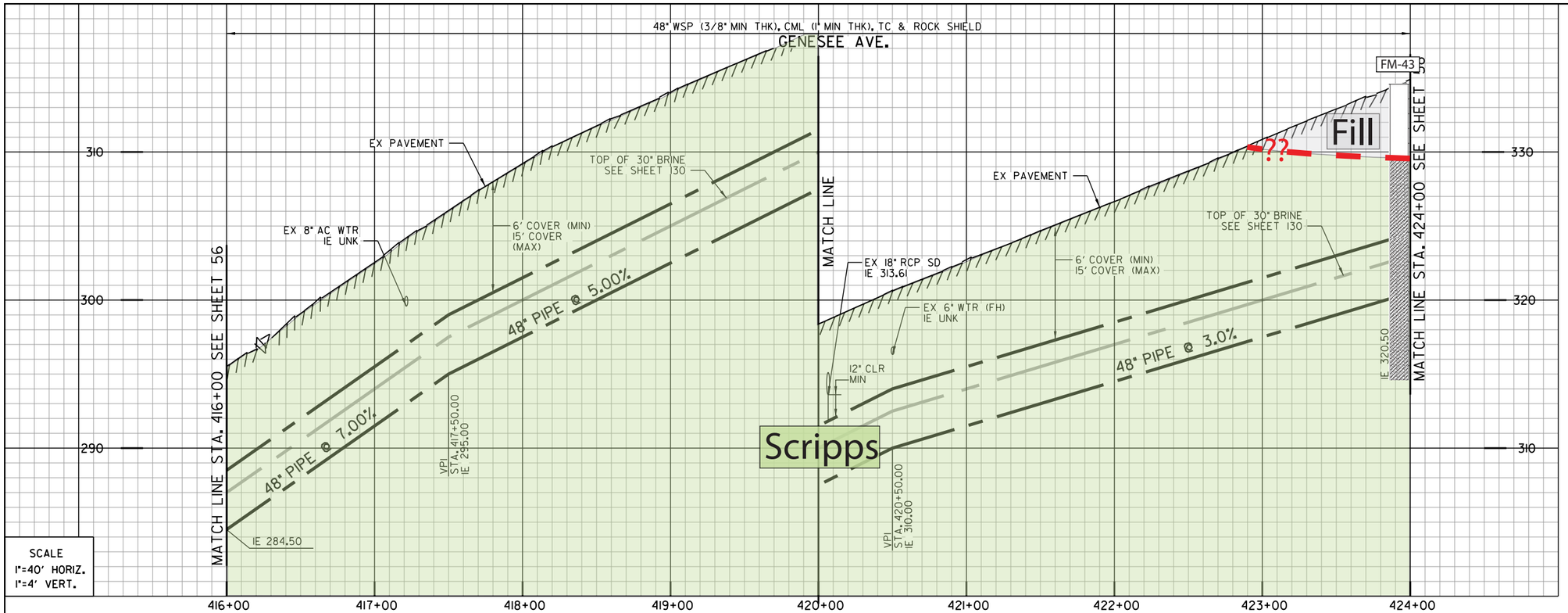
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-56-D

GENESEE AVE.

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM52.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 416+09.04
1 - 45° HPI BEND

2 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 416+41.57
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

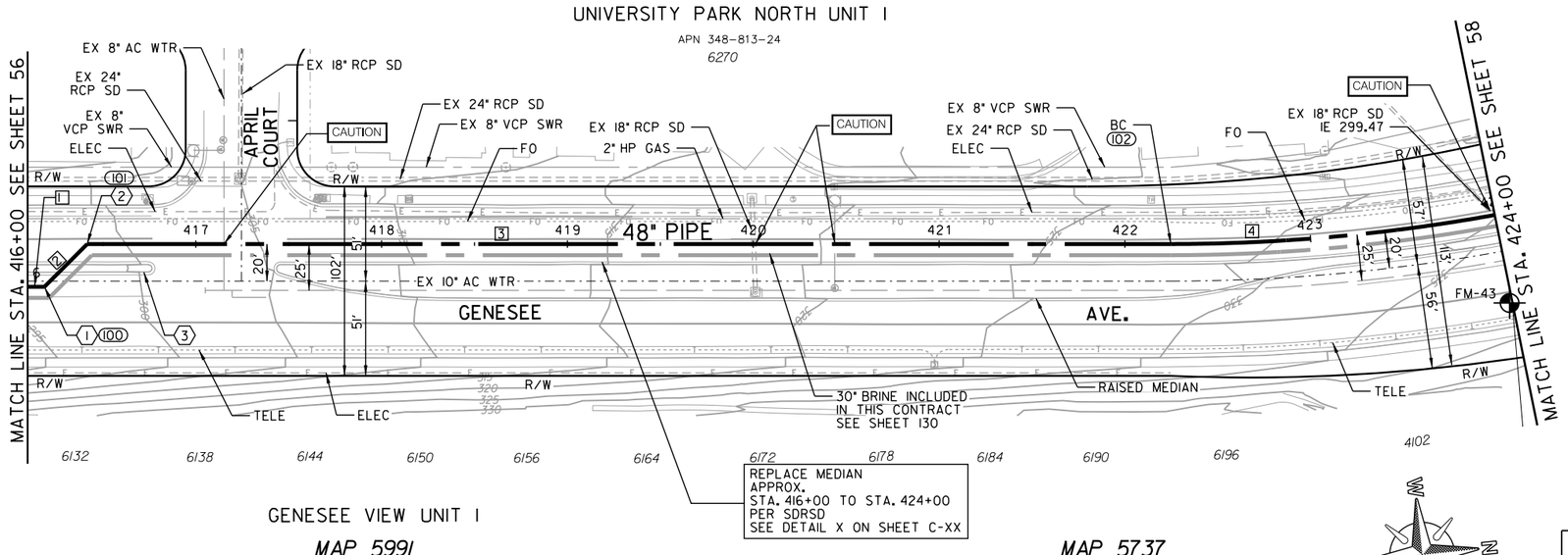
| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 12875-8-D |
| STORM DRAIN: | 11832-5-D, 11832-6-D, 11832-7-D, 12875-8-D |
| GAS: | 15772-119245 |
| ELECTRIC: | 15772-119245 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE04IIDB |
| IMPROVEMENTS: | 11832-5-D, 12875-8-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

MAP 6020

UNIVERSITY PARK NORTH UNIT I

APN 348-813-24

6270

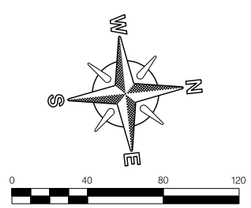



REPLACE MEDIAN
APPROX.
STA. 416+00 TO STA. 424+00
PER SDRSD
SEE DETAIL X ON SHEET C-XX

GENESEE VIEW UNIT I

MAP 5991

MAP 5737




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1890339.44 | 6268666.07 | HPI BEND |
| 101 | 1890364.72 | 6268645.60 | HPI BEND |
| 102 | 1890944.65 | 6268706.55 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N 6° 00'00" E | | 9.04' | 48" WSP (CML&TC) |
| 2 | N39° 00'00" W | | 32.53' | 48" WSP (CML&TC) |
| 3 | N 6° 00'00" E | | 583.13' | 48" WSP (CML&TC) |
| 4 | 19° 29'40" | 980' | 175.30' | 48" WSP (CML&TC) |

GENESEE AVE.

C-53

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 416+00 TO STA. 424+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 57 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
DATE
PRINT NAME
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

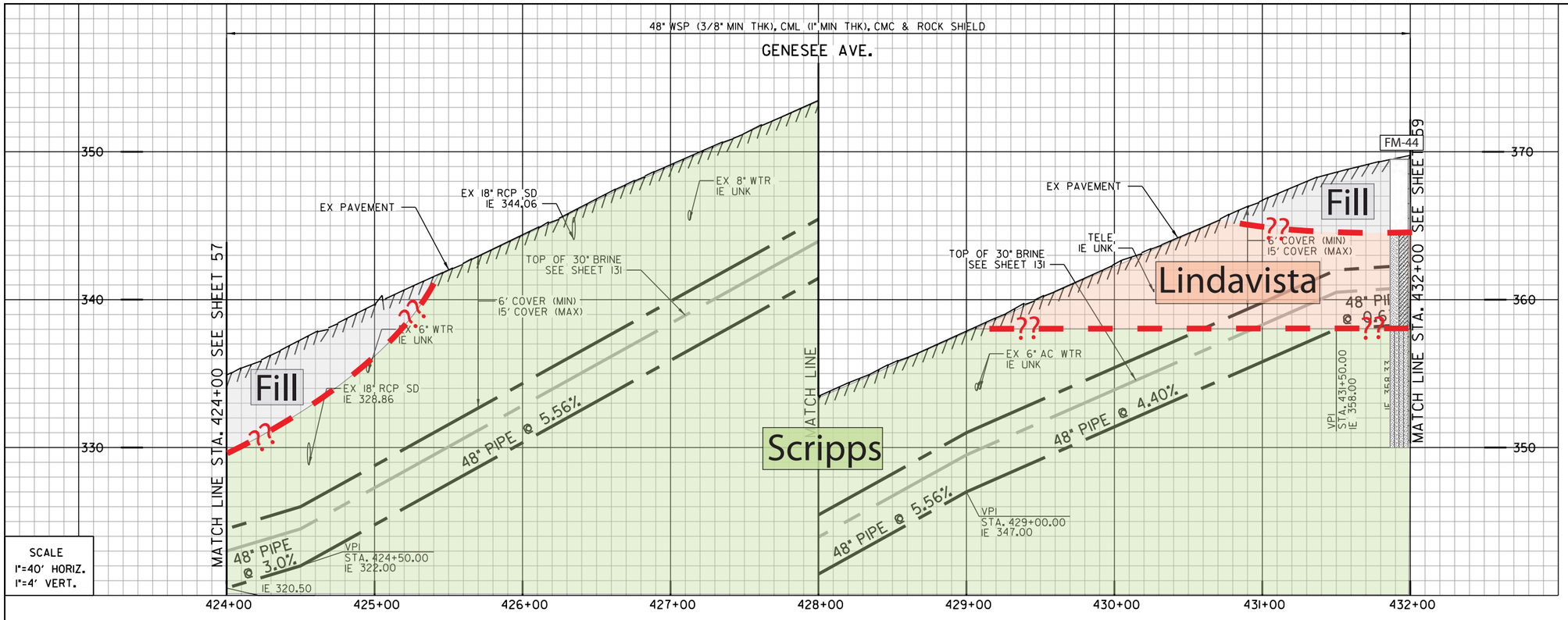
40067-57-D

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

60% SUBMITTAL



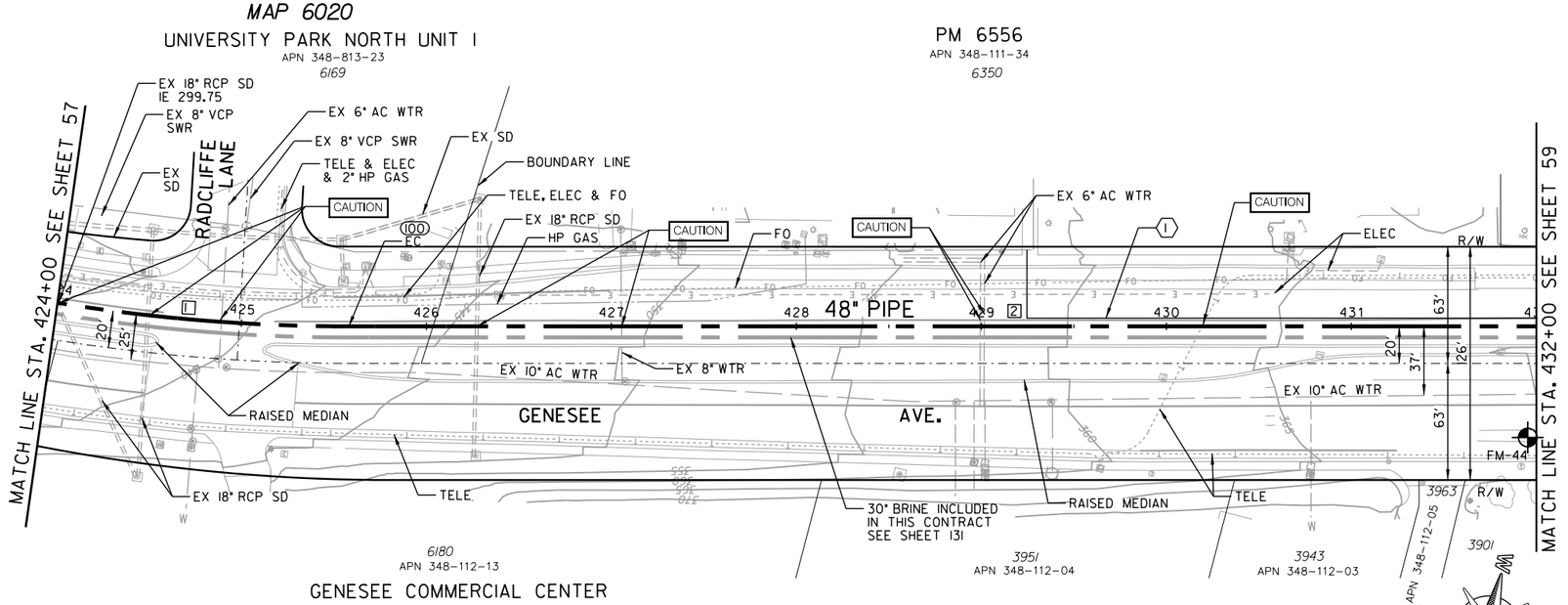

SCALE
1"=40' HORIZ.
1"=4' VERT.

BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MAIN

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 9276-4-D, 11832-9-D, 212202-2-D |
| SEWER: | 9276-4-D |
| STORM DRAIN: | 12875-8-D |
| GAS: | 15772-119255 |
| ELECTRIC: | 15772-119255 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0409BB, RE0409DD |
| IMPROVEMENTS: | 11832-9-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1891275.77 | 6268684.87 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 19° 29'40" | 980' | 158.13' | 48" WSP (CML&TC) |
| 2 | N13° 29'40" W | | 641.87' | 48" WSP (CML&TC) |

C-54

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 424+00 TO STA. 432+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 58 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

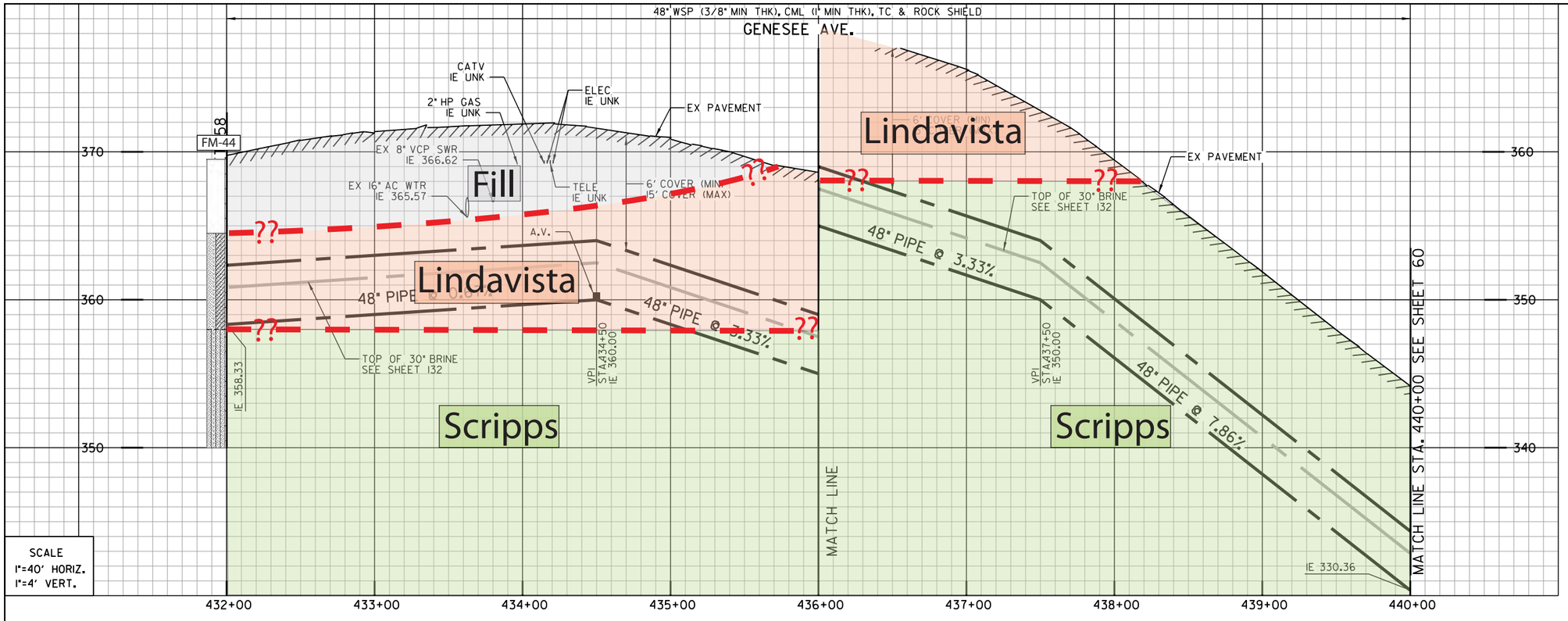
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-58-D

GENESEE AVE.

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM54.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 434+50
1-3" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

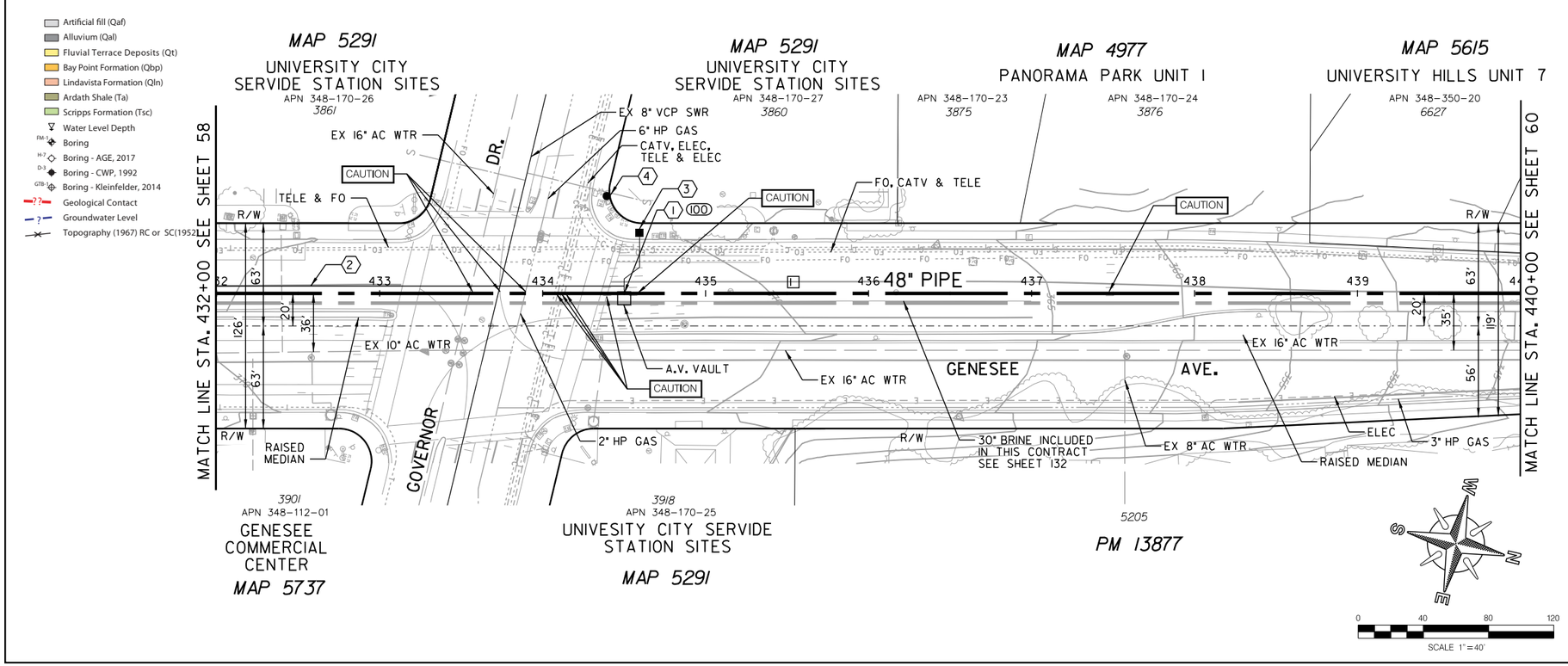
2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MAIN

3
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

4
BY CONTRACTOR
FURNISH AND INSTALL
CATHODIC PROTECTION RECTIFIER

REFERENCE:

| | |
|---|---|
| WATER: | 9276-4-D, 11832-9-D, 212202-2-D |
| SEWER: | 9276-4-D, 212202-2-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15772-119260, 15772-119265, 15772-119270 |
| ELECTRIC: | 15772-119260, 15772-119265, 15772-119270 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0409DD |
| IMPROVEMENTS: | 9276-4-D, 11832-9-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1892143.02 | 6268476.75 | A.V. |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N13° 29'40" W | | 800' | 48" WSP (CML&TC) |

GENESEE AVE.

C-55

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 432+00 TO STA. 440+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 59 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

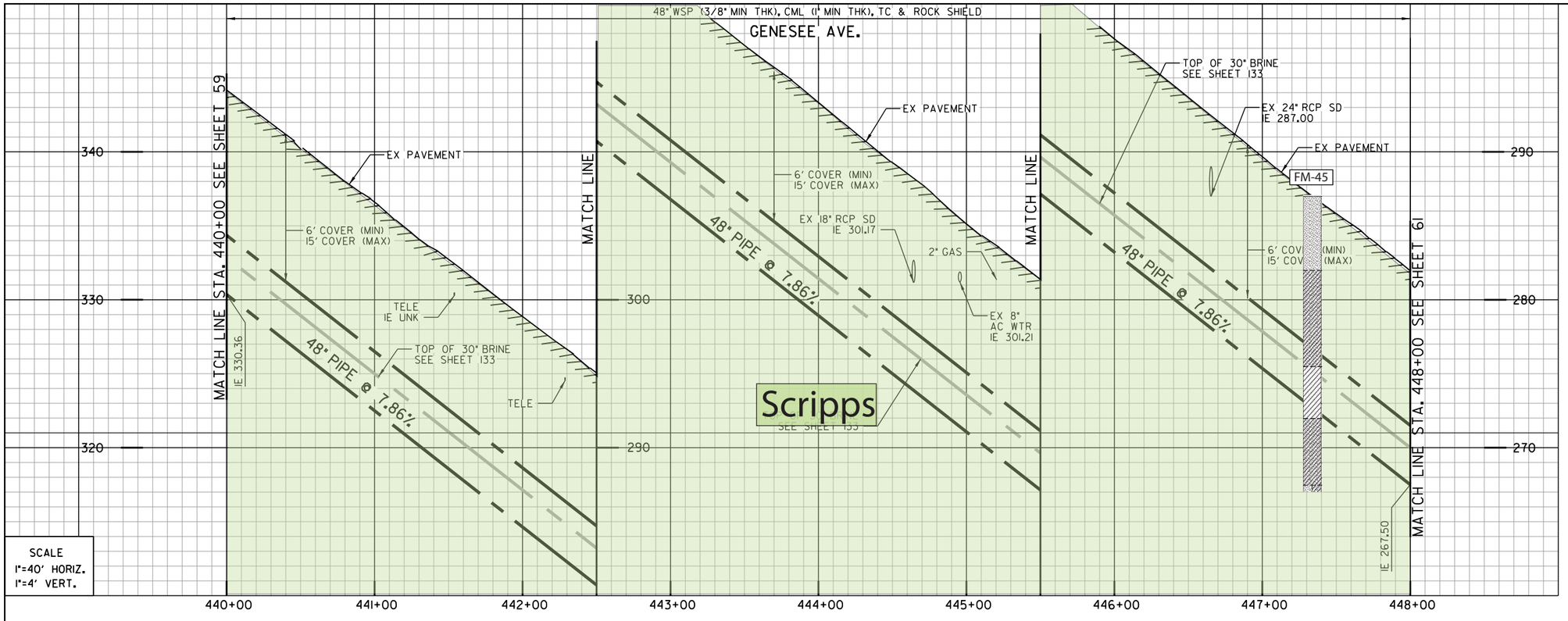
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-59-D

60% SUBMITTAL

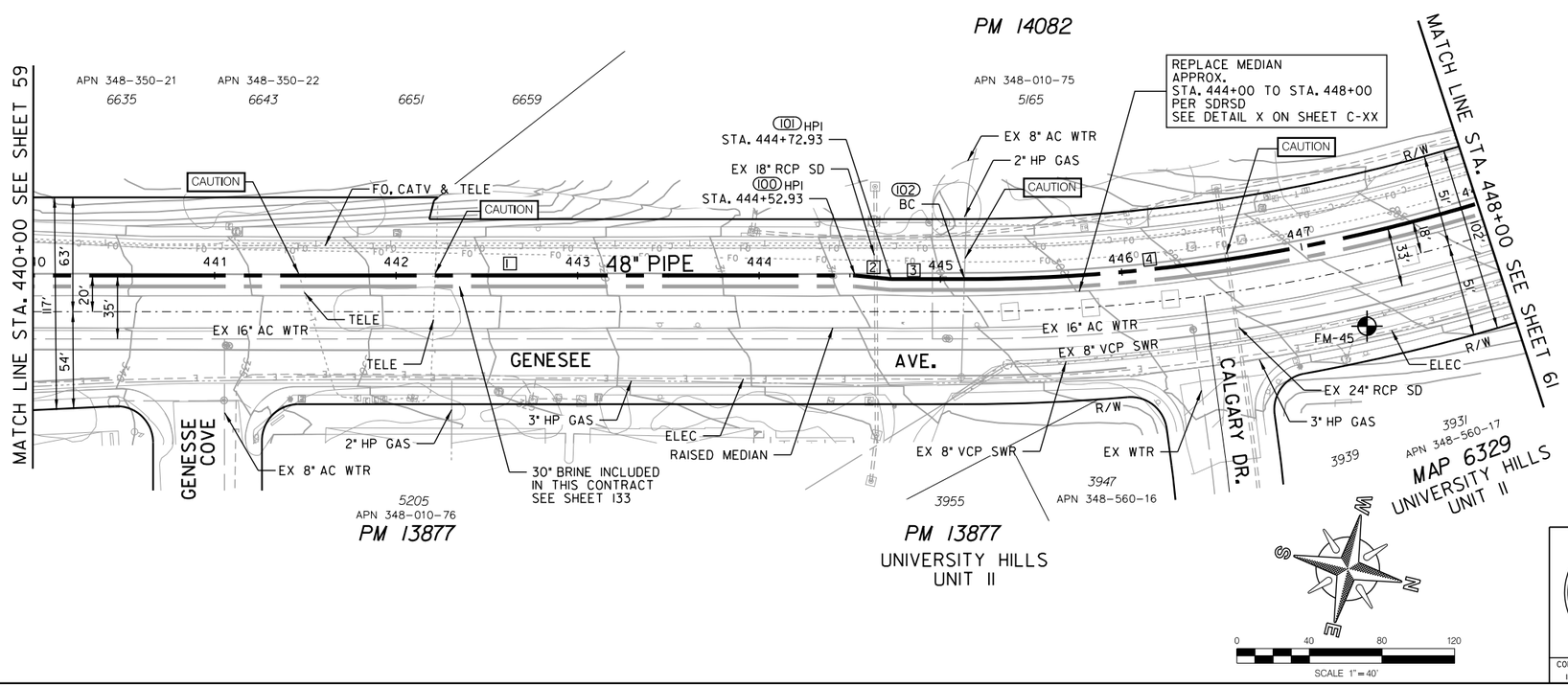
\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM55.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 11897-15-D, 11897-16-D, 21989-4-D |
| SEWER: | 21989-3-D |
| STORM DRAIN: | 11897-3-D, 11897-4-D, 22075-2-D |
| GAS: | 15772-119270, 15772-119275 |
| ELECTRIC: | 15772-119270, 15772-119275 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0409DD |
| IMPROVEMENTS: | 21989-4-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1893118.26 | 6268242.71 | HPI |
| 101 | 1893138.07 | 6268239.97 | HPI |
| 102 | 1893176.96 | 6268230.64 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N13° 29'40" W | | 452.93' | 48" WSP (CML&TC) |
| 2 | N7° 52'42" W | | 20' | 48" WSP (CML&TC) |
| 3 | N13° 29'48" W | | 40' | 48" WSP (CML&TC) |
| 4 | 38° 22'04" | 980' | 287.07' | 48" WSP (CML&TC) |

C-56

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 440+00 TO STA. 448+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 60 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

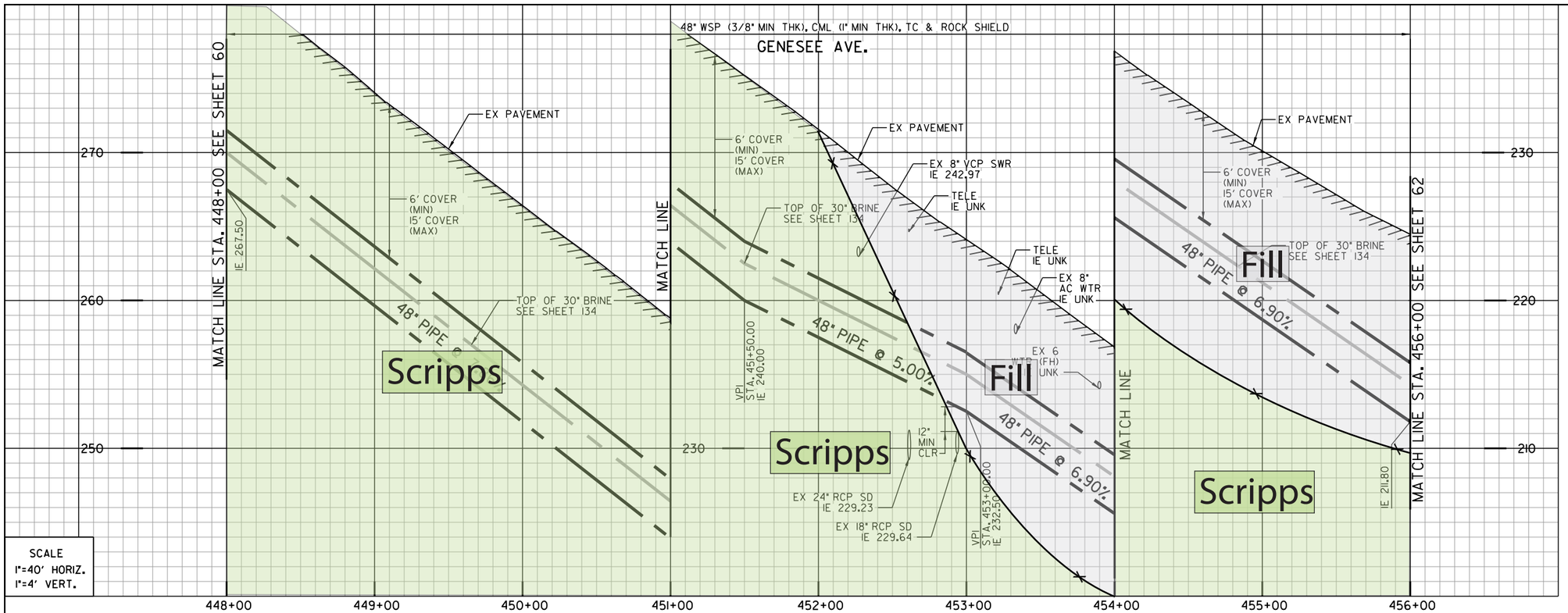
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-60-D

GENESEE AVE.

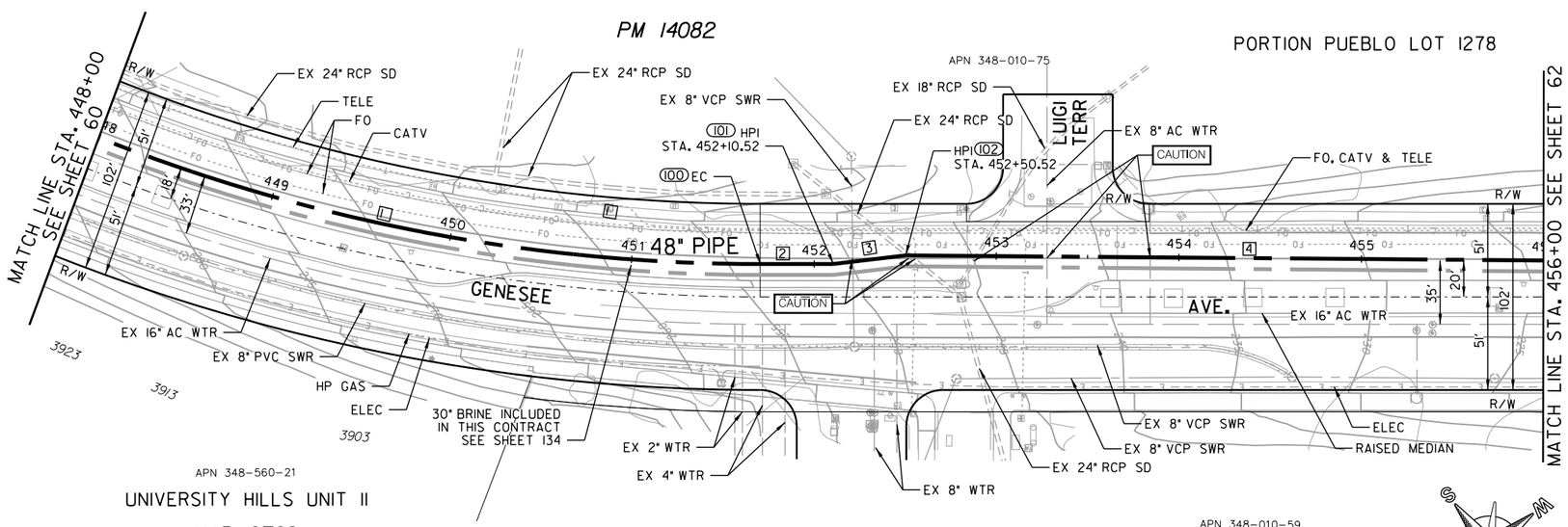
60% SUBMITTAL




Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 11897-16-D |
| SEWER: | 11897-21-D, 21989-3-D |
| STORM DRAIN: | 11897-4-D, 11897-6-D, 22095-4-D |
| GAS: | 15795-119275 |
| ELECTRIC: | 15765-119275, 15765-119280 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0407C |
| IMPROVEMENTS: | 21989-4-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1893720.17 | 6267882.16 | EC |
| 101 | 1893744.87 | 6267850.70 | HPI |
| 102 | 1893765.64 | 6267816.52 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 38° 22'04" | 980' | 370.52' | 48" WSP (CML&TC) |
| 2 | N51° 51'52" W | | 40' | 48" WSP (CML&TC) |
| 3 | N58° 43'01" W | | 40' | 48" WSP (CML&TC) |
| 4 | N51° 23'50" W | | 349.48' | 48" WSP (CML&TC) |

GENESEE AVE.

C-57

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 448+00 TO STA. 456+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 61 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA, FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

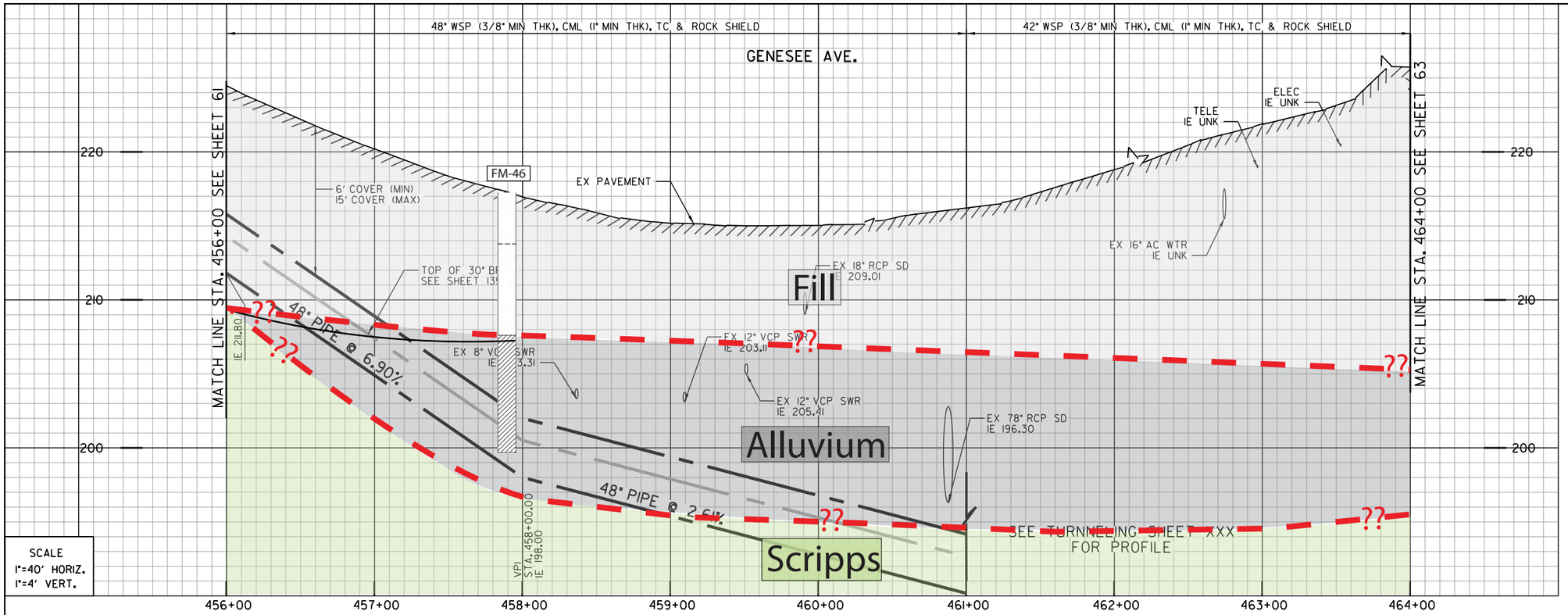
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

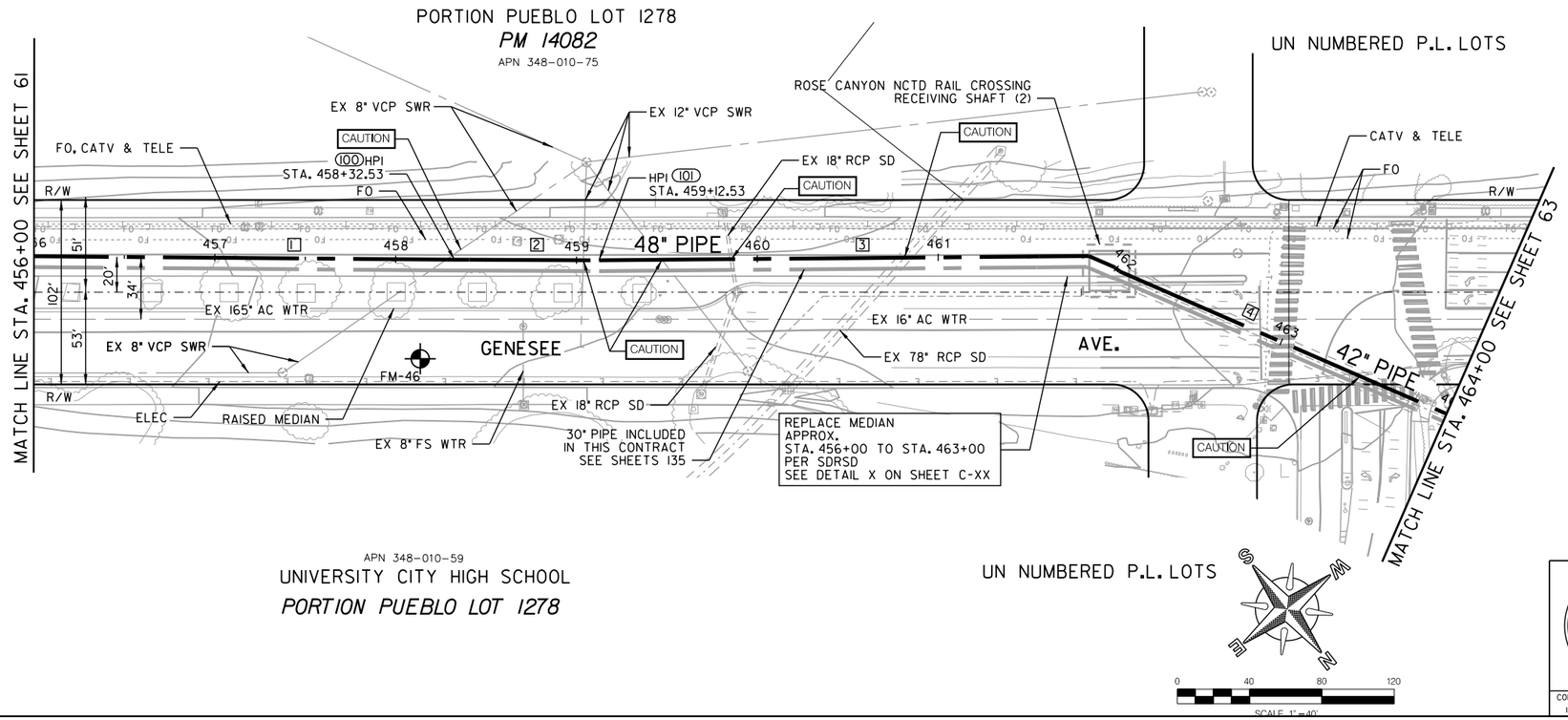
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-61-D

60% SUBMITTAL




REFERENCE:

| | |
|---|---|
| WATER: | 11897-17-D, 11897-18-D |
| SEWER: | 11897-21-D, 26734-D |
| STORM DRAIN: | 11897-5-D, 11897-6-D |
| GAS: | 15802-11910, 15802-119195 |
| ELECTRIC: | 15757-119280, 15757-119285 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0407C, RE0207DB |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1894128.77 | 6267361.68 | HPI |
| 101 | 1894178.43 | 6267298.99 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N51° 23'50" W | | 232.53' | 48" WSP (CML&TC) |
| 2 | N51° 36'46" W | | 80' | 48" WSP (CML&TC) |
| 3 | N52° 21'30" W | | 187.47' | 48" WSP (CML&TC) |

C-58

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 456+00 TO STA. 464+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 62 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

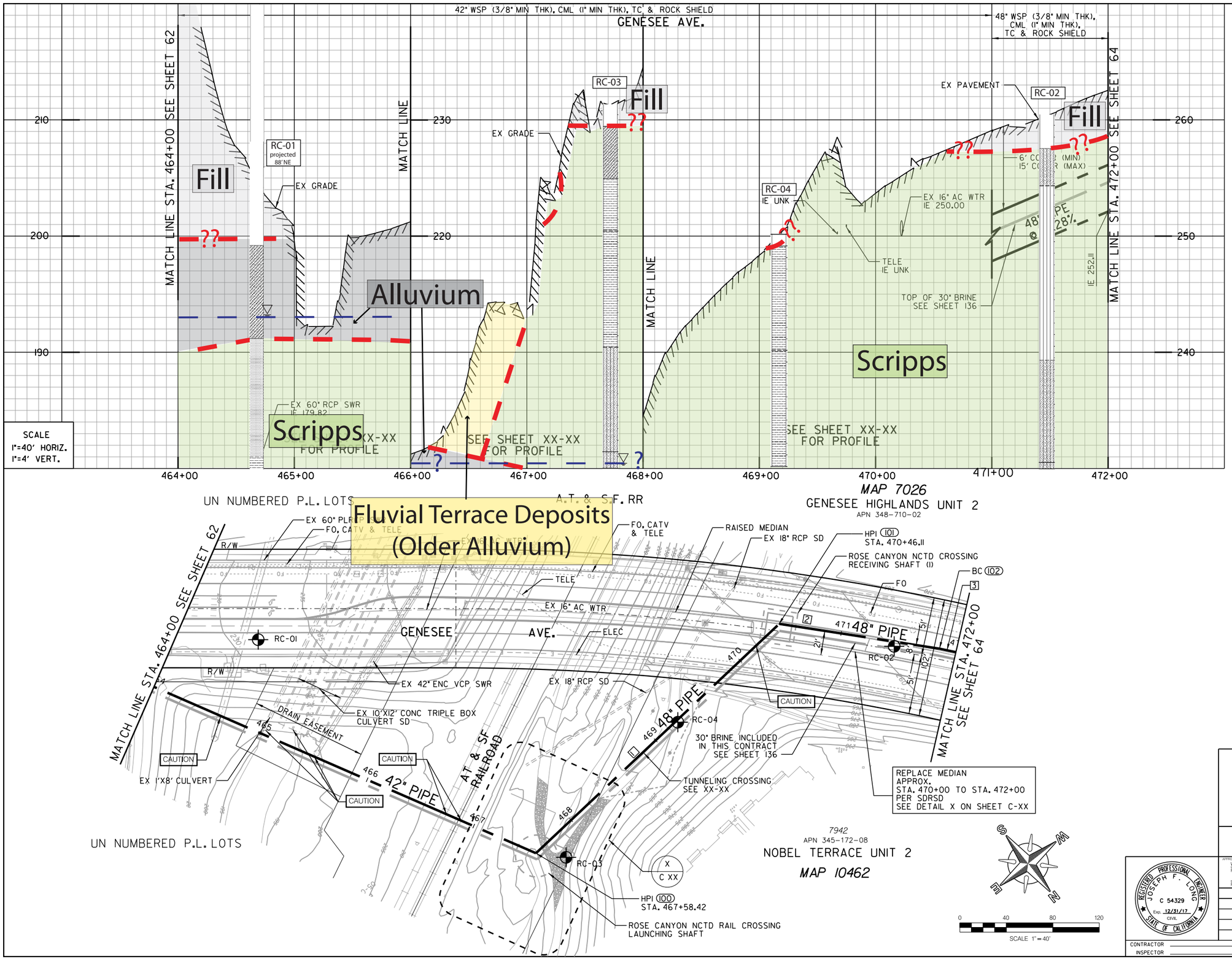
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-62-D

GENESEE AVE.

60% SUBMITTAL




REFERENCE:

| | |
|---|---|
| WATER: | 11897-17-D, 11897-18-D |
| SEWER: | 13644-54-D |
| STORM DRAIN: | 11897-9-D |
| GAS: | NO INFO |
| ELECTRIC: | 15757-119285 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0207DB |
| IMPROVEMENTS: | 11897-9-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1894850.40 | 6266812.68 | HPI |
| 101 | 1894824.37 | 6266526.17 | HPI |
| 102 | 1894926.30 | 6266430.96 | BC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | S84° 48'32" W | | | 48" WSP (CML&TC) |
| 2 | N43° 02'49" W | | | 48" WSP (CML&TC) |
| 3 | 24° 16'22" | 2009' | | 48" WSP (CML&TC) |

C-59

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 464+00 TO STA. 472+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 63 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

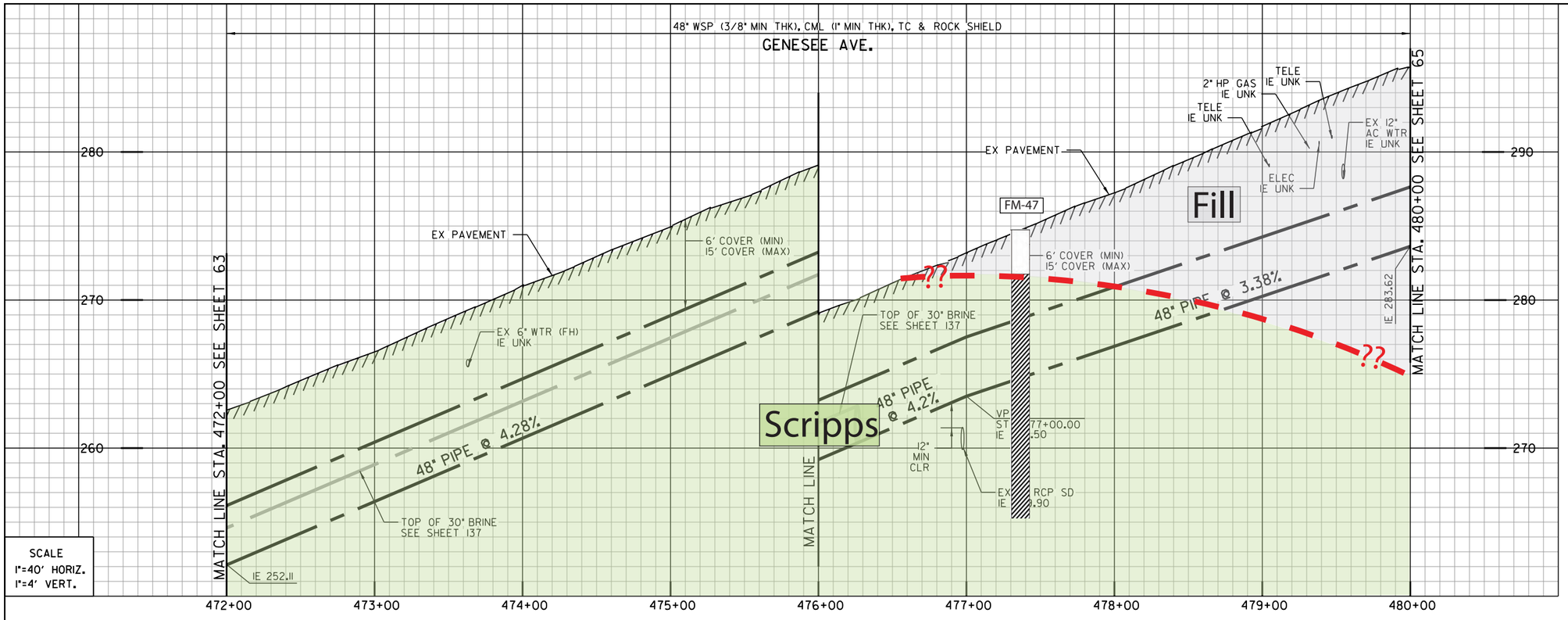
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-63-D

GENESEE AVE.

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM59.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

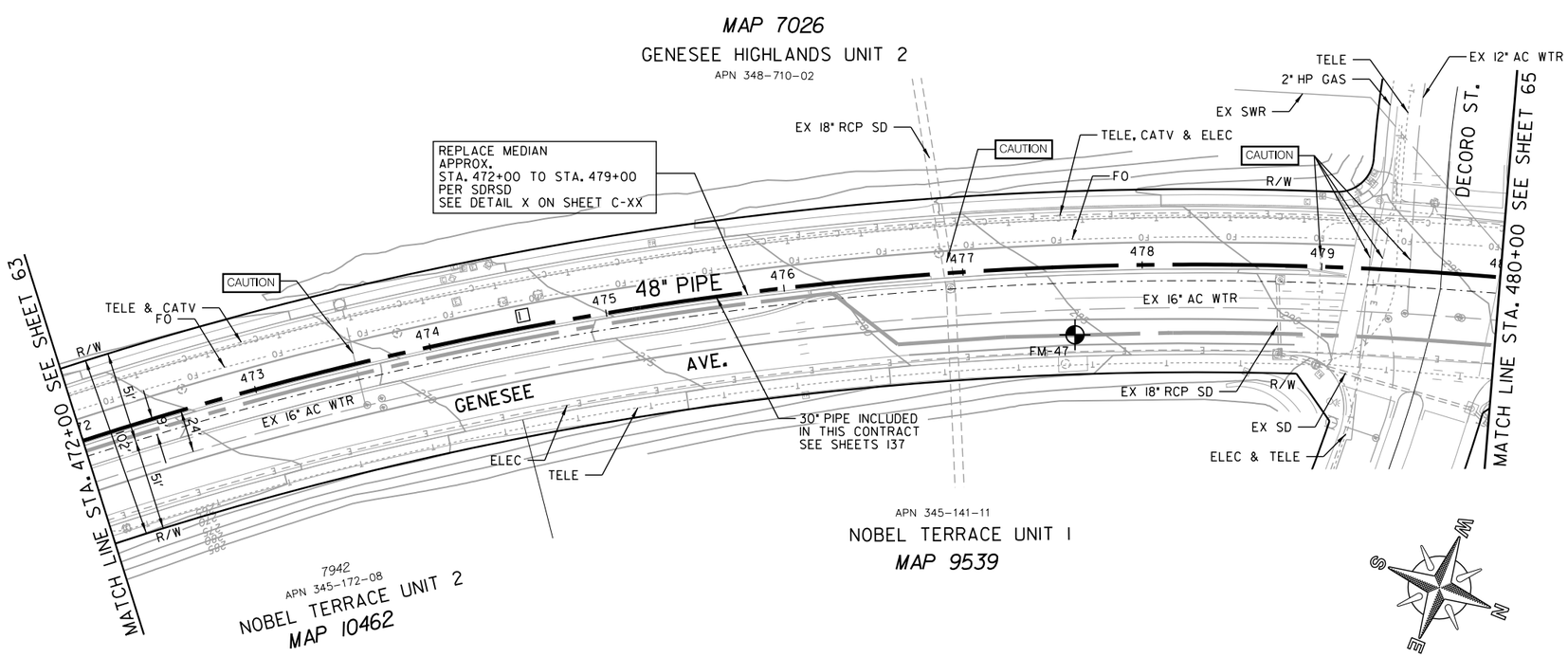



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 11897-18-D |
| SEWER: | NO INFO |
| STORM DRAIN: | NO INFO |
| GAS: | 15750-119295 |
| ELECTRIC: | 15750-119295 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0207BA, RE205CD, RE205DC |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 24° 16'22" | 2009' | | 48" WSP (CML&TC) |

GENESEE AVE.

C-60

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 472+00 TO STA. 480+00 GENESEE AVE.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 64 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

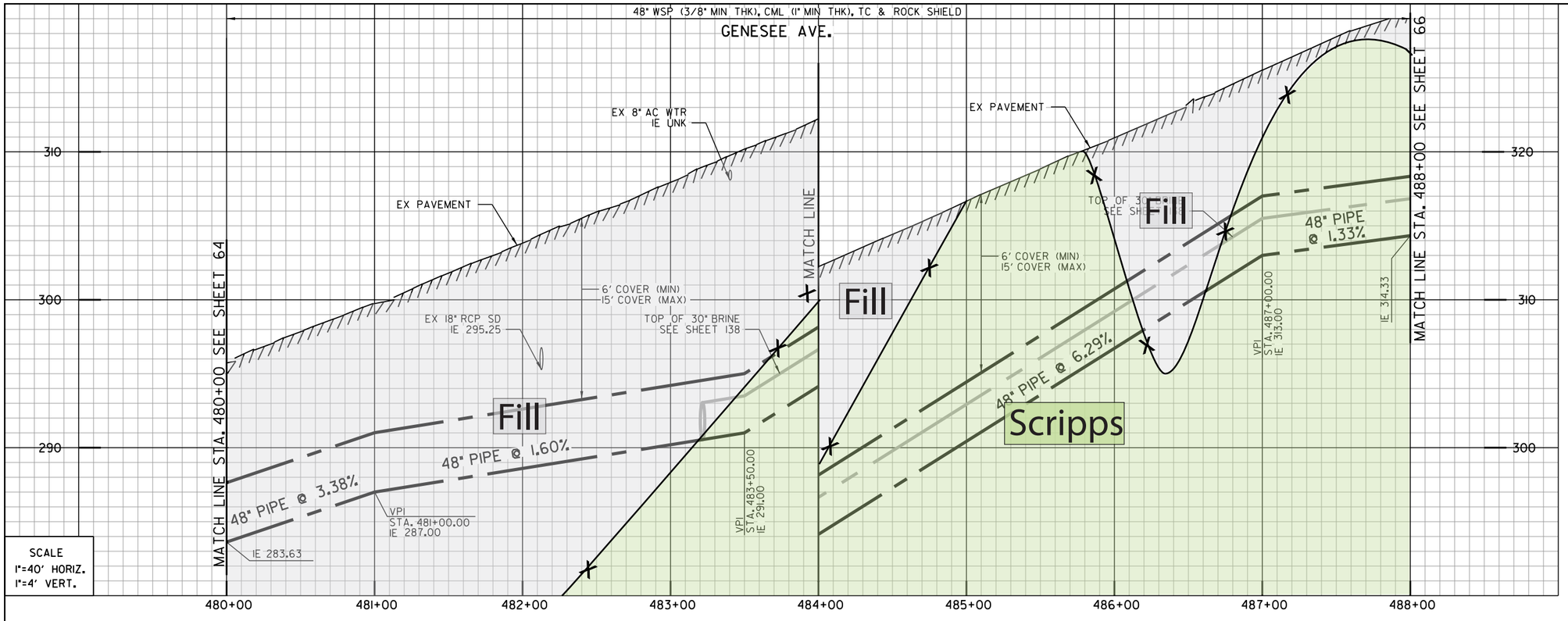
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-64-D

0 40 80 120
SCALE 1" = 40'

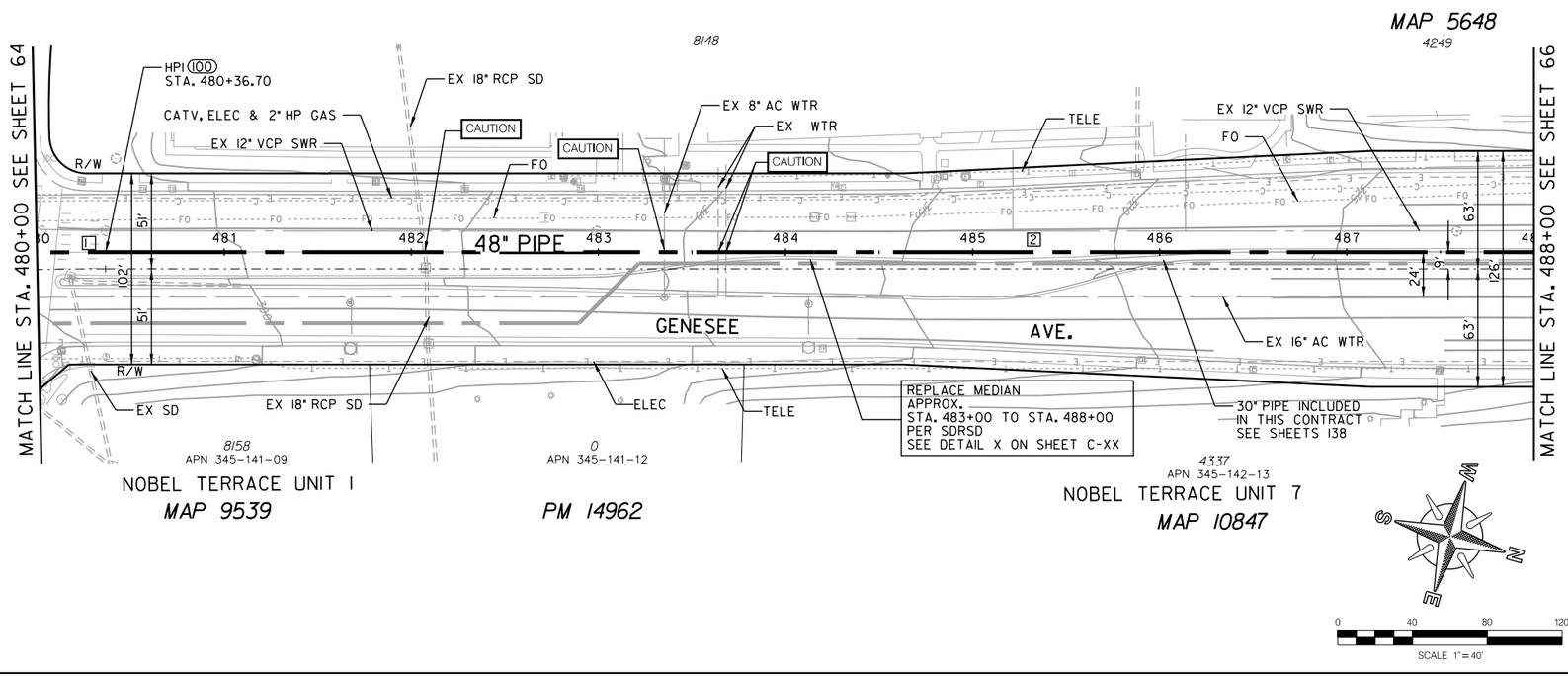
60% SUBMITTAL




Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 14556-2-D |
| STORM DRAIN: | 14556-12-D, 22696-9-D |
| GAS: | 15742-119305, 15750-119295, 15750-119300 |
| ELECTRIC: | 15742-119305, 15750-119295,15750-119300 |
| CABLE TV: | 238-1707A |
| TELEPHONE: | RE205CD |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1895673.70 | 6266037.25 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 24° 16'22" | 2009' | 36.70' | 48" WSP (CML&TC) |
| 2 | N15° 38'33" W | | 763.30' | 48" WSP (CML&TC) |

C-61

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 480+00 GENESEE AVE. TO STA. 488+00 NOBEL DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 65 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-65-D

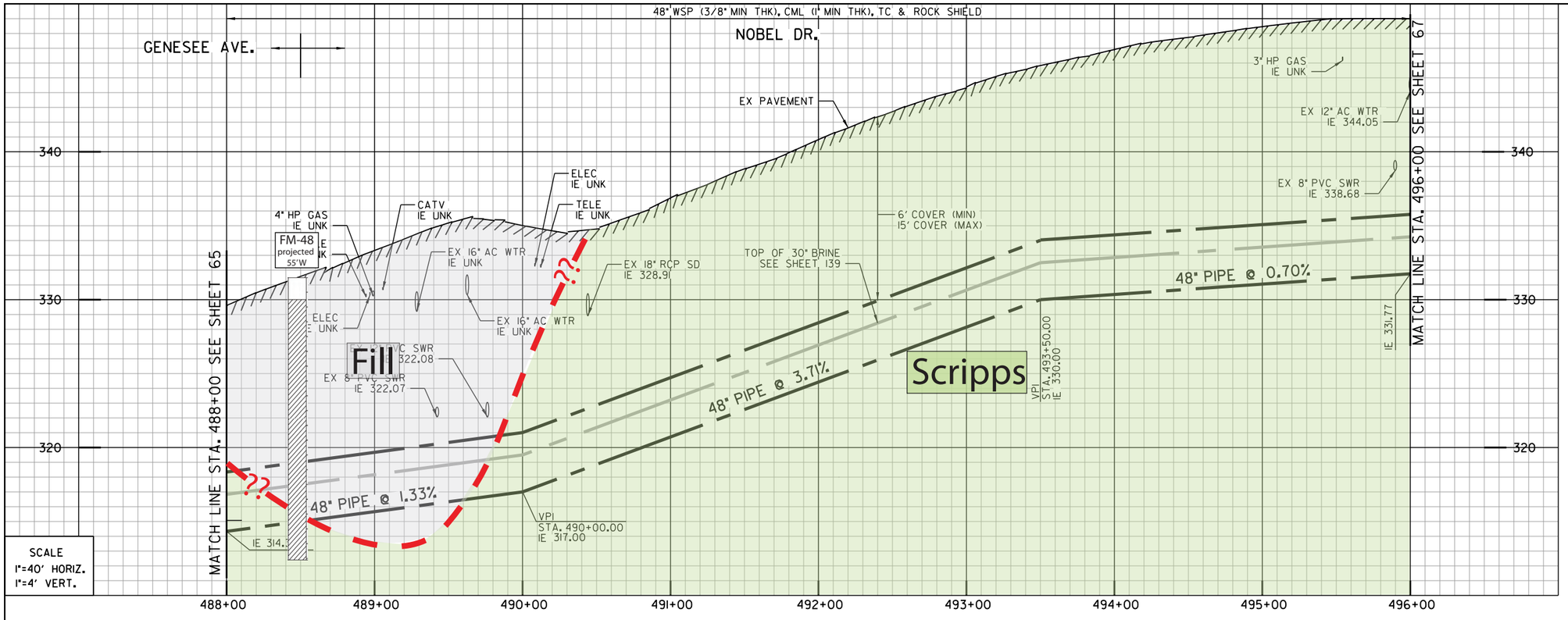
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

GENESEE AVE. / NOBEL DR.

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM61.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

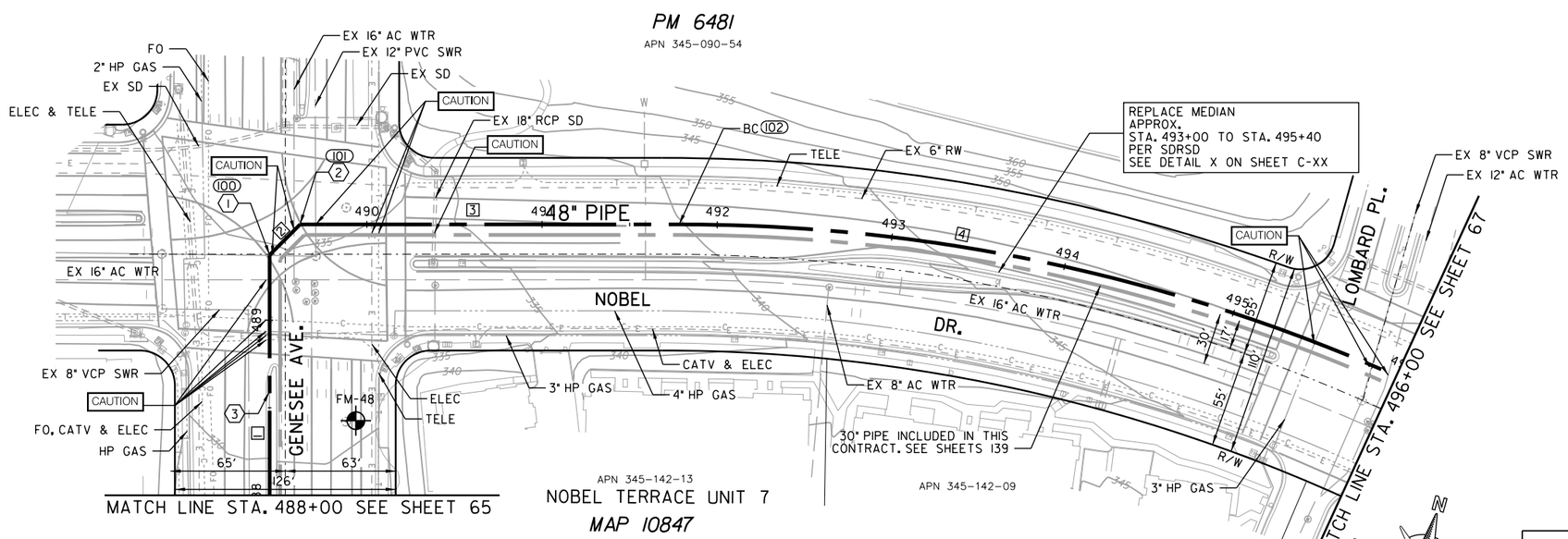
1 (103)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 489+37.27
1-45° HPI BEND

2 (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 489+61.89
1- 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 16773-13-D, 16773-14-D, 16773-16-D |
| SEWER: | 16773-13-D, 16773-14-D, 16773-16-D |
| STORM DRAIN: | 16773-13-D, 16773-14-D |
| GAS: | 15802-11910, 15802-119195 |
| ELECTRIC: | 15802-19040 |
| CABLE TV: | NO INFO |
| TELEPHONE: | PB0812CC |
| IMPROVEMENTS: | 16773-13-D, 16773-14-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| (100) | 1896540.92 | 6265794.43 | HPI BEND |
| (101) | 1896562.37 | 6265806.49 | HPI BEND |
| (102) | 1896621.06 | 6266016.09 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N15° 38'33" W | | 137.27' | 48" WSP (CML&TC) |
| 2 | N29° 21'27" E | | 24.61' | 48" WSP (CML&TC) |
| 3 | N74° 21'27" E | | 217.66' | 48" WSP (CML&TC) |
| 4 | 61° 05'21" | 1006' | 420.46' | 48" WSP (CML&TC) |

C-62

GENESSE AVE. \ NOBEL DR.

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 488+00 GENESEE AVE. TO STA. 496+00 NOBEL DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 66 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

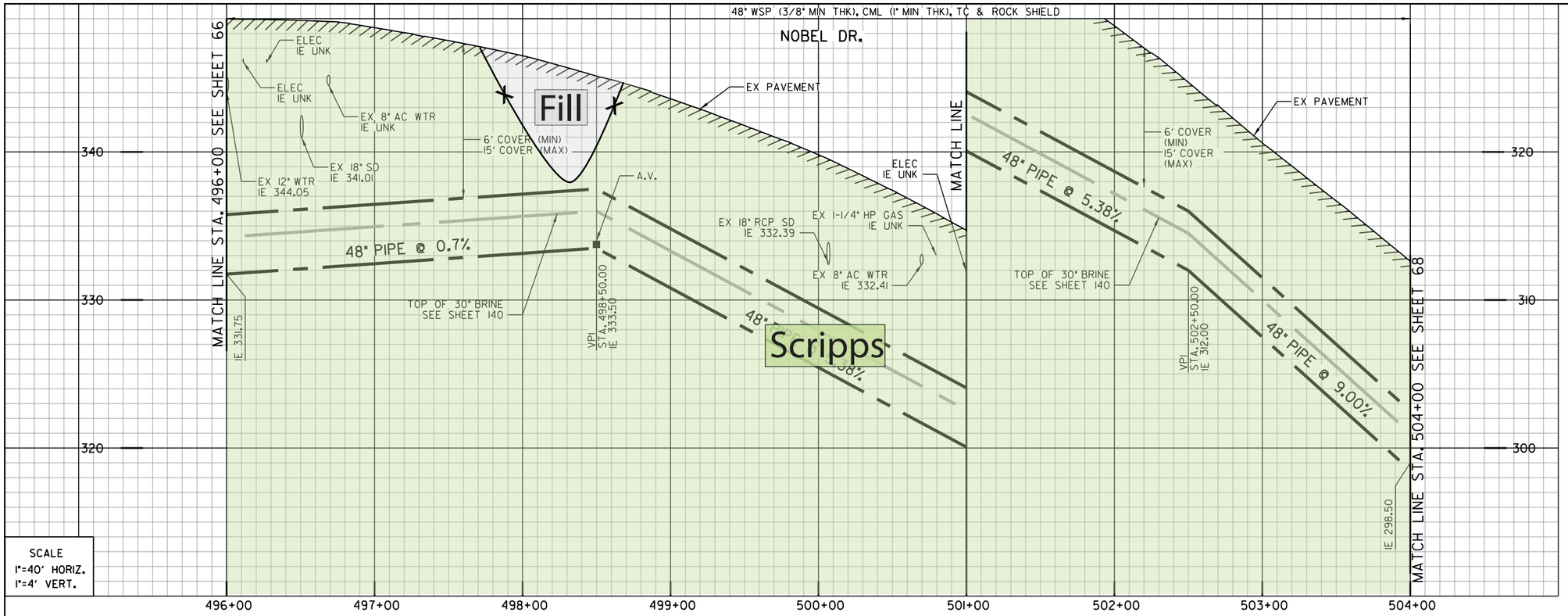
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-66-D

60% SUBMITTAL



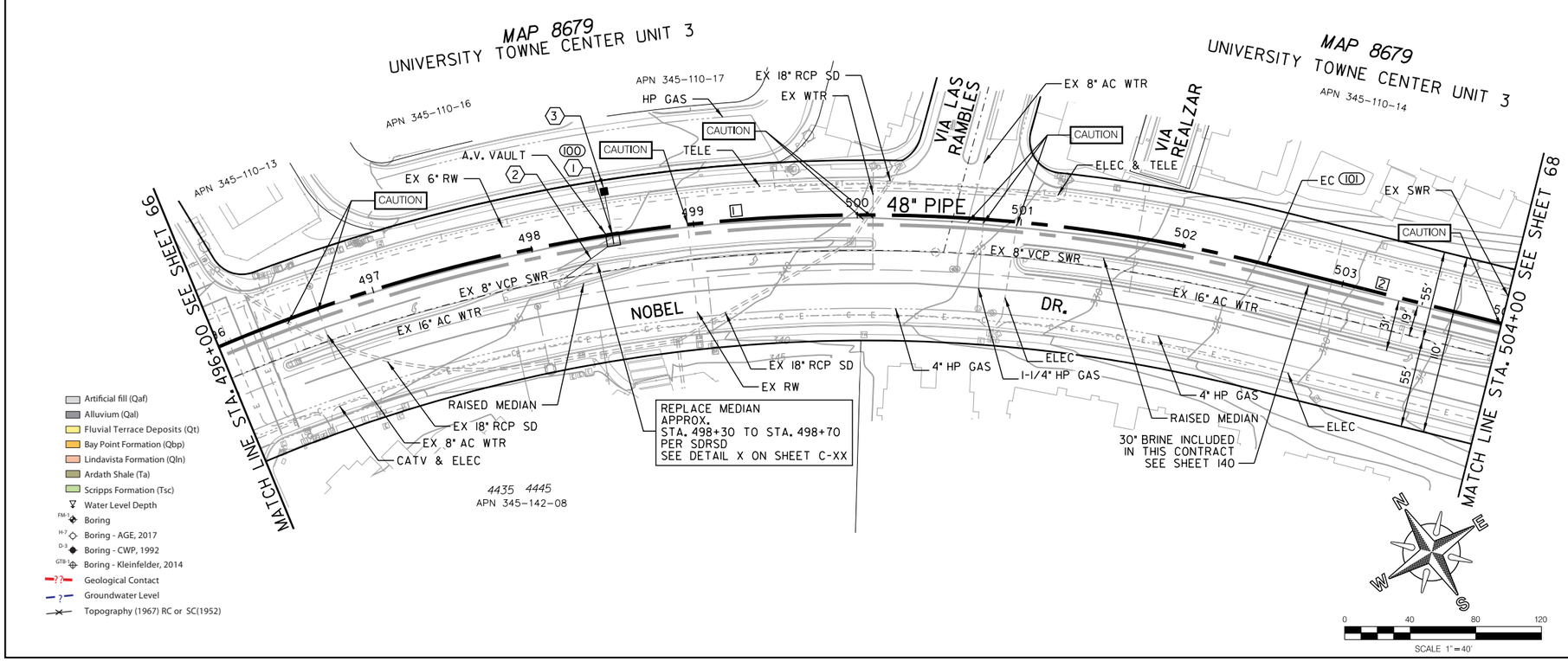

1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 498+50.00
1-3" VACUUM RELIEF VALVE ASSY &
1-2" COMBINATION AIR/VACUUM VALVE ASSY
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

3
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

REFERENCE:

| | |
|---|---|
| WATER: | 16773-14-D, 16773-15-D |
| SEWER: | 16773-14-D, 16773-15-D |
| STORM DRAIN: | 16773-14-D, 16773-15-D |
| GAS: | 15757-119305 |
| ELECTRIC: | 15742-119305, 15757-119300 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 16773-14-D, 16773-15-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1896581.45 | 6266673.01 | A.V. |
| 101 | 1896358.10 | 6267004.22 | EC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 61° 05'21" | 1006' | 652.15' | 48" WSP (CML&TC) |
| 2 | S44° 33'12" E | | 147.85' | 48" WSP (CML&TC) |

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

C-63

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 496+00 TO STA. 504+00 AT NOBEL DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 67 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

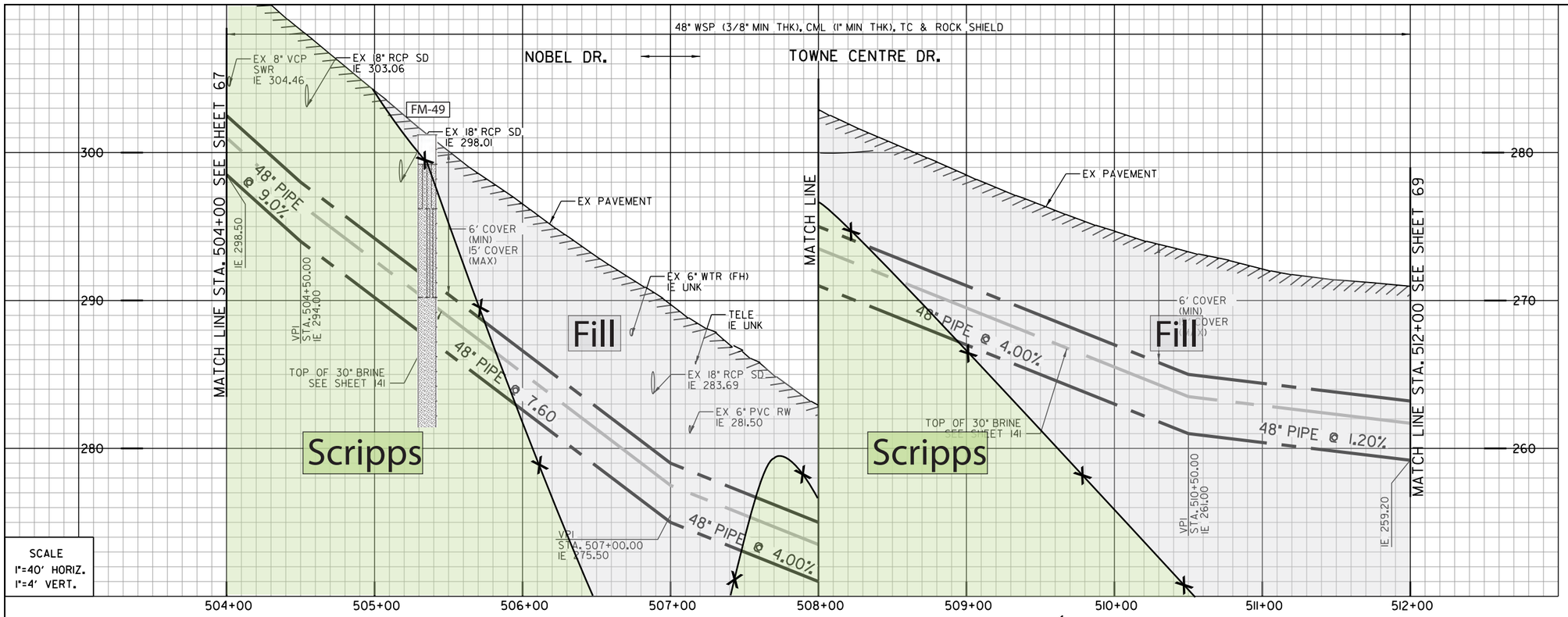
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-67-D

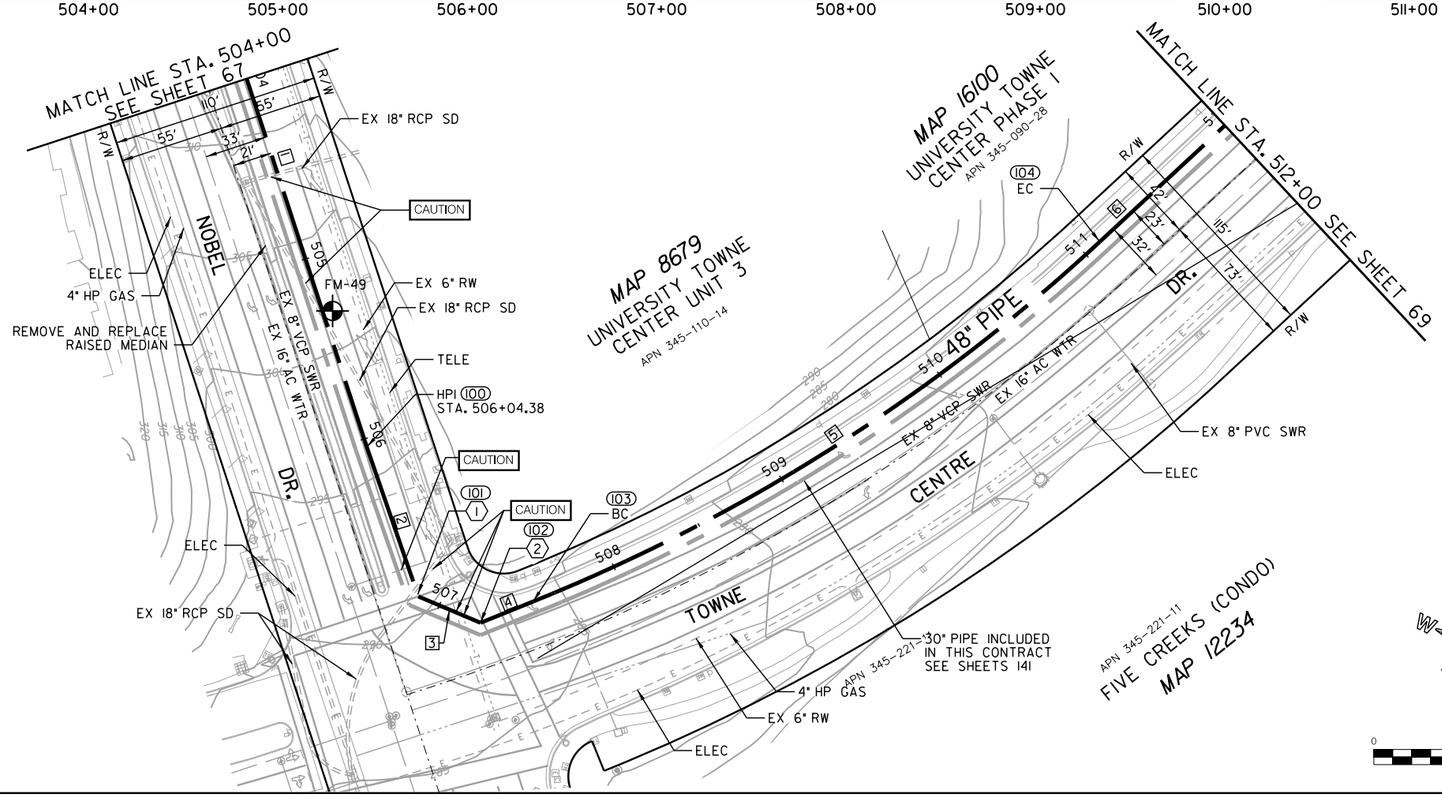
NOBEL DR.

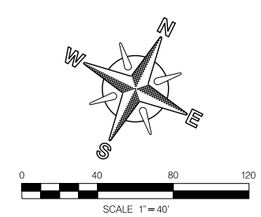
60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM63.dgn
9/1/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.




(1) (100)
BY CONTRACTOR FURNISH AND INSTALL
STA. 506+87.99
1 - 48" HPI BEND

(2) (101)
BY CONTRACTOR FURNISH AND INSTALL
STA. 507+23.64
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 16773-11-D, 16773-12-D, 16773-15-D |
| REC WATER: | 27987-33-D |
| SEWER: | 16773-15-D, 16773-12-D, 16773-15-D, 24305-26-D |
| STORM DRAIN: | 16773-11-D, 16773-12-D, 16773-15-D |
| GAS: | 15765-119305 |
| ELECTRIC: | 15757-119300, 15765-119300, 15765-119305 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 18431-3-D, 24305-5-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1896107.10 | 6267251.33 | HPI |
| 101 | 1896048.59 | 6267310.92 | HPI BEND |
| 102 | 1896050.78 | 6267346.50 | HPI BEND |
| 103 | 1896073.26 | 6267366.37 | BC |
| 104 | 1896376.68 | 6267549.43 | EC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | S44° 33'12" E | | 204.38' | 48" WSP (CML&TC) |
| 2 | S45° 31'31" E | | 83.62' | 48" WSP (CML&TC) |
| 3 | N86° 28'29" E | | 35.65' | 48" WSP (CML&TC) |
| 4 | N41° 28'29" E | | 30' | 48" WSP (CML&TC) |
| 5 | 20° 55'08" | 976' | 356.34' | 48" WSP (CML&TC) |
| 6 | N20° 38'41" E | | 90.02' | 48" WSP (CML&TC) |

NOBEL DR. / TOWNE CENTRE DR.

C-64

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 504+00 NOBEL DR. TO STA. 512+00 TOWNE CENTRE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 68 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

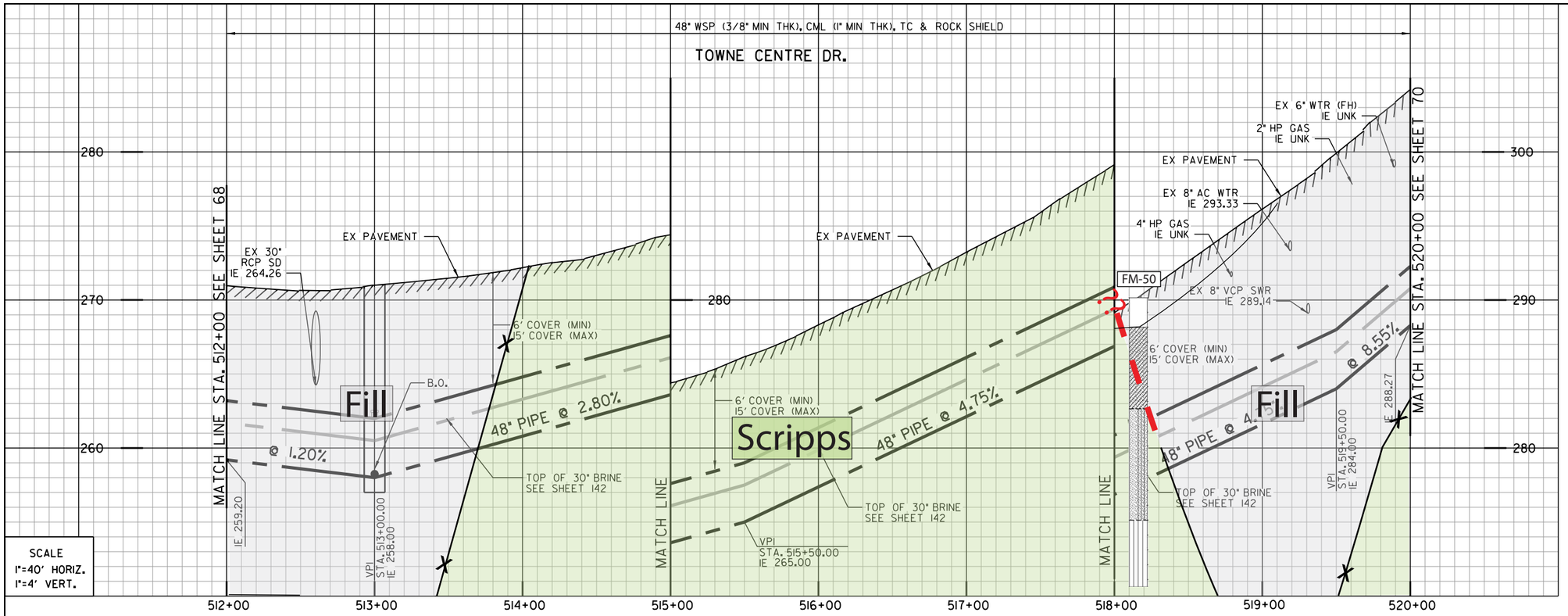
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-68-D

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL




1 102
BY CONTRACTOR FURNISH AND INSTALL
STA. 515+79.75
1- 18° HPI BEND

2 103
BY CONTRACTOR FURNISH AND INSTALL
STA. 516+16.18
1- 22.5° HPI BEND

3 105
BY CONTRACTOR FURNISH AND INSTALL
STA. 513+00.00
1- 4" BLOW-OFF ASSY, LT
SEE DETAIL XX-XX

4
BY CONTRACTOR FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MAIN

5
BY CONTRACTOR FURNISH AND INSTALL
CATHDIC PROTECTION RECTIFIER

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

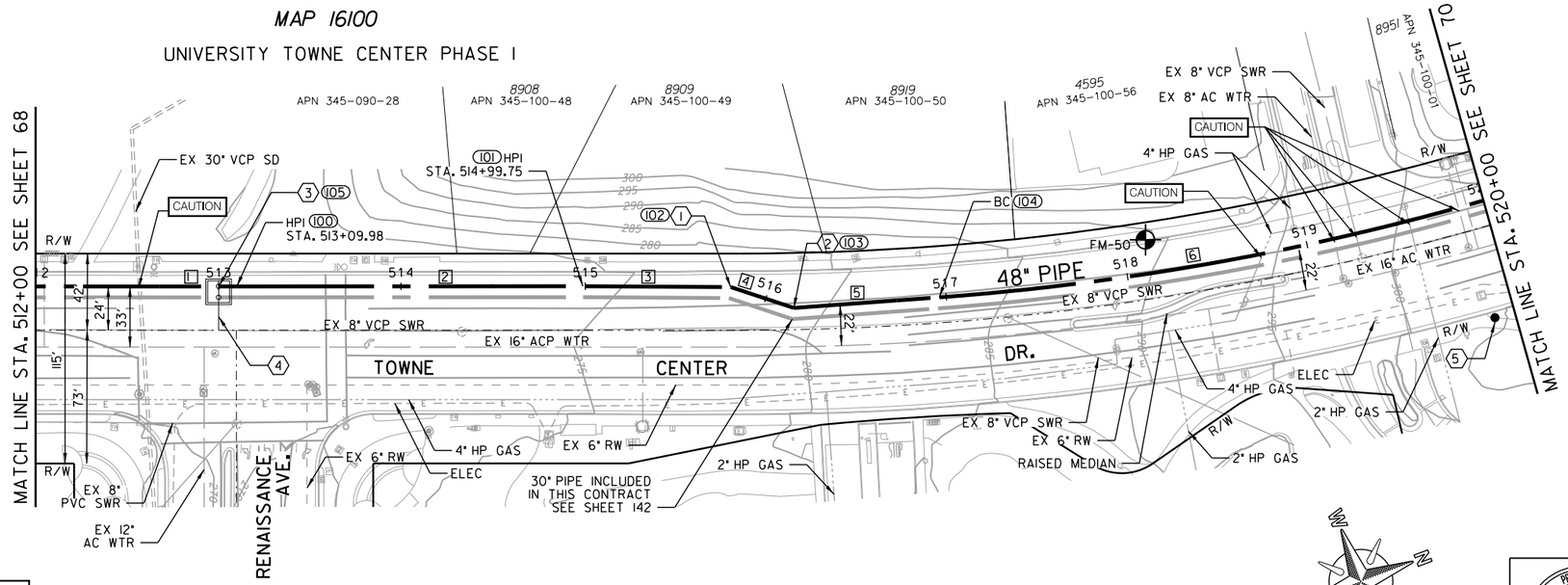
| | |
|---|---|
| WATER: | 16773-10-D |
| RECYCLED WATER: | 27987-34-D, 27987-35-D |
| SEWER: | 16773-10-D |
| STORM DRAIN: | 16773-11-D |
| GAS: | NO INFO |
| ELECTRIC: | 15765-119310, 15765-119320 |
| CABLE TV: | 15765-119305, 15765-119315 |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1896563.83 | 6267619.95 | HPI |
| 101 | 1896741.45 | 6267686.74 | HPI |
| 102 | 1896817.08 | 6267715.72 | HPI BEND |
| 103 | 1896845.41 | 6267738.63 | HPI BEND |
| 104 | 1896922.12 | 6267761.31 | BC |
| 105 | 1896554.55 | 6267616.45 | A.V. |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N20° 38'41" E | | 109.98' | 48" WSP (CML&TC) |
| 2 | N20° 36'34" E | | 189.77' | 48" WSP (CML&TC) |
| 3 | N20° 58'01" E | | 80' | 48" WSP (CML&TC) |
| 4 | N38° 58'01" E | | 36.44' | 48" WSP (CML&TC) |
| 5 | N16° 28'01" E | | 80' | 48" WSP (CML&TC) |
| 6 | 24° 20'57" | 1486' | 303.82' | 48" WSP (CML&TC) |




**CAUTION**

4" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

TOWNE CENTRE DR.

C-65

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 512+00 TO STA. 520+00 TOWNE CENTRE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 69 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

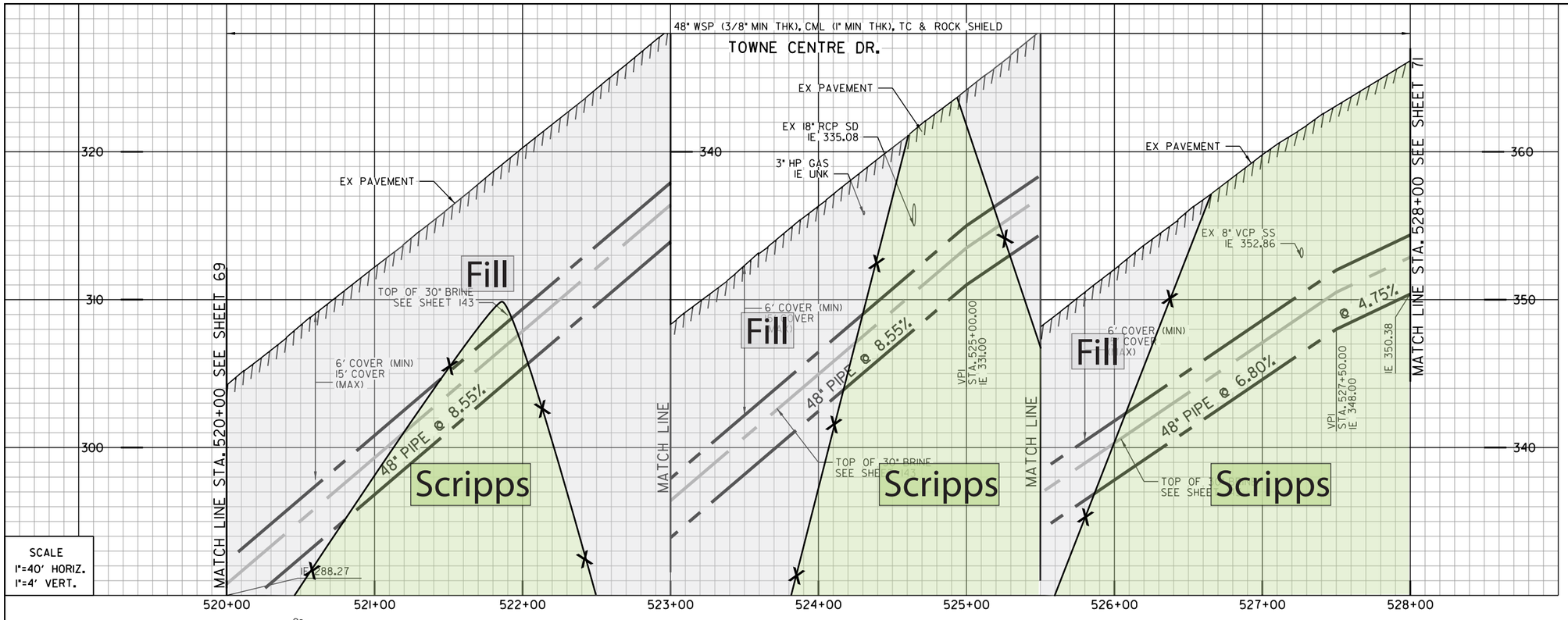
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

DESIGNED BY LAILA NASRAWI PROJECT MANAGER
CHECKED BY DARIN SANCHEZ PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-69-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM65.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

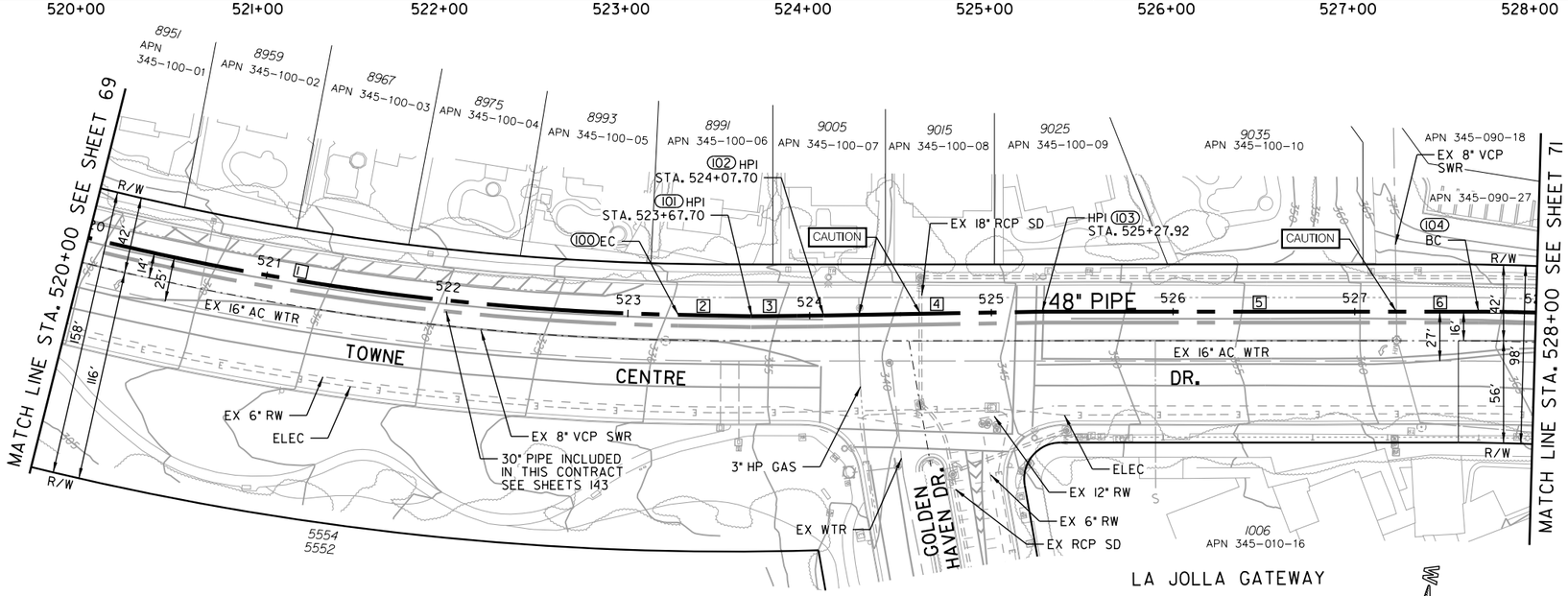
- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 16773-9-D, 16773-10-D, 17045-3-D |
| RECYCLED WATER: | 27987-36-D |
| SEWER: | 16773-9-D, 16773-10-D, 17045-3-D |
| STORM DRAIN: | 16773-9-D |
| GAS: | 15765-119320, 15765-119325 |
| ELECTRIC: | 15765-119315, 15765-119320 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 16773-9-D, 16773-10-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

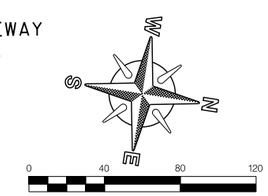
| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1897547.18 | 6267807.72 | EC |
| 101 | 1897586.79 | 6267802.20 | HPI |
| 102 | 1897626.23 | 6267795.53 | HPI |
| 103 | 1897744.62 | 6267774.56 | HPI |
| 104 | 1897981.72 | 6267736.83 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 24° 20'57" | 1486' | 327.70' | 48" WSP (CML&TC) |
| 2 | N7° 55'42" W | | 40' | 48" WSP (CML&TC) |
| 3 | N9° 36'44" W | | 40' | 48" WSP (CML&TC) |
| 4 | N10° 02'29" W | | 120.23' | 48" WSP (CML&TC) |
| 5 | N9° 02'29" W | | 240.10' | 48" WSP (CML&TC) |
| 6 | 10° 30'50" | 1016' | 31.98' | 48" WSP (CML&TC) |




FIVE CREEKS
*MAP 12234*

LA JOLLA GATEWAY
*MAP 11038*




TOWNE CENTRE DR.

C-66

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 520+00 TO STA. 528+00 TOWNE CENTRE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 70 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

40067-70-D

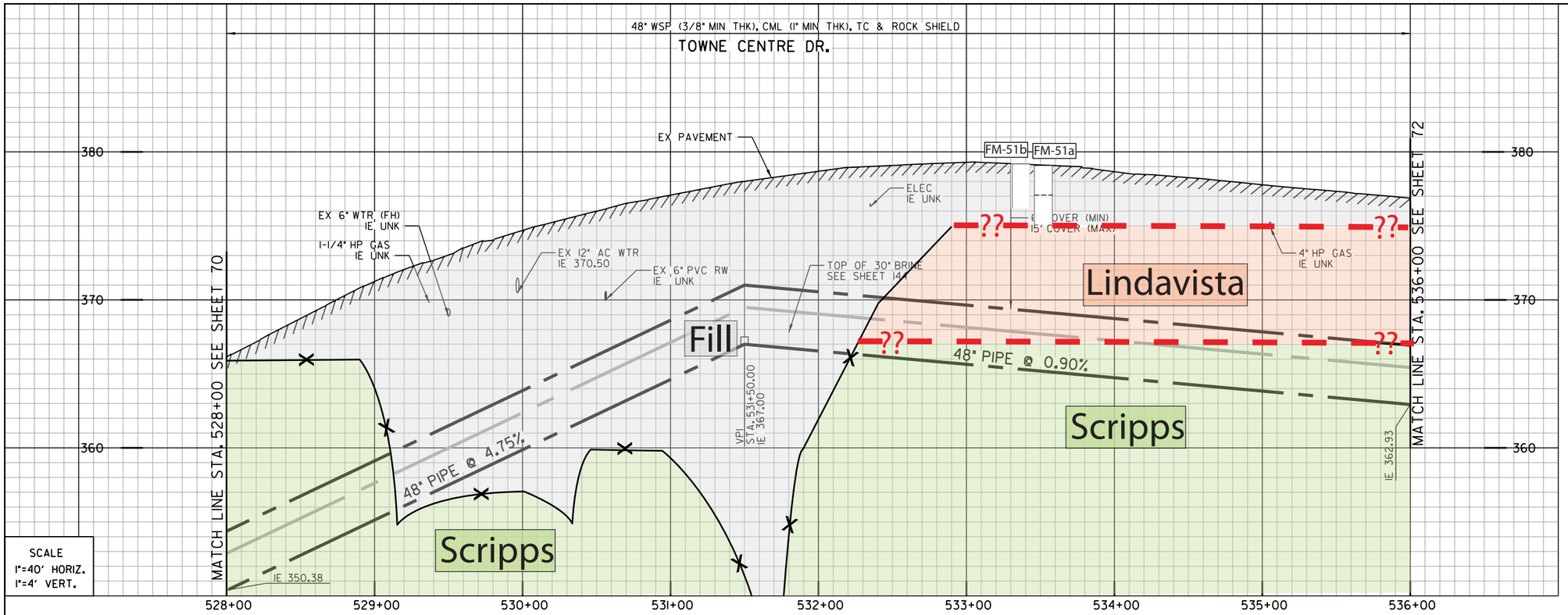
APPROVED: WENDY GAMBOA
FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL




1 102
BY CONTRACTOR
FURNISH AND INSTALL
STA. 531+50.00
1-3" VACUUM RELIEF VALVE ASSY &
1-2" COMBINATION AIR/VACUUM VALVE ASSY
W/ ODOR CONTROL VALVE
IN 7'X7' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

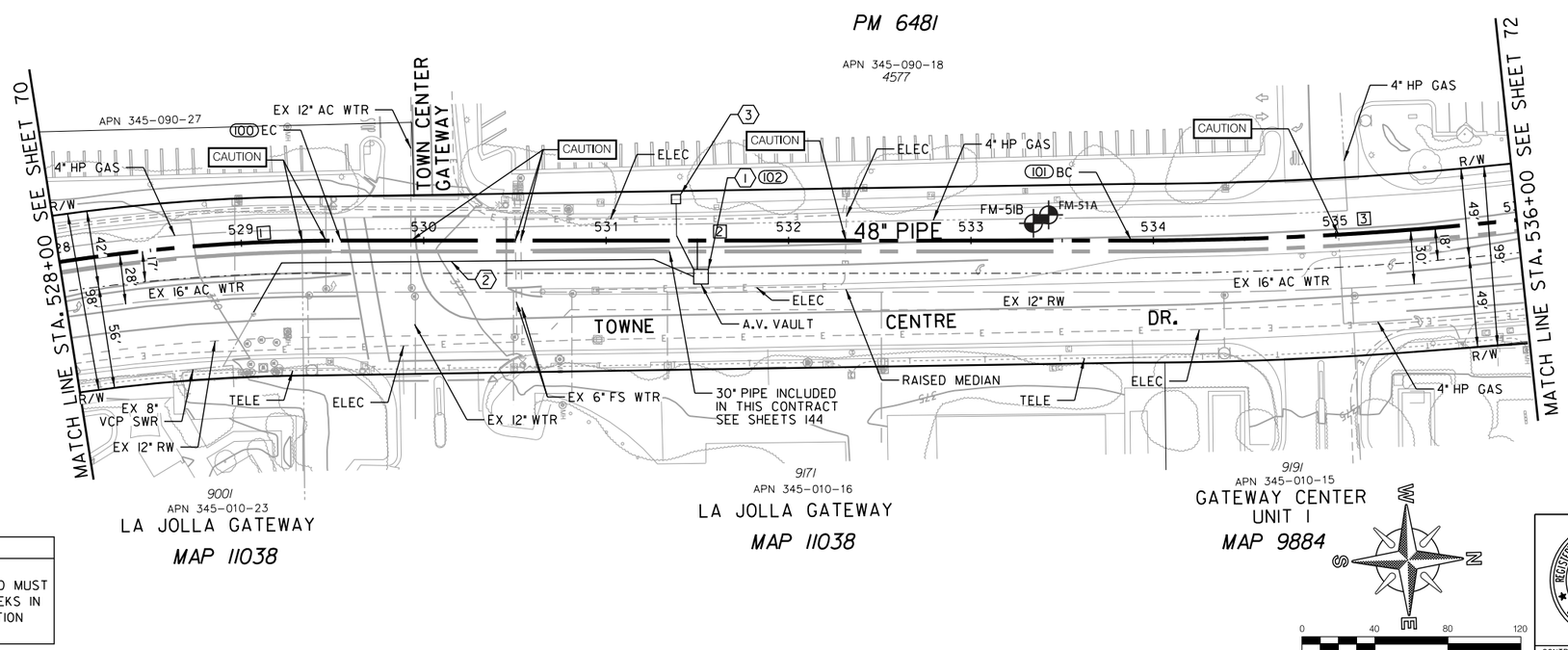
2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

3
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

REFERENCE:

| | |
|---|---|
| WATER: | 16773-8-D |
| RECYCLED WATER: | 27987-36-D |
| SEWER: | NO INFO |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119330 |
| ELECTRIC: | 15765-119325, 15765-119330 |
| CABLE TV: | NO INFO |
| TELEPHONE: | RE0403AD |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-1 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1898167.49 | 6267724.55 | EC |
| 101 | 1898600.77 | 6267735.68 | BC |
| 102 | 1898362.96 | 6267729.57 | A.V. |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 10° 30'50" | 1016' | 154.46' | 48" WSP (CML&TC) |
| 2 | N1° 28'21" E | | 433.43' | 48" WSP (CML&TC) |
| 3 | 7° 56'45" | 1982' | 212.11' | 48" WSP (CML&TC) |

C–67

TOWNE CENTRE DR.

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 528+00 TO STA. 536+00 TOWNE CENTRE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 71 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

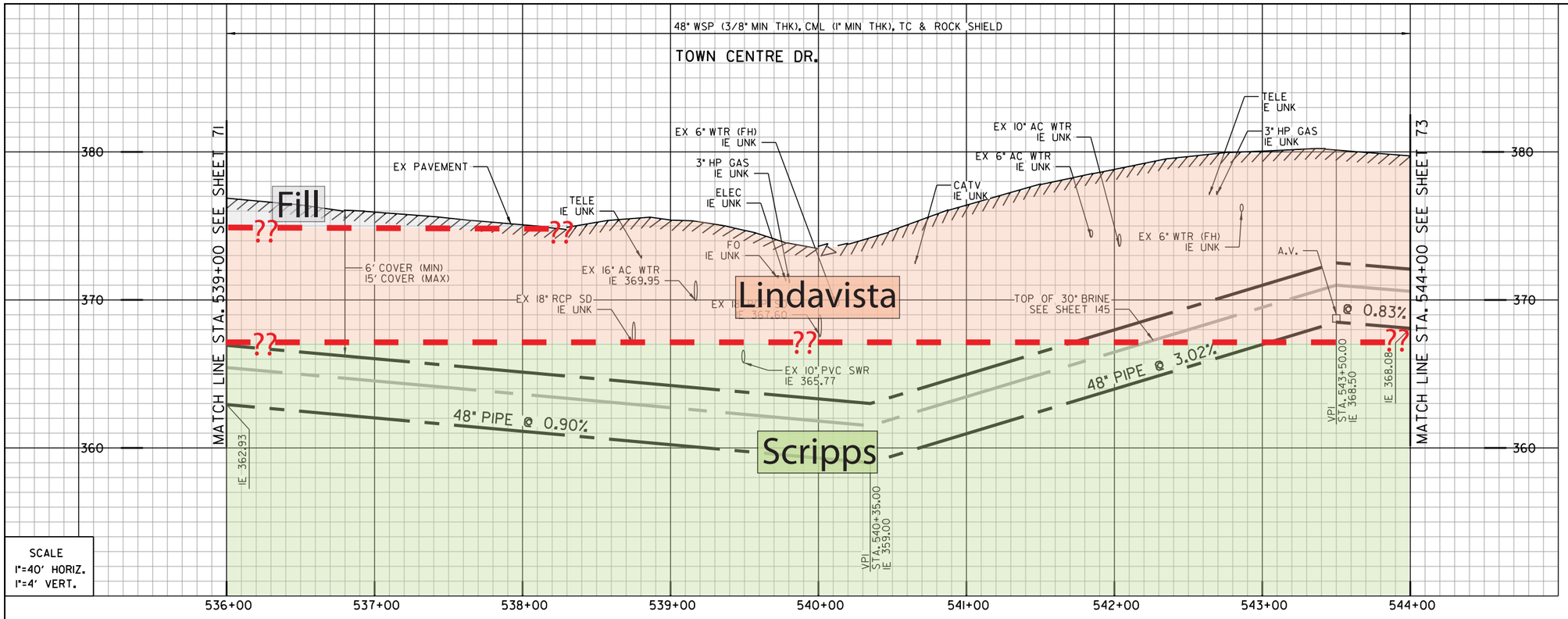
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067–71–D

CAUTION
4" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

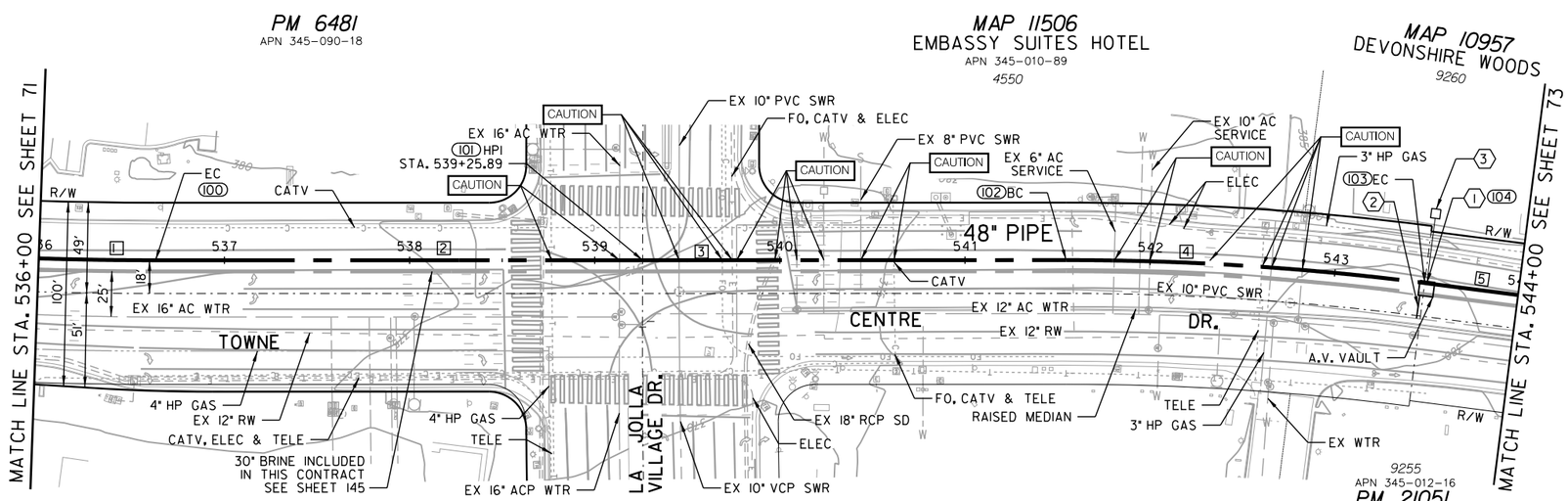
\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM67.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

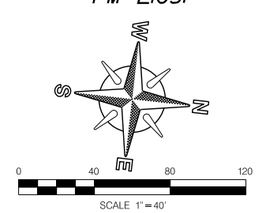
60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)




1 104
BY CONTRACTOR
FURNISH AND INSTALL
STA. 543+50.00
1-3" VACUUM RELIEF VALVE ASSY.
1-2" COMBINATION AIR/VACUUM VALVE ASSY.
W/ODOR CONTROL VALVE
IN 8'X8' COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

2
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MAIN

3
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

REFERENCE:

| | |
|---|---|
| WATER: | 16773-7-D, 17848-2-D, 22656-5-D |
| RECYCLED WATER: | 27987-37-D |
| SEWER: | 20534-4-D, 21236-2-D, 21236-4-D, 22656-5-D |
| STORM DRAIN: | 15798-3-D, 20534-4-D, 21236-2-D, 21236-4-D |
| GAS: | 15765-119330, 15765-119345 |
| ELECTRIC: | 15765-119330, 15765-119335 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 17848-2-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1898875.16 | 6267723.70 | EC |
| 101 | 1899136.62 | 6267694.04 | HPI |
| 102 | 1899363.85 | 6267668.17 | BC |
| 103 | 1899557.80 | 6267658.59 | EC |
| 104 | 1899558.88 | 6267658.61 | A.V. |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 7° 56'45" | 1982' | 62.76' | 48" WSP (CML&TC) |
| 2 | N6° 28'24" W | | 263.14' | 48" WSP (CML&TC) |
| 3 | N6° 29'38" W | | 228.71' | 48" WSP (CML&TC) |
| 4 | 7° 20'04" | 1518' | 194.32' | 48" WSP (CML&TC) |
| 5 | N 0° 50'26" E | | 51.88' | 48" WSP (CML&TC) |

TOWNE CENTRE DR.

C-68

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 536+00 TO STA. 544+00 TOWNE CENTRE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 72 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

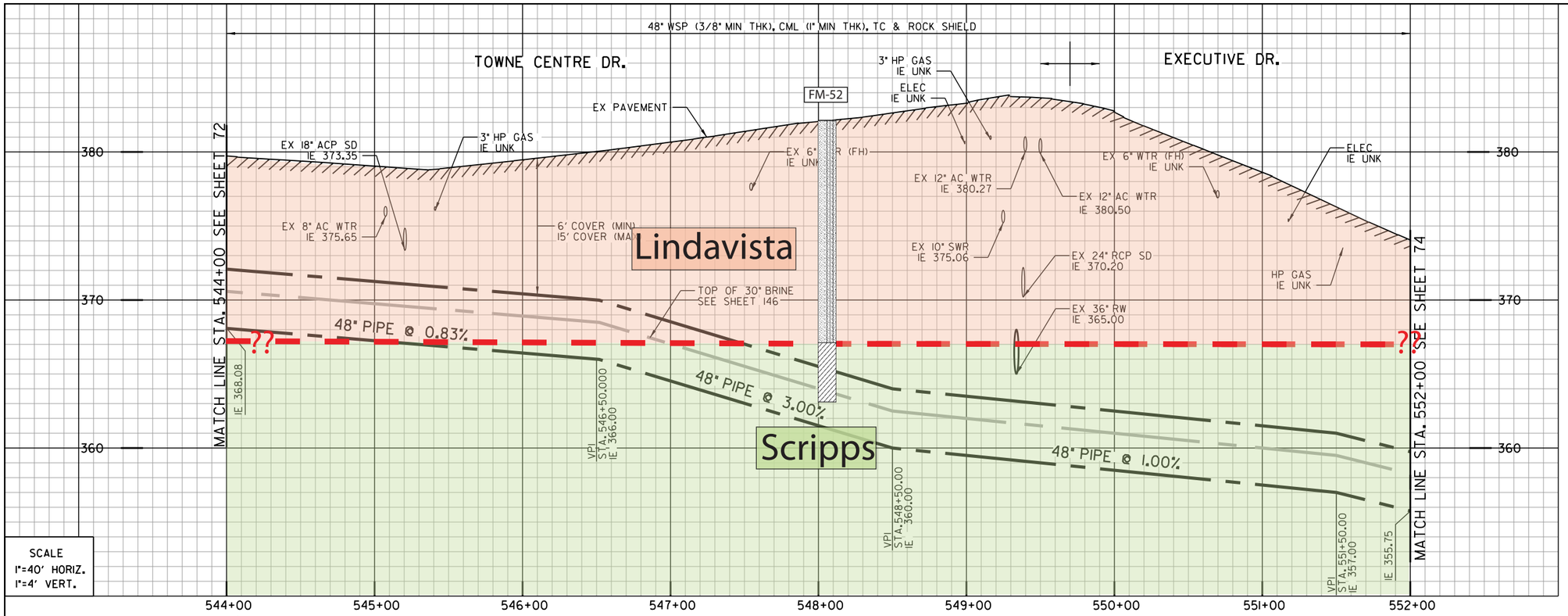
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

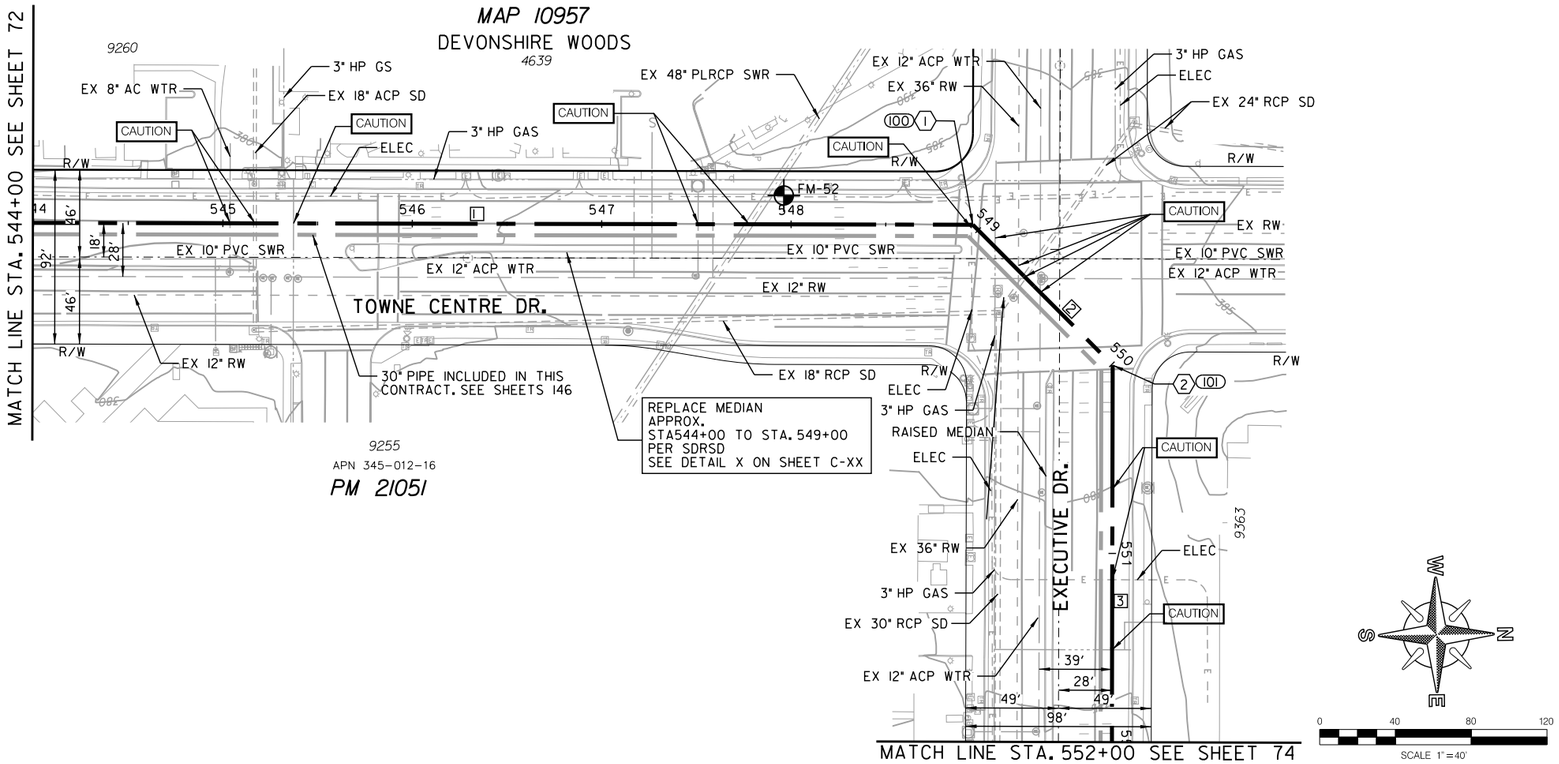
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-72-D

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.







1 100
BY CONTRACTOR
FURNISH AND INSTALL
STA. 548+96.97
1- 45° HPI BEND

2 101
BY CONTRACTOR
FURNISH AND INSTALL
STA. 550+00.60
1- 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 21236-3-D, 22656-2-D, 22656-4-D, 22656-5-D |
| RECYCLED WATER: | 27357-35-D |
| SEWER: | 21236-3-D, 22656-2-D, 22656-5-D |
| STORM DRAIN: | 22656-4-D, 22656-5-D |
| GAS: | 15765-119340, 15765-119345 |
| ELECTRIC: | 15765-119340, 15765-119345 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 21236-3-D, 22656-2-D, 22656-5-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 100 | 1900104.79 | 6267666.62 | HPI BEND |
| 101 | 1900177.68 | 6267741.68 | HPI BEND |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N 0° 50'26" E | | 495.97' | 48" WSP (CML&TC) |
| 2 | N45° 50'26" E | | 104.63' | 48" WSP (CML&TC) |
| 3 | S89° 09'34" E | | 199.40' | 48" WSP (CML&TC) |

C-69

# TOWNE CENTRE DR./EXECUTIVE DR.

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 544+00 TOWNE CENTRE DR. TO STA. 552+00 EXECUTIVE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 73 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

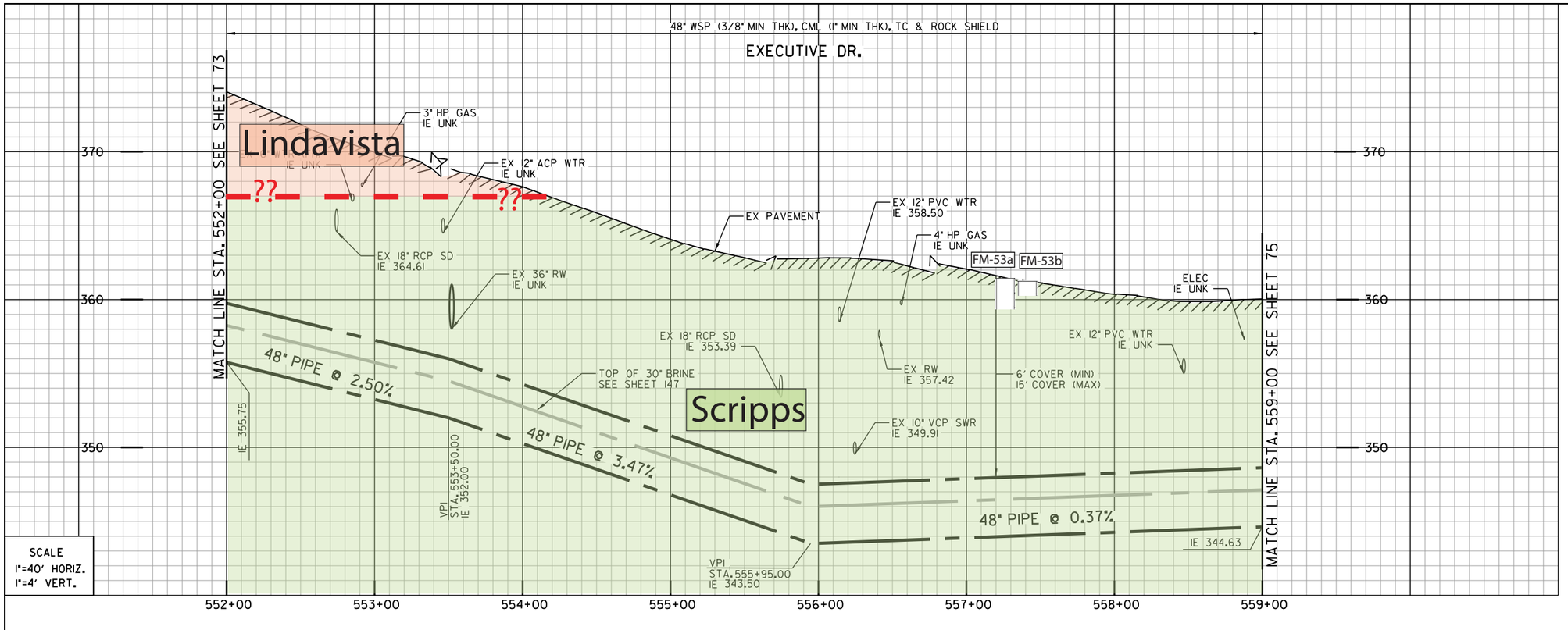
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-73-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM69.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 553+07.76
1 - 45° HPI BEND

2 (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 553+61.09
1 - 45° HPI BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

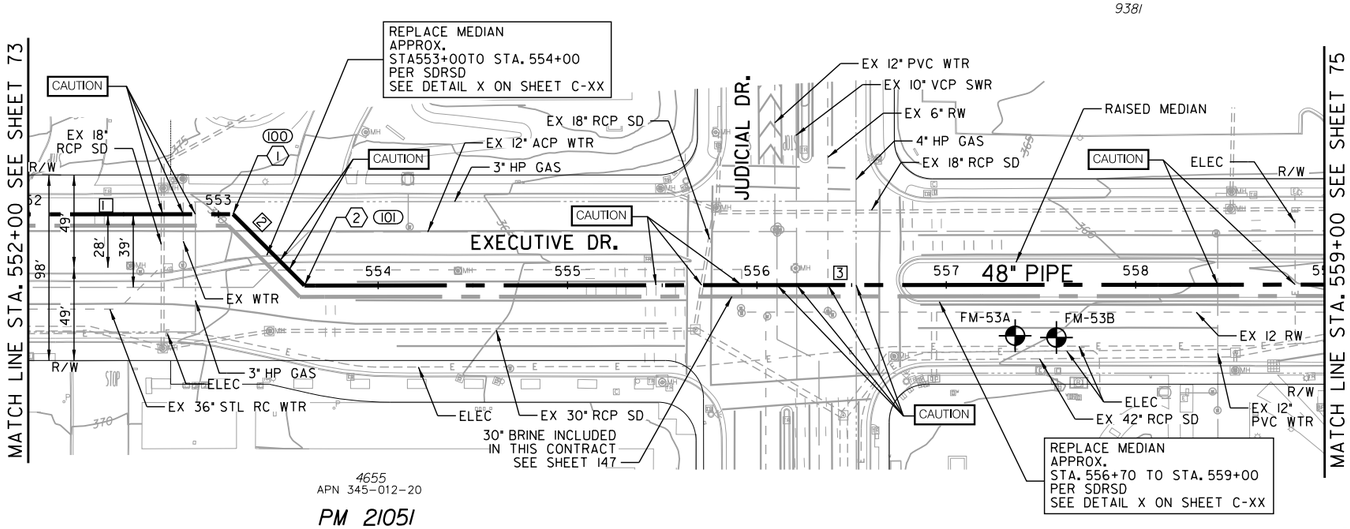
REFERENCE:

| | |
|---|---|
| WATER: | 28669-4-D, 29284-4-D, 31400-20-D |
| RECYCLED WATER: | 28669-3-D, 29284-4-D |
| SEWER: | NO INFO |
| STORM DRAIN: | 22656-4-D, 28670-D, 31226-3-D, 31226-5-D, 31226-6-D |
| GAS: | 15772-119340 |
| ELECTRIC: | 15772-119340 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 28669-4-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

EXECUTIVE DRIVE

PM 18159
APN 345-012-11
4690

MAP 15848
RESUB OF LA JOLLA COMMONS
APN 345-012-13
9381




4655
APN 345-012-20
PM 21051

4707
RESUB OF LA JOLLA COMMONS
MAP 15848

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1900173.17 | 6268048.81 | HPI BEND |
| 101 | 1900134.91 | 6268085.97 | HPI BEND |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | S89° 09'34" E | | 107.76' | 48" WSP (CML&TC) |
| 2 | S44° 09'34" E | | 53.33' | 48" WSP (CML&TC) |
| 3 | S89° 09'34" E | | 538.91' | 48" WSP (CML&TC) |

C-70

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 552+00 TO STA. 559+00 EXECUTIVE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 74 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-74-D

N W E S

0 40 80 120
SCALE 1" = 40'

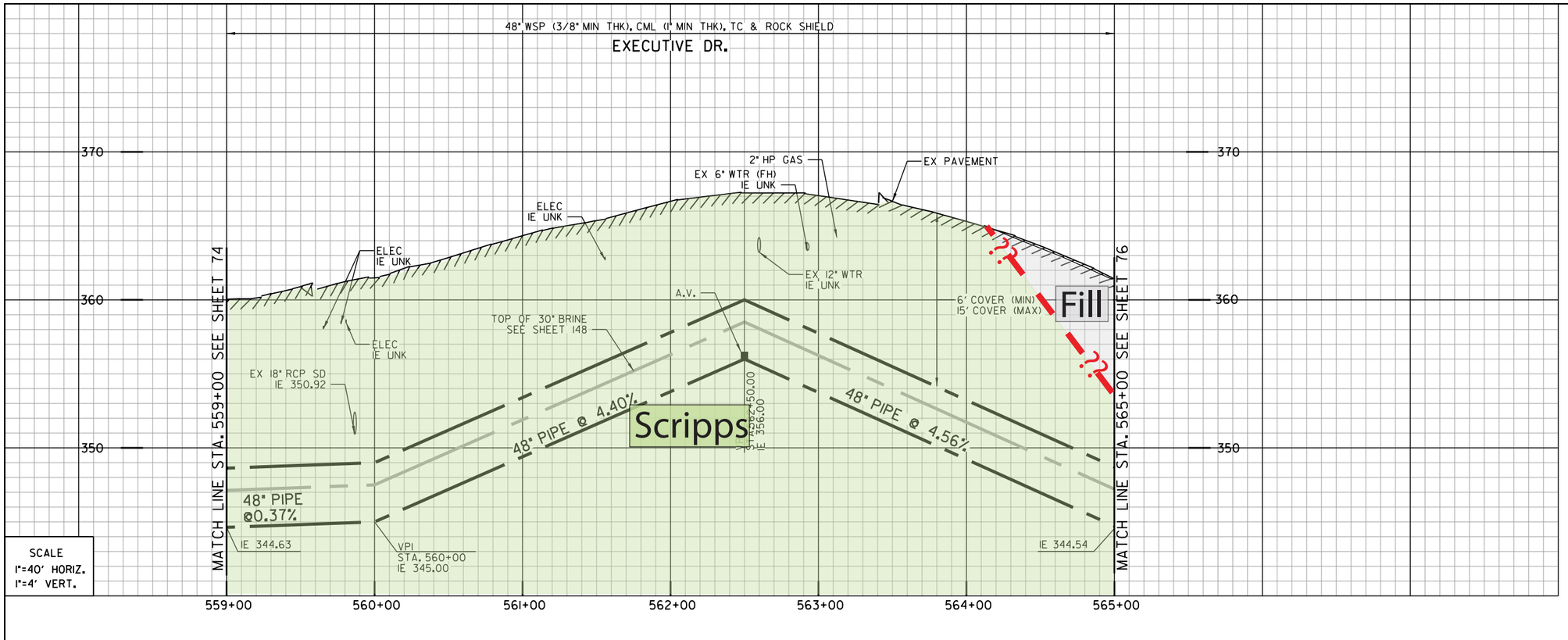
**CAUTION**

4" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM70.dgn

9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 561+78.48
1-45° HPI BEND

2 (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 561+94.47
1- 45° HPI BEND

3 (102)
BY CONTRACTOR
FURNISH AND INSTALL
STA. 652+50.00
1-6" COMBINATION AIR/VACUUM VALVE ASSY
W/ ODOR CONTROL VALVE
IN 8'X8' VAULT COMBINED W/ BRINE VALVES, LT
SEE DETAIL C-XX

4
BY CONTRACTOR
FURNISH AND INSTALL
CONNECT 4" DRAIN TO SEWER MANHOLE

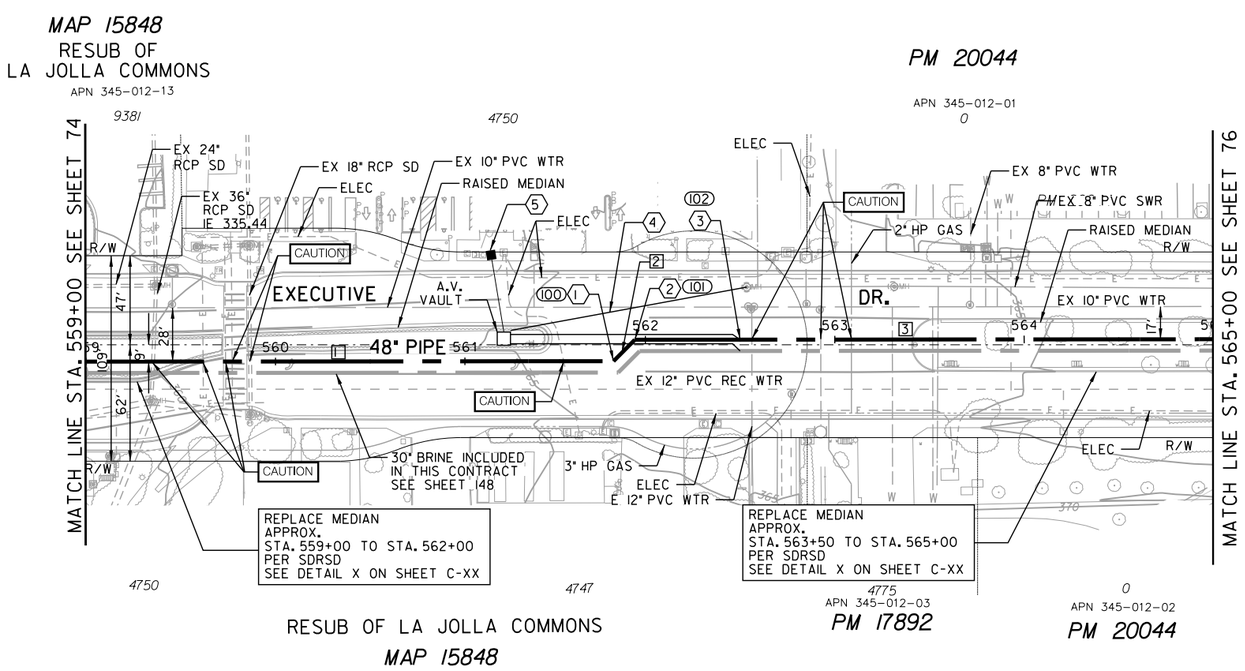
5
BY CONTRACTOR
FURNISH AND INSTALL
12" SIDEWALK VENT FOR VALVE VAULT
SEE DETAIL C-XX

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 31400-20-D, 33663-8-D |
| SEWER: | 24220-D, 33663-8-D, 26843-D(TUNNEL) |
| STORM DRAIN: | 24220-5-D, 31226-5-D, 33663-8-D |
| GAS: | 15780-119340 |
| ELECTRIC: | 15772-119345, 15780-119340 |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | 33663-8-D |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

EXECUTIVE DRIVE




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 100 | 1900122.92 | 6268903.27 | HPI BEND |
| 101 | 1900134.06 | 6268914.74 | HPI BEND |
| 102 | 1900133.24 | 6268970.26 | A.V. |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | S89° 09'34" E | | 278.48' | 48" WSP (CML&TC) |
| 2 | N45° 50'26" E | | 15.99' | 48" WSP (CML&TC) |
| 3 | S89° 09'34" E | | 305.53' | 48" WSP (CML&TC) |

C-71

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 559+00 TO STA. 565+00 EXECUTIVE DR.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 75 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA
FOR CITY ENGINEER
DATE
PRINT NAME
RCE#

SUBMITTED BY: LAILA NASRAWI
PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ
PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000
CCS27 COORDINATE

0000-0000
CCS83 COORDINATE

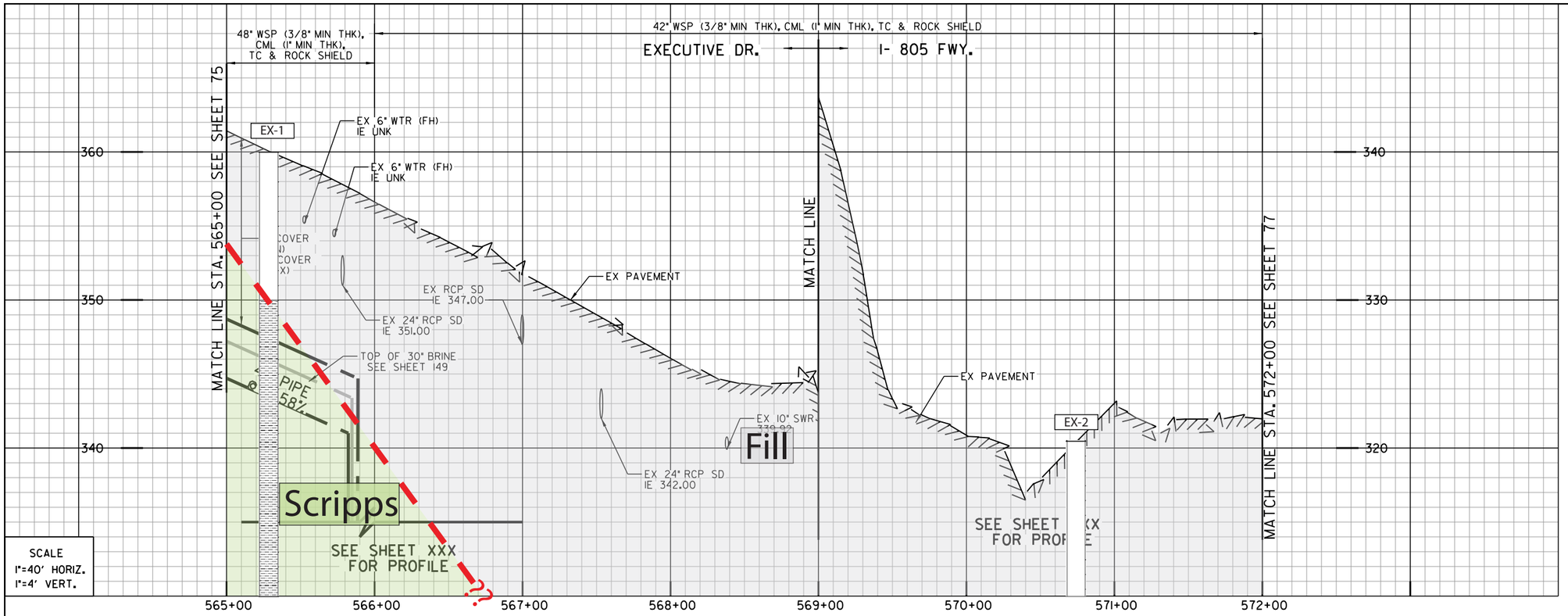
40067-75-D

REGISTERED PROFESSIONAL ENGINEER
JOSEPH F. LONG
C 54329
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

N
W
E
S
0 40 80 120
SCALE 1" = 40'

60% SUBMITTAL

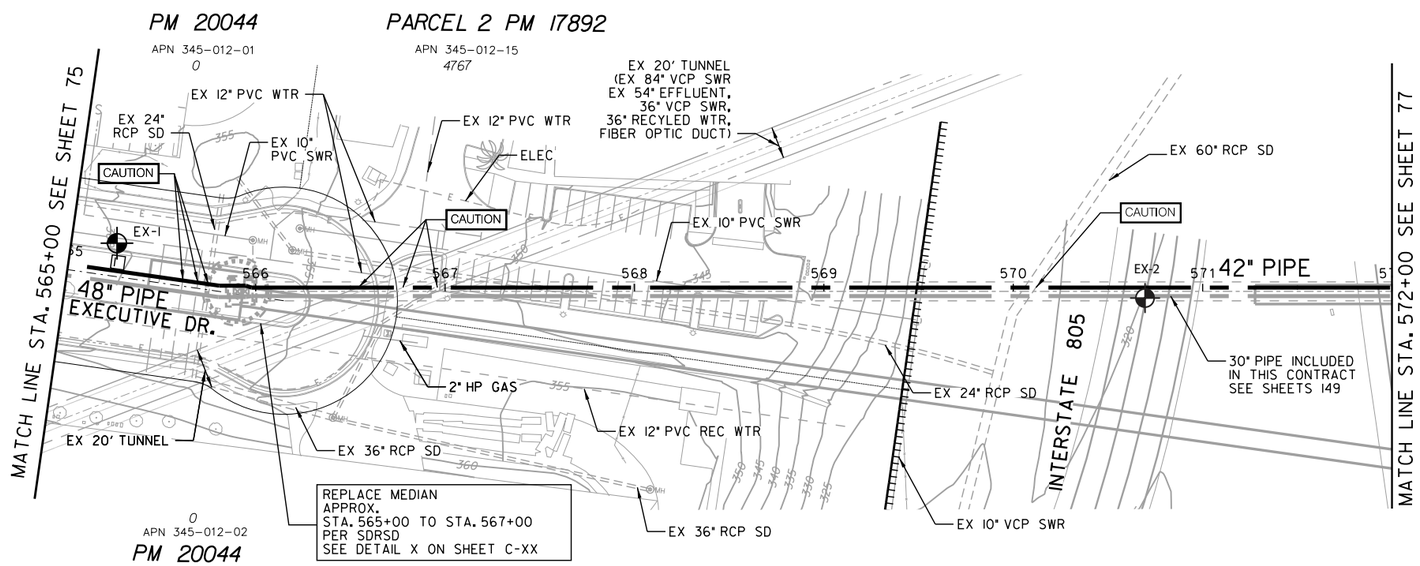


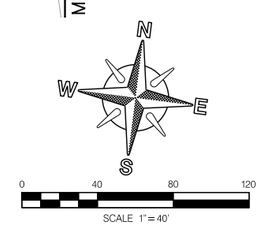

SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 13011-5-D, 24220-5-D |
| STORM DRAIN: | 242220-5-D |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

C-72

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 565+00 WESTERNLY OF I-805
TO STA. 572+00 EASTERNLY OF I-805

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 76 OF SHEETS

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

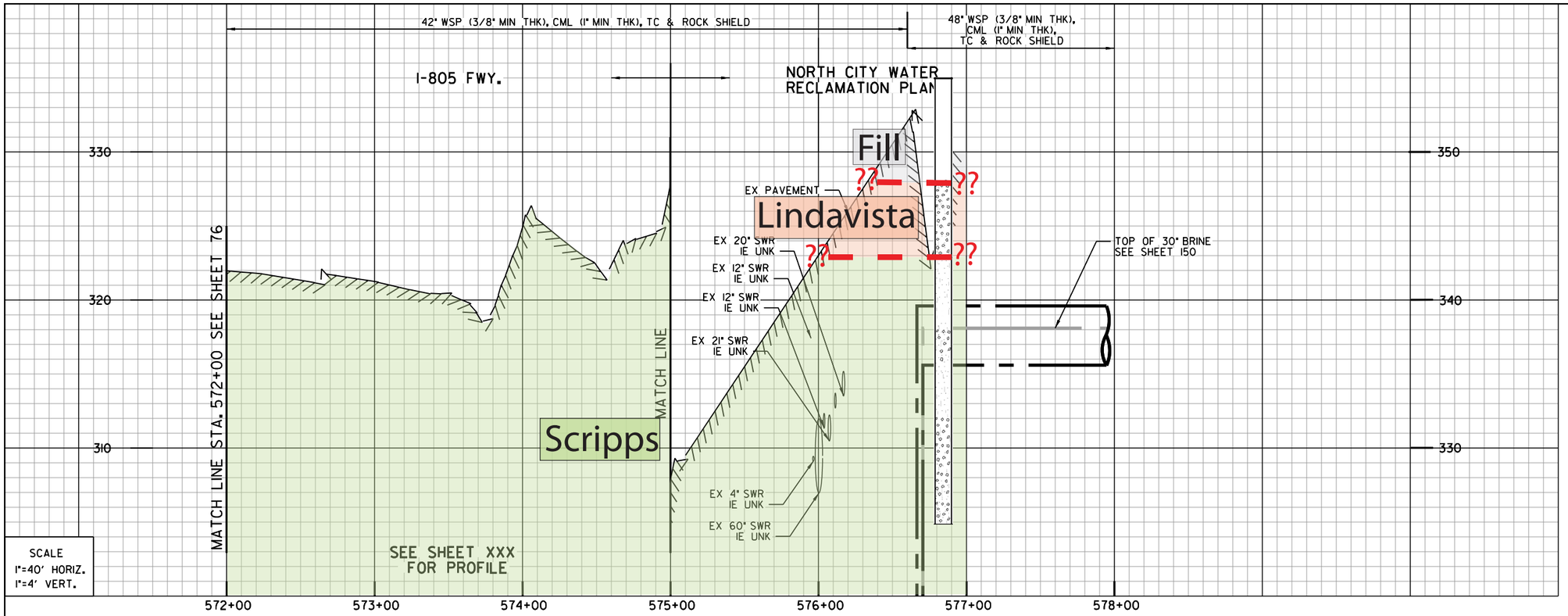
WATER WBS S-16027
SEWER WBS B-15141

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-76-D

EXECUTIVE DR. \ INTERSTATE I-805

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM72.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl

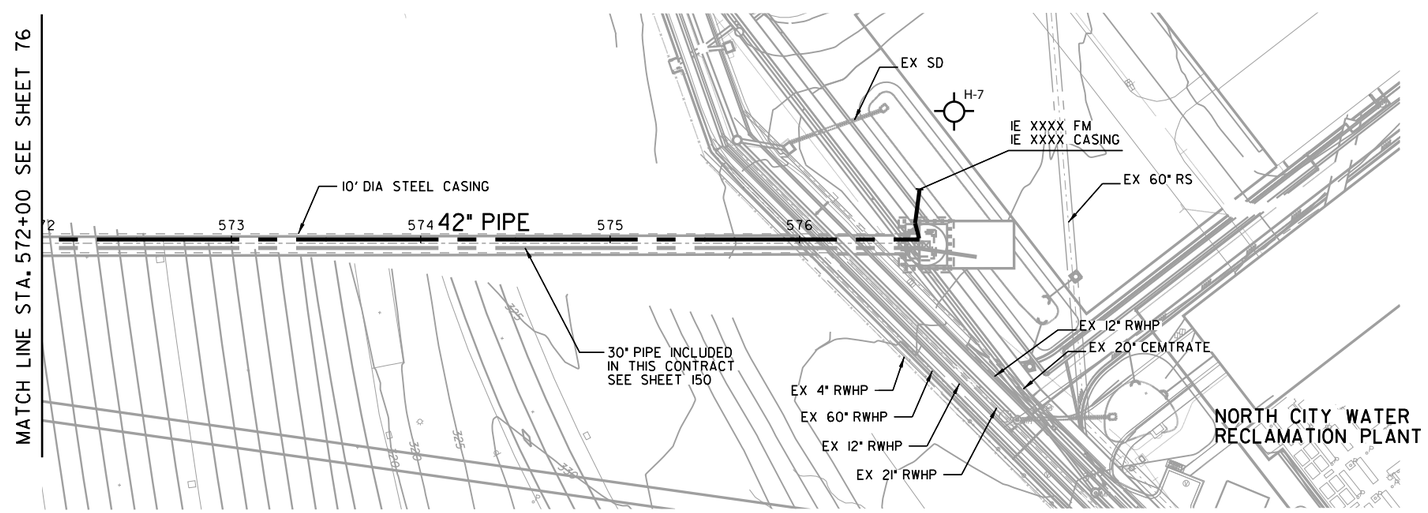



SCALE
1"=40' HORIZ.
1"=4' VERT.

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 13011-5-D, 24220-5-D, 26882-75-D |
| STORM DRAIN: | 242220-5-D |
| GAS: | NO INFO |
| ELECTRIC: | NO INFO |
| CABLE TV: | NO INFO |
| TELEEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




N
W
E
S
0 40 80 120
SCALE 1" = 40'

INTERSTATE I-805 \ NCWRP

C-73

MORENA PUMP STATION AND CONVEYANCE SYSTEM

SEWER FORCEMAIN

STA. 572+00 EASTERLY OF I-805 TO STA. 576+93.21 NCWRP

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 77 OF SHEETS

WATER WBS S-16027
SEWER WBS B-15141

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

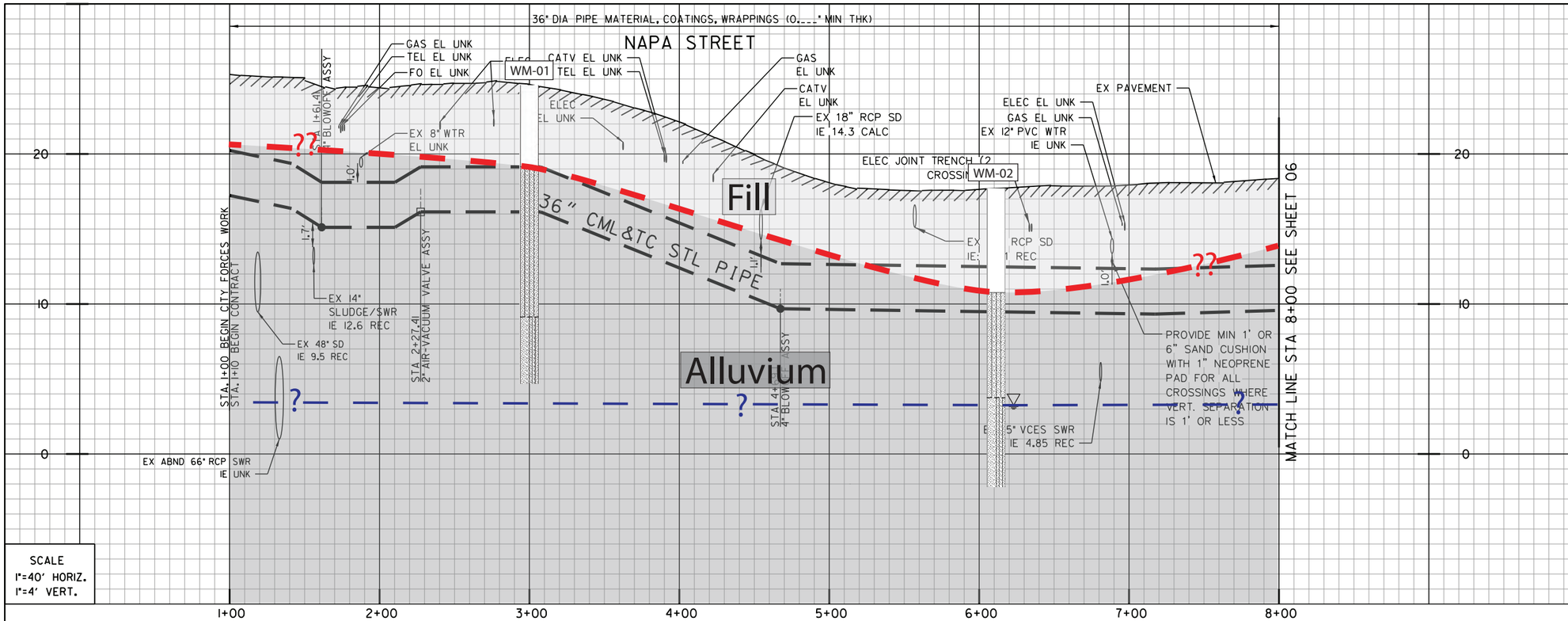
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

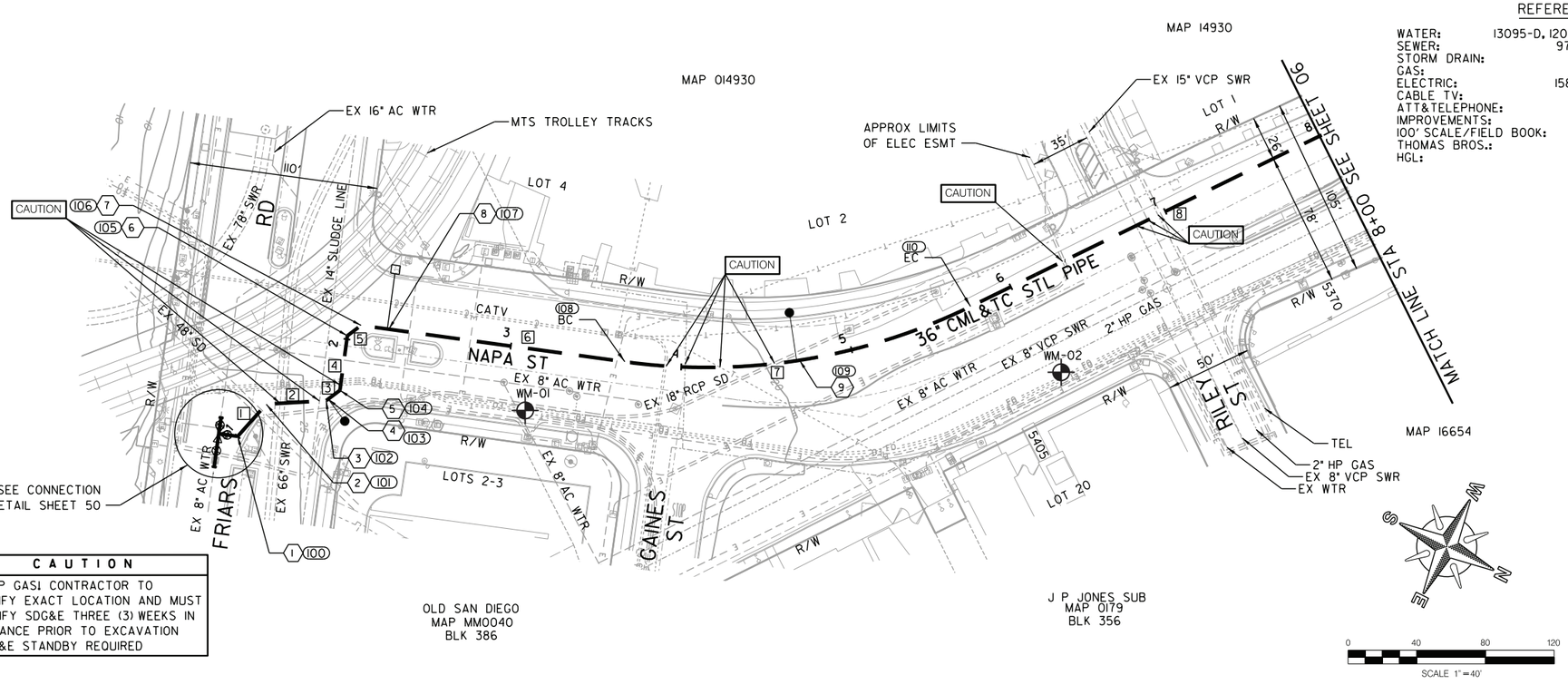
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-77-D

60% SUBMITTAL

\\Orange.na.aecomnet.com\Orange\DCS\Projects\WTR\60530732_SDPureWate\900-CAD-GIS\910-CAD\20-SHEETS\60530732-SHT-C-FM73.dgn
9/11/2017 wangl10 FULL-BW with pen.pltcfg sd-full.tbl




**CAUTION**

2" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

(1) (100) BY CONTRACTOR FURNISH AND INSTALL
STA 1+00.00
1- POB

(2) (101) BY CONTRACTOR FURNISH AND INSTALL
STA 1+25.00
1- 45° HORIZ BEND

(3) (102) BY CONTRACTOR FURNISH AND INSTALL
STA 1+60.00
1- 45° HORIZ BEND

(4) (103) BY CONTRACTOR FURNISH AND INSTALL
STA 1+61.409
1- 4" B.O. ASSY

(5) (104) BY CONTRACTOR FURNISH AND INSTALL
STA 1+70.00
1- 45° HORIZ BEND

(6) (105) BY CONTRACTOR FURNISH AND INSTALL
STA 2+02.00
1- 45° HORIZ BEND

(7) (106) BY CONTRACTOR FURNISH AND INSTALL
STA 2+12.00
1- 1-45° HORIZ BEND

(8) (107) BY CONTRACTOR FURNISH AND INSTALL
STA 2+27.41
1- 2" AIR & VACUUM VALVE ASSY

(9) (109) BY CONTRACTOR FURNISH AND INSTALL
STA 4+69.1
1- 4" B.O. ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-3 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

**COORDINATE TABLE**

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (100) | 1858898.79 | 627 1156.46 | POB |
| (101) | 1858905.35 | 627 1132.33 | HPI |
| (102) | 1858935.72 | 627 1114.94 | HPI |
| (103) | 1858936.35 | 627 1113.68 | B.O. ASSY |
| (104) | 1858940.18 | 627 1105.99 | HPI |
| (105) | 1858930.00 | 627 1075.65 | HPI |
| (106) | 1858934.46 | 627 1066.70 | HPI |
| (107) | 1858934.46 | 627 1066.69 | ARV ASSY |
| (108) | 1859081.41 | 627 1017.40 | BC |
| (109) | 1859172.14 | 627 0971.37 | B.O. ASSY |
| (110) | 1859247.42 | 6270899.11 | EC |

**PROPOSED PIPE DATA TABLE**

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N74° 47'38"W | | 25.0' | 36" CML&TC STL |
| 2 | N29° 47'38"W | | 35.0' | 36" CML&TC STL |
| 3 | N63° 32'38"W | | 10.0' | 36" CML&TC STL |
| 4 | S71° 27'22"W | | 32.0' | 36" CML&TC STL |
| 5 | N63° 32'38"W | | 10.0' | 36" CML&TC STL |
| 6 | N18° 32'38"W | | 155.0' | 36" CML&TC STL |
| 7 | 33° 51'38" | 350' | 206.84' | 36" CML&TC STL |
| 8 | N52° 24'17"W | | 226.16' | 36" CML&TC STL |

**REFERENCE:**

WATER: 13095-D, 12067-D, 33302-D, 27152-D
SEWER: 9702-L, 9707-L, 32973-D
STORM DRAIN: 13095-D
GAS: 15795-118930
ELECTRIC: 15802-118930, 15795-118935
CABLE TV: 105-210
ATT&TELEPHONE: NO INFO
IMPROVEMENTS: NO INFO
100' SCALE/FIELD BOOK:
THOMAS BROS.:
HGL:

NAPA STREET

C-1

# MORENA PUMP STATION AND CONVEYANCE SYSTEM

## 36" WATER TRANSMISSION

STA 1+00 FRIARS RD TO STA 8+00 AT NAPA ST

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 05 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

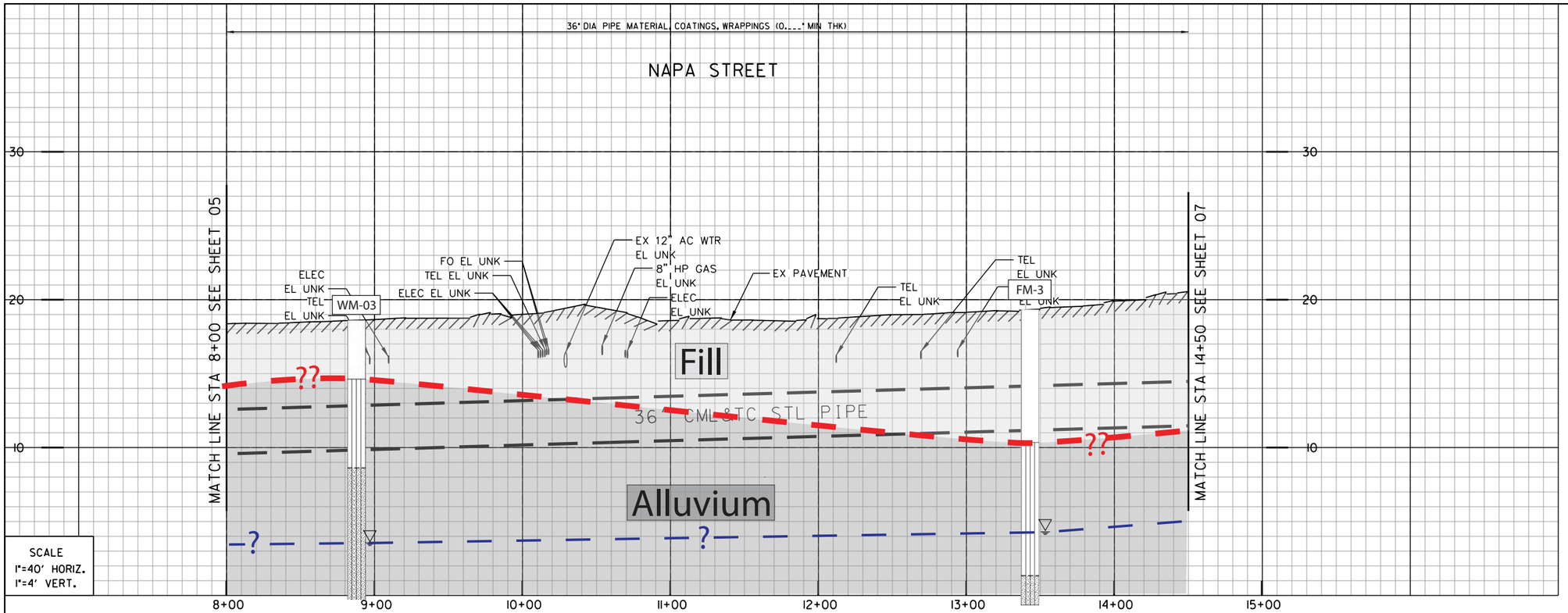
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-05-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR1.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




1 112
BY CONTRACTOR
FURNISH AND INSTALL
STA 9+62.97
1- 45° HORIZ BEND

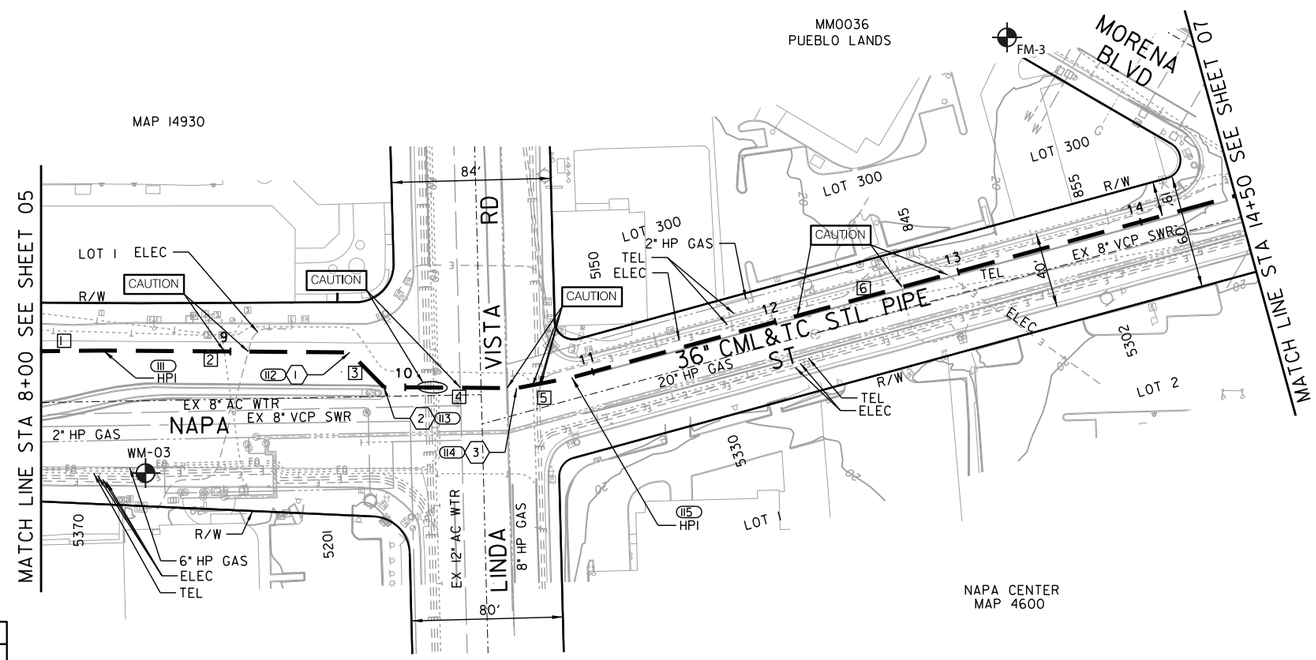
2 113
BY CONTRACTOR
FURNISH AND INSTALL
STA 9+88.82
1- 45° HORIZ BEND

3 114
BY CONTRACTOR
FURNISH AND INSTALL
STA 10+62.44
1- 11.25° HORIZ BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 14439-D |
| SEWER: | 9707-L, 10437-D, 9702-L |
| STORM DRAIN: | NO INFO |
| GAS: | 15795-118935, 15795-118940 |
| ELECTRIC: | 15795-118935, 15795-118940 |
| CABLE TV: | 105-210 |
| ATT&TELEPHONE: | BL01970, uni308dd |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| CAUTION |
|---|
| 20" & 8" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 111 | 1859405.45 | 6270693.86 | HPI |
| 112 | 1859486.59 | 6270592.17 | HPI |
| 113 | 1859512.23 | 6270589.29 | HPI |
| 114 | 1859555.89 | 6270534.58 | HPI |
| 115 | 1859569.52 | 6270508.2 | 4.38° BEND |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N52° 24'17"W | | 32.89' | 36" CML&TC STL |
| 2 | N51° 24'45"W | | 130.09' | 36" CML&TC STL |
| 3 | N6° 24'45"W | | 25.8' | 36" CML&TC STL |
| 4 | N51° 24'45"W | | 70.0' | 36" CML&TC STL |
| 5 | N62° 39'45"W | | 29.69' | 36" CML&TC STL |
| 6 | N67° 08'49"W | | 361.54' | 36" CML&TC STL |

NAPA STREET

C-2

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 8+00 TO STA 14+50 AT NAPA ST

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 06 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

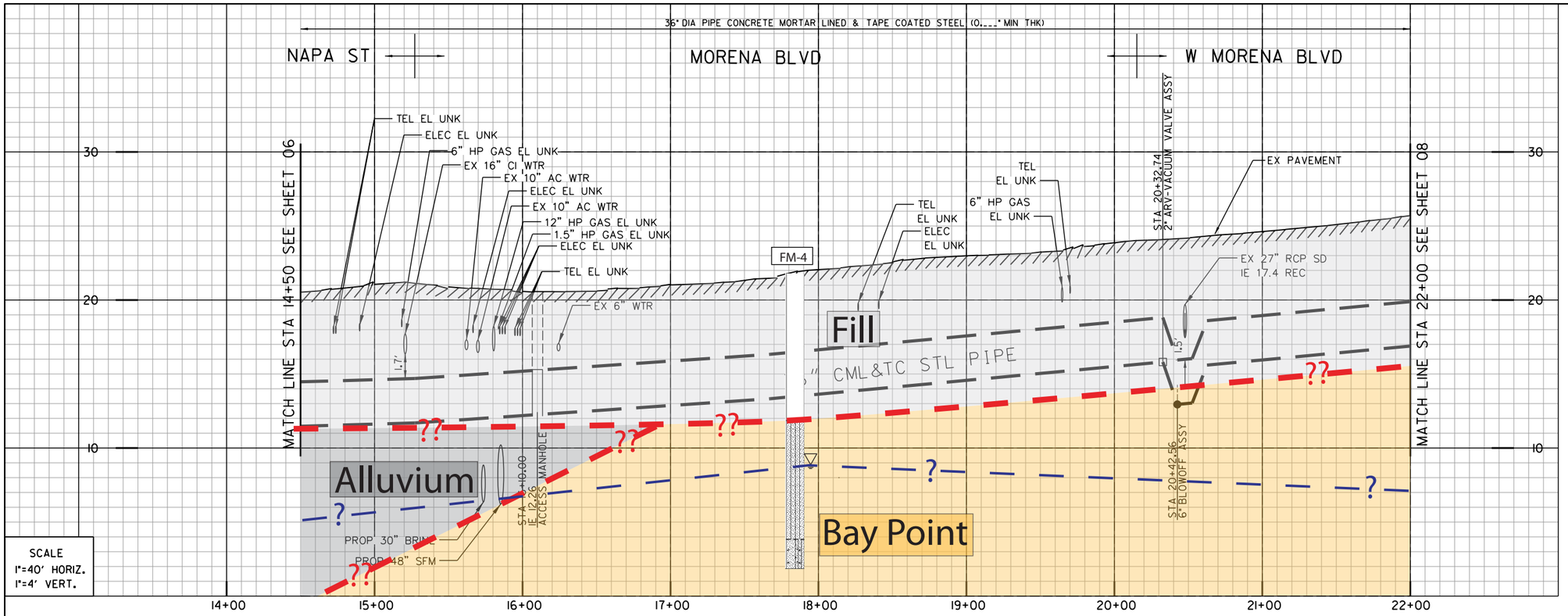
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-06-D

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR2.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.

① (116)
BY CONTRACTOR
FURNISH AND INSTALL
STA 14+67.17
1- 45° HORIZ BEND

② (117)
BY CONTRACTOR
FURNISH AND INSTALL
STA 15+27.17
1- 45° HORIZ BEND

③ (118)
BY CONTRACTOR
FURNISH AND INSTALL
STA 15+44.73
1- 45° HORIZ BEND

④ (119)
BY CONTRACTOR
FURNISH AND INSTALL
STA 16+10.00
1- ACCESS MH

⑤ (121)
BY CONTRACTOR
FURNISH AND INSTALL
STA 20+32.74
1- 4" AIR-VACUUM VALVE ASSY

⑥ (122)
BY CONTRACTOR
FURNISH AND INSTALL
STA 20+42.56
1- 6" B.O. ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

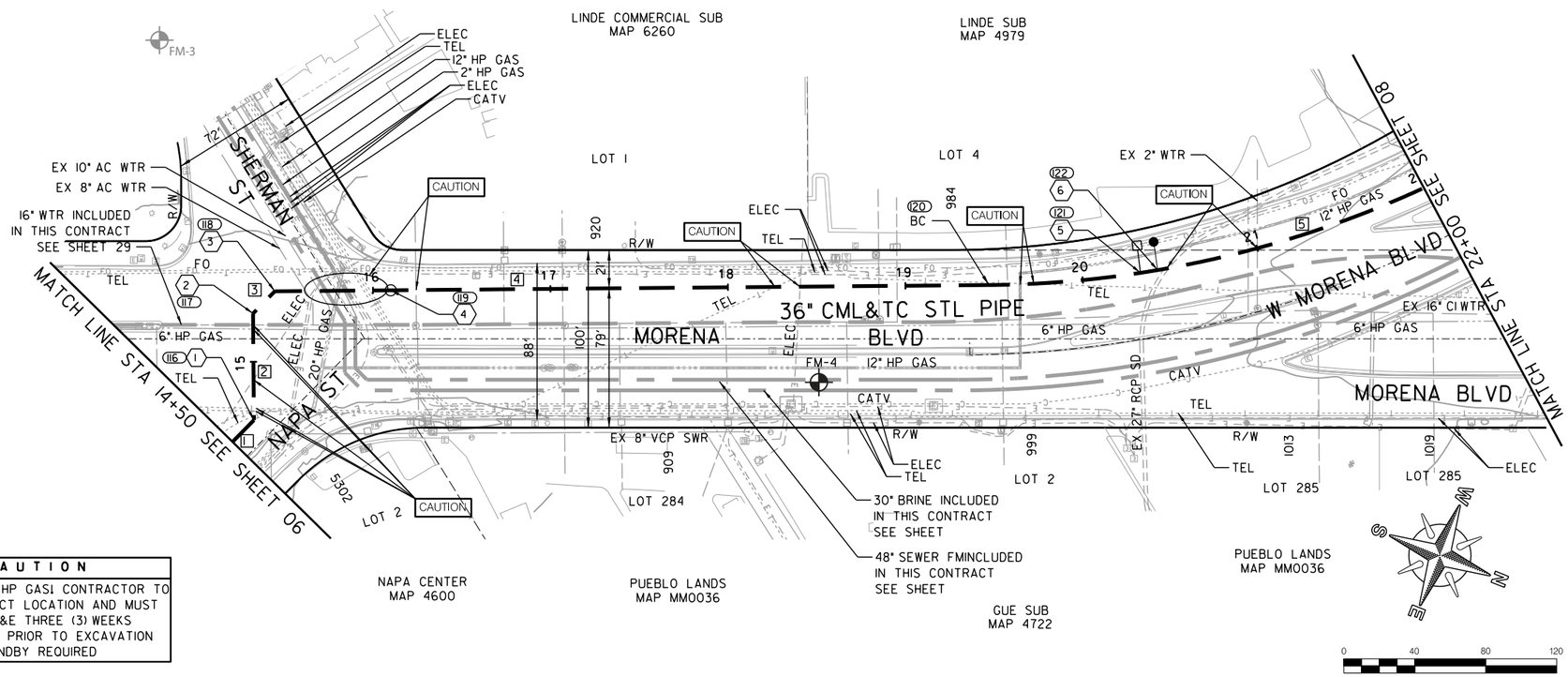
| | |
|---|---|
| WATER: | 7104-W |
| SEWER: | 10437-D |
| STORM DRAIN: | 7203-D |
| GAS: | 15787-118945 |
| ELECTRIC: | 15787-118940 |
| CABLE TV: | 218-1707, 218-1710 |
| ATT&TELEPHONE: | BLQ1969, UNL3306BA |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 116 | 1859716.60 | 6270159.22 | HPI |
| 117 | 1859693.98 | 6270103.65 | HPI |
| 118 | 1859700.80 | 6270087.46 | HPI |
| 119 | 1859761.25 | 6270062.86 | ACCESS MH |
| 120 | 1860073.41 | 6269935.80 | BC |
| 121 | 1860150.23 | 6269897.94 | ARV ASSY |
| 122 | 1860158.67 | 6269892.91 | B.O. ASSY |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N67° 08'49"W | | 17.17' | 36" CML&TC STL |
| 2 | N22° 08'49"W | | 60.0' | 36" CML&TC STL |
| 3 | N67° 08'49"W | | 17.57'' | 36" CML&TC STL |
| 4 | N22° 08'49"W | | 402.29' | 36" CML&TC STL |
| 5 | 24° 09'27" | 600' | 252.97' | 36" CML&TC STL |




CAUTION

20",12" & 6" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-3

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 14+50 AT NAPA ST TO STA 22+00 AT W MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 07 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

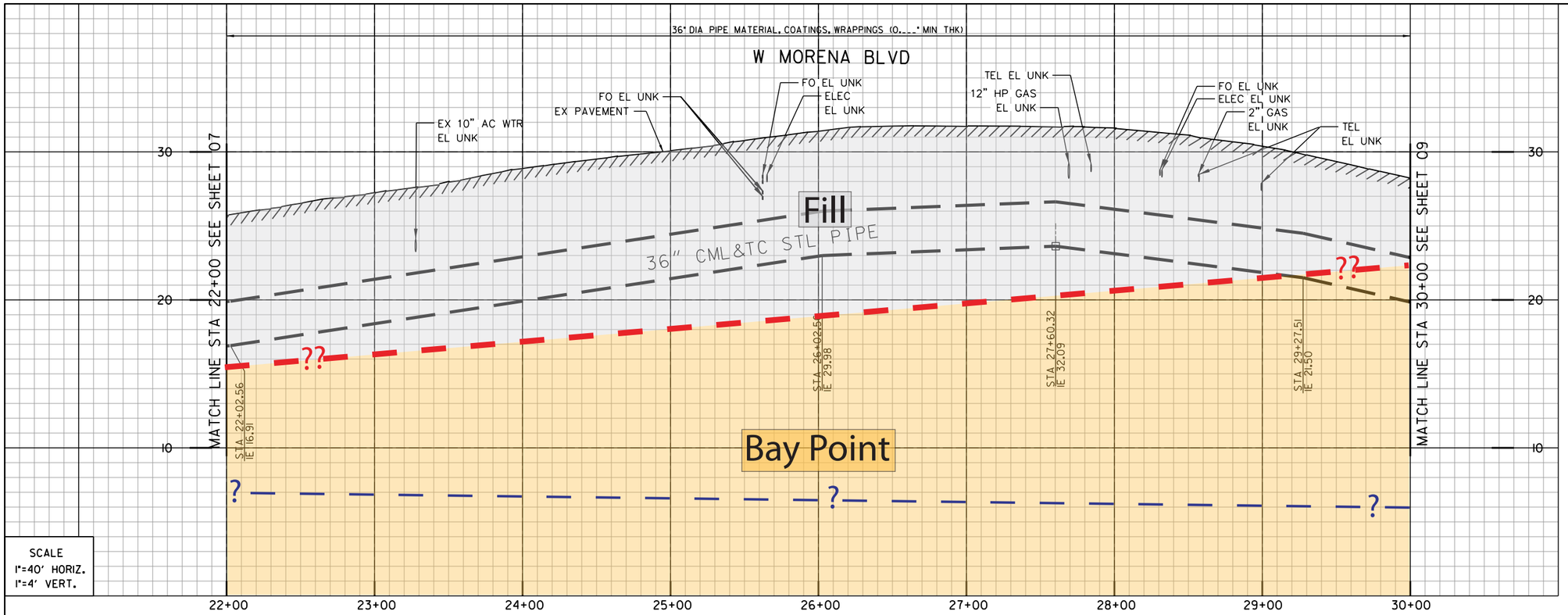
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

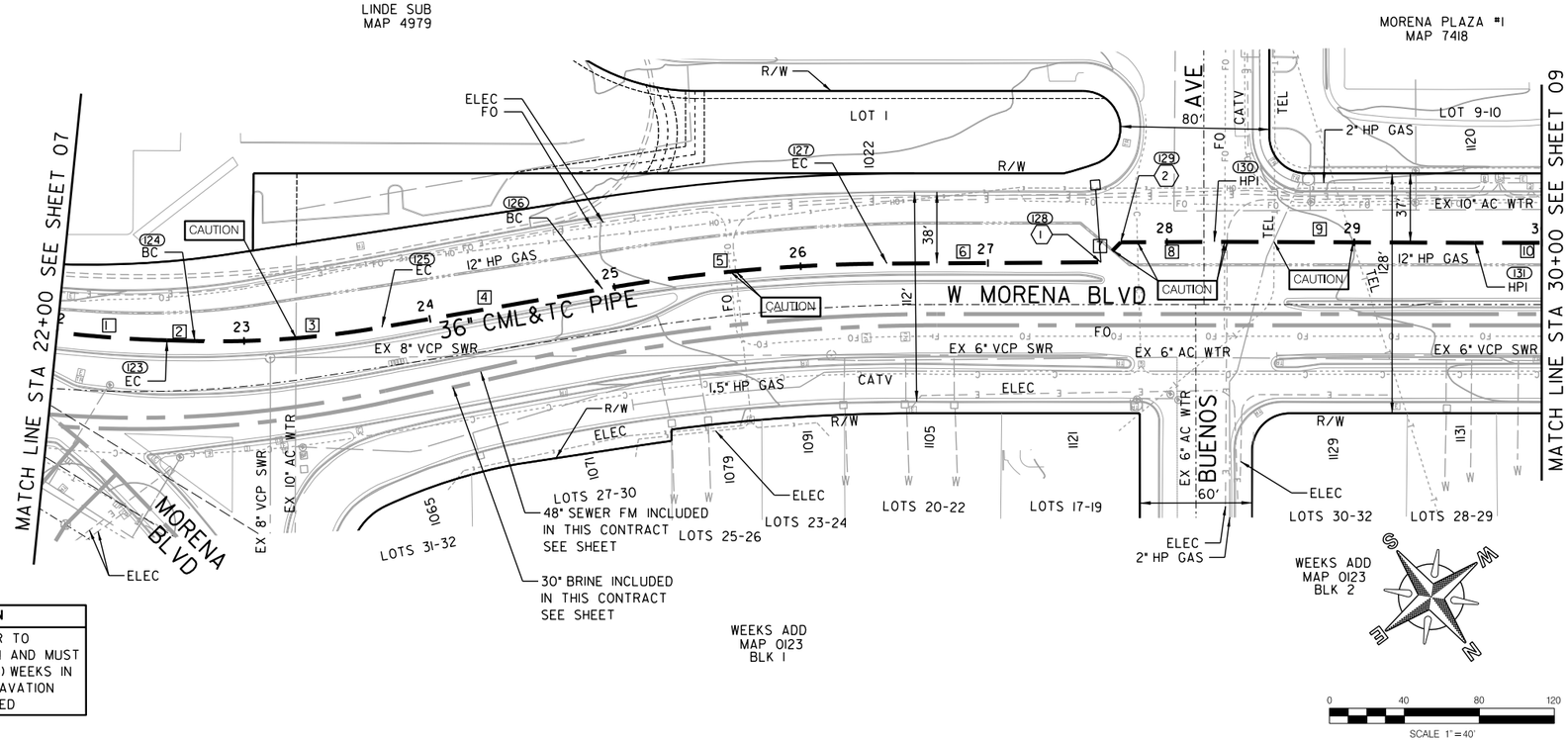
40067-07-D

NAPA ST / MORENA BLVD / W MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR3.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




**CAUTION**

12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

(1) (128)
BY CONTRACTOR
FURNISH AND INSTALL
STA 27+60.31
1- 45° HORIZ BEND
1- 2" AIR VACUUM VALVE ASSY

(2) (129)
BY CONTRACTOR
FURNISH AND INSTALL
STA 27+75.32
1- 45° HORIZ BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7320-W, 7321-W, 7322-W |
| SEWER: | 1346-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15780-118950, 15780-118945 |
| ELECTRIC: | NO INFO |
| CABLE TV: | 218-1710A |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 123 | 1860319.56 | 6269750.07 | EC |
| 124 | 1860328.69 | 6269738.42 | BC |
| 125 | 1860382.41 | 6269653.88 | EC |
| 126 | 1860436.28 | 6269547.24 | BC |
| 127 | 1860516.05 | 6269417.35 | EC |
| 128 | 1860583.68 | 6269325.29 | HPI/ARV |
| 129 | 1860581.42 | 6269310.46 | HPI |
| 130 | 1860611.02 | 6269270.17 | HPI |
| 131 | 1860694.45 | 6269158.92 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 5° 37'21" | 600' | 58.88' | 36" CML&TC STL |
| 2 | N51° 55'36"W | | 14.8' | 36" CML&TC STL |
| 3 | 11° 16'19" | 510' | 100.33' | 36" CML&TC STL |
| 4 | N63° 11'55"W | | 119.47' | 36" CML&TC STL |
| 5 | 9° 30'14" | 920' | 152.60' | 36" CML&TC STL |
| 6 | N53° 41'41"W | | 114.23' | 36" CML&TC STL |
| 7 | S81° 18'19"W | | 15.00' | 36" CML&TC STL |
| 8 | N53° 41'41"W | | 50.00' | 36" CML&TC STL |
| 9 | N53° 08'1"W | | 139.06' | 36" CML&TC STL |
| 10 | N53° 24'23"W | | 35.62' | 36" CML&TC STL |

C-4

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 22+00 TO STA 30+00 AT W MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 08 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-08-D

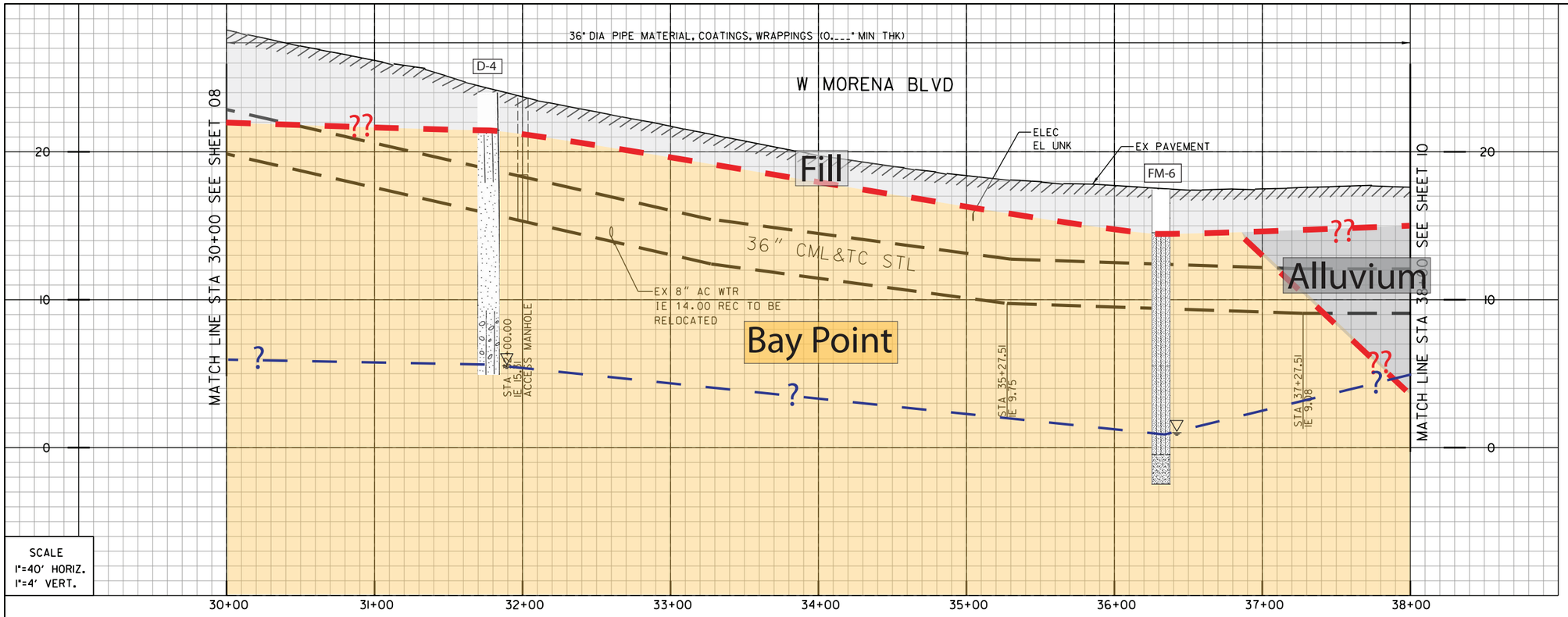
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

W MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR4.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (131)
BY CONTRACTOR
FURNISH AND INSTALL
STA 32+00.00
1- ACCESS MANHOLE

1 (136)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 39+20.98
1- 45° HORIZ BEND

2 (137)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 39+47.51
1- 4" BLOWOFF ASSY

3 (138)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 39+50.97
1- 45° HORIZ BEND

4 (141)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 40+92.79
1- 11.25° HORIZ BEND

5 (142)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 41+39.05
1- 22.5° HORIZ BEND

6 (143)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 43+93.73
1- 45° HORIZ BEND

7 (144)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 44+28.73
1- 45° HORIZ BEND

8 (145)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 44+73.73
1- 45° HORIZ BEND

9 (146)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 44+83.73
1- 4" BLOWOFF ASSY
1- 33.40° HORIZ BEND

10 (147)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 45+53.73
1- 45° HORIZ BEND

11 (148)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 45+75.73
1- 22.5° HORIZ BEND

12 (149)*
BY CONTRACTOR
FURNISH AND INSTALL
STA 32+00.00
1- 2" AIR-VACCUM VALVE ASSY
1- 61.94° HORIZ BEND

*CONTRACTOR NOTES
CORRESPOND TO C-6

REFERENCE:

| | |
|---|---|
| WATER: | 7321-W, 15368-D |
| SEWER: | 1346-D, 30417-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15772-118955 |
| ELECTRIC: | 15780-118950 |
| CABLE TV: | NO INFO |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

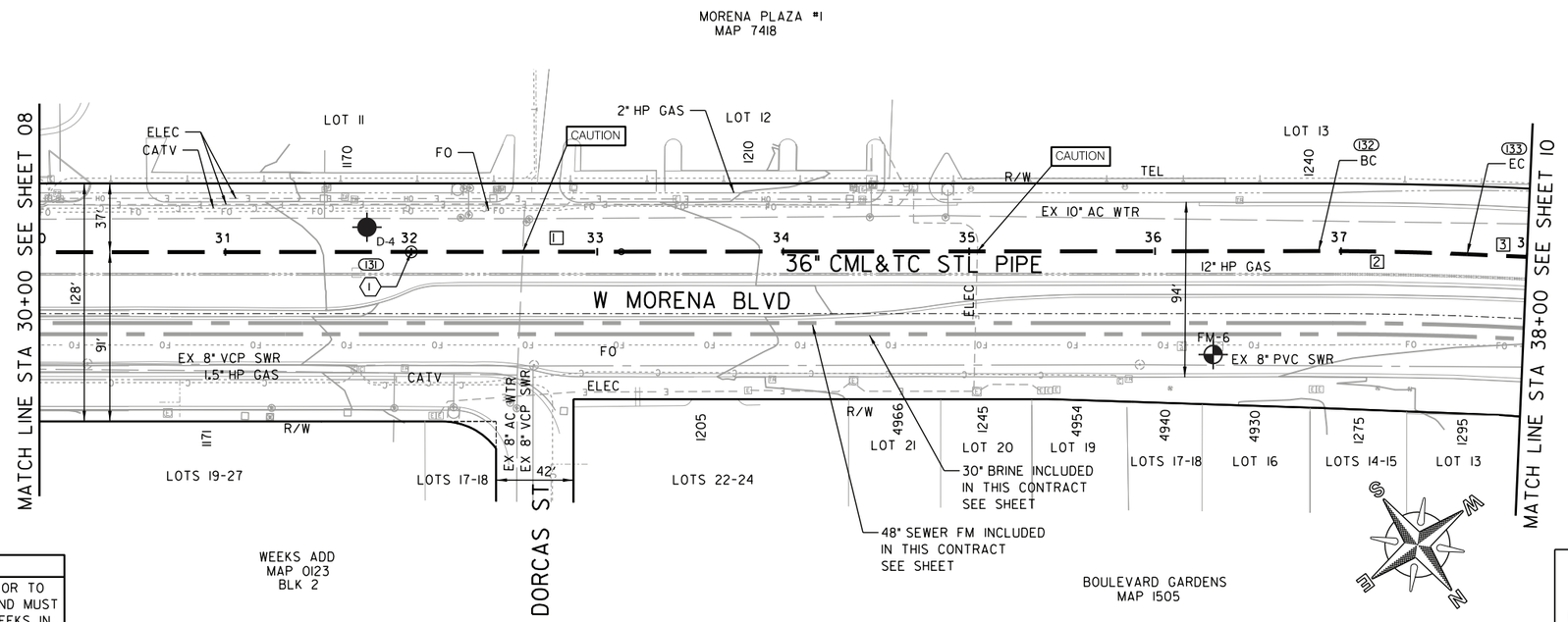
COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (131) | 1860834.91 | 6268969.74 | MANHOLE |
| (132) | 1861125.79 | 6268577.97 | BC |
| (133) | 1861174.84 | 6268514.89 | EC |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N53° 24'23"W | | 687.95' | 36" CML&TC STL |
| 2 | 2° 32'38" | 1800' | 79.92' | 36" CML&TC STL |
| 3 | N50° 51'46"W | | 32.14' | 36" CML&TC STL |

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
Boring
Boring - AGE, 2017
Boring - CWP, 1992
Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)




CAUTION

12" & 2" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

W MORENA BLVD

C-5

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 30+00 TO STA 38+00 AT W MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 09 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

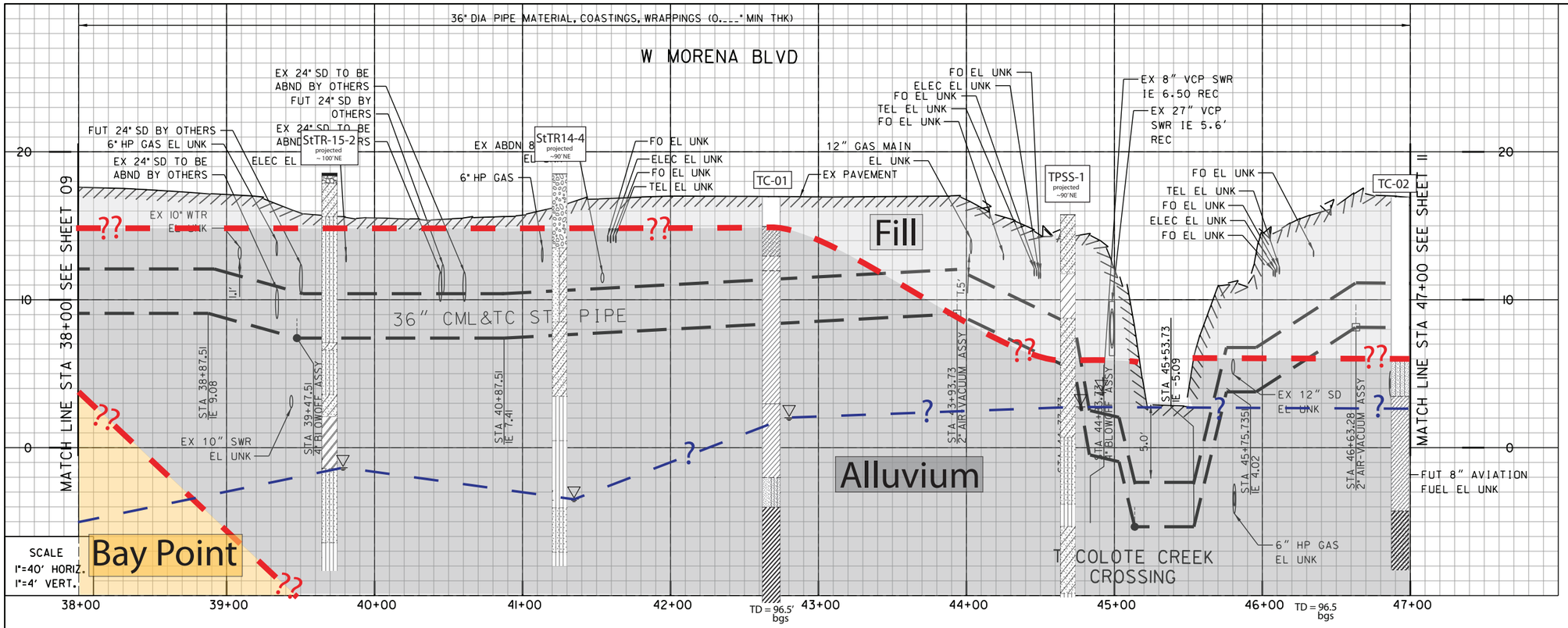
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-09-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR5.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$



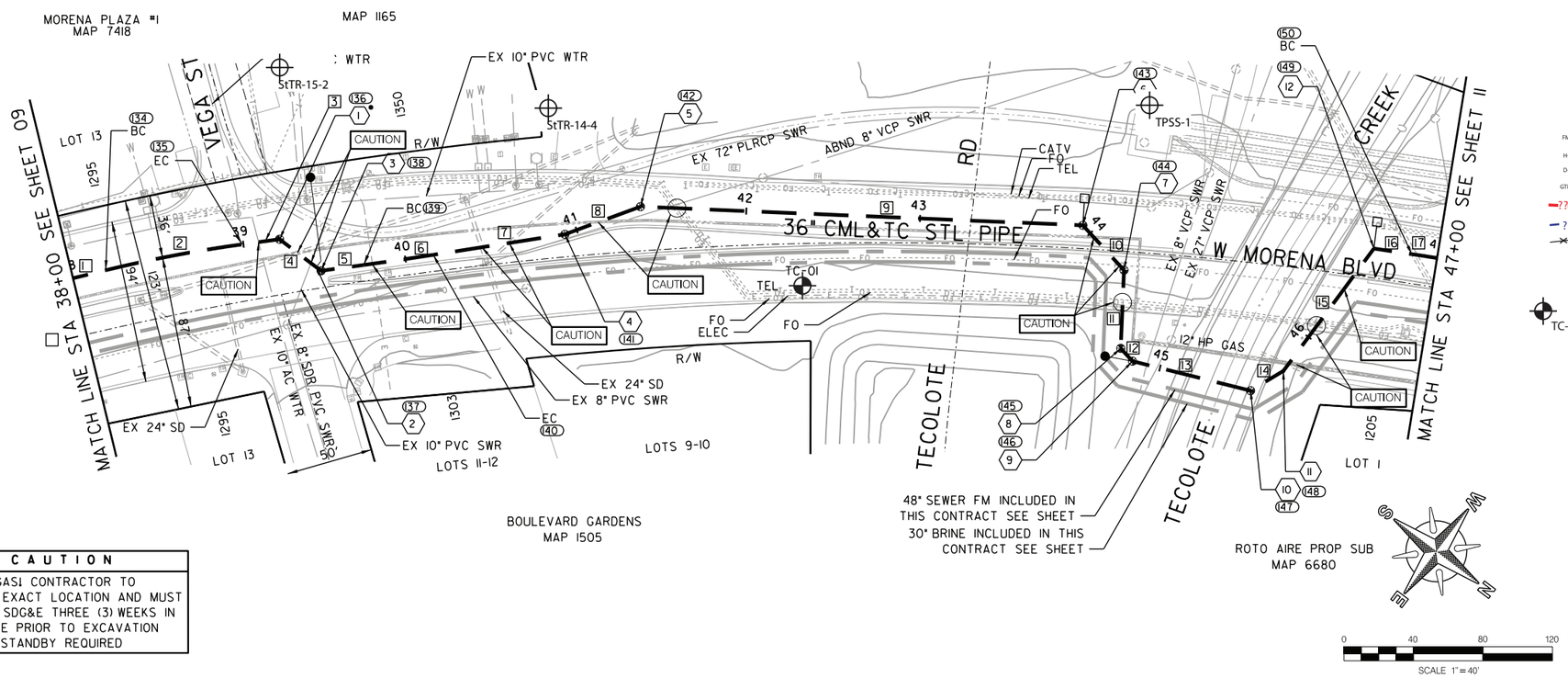

•SEE CONSTRUCTION NOTES ON SHEET C-5

REFERENCE:

WATER: 15934-D, 15368-D
SEWER: 30417-D, 28217-D, 25119-D, 3503-D, 1346-D, 16851-D, 30417-D
STORM DRAIN: NO INFO
GAS: 15772-118955, 15772-118960
ELECTRIC: NO INFO
CABLE TV: 104-211,
ATT&TELEPHONE: NO INFO
IMPROVEMENTS: NO INFO
100' SCALE/FIELD BOOK:
THOMAS BROS.:
HGL:

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 134 | 1861207.38 | 6268474.91 | BC |
| 135 | 1861260.89 | 6268415.62 | EC |
| 136 | 1861276.21 | 6268400.31 | HPI |
| 137 | 1861302.74 | 6268400.31 | B.O. |
| 138 | 1861306.21 | 6268400.31 | HPI |
| 139 | 1861323.75 | 6268382.78 | BC |
| 140 | 1861352.04 | 6268353.97 | EC |
| 141 | 1861405.23 | 6268298.80 | HPI |
| 142 | 1861430.23 | 6268259.87 | HPI |
| 143 | 1861639.37 | 6268114.54 | HPI/ARV |
| 144 | 1861673.82 | 6268120.74 | HPI |
| 145 | 1861699.50 | 6268157.69 | HPI |
| 146 | 1861709.34 | 6268159.46 | HPI/B.O. |
| 147 | 1861773.68 | 6268131.90 | HPI |
| 148 | 1861781.86 | 6268111.47 | HPI |
| 149 | 1861780.80 | 6268023.93 | HPI |
| 150 | 1861800.10 | 6268013.34 | BC |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N50° 51'46"W | | 19.4' | 36" CML&TC STL |
| 2 | 5° 52'09" | 780' | 79.9' | 36" CML&TC STL |
| 3 | N44° 59'37"W | | 21.67' | 36" CML&TC STL |
| 4 | N0° 00'23"W | | 30.0' | 36" CML&TC STL |
| 5 | N44° 59'37"W | | 24.79' | 36" CML&TC STL |
| 6 | 1° 03'06" | 2200' | 40.37' | 36" CML&TC STL |
| 7 | N46° 02'43"W | | 76.64' | 36" CML&TC STL |
| 8 | N57° 17'43"W | | 46.27' | 36" CML&TC STL |
| 9 | N34° 47'43"W | | 254.68' | 36" CML&TC STL |
| 10 | N10° 12'17"E | | 35.0' | 36" CML&TC STL |
| 11 | N55° 12'17"E | | 45.0' | 36" CML&TC STL |
| 12 | N10° 12'17"E | | 10.0' | 36" CML&TC STL |
| 13 | N23° 11'32"W | | 70.0' | 36" CML&TC STL |
| 14 | N68° 11'32"W | | 22.0' | 36" CML&TC STL |
| 15 | S89° 18'28"W | | 87.55' | 36" CML&TC STL |
| 16 | N28° 45'05"W | | 22.01' | 36" CML&TC STL |
| 17 | 0° 25'16" | 2000' | 14.70' | 36" CML&TC STL |




- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

| CAUTION |
|---|
| 12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

C-6

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 38+00 TO STA 47+00 AT W MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 10 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

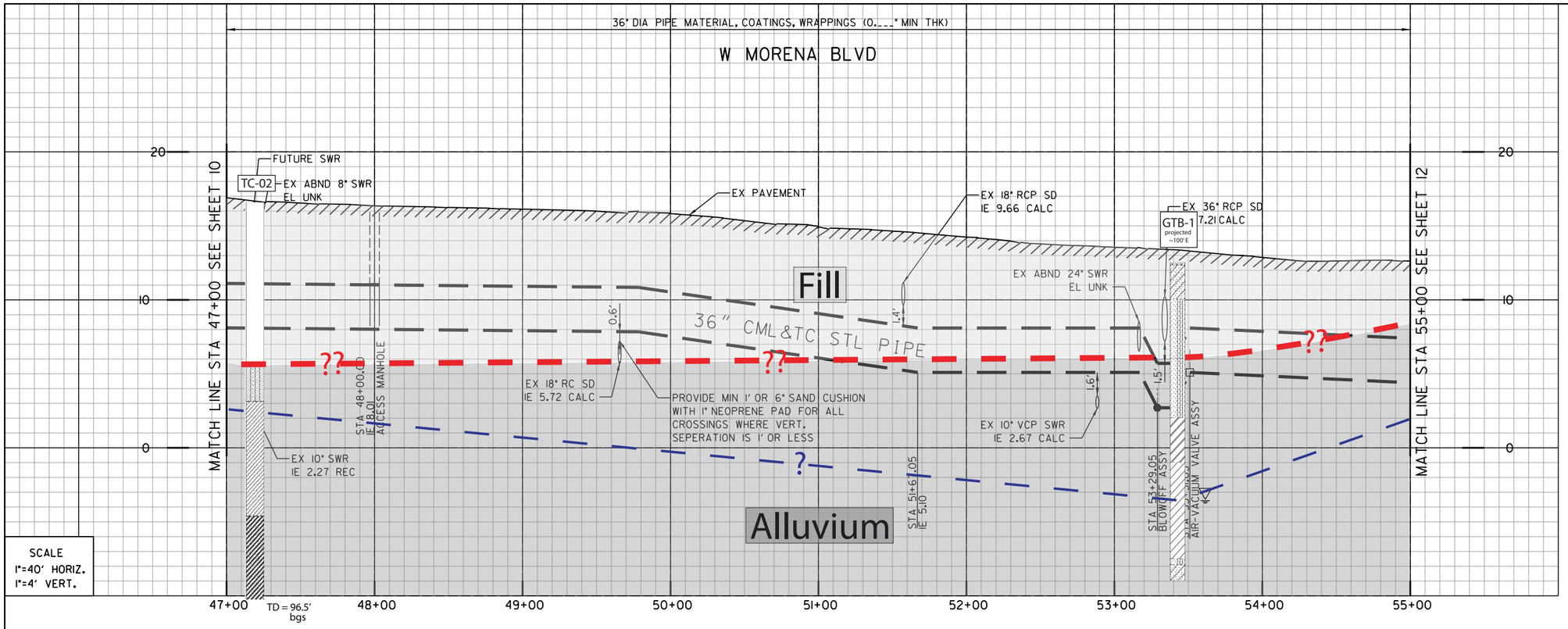
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-10-D

W MORENA BLVD

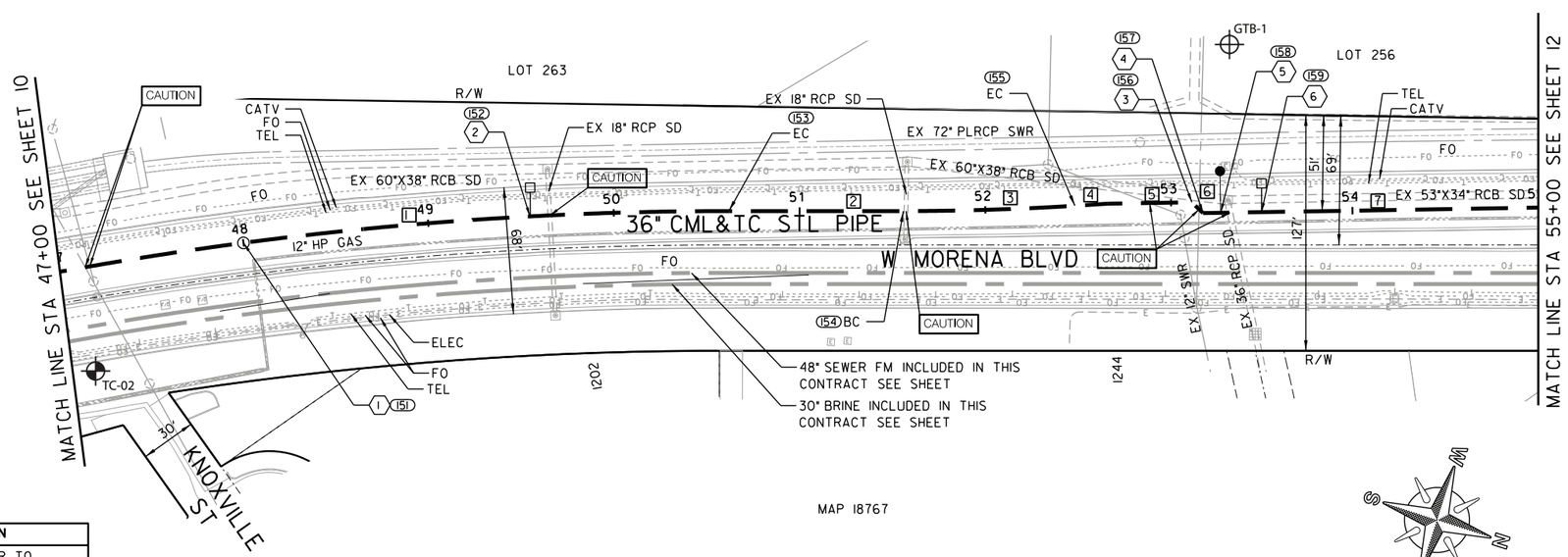
60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR6.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

PUEBLO LANDS
MAP MM0036




MAP 18767

**CAUTION**

12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

(1) (151)
BY CONTRACTOR
FURNISH AND INSTALL
STA 48+00.00
1- ACCESS MANHOLE

(2) (152)
BY CONTRACTOR
FURNISH AND INSTALL
STA 49+55.05
1- 4" BLOWOFF ASSY

(3) (156)
BY CONTRACTOR
FURNISH AND INSTALL
STA 53+11.20
1- 45° HORIZ BEND

(4) (157)
BY CONTRACTOR
FURNISH AND INSTALL
STA 53+19.54
1- 45° HORIZ BEND

(5) (158)
BY CONTRACTOR
FURNISH AND INSTALL
STA 53+29.05
1- 4" BLOWOFF ASSY

(6) (159)
BY CONTRACTOR
FURNISH AND INSTALL
STA 53+51.05
1- 2" AIR-VACUUM VALVE ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | NO INFO |
| SEWER: | 25119-D, 1689-D |
| STORM DRAIN: | 25119-D, 9510-D |
| GAS: | 15765-118965 |
| ELECTRIC: | 15765-118970 |
| CABLE TV: | 104-211, 222-1704 |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (151) | 1861902.19 | 6267961.08 | ACCESS MH |
| (152) | 1862044.61 | 6267899.90 | ARV |
| (153) | 1862145.45 | 6267864.21 | EC |
| (154) | 1862234.69 | 6267835.28 | BC |
| (155) | 1862321.60 | 6267804.13 | EC |
| (156) | 1862338.37 | 6267797.53 | HPI |
| (157) | 1862380.95 | 6267782.95 | HPI |
| (158) | 1862397.43 | 6267783.54 | B.O. |
| (159) | 1862418.24 | 6267776.41 | ARV |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 10° 22'17" | 2000' | 362.03' | 36" CML&TC STL |
| 2 | N17° 57'32"W | | 93.81' | 36" CML&TC STL |
| 3 | 3° 31'38" | 1500' | 92.34' | 36" CML&TC STL |
| 4 | N21° 29'10"W | | 18.02' | 36" CML&TC STL |
| 5 | N18° 54'04"W | | 45.00' | 36" CML&TC STL |
| 6 | N26° 5'56"E | | 8.34' | 36" CML&TC STL |
| 7 | N18° 54'04"W | | 180.46' | 36" CML&TC STL |

C-7

W MORENA BLVD

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 47+00 TO STA 55+00 AT W MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 11 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

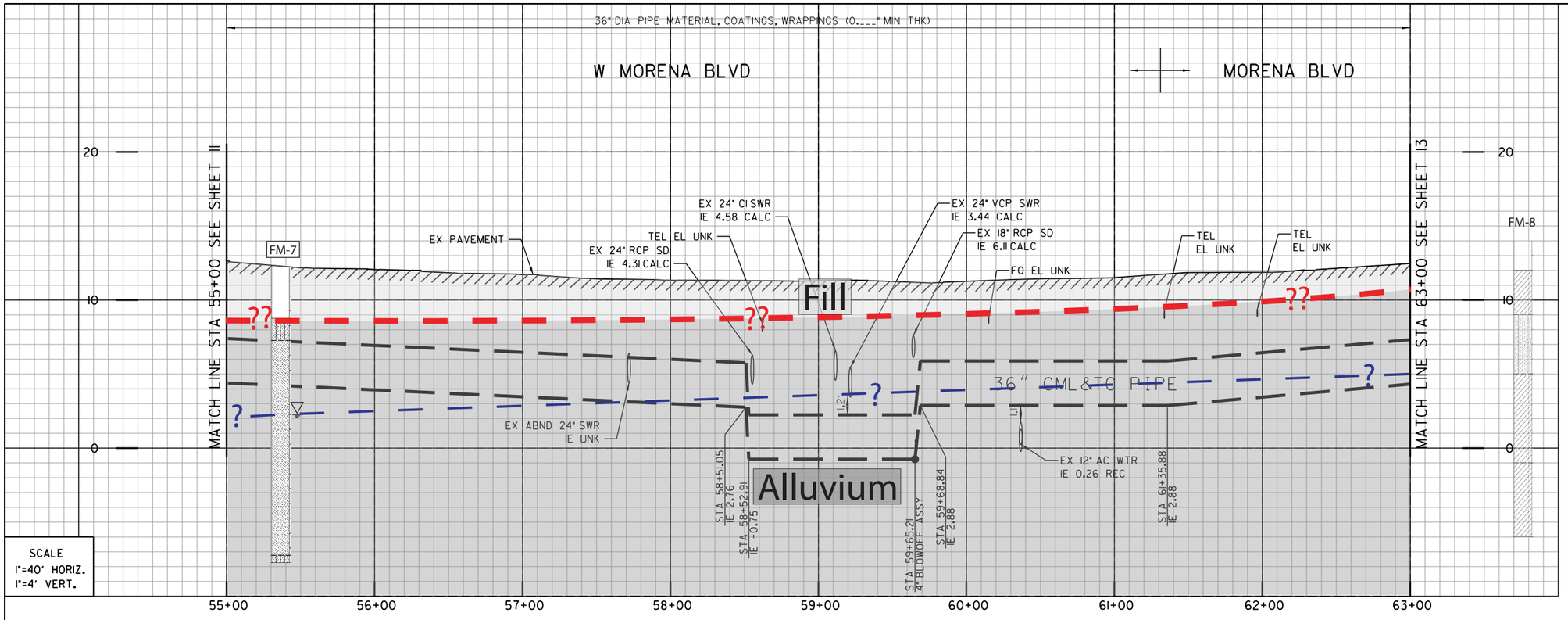
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-11-D

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR7.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

(1) (161)
BY CONTRACTOR
FURNISH AND INSTALL
STA 59+65.18
1- 4" BLOWOFF ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

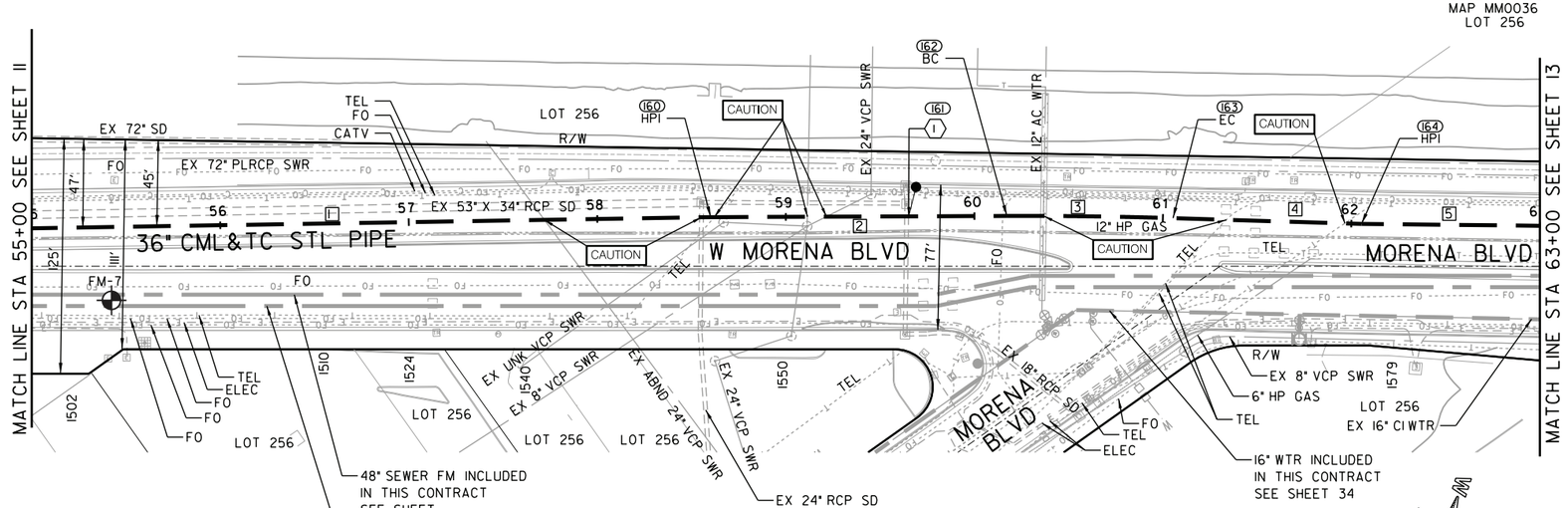
| | |
|---|---|
| WATER: | 7760-W, 11835-D, 7104-D |
| SEWER: | 25119-D, 1142-D, 1343-D |
| STORM DRAIN: | 3475-D, 25119-D |
| GAS: | 15765-118170, 15765-118965 |
| ELECTRIC: | 15765-118970 |
| CABLE TV: | 104-212, 222-1704 |
| ATT&TELEPHONE: | BLP1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 160 | 1862899.91 | 6267611.49 | HPI |
| 161 | 1862999.67 | 6267578.71 | B.O. |
| 162 | 1863049.13 | 6267562.46 | BC |
| 163 | 1863133.33 | 6267536.39 | EC |
| 164 | 1863229.35 | 6267508.47 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N18° 54'4"W | | 360.17' | 36" CML&TC STL |
| 2 | N18° 11'18"W | | 157.07' | 36" CML&TC STL |
| 3 | 1° 58'22" | 2560' | 88.15' | 36" CML&TC STL |
| 4 | N16° 12'56"W | | 100.0' | 36" CML&TC STL |
| 5 | N17° 22'01"W | | 94.62' | 36" CML&TC STL |




**CAUTION**

12" & 6" HP GAS1 CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

W MORENA BLVD

C-8

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 55+00 AT W MORENA BLVD TO STA 63+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 12 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

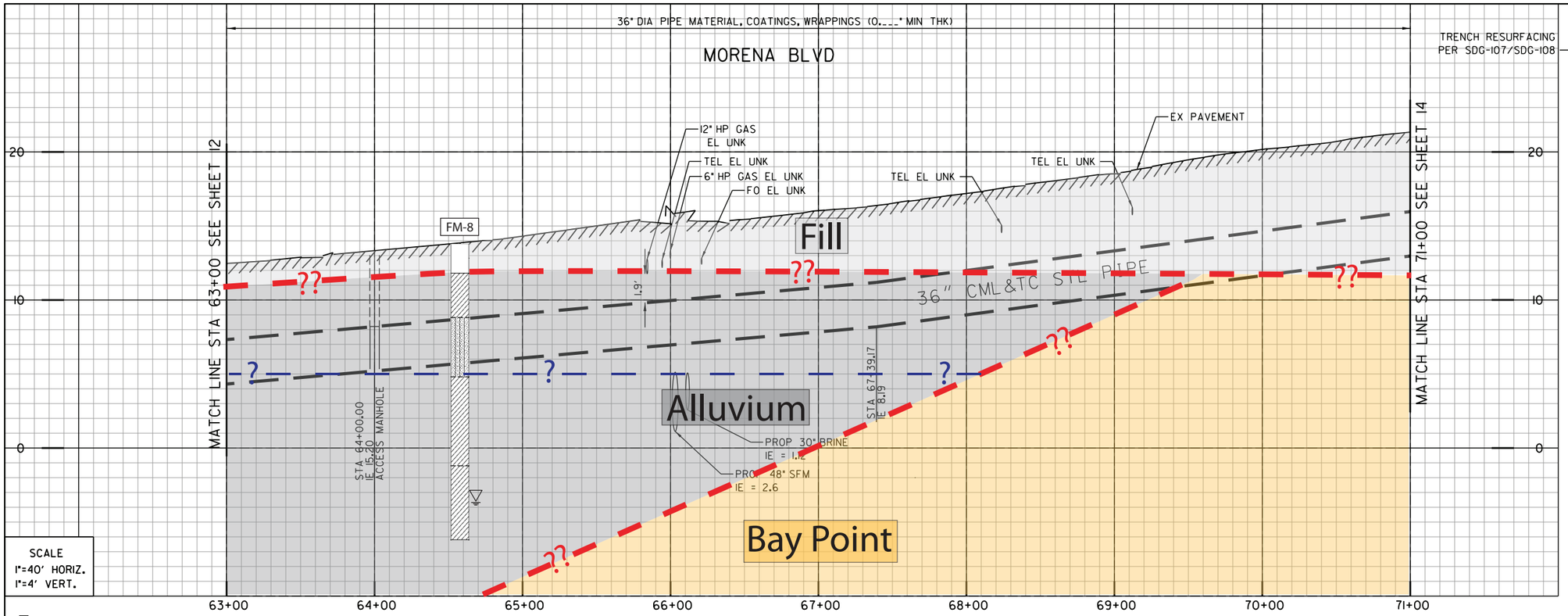
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

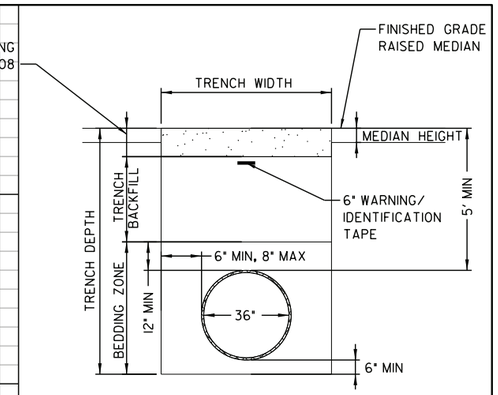
40067-12-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR8.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.




TRENCH SECTION AT MEDIAN
NOT TO SCALE

REFERENCE:

| | |
|---|---|
| WATER: | 7760-W |
| SEWER: | 6066-D, 25119-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-11870 |
| ELECTRIC: | 15765-118975 |
| CABLE TV: | 222-1704 |
| ATT&TELEPHONE: | BLP 1967, 104-212 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

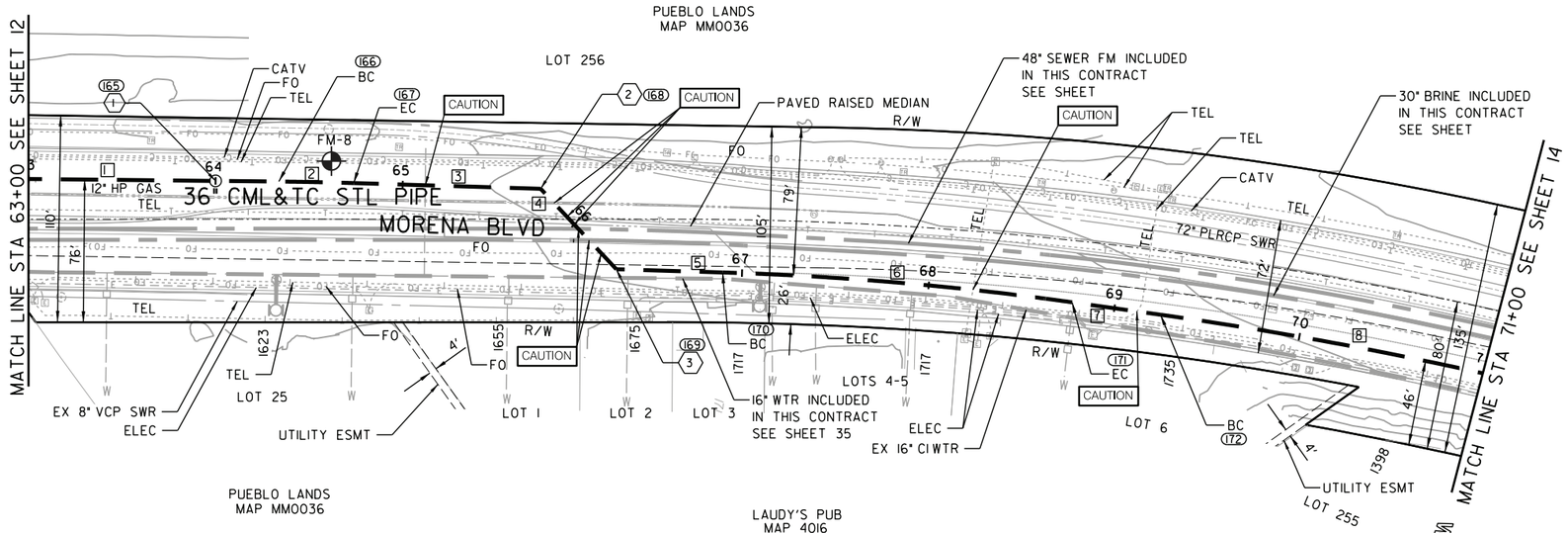
COORDINATE TABLE

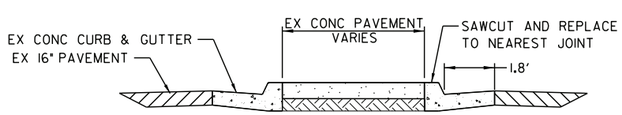
| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 165 | 1863415.10 | 6267450.38 | ACCESS MH |
| 166 | 1863447.33 | 6267440.29 | BC |
| 167 | 1863485.64 | 6267428.73 | EC |
| 168 | 1863581.65 | 6267400.80 | HPI |
| 169 | 1863633.36 | 6267429.21 | HPI |
| 170 | 1863687.89 | 6267413.34 | BC |
| 171 | 1863870.55 | 6267370.88 | EC |
| 172 | 1863917.49 | 6267362.65 | BC |

1 165
BY CONTRACTOR
FURNISH AND INSTALL
STA 64+00.00
1- ACCESS MANHOLE

2 168
BY CONTRACTOR
FURNISH AND INSTALL
STA 65+73.78
1- 45° HORIZ BEND

3 169
BY CONTRACTOR
FURNISH AND INSTALL
STA 66+32.78
1- 45° HORIZ BEND




CONCRETE MEDIAN
NOT TO SCALE

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N17° 22'1"W | | 133.78' | 36" CML&TC STL |
| 2 | 1° 8'47" | 2000' | 40.02' | 36" CML&TC STL |
| 3 | N16° 13'14"W | | 99.99' | 36" CML&TC STL |
| 4 | N28° 46'46"E | | 59.00' | 36" CML&TC STL |
| 5 | N16° 13'14"W | | 56.78' | 36" CML&TC STL |
| 6 | 6° 16'06" | 1715' | 187.62' | 36" CML&TC STL |
| 7 | N9° 57'9"W | | 47.66' | 36" CML&TC STL |
| 8 | 4° 33'41" | 2200' | 175.15' | 36" CML&TC STL |

Artificial fill (Qaf)
Alluvium (Qal)
Fluvial Terrace Deposits (Qt)
Bay Point Formation (Qbp)
Lindavista Formation (Qln)
Ardath Shale (Ta)
Scripps Formation (Tsc)
Water Level Depth
FM-1 Boring
H-7 Boring - AGE, 2017
D-3 Boring - CWP, 1992
GTB-1 Boring - Kleinfelder, 2014
Geological Contact
Groundwater Level
Topography (1967) RC or SC(1952)

**CAUTION**

12" & 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

0 40 80 120
SCALE 1" = 40'

C-9

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 63+00 TO STA 71+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 13 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

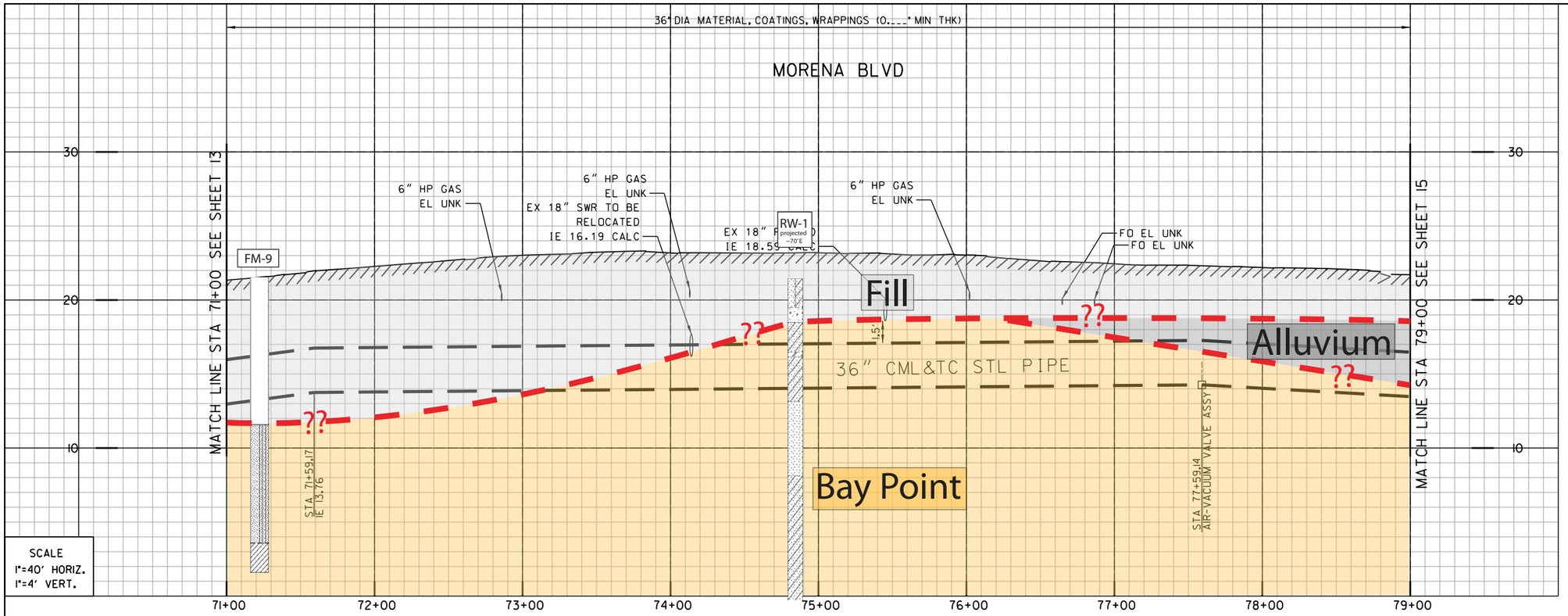
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-13-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR9.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

(I) (174)
BY CONTRACTOR
FURNISH AND INSTALL
STA 77+59.14
1- 2" AIR-VACUUM VALVE ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

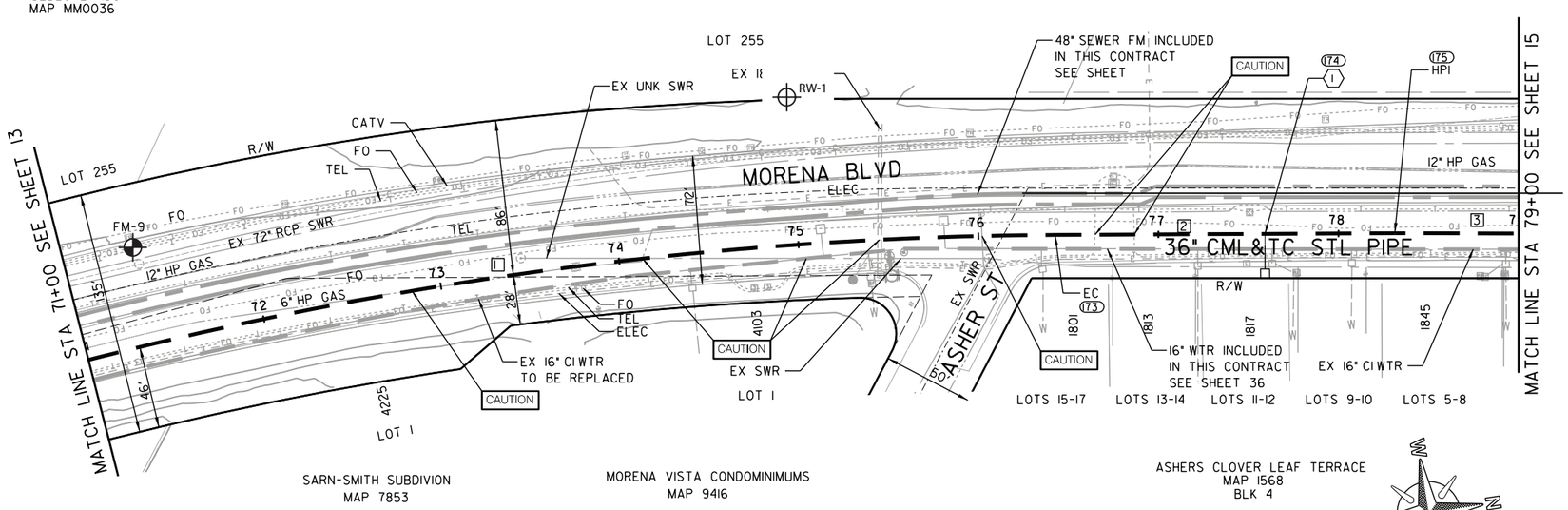
| | |
|---|---|
| WATER: | 7660-W |
| SEWER: | 24119-D |
| STORM DRAIN: | 3477-D |
| GAS: | 15765-11890 |
| ELECTRIC: | 15765-11890 |
| CABLE TV: | 222-1704, 104-213 |
| ATT&TELEPHONE: | BLO 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (173) | 1864632.00 | 6267355.08 | EC |
| (174) | 1864747.21 | 6267372.80 | ARV |
| (175) | 1864818.48 | 6267383.75 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | 14° 07'50" | 2200' | 542.58' | 36" CML&TC STL |
| 2 | N8° 44'23"E | | 188.67' | 36" CML&TC STL |
| 3 | N9° 10'31"E | | 68.75' | 36" CML&TC STL |




**CAUTION**

12" & 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-10

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 71+00 TO STA 79+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 14 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-14-D

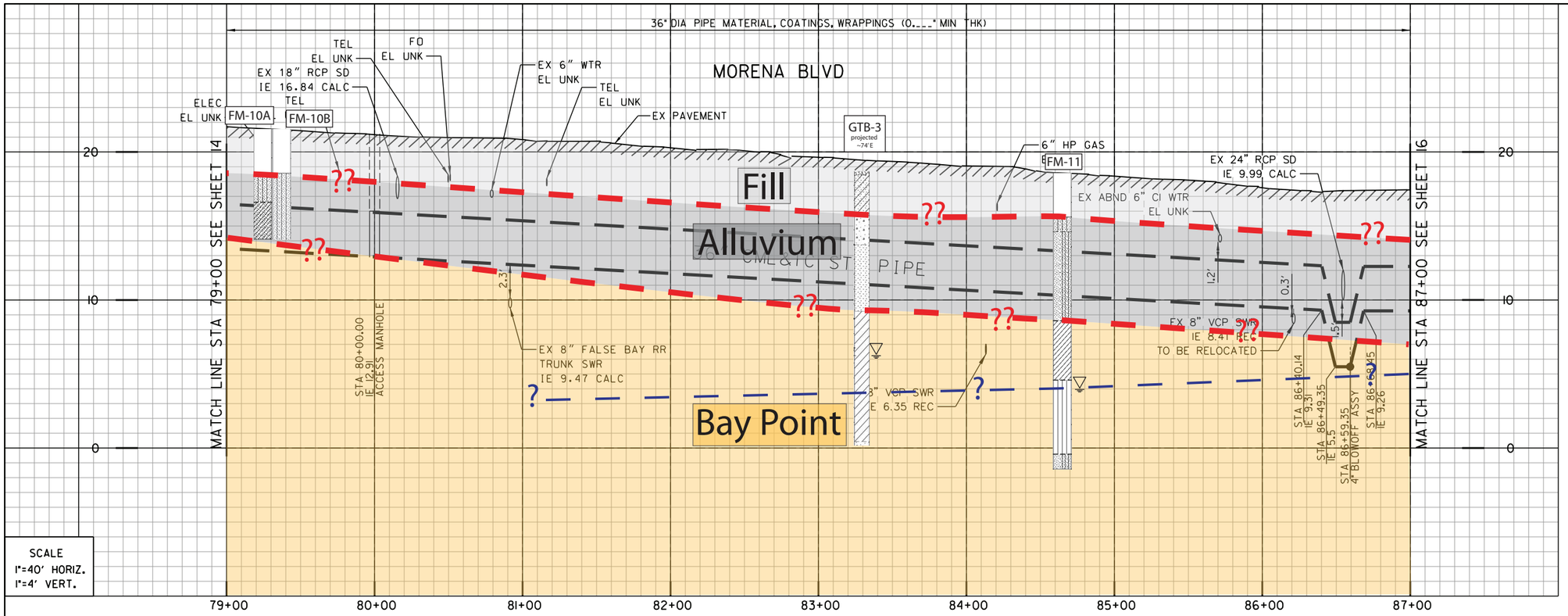
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR10.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

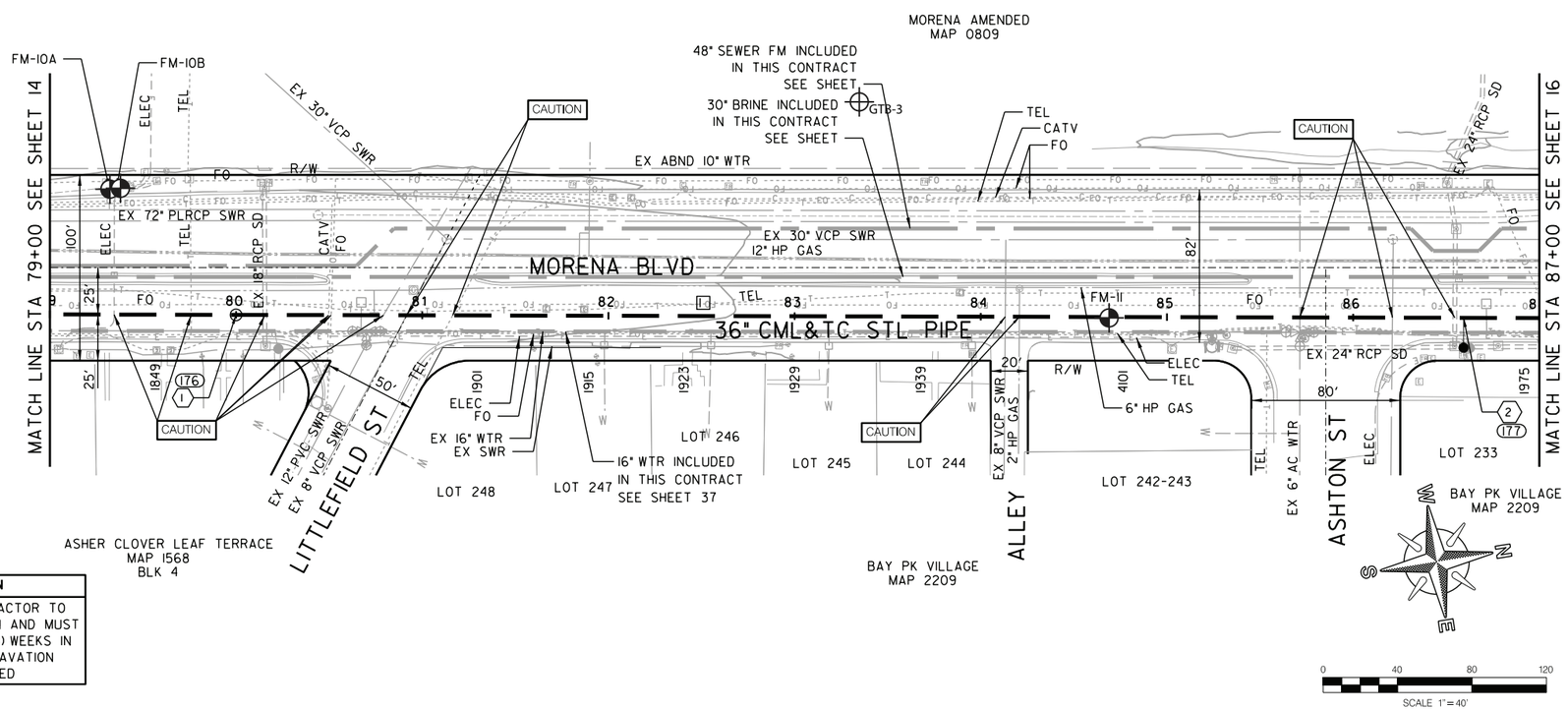
1 176
BY CONTRACTOR
FURNISH AND INSTALL
STA 80+00.00
1- ACCESS MANHOLE

2 177
BY CONTRACTOR
FURNISH AND INSTALL
STA 86+59.35
1- 4" BLOWOFF ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7660-W, 3493-D, 31594-D |
| SEWER: | 25119-D, 1311-D, 1149-D, 36197, 7288-D |
| STORM DRAIN: | 3477-D |
| GAS: | 15765-118990 |
| ELECTRIC: | 15765-118990 |
| CABLE TV: | 104-213, 224-1704 |
| ATT&TELEPHONE: | BLO 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 176 | 1864985.07 | 6267410.66 | ACCESS MH |
| 177 | 1865635.98 | 6267515.80 | B.O. |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N9° 10'31"E | | 800.0' | 36" CML&TC STL |

**CAUTION**

12" & 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

MORENA BLVD

C-11

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 79+00 TO STA 87+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 15 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

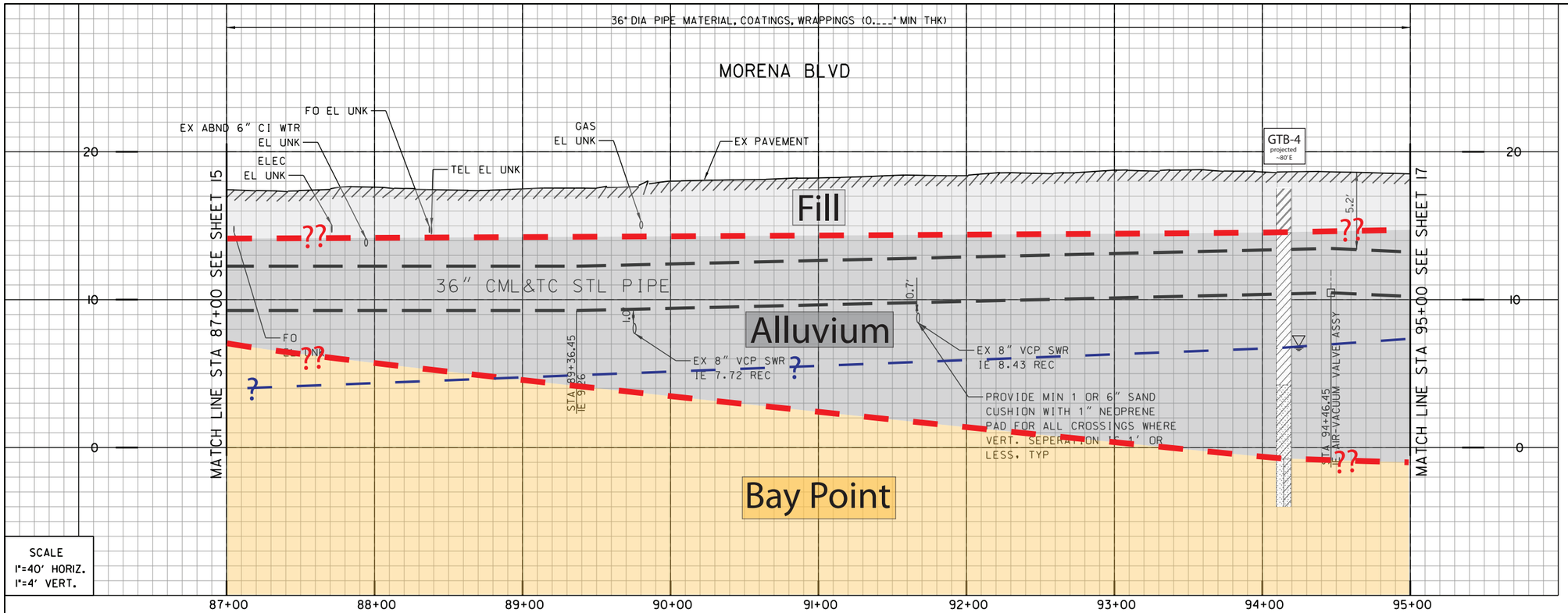
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-15-D

60% SUBMITTAL

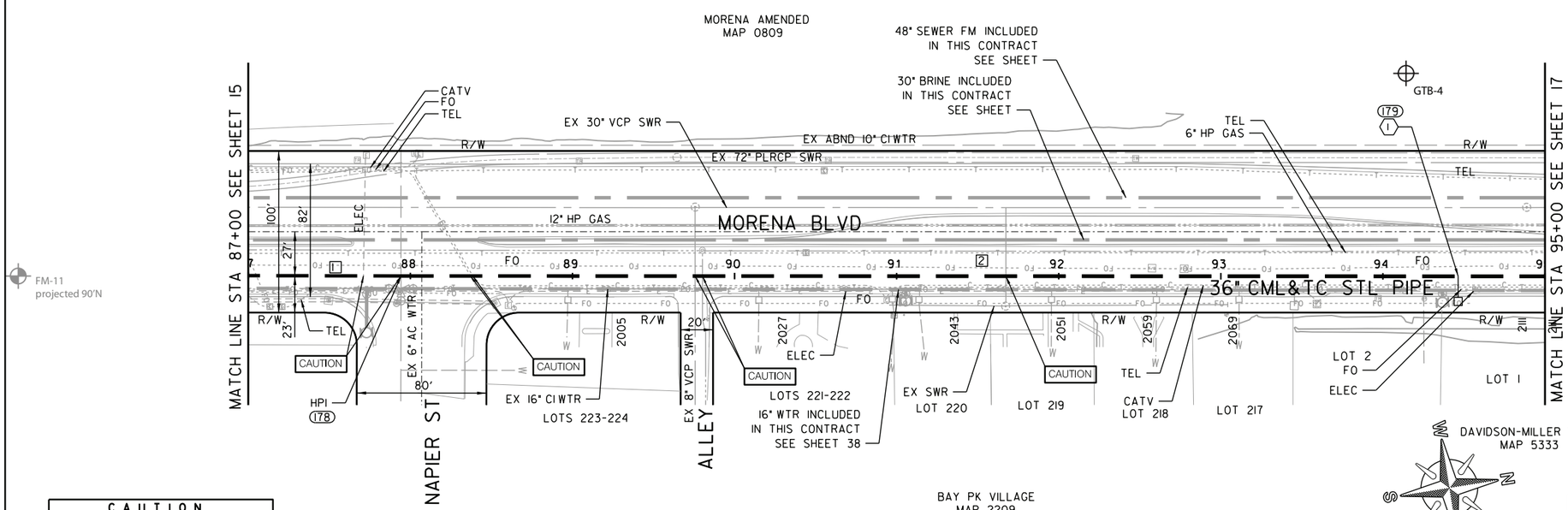
u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR11.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

(1) (179)
BY CONTRACTOR
FURNISH AND INSTALL
STA 94+46.45
1- 2" AIR-VACUUM VALVE ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)




REFERENCE:

| | |
|---|---|
| WATER: | 7660-W, 3493-D |
| SEWER: | 7149-D, 1311-D, 7149-D, 25119-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119010 |
| ELECTRIC: | NO INFO |
| CABLE TV: | 224-1704B, 104-213 |
| ATT&TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (178) | 1865769.16 | 6267537.31 | HPI |
| (179) | 1866413.23 | 6267639.97 | ARV |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N9° 10'31"E | | 94.25' | 36" CML&TC STL |
| 2 | N9° 03'22"E | | 705.75' | 36" CML&TC STL |

**CAUTION**

12" & 6" HP GAS: CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION. SDG&E STANDBY REQUIRED

C-12

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 87+00 TO STA 95+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 16 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA, FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

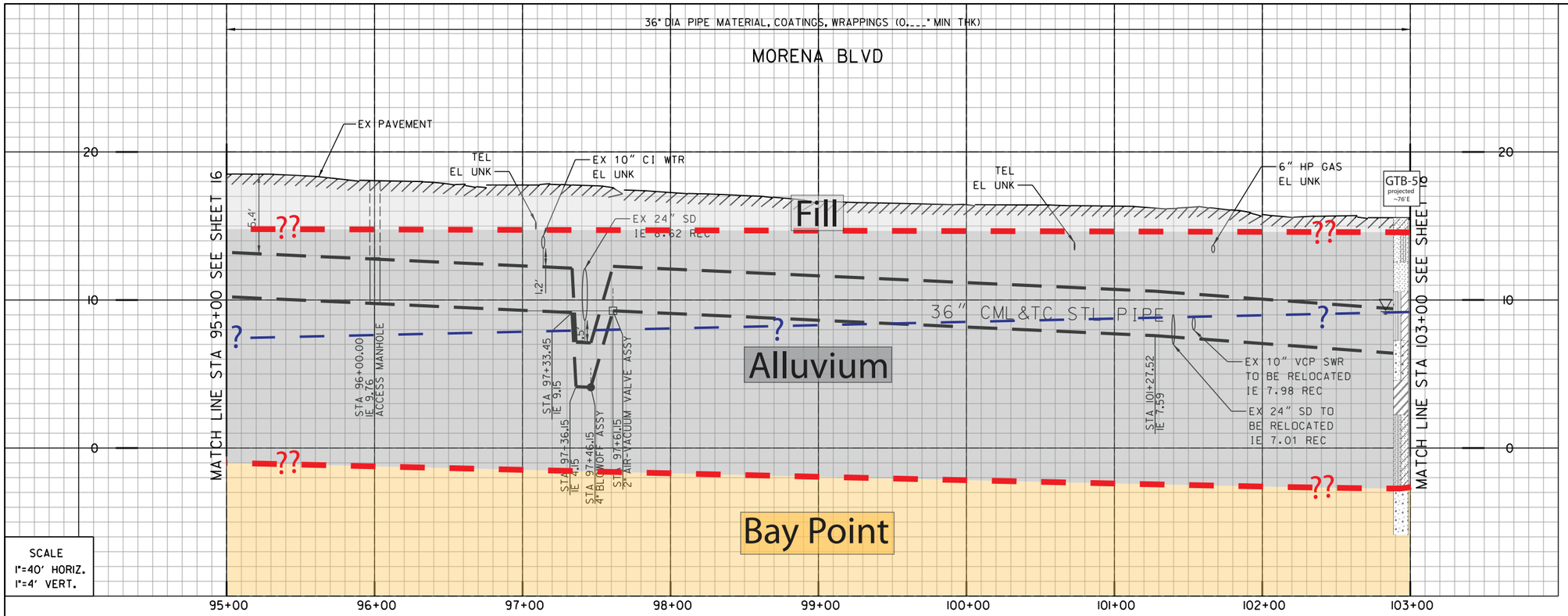
CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-16-D

MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR12.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (180)
BY CONTRACTOR
FURNISH AND INSTALL
STA 96+00.00
1- ACCESS MANHOLE

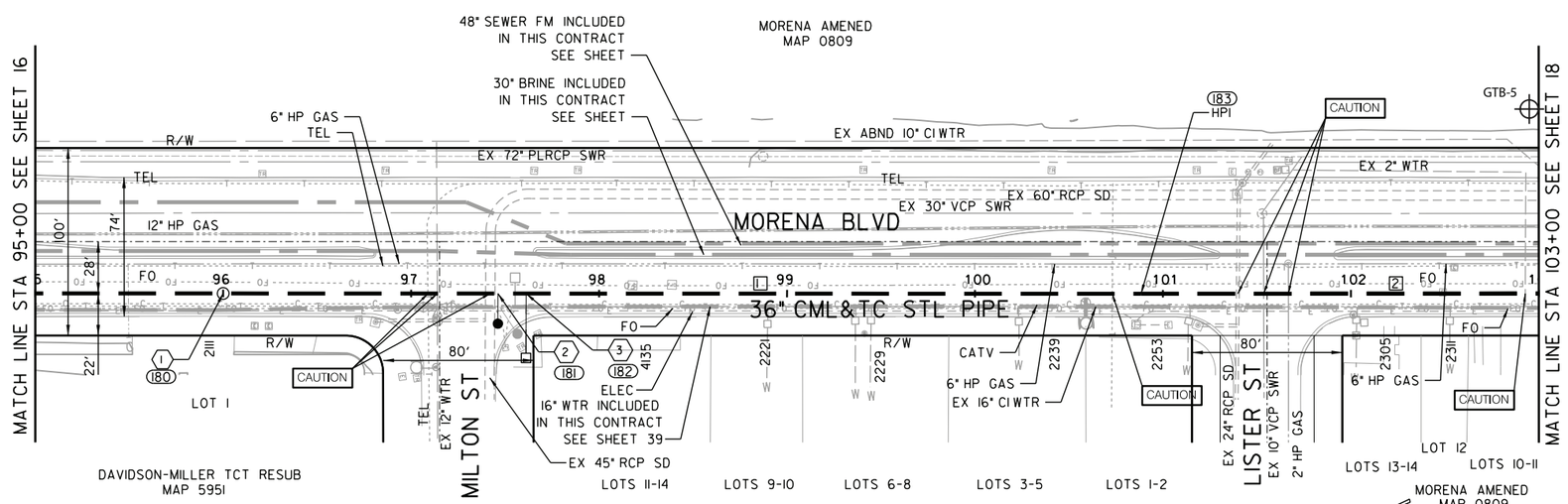
2 (181)
BY CONTRACTOR
FURNISH AND INSTALL
STA 97+46.15
1- 4" BLOWOFF ASSY

3 (182)
BY CONTRACTOR
FURNISH AND INSTALL
STA 97+61.15
1- 2" AIR-VACUUM VALVE ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7760-W, 34257-D |
| SEWER: | 1150-D, 1151-D, 25119-D |
| STORM DRAIN: | 9355-L, 3493-D |
| GAS: | 15765-119010 |
| ELECTRIC: | NO INFO |
| CABLE TV: | 224-1704B |
| ATT&TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 180 | 1866564.86 | 6267664.13 | ACCESS MH |
| 181 | 1866709.19 | 6267687.14 | B.O. |
| 182 | 1866724.00 | 6267689.50 | ARV |
| 183 | 1867047.17 | 6267741.01 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N9° 03'22"E | | 588.39' | 36" CML&TC STL |
| 2 | N9° 00'16"E | | 211.61' | 36" CML&TC STL |

**CAUTION**

12" & 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

C-13

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 95+00 TO STA 103+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 17 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

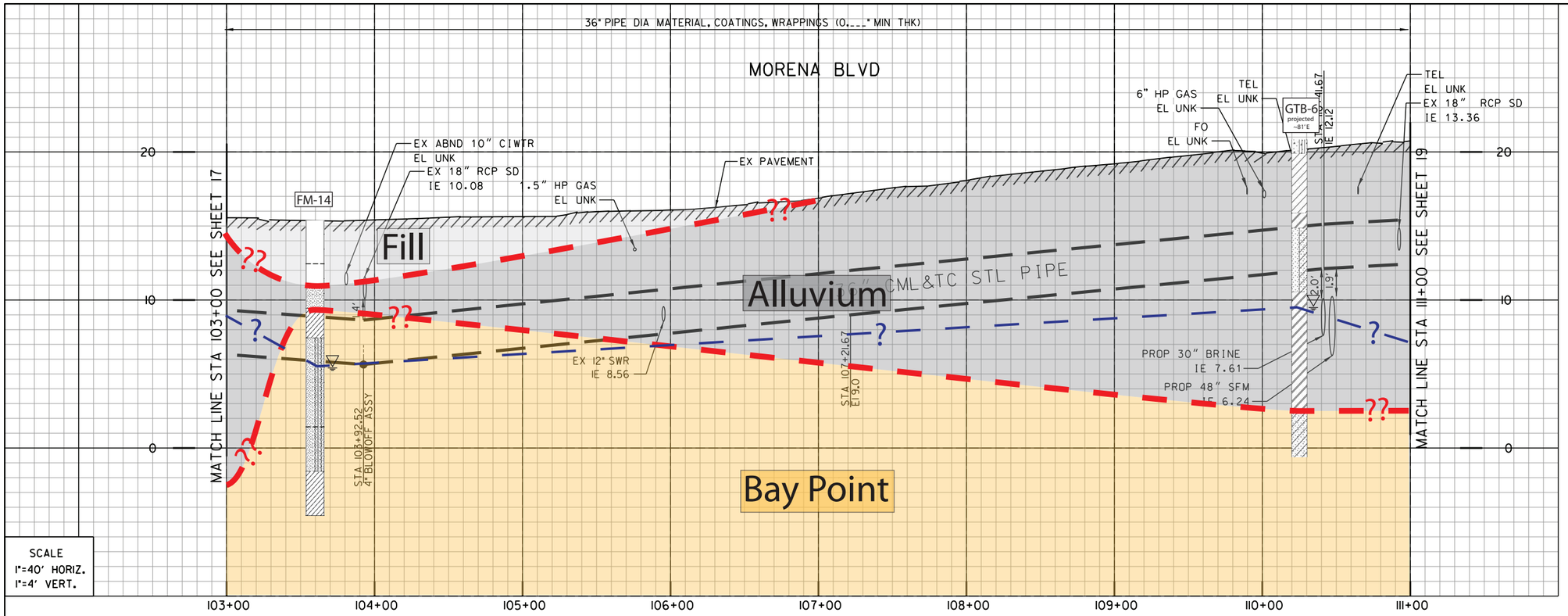
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-17-D

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR13.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (184)
BY CONTRACTOR
FURNISH AND INSTALL
STA 104+92.52
1- 4" BLOWOFF ASSY

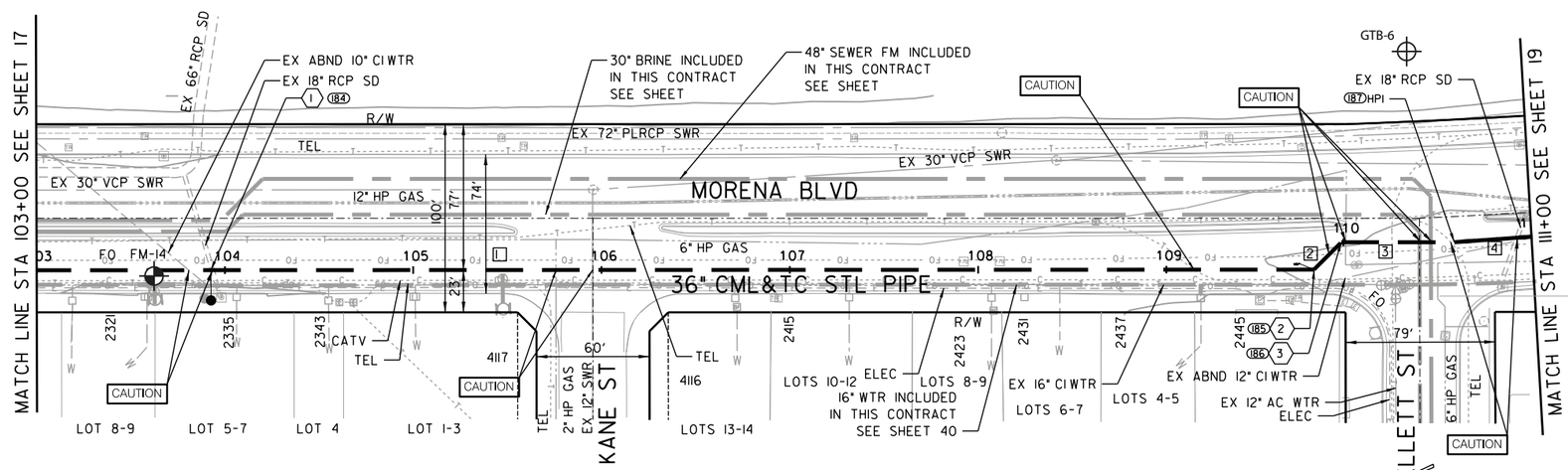
2 (185)
BY CONTRACTOR
FURNISH AND INSTALL
STA 110+83.30
1- 45° HORIZ BEND

3 (186)
BY CONTRACTOR
FURNISH AND INSTALL
STA 110+98.79
1- 45° HORIZ BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7660-W, 5373-W |
| SEWER: | 1151-D, 25119-D |
| STORM DRAIN: | 9355-L |
| GAS: | 15765-119010 |
| ELECTRIC: | NO INFO |
| CABLE TV: | 226-1704B |
| ATT&TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 184 | 1867446.31 | 6267804.32 | B.O. |
| 185 | 1867926.20 | 6267880.30 | HPI |
| 186 | 1867942.79 | 6267868.25 | HPI |
| 187 | 1868002.05 | 6267877.65 | HPI |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N9° 00'16"E | | 678.39' | 36" CML&TC STL |
| 2 | N35° 59'44"W | | 20.50' | 36" CML&TC STL |
| 3 | N9° 00'16"E | | 60.00' | 36" CML&TC STL |
| 4 | N4° 56'07"E | | 41.11' | 36" CML&TC STL |

**CAUTION**

12" & 6" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

SCALE 1"=40'

MORENA BLVD

C-14

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 103+00 TO STA 111+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 18 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

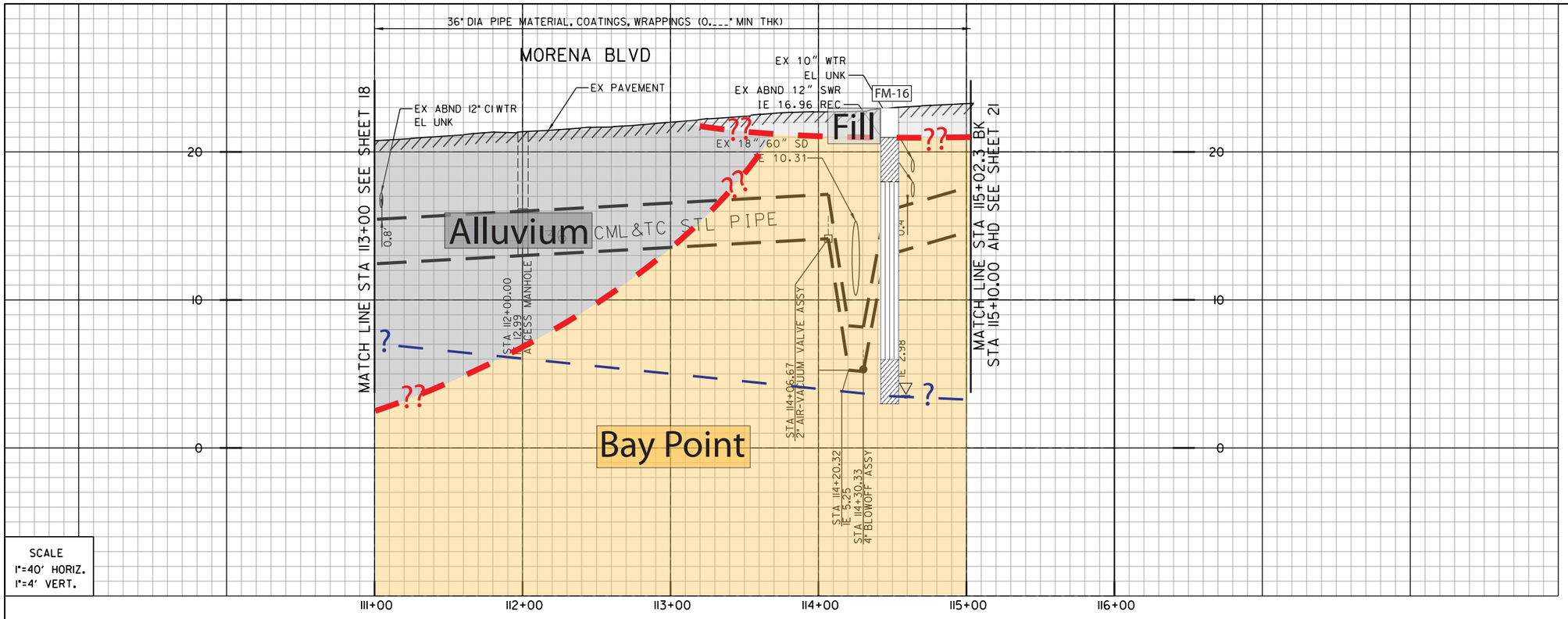
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

40067-18-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR14.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (189)
BY CONTRACTOR
FURNISH AND INSTALL
STA 112+00
1- ACCESS MANHOLE

2 (191)
BY CONTRACTOR
FURNISH AND INSTALL
STA 114+06.67
1- 2" AIR & VACCUM ASSY

3 (190)
BY CONTRACTOR
FURNISH AND INSTALL
STA 114+30.33
1- B.O. ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ??? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

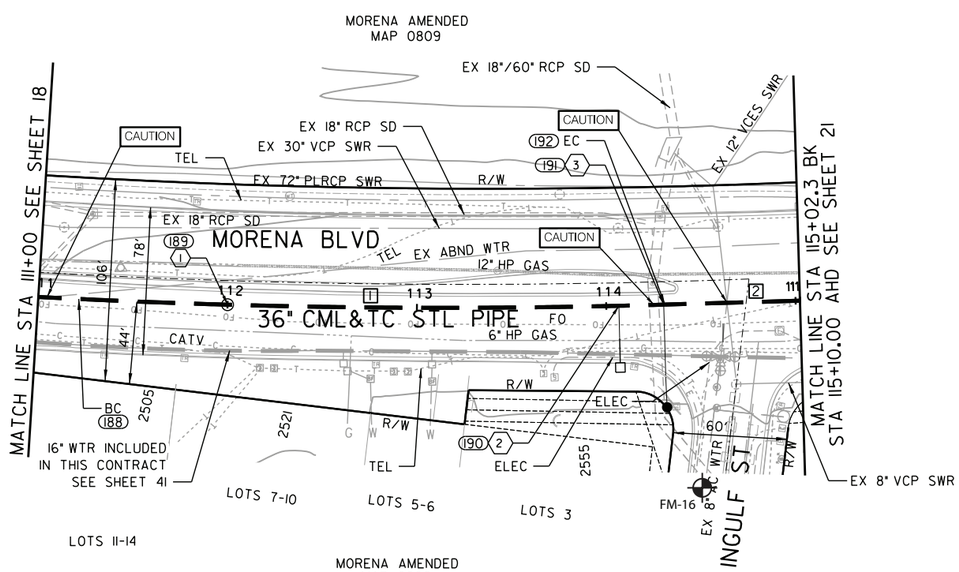
| | |
|---|---|
| WATER: | 5209-D, 7660-W |
| SEWER: | 9321-L, 25119-D, 1151-D, 4242-D |
| STORM DRAIN: | 5207-D, 3493-D, 3479-D |
| GAS: | 15772-119025, 15765-119020 |
| ELECTRIC: | 15772-119025 |
| CABLE TV: | 226-1704B |
| ATT&TELEPHONE: | BLM 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 188 | 1868064.211 | 6267883.01 | BC |
| 189 | 1868142.69 | 6267889.01 | ACCESS MH |
| 190 | 1868349.17 | 6267897.41 | ARV |
| 191 | 1868372.82 | 6267897.69 | B.O. |
| 192 | 1868373.44 | 6267897.69 | EC |

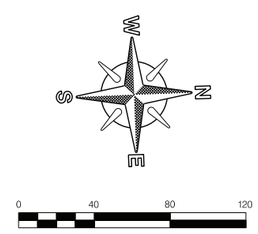
PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N4° 56'07"E | | 21.29' | 36" CML&TC STL |
| 2 | 4° 26'08" | 4000 | 309.65' | 36" CML&TC STL |
| 3 | N0° 29'59"E | | 71.37' | 36" CML&TC STL |




CAUTION

12" & 6" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED




MORENA BLVD

C-15

MORENA PUMP STATION AND CONVEYANCE SYSTEM

36" WATER TRANSMISSION

STA 111+00 TO STA 115+20 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 19 OF 106 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

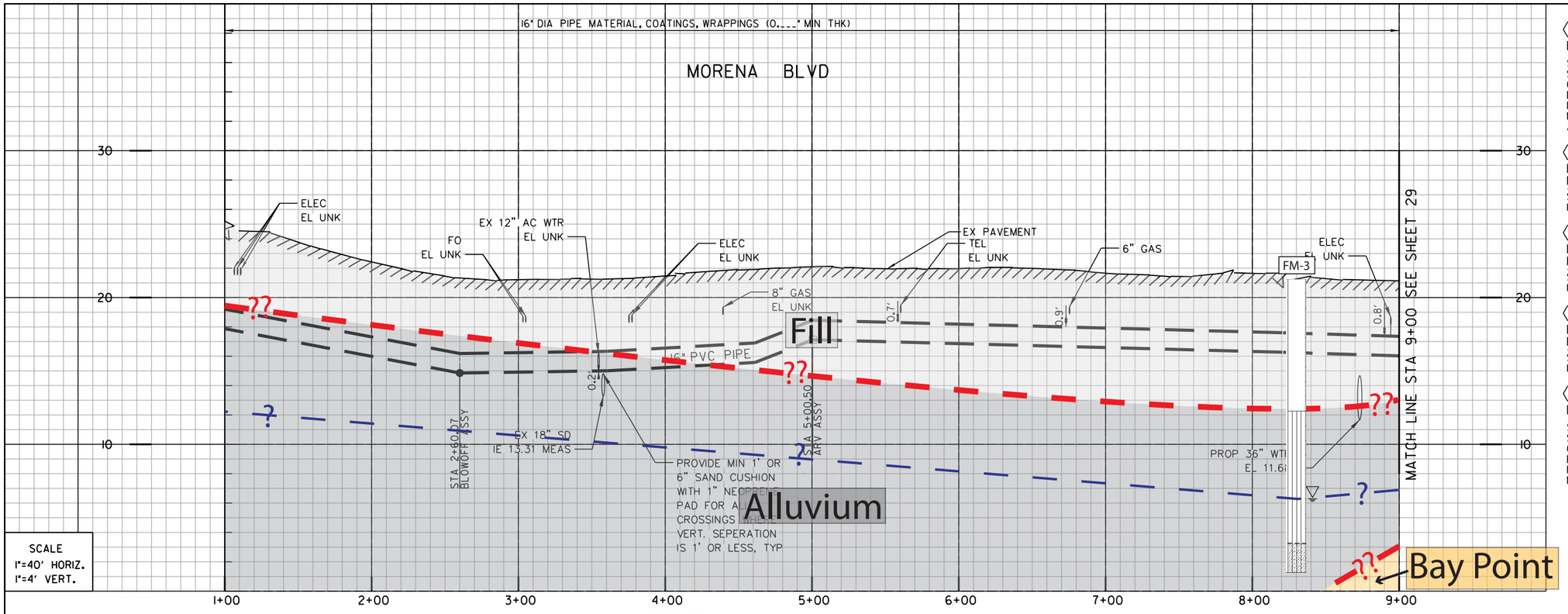
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-19-D

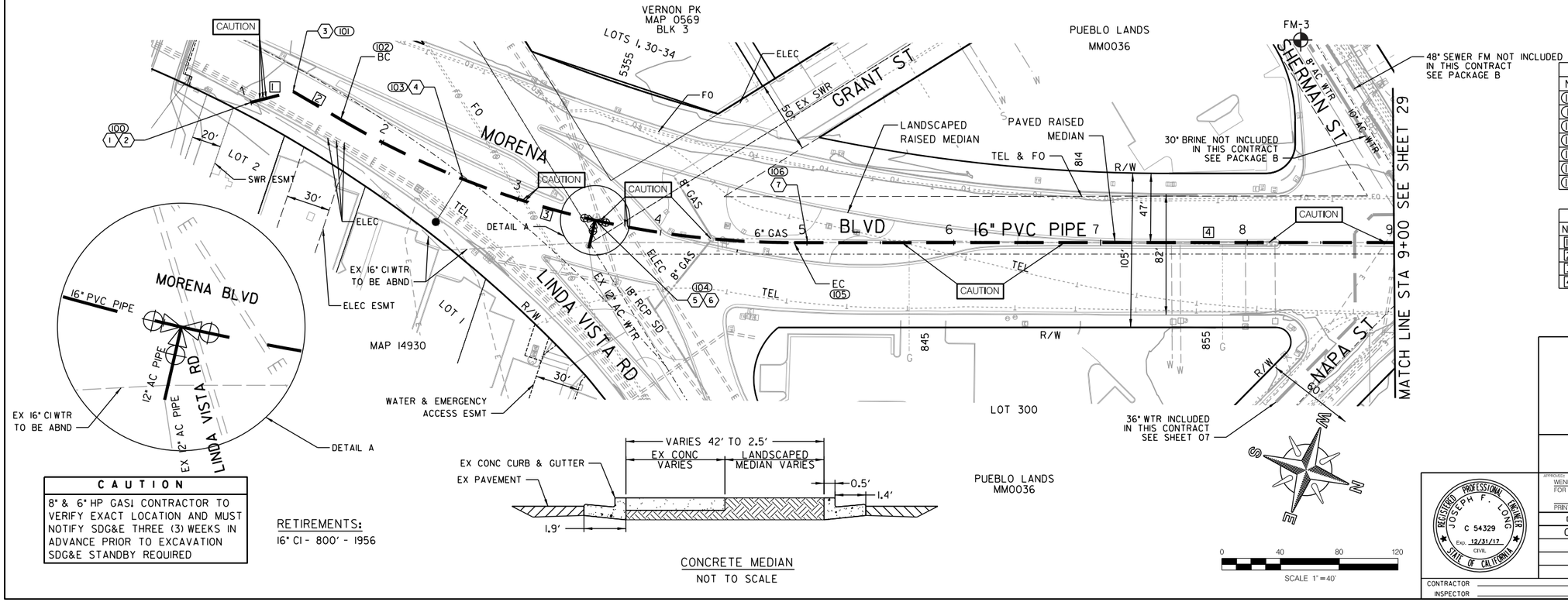
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-WTR15.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.







CONCRETE MEDIAN
NOT TO SCALE

**CAUTION**

8" & 6" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

(1) (100)
BY CITY FORCES
AHD OF CONTRACTOR
STA 1+00.00
CUT & PLUG:
EX 16" CI WTR
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(2) (100)
BY CONTRACTOR
FURNISH AND INSTALL
STA 1+00.00
1 - POB

(3) (101)
BY CONTRACTOR
FURNISH AND INSTALL
STA 1+29.77
1 - 45° HORIZ BEND

(4) (103)
BY CONTRACTOR
FURNISH AND INSTALL
STA 2+60.07
1 - 4" B.O. ASSY

(5) (104)
BY CITY FORCES
AHD OF CONTRACTOR
STA 3+54.63
CUT & PLUG:
EX 12" AC WTR, 10' RT
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED

(6) (104)
BY CONTRACTOR
FURNISH AND INSTALL
STA 3+54.63
1 - 16" X 12" TEE (F)
2 - 16" BUTTERFLY VALVES (F,MJ) BK, AHD
1 - 12" BUTTERFLY VALVE (F,MJ) RT

(7) (106)
BY CONTRACTOR
FURNISH AND INSTALL
STA 5+00.50
1 - 2" ARV ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7104-W |
| SEWER: | 10437-D |
| STORM DRAIN: | 3472-D |
| GAS: | 15795-118935, 115795-118940, 15787-119840 |
| ELECTRIC: | 15787-119840 |
| CABLE TV: | NO INFO |
| ATT&TELEPHONE: | BLO 1970 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (100) | 1858962.16 | 6270298.08 | POB |
| (101) | 1858986.17 | 6270280.48 | HPI |
| (102) | 1859023.45 | 6270286.24 | BC |
| (103) | 1859115.67 | 6270293.37 | B.O. ASSY |
| (104) | 1859209.86 | 6270286.18 | TEE |
| (105) | 1859341.45 | 6270250.38 | EC |
| (106) | 1859350.01 | 6270246.98 | ARV ASSY |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N36° 13'38"W | | 29.77' | 16" PVC |
| 2 | N8° 46'22"E | | 37.72' | 16" PVC |
| 3 | 30° 24'48" | 610' | 323.8 | 16" PVC |
| 4 | N21° 38'26"W | | 408.71' | 16" PVC |

C-24

MORENA BLVD

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 1+00 TO STA 9+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 28 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

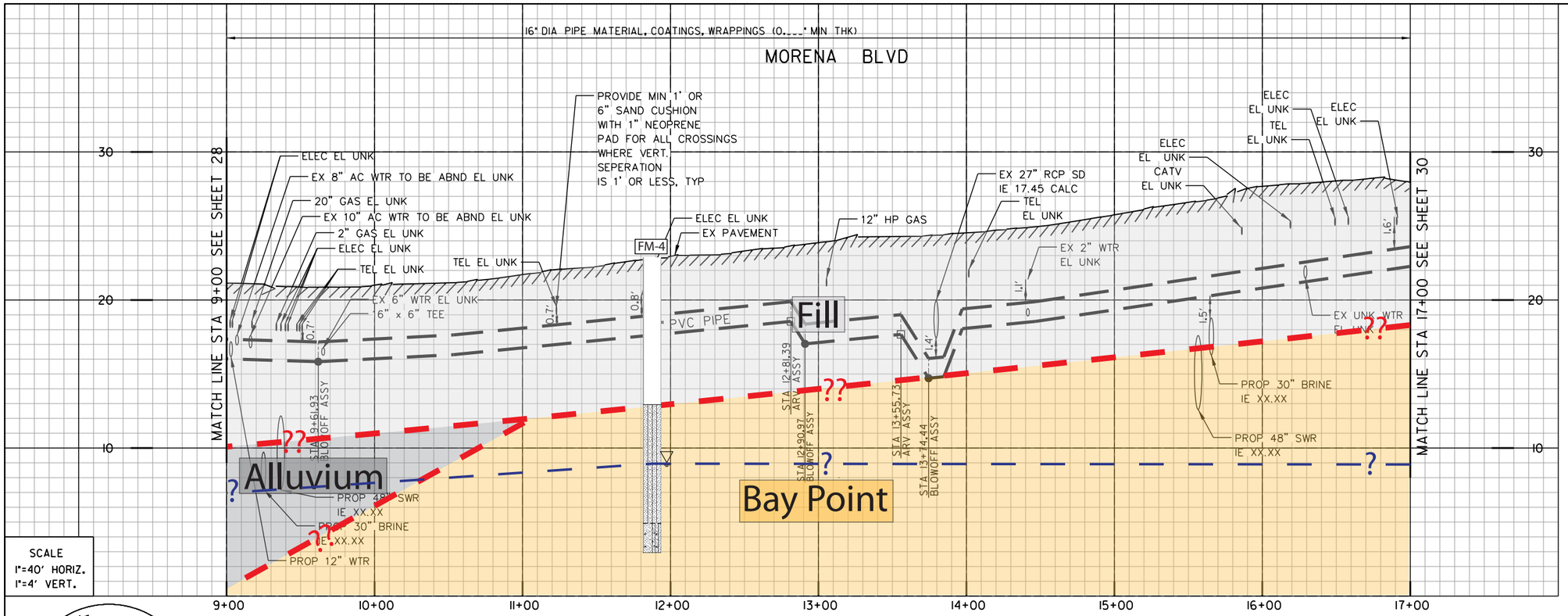
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

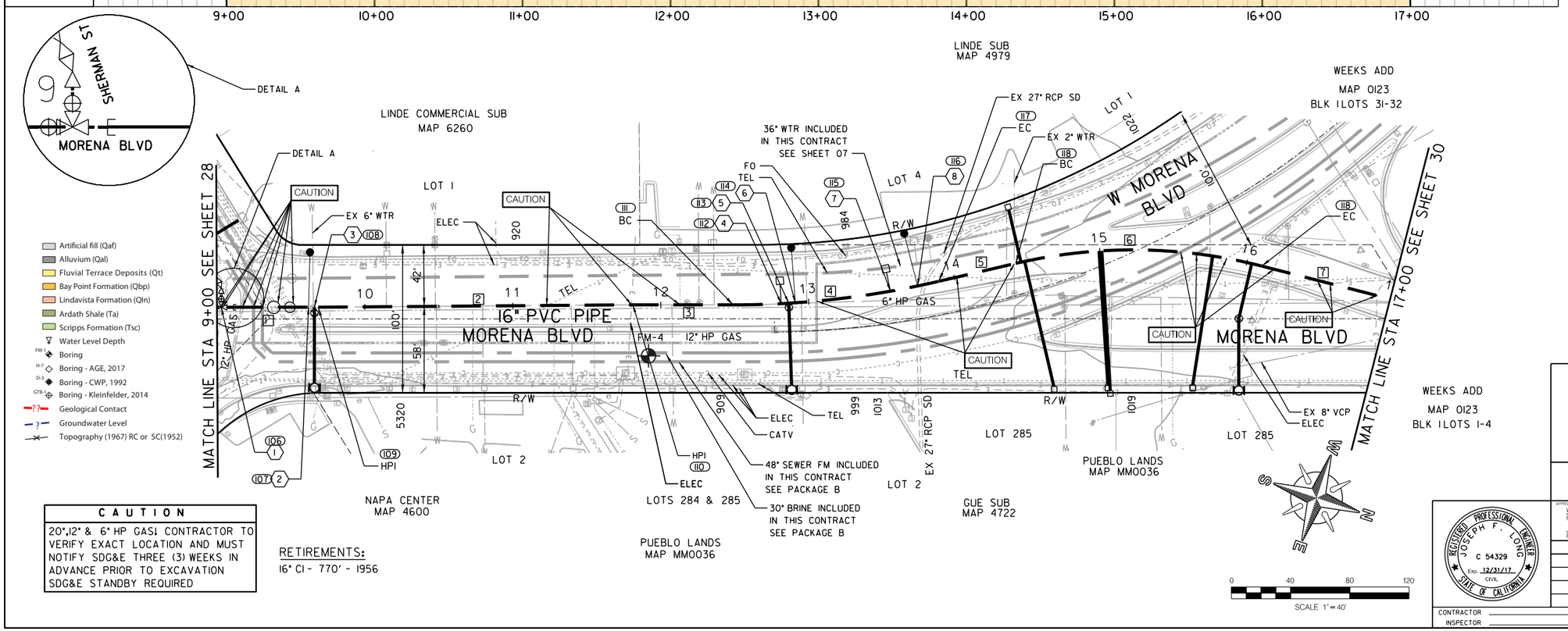
40067-28-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR1.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.




**CAUTION**

20",12" & 6" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 770' - 1956

(1) (106)
BY CONTRACTOR
FURNISH AND INSTALL
STA 9+02.93
CONNECT TO EXISTING SHERMAN ST STUB

(2) (107)
BY CONTRACTOR
FURNISH AND INSTALL
STA 9+61.93
1- 4" B.O. ASSY

(3) (108)
BY CONTRACTOR
FURNISH AND INSTALL
STA 9+65.87
1- 16" x 6" TEE (MJ,MJ,F)
1- 6" FH ASSY & MARKER

(4) (110)
BY CONTRACTOR
FURNISH AND INSTALL
STA 12+81.39
1- 2" ARV ASSY

(5) (112)
BY CONTRACTOR
FURNISH AND INSTALL
STA 12+86.52
1- 16" X 6" TEE (MJ,MJ,F)
1- 6" FH ASSY & MARKER

(6) (113)
BY CONTRACTOR
FURNISH AND INSTALL
STA 12+90.97
1- 4" B.O. ASSY

(7) (114)
BY CONTRACTOR
FURNISH AND INSTALL
STA 13+55.73
1- 2" ARV ASSY

(8) (115)
BY CONTRACTOR
FURNISH AND INSTALL
STA 13+74.44
1- 4" B.O. ASSY

REFERENCE:

| | |
|---|---|
| WATER: | 7104-W, 7619-W, 7320-W |
| SEWER: | 10437-D, 1346-7, 1342-D, 4874-B |
| STORM DRAIN: | 7203-D, |
| GAS: | 15787-119845, 15787-118940 |
| ELECTRIC: | 15787-119840, 15787-118945 |
| CABLE TV: | 218-1707-B |
| ATT&TELEPHONE: | BL01969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HCL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (106) | 1859778.91 | 6270076.81 | B.O. ASSY |
| (107) | 1859782.62 | 6270075.48 | FH |
| (108) | 1859784.97 | 6270074.41 | HPI |
| (109) | 1859982.08 | 6269994.50 | HPI |
| (110) | 1860045.12 | 6269969.52 | BC |
| (111) | 1860074.95 | 6269956.78 | ARV ASSY |
| (112) | 1860079.60 | 6269954.62 | FH |
| (113) | 1860083.63 | 6269952.72 | B.O. ASSY |
| (114) | 1860140.47 | 6269921.75 | ARV ASSY |
| (115) | 1860156.25 | 6269911.70 | B.O. ASSY |
| (116) | 1860168.45 | 6269903.46 | EC |
| (117) | 1860212.33 | 6269873.03 | BC |
| (118) | 1860367.47 | 6269813.46 | EC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N21° 38'26"W | | 68.44' | 16" PVC |
| 2 | N22° 04'07"W | | 212.70' | 16" PVC |
| 3 | N21° 36'46"W | | 67.80' | 16" PVC |
| 4 | 13° 07'39" | 612' | 140.22' | 16" PVC |
| 5 | N34° 44'25"W | | 53.39' | 16" PVC |
| 6 | 27° 28'01" | 350' | 167.79' | 16" PVC |
| 7 | N7° 16'25"W | | 89.66' | 16" PVC |

C-25

MORENA BLVD

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 9+00 TO STA 17+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 29 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

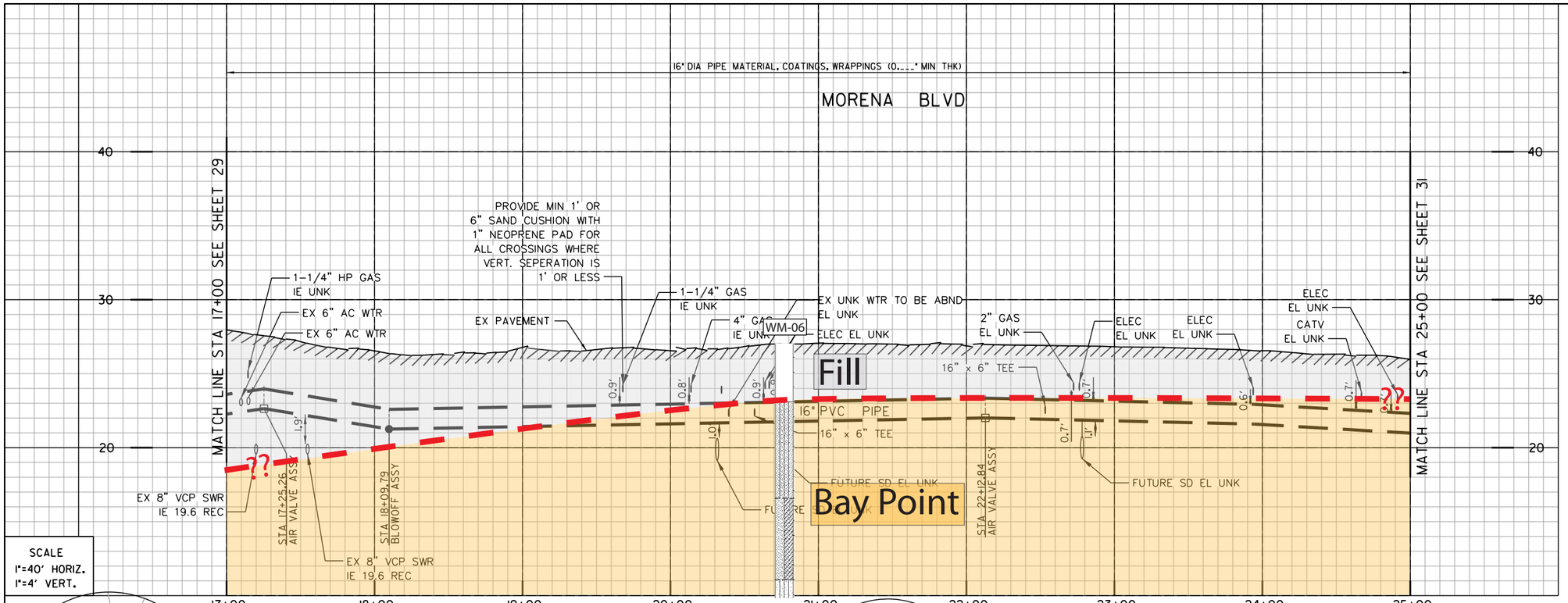
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-29-D

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

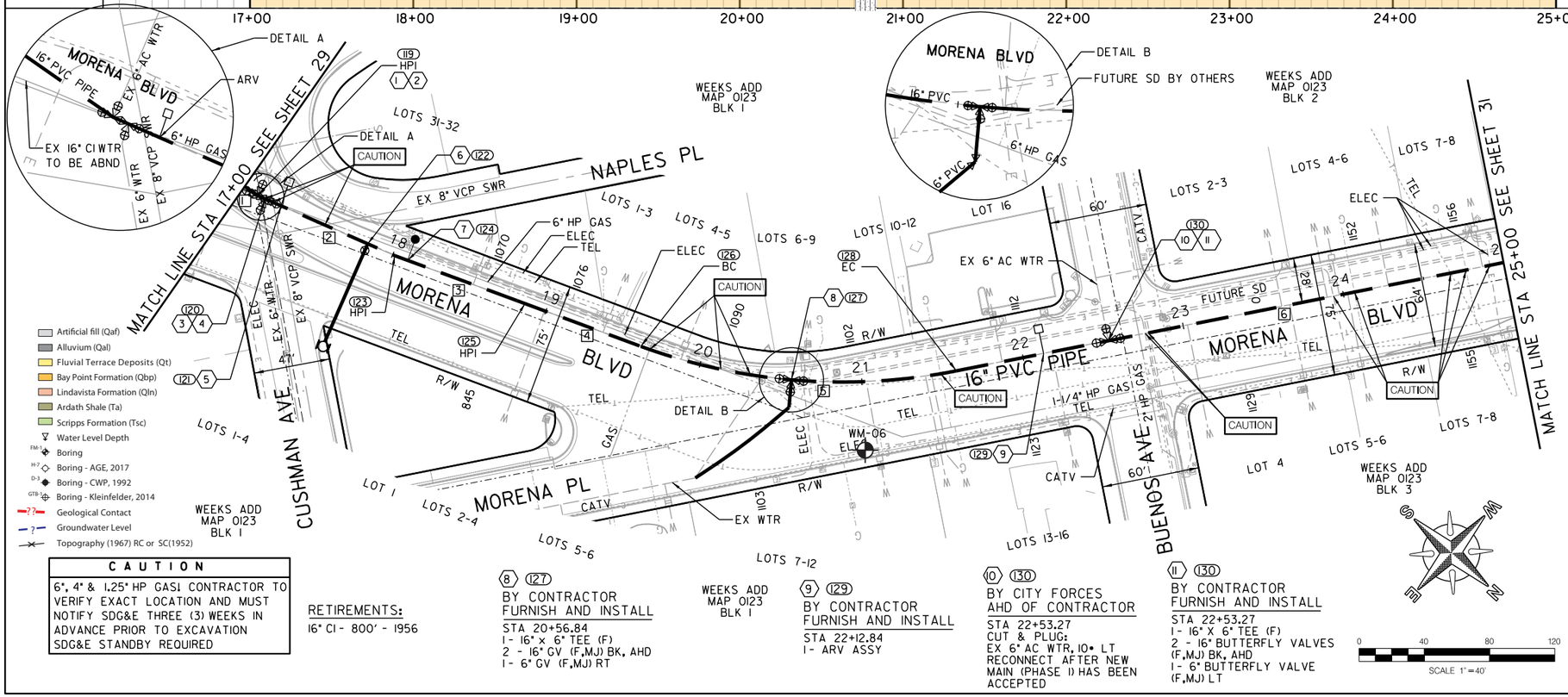
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR2.dgn
9/5/2017 raul.sierra $PLTDRVSS $PENTBLS$

60% SUBMITTAL




SCALE
1"=40' HORIZ.
1"=4' VERT.




**CAUTION**

6", 4" & 1.25" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

(8) (127)
BY CONTRACTOR
FURNISH AND INSTALL
STA 20+56.84
1 - 16" x 6" TEE (F)
2 - 16" GV (F,MJ) BK, AHD
1 - 6" GV (F,MJ) RT

(9) (129)
BY CONTRACTOR
FURNISH AND INSTALL
STA 22+12.84
1 - ARV ASSY

(10) (130)
BY CITY FORCES
AHD OF CONTRACTOR
STA 22+53.27
CUT & PLUG:
EX 6" AC WTR, 10' LT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(11) (130)
BY CONTRACTOR
FURNISH AND INSTALL
STA 22+53.27
1 - 16" X 6" TEE (F)
2 - 16" BUTTERFLY VALVES (F,MJ) BK, AHD
1 - 6" BUTTERFLY VALVE (F,MJ) LT

(1) (119)
BY CITY FORCES
AHD OF CONTRACTOR
STA 17+09.76
CUT & PLUG:
EX 6" AC WTR, 10'+- LT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(2) (119)
BY CONTRACTOR
FURNISH AND INSTALL
STA 17+09.76
1 - 11.25° HORIZ BEND
1 - 16" X 6" TEE (F,MJ,F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 6" BFV (F,MJ) LT

(3) (120)
BY CITY FORCES
AHD OF CONTRACTOR
STA 17+14.77
CUT & PLUG:
EX 6" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(4) (120)
BY CONTRACTOR
FURNISH AND INSTALL
STA 17+14.77
1 - 16" X 6" TEE (F,MJ,F)
1 - 16" BFV (F,MJ) BK, AHD
1 - 6" BFV (F,MJ) RT

(5) (121)
BY CONTRACTOR
FURNISH AND INSTALL
STA 17+25.26
1 - 2" ARV ASSY

(6) (122)
BY CONTRACTOR
FURNISH AND INSTALL
STA 17+83.34
1 - 16" x 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

(7) (124)
BY CONTRACTOR
FURNISH AND INSTALL
STA 18+09.79
1 - 4" B.O. ASSY

REFERENCE:

| | |
|---|---|
| WATER: | 7104-5, 7322-W |
| SEWER: | 1342-D |
| STORM DRAIN: | NO INFO |
| GAS: | 7104-5, 15787-118950 |
| ELECTRIC: | 15787-118950 |
| CABLE TV: | NO INFO |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (119) | 1860466.08 | 6269800.87 | HPI |
| (120) | 1860470.83 | 6269799.28 | TEE |
| (121) | 1860480.78 | 6269795.95 | ARV ASSY |
| (122) | 1860535.85 | 6269777.50 | FH |
| (123) | 1860553.0 | 6269771.75 | HPI |
| (124) | 1860560.76 | 6269768.62 | BO ASSY |
| (125) | 1860626.96 | 6269741.91 | HPI |
| (126) | 1860701.97 | 6269711.72 | BC |
| (127) | 1860784.12 | 6269664.97 | TEE |
| (128) | 1860855.17 | 6269593.19 | EC |
| (129) | 1860887.78 | 6269549.31 | ARV ASSY |
| (130) | 1860911.90 | 6269516.86 | TEE |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N7° 16'25"W | | 9.76' | 16" PVC |
| 2 | N18° 31'25"W | | 91.67' | 16" PVC |
| 3 | N21° 58'22"W | | 79.76' | 16" PVC |
| 4 | N21° 55'23"W | | 80.85' | 16" PVC |
| 5 | 31° 18'04" | 359' | 196.14' | 16" PVC |
| 6 | N53° 23'00"W | | 341.83' | 16" PVC |

C-26

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 17+00 TO STA 25+00 MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 30 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE — PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE

0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

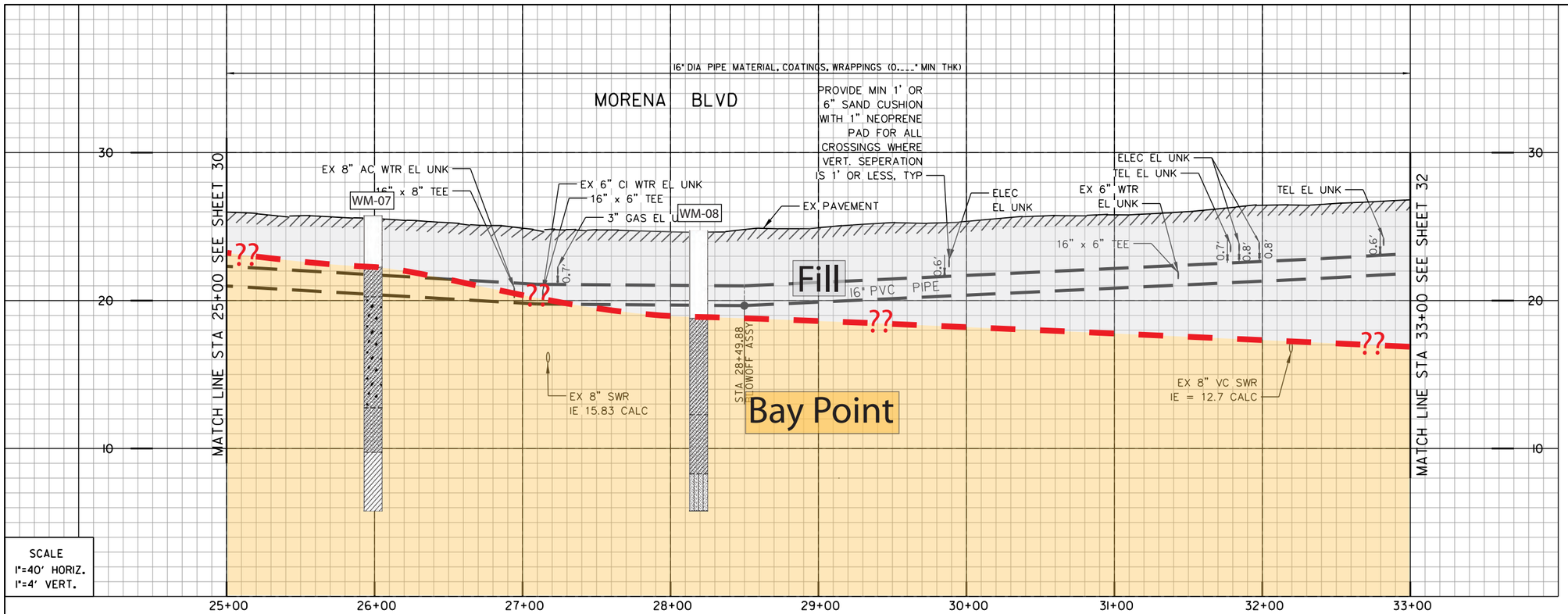
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-30-D

MORENA BLVD

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR3.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




1 129
BY CITY FORCES
AHD OF CONTRACTOR
STA 26+94.39
CUT & PLUG:
EX 8" WTR, 10'+- LT
RECONNECT AFTER NEW MAIN
(PHASE I) HAS BEEN ACCEPTED

2 129
BY CONTRACTOR
FURNISH AND INSTALL
STA 26+94.39
1 - 16" X 8" TEE (F)
1 - 16" BFV (F,MJ) BK
1 - 8" BFV (F,MJ) LT

3 130
BY CITY FORCES
AHD OF CONTRACTOR
STA 27+13.73
CUT & PLUG:
EX 6" CI WTR, 10'+- RT
RECONNECT AFTER NEW MAIN
(PHASE I) HAS BEEN ACCEPTED

4 130
BY CONTRACTOR
FURNISH AND INSTALL
STA 27+13.73
1 - 16" x 6" TEE (F)
1 - 16" BFV (F,MJ) BK
1 - 8" BFV (F,MJ) RT

5 133
BY CONTRACTOR
FURNISH AND INSTALL
STA 30+01.00
1 - 16" x 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

6 135
BY CITY FORCES
AHD OF CONTRACTOR
STA 31+43.14
CUT & PLUG:
EX 6" AC WTR, 10'+- LT
RECONNECT AFTER NEW MAIN
(PHASE I) HAS BEEN ACCEPTED

7 135
BY CONTRACTOR
FURNISH AND INSTALL
STA 31+43.14
1 - 16" x 6" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 6" BFV (F,MJ) LT

8 136
BY CONTRACTOR
FURNISH AND INSTALL
STA 32+46.04
1 - 16" x 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

REFERENCE:

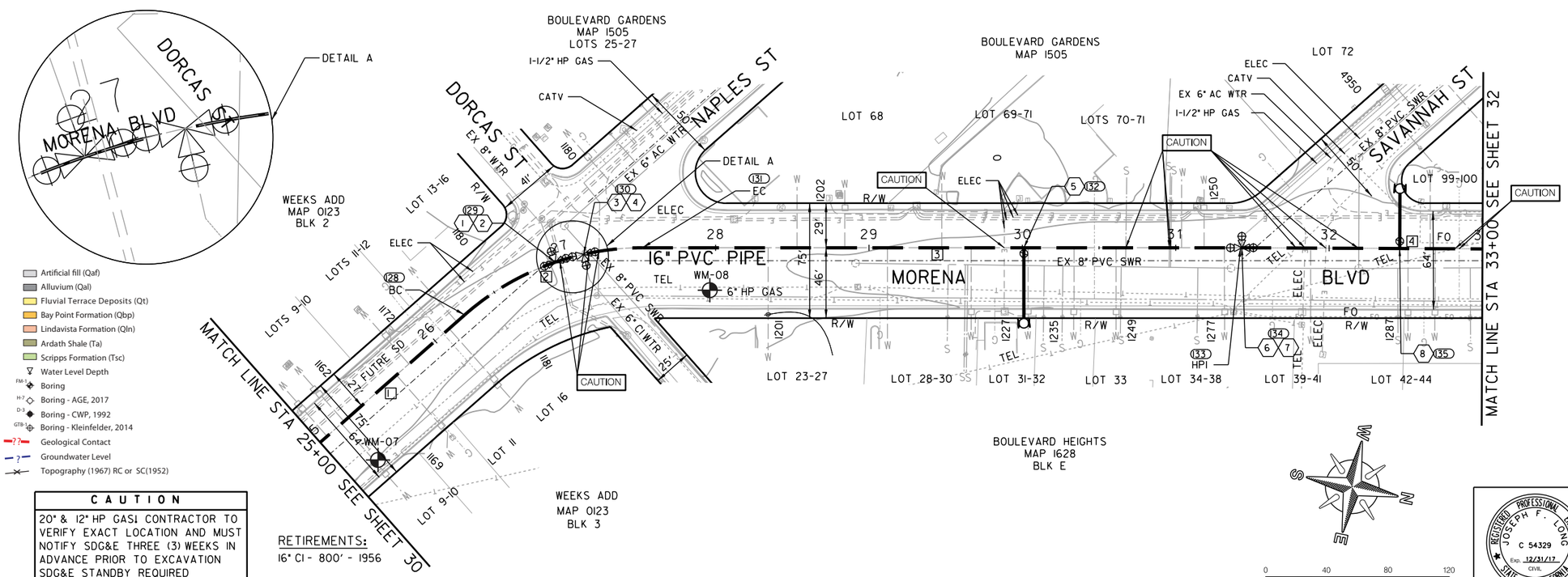
| | |
|---|---|
| WATER: | 7104-4, 4408-L, 2570-L |
| SEWER: | 7104-4, 30417-7 |
| STORM DRAIN: | NO INFO |
| GAS: | 7104-4, 15780-18960, 15780-118955 |
| ELECTRIC: | 15780-118955 |
| CABLE TV: | NO INFO |
| ATT&TELEPHONE: | BLP 1969 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 128 | 1861134.03 | 6269217.93 | BC |
| 129 | 1861184.66 | 6269172.15 | TEE |
| 130 | 1861201.77 | 6269163.17 | TEE |
| 131 | 1861238.26 | 6269151.14 | EC |
| 132 | 1861333.80 | 6269130.94 | B.O. ASSY |
| 133 | 1861481.66 | 6269099.68 | FH |
| 134 | 1861619.82 | 6269070.47 | HPI |
| 135 | 1861620.72 | 6269070.28 | TEE |
| 136 | 1861721.49 | 6269049.46 | FH |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N53° 23'00"W | | 125.69' | 16" PVC |
| 2 | 41° 25'39" | 175' | 126.53' | 16" PVC |
| 3 | N11° 56'17"W | | 389.99' | 16" PVC |
| 4 | N11° 40'19"W | | 157.78' | 16" PVC |




- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

CAUTION

20" & 12" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

MORENA BLVD

C-27

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 25+00 TO STA 33+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 31 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

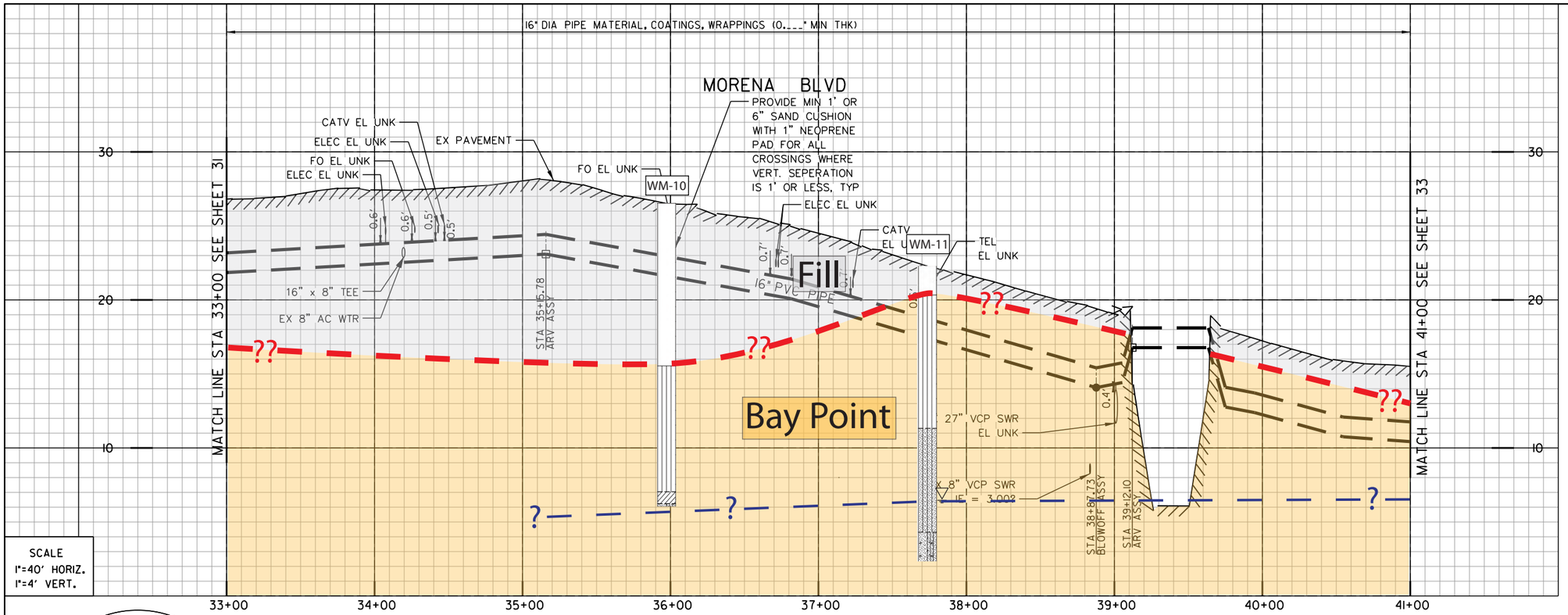
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

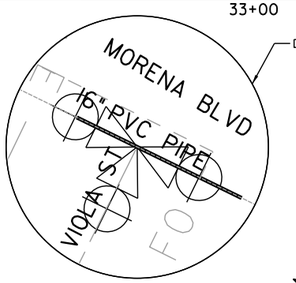
40067-31-D

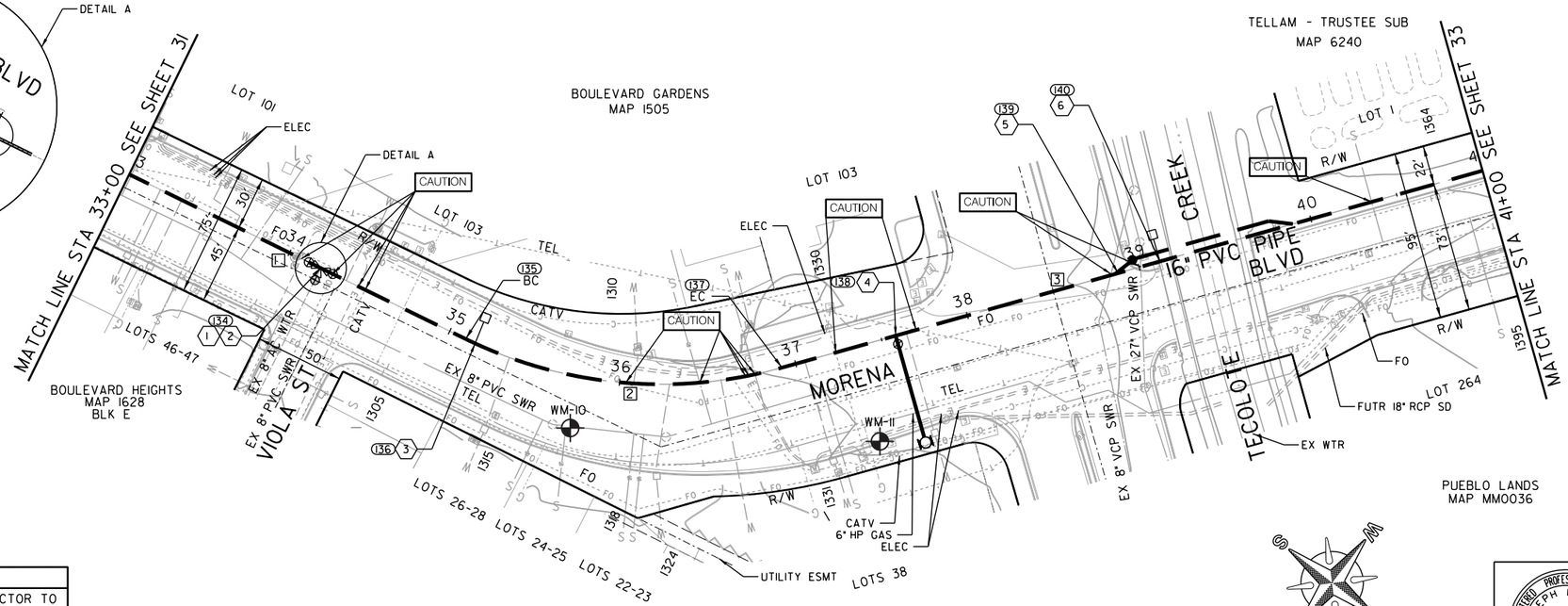
60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR4.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.




| CAUTION |
|---|
| 20" & 12" HP GAS! CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

RETIREMENTS:
16" CI - 800' - 1956

(1) (134)
BY CITY FORCES
AHD OF CONTRACTOR
STA 34+19.55
CUT & PLUG:
EX 8" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(2) (134)
BY CONTRACTOR
FURNISH AND INSTALL
STA 34+19.55
1- 16" X 8" TEE (MJ,F,F)
1- 16" BFV (F,MJ) BK
1- 8" BFV (F,MJ) RT

(3) (136)
BY CONTRACTOR
FURNISH AND INSTALL
STA 35+15.78
1- 2" ARV ASSY

(4) (138)
BY CONTRACTOR
FURNISH AND INSTALL
STA 37+58.23
1- 16" X 6" (MJ,MJ,F)
1- 6" FH ASSY & MARKER

(5) (139)
BY CONTRACTOR
FURNISH AND INSTALL
STA 38+87.73
1- 4" B.O. ASSY

(6) (140)
BY CONTRACTOR
FURNISH AND INSTALL
STA 39+12.10
1- 2" ARV ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 6451-W, 7104-3-W |
| SEWER: | 25119-22, 7104-3, 1341, 3503-D, 1344-D, 16651-3-D |
| STORM DRAIN: | 16661-D |
| GAS: | 15772-118965, 15780-118960 |
| ELECTRIC: | NO INFO |
| CABLE TV: | UTR 417-153 |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (134) | 1861891.42 | 6269014.36 | TEE |
| (135) | 1861979.91 | 6268996.08 | BC |
| (136) | 1861985.64 | 6268994.83 | ARV ASSY |
| (137) | 1862130.05 | 6268900.29 | EC |
| (138) | 1862169.53 | 6268847.12 | FH |
| (139) | 1862246.73 | 6268743.15 | B.O. ASSY |
| (140) | 1862261.26 | 6268723.58 | ARV ASSY |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N11° 40'19"W | | 209.91' | 16" PVC |
| 2 | 41° 44'00" | 250' | 182.1' | 16" PVC |
| 3 | N53° 24'19"W | | 407.99' | 16" PVC |

C-28

MORENA BLVD

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 33+00 TO STA 41+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 32 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

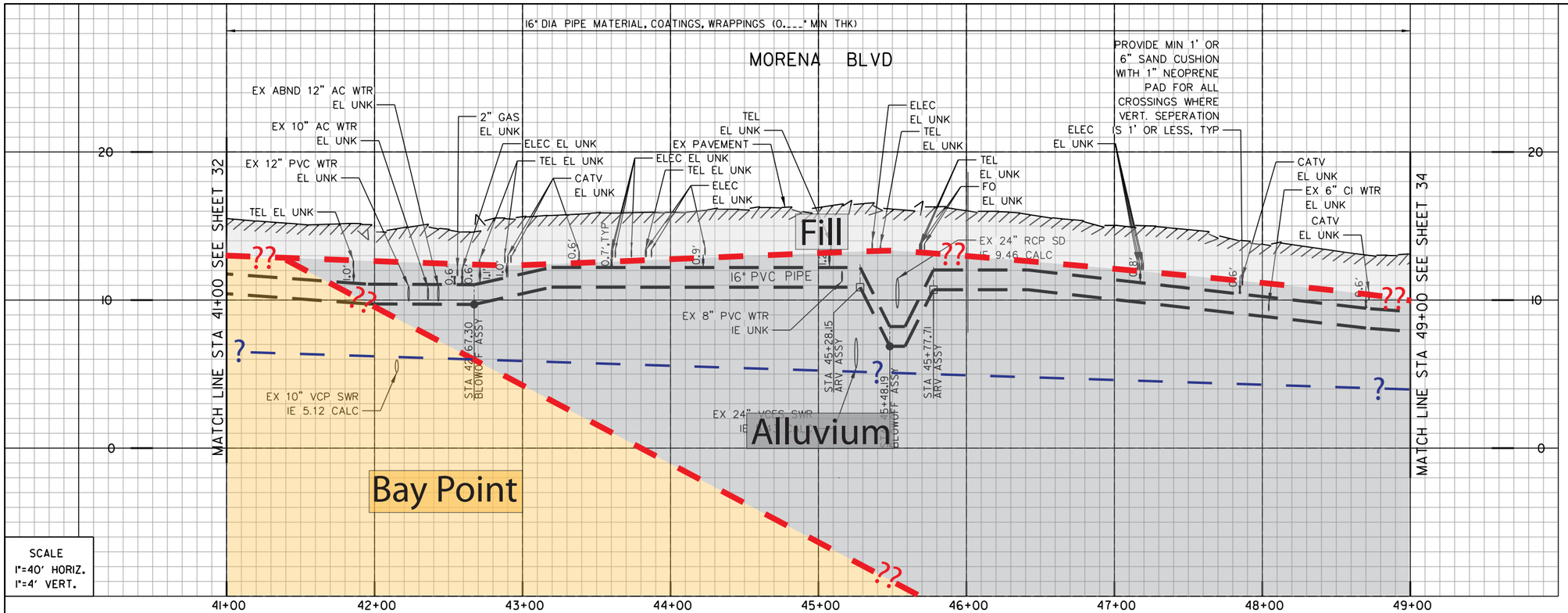
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

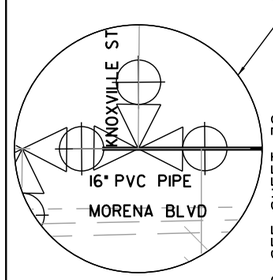
40067-32-D

60% SUBMITTAL

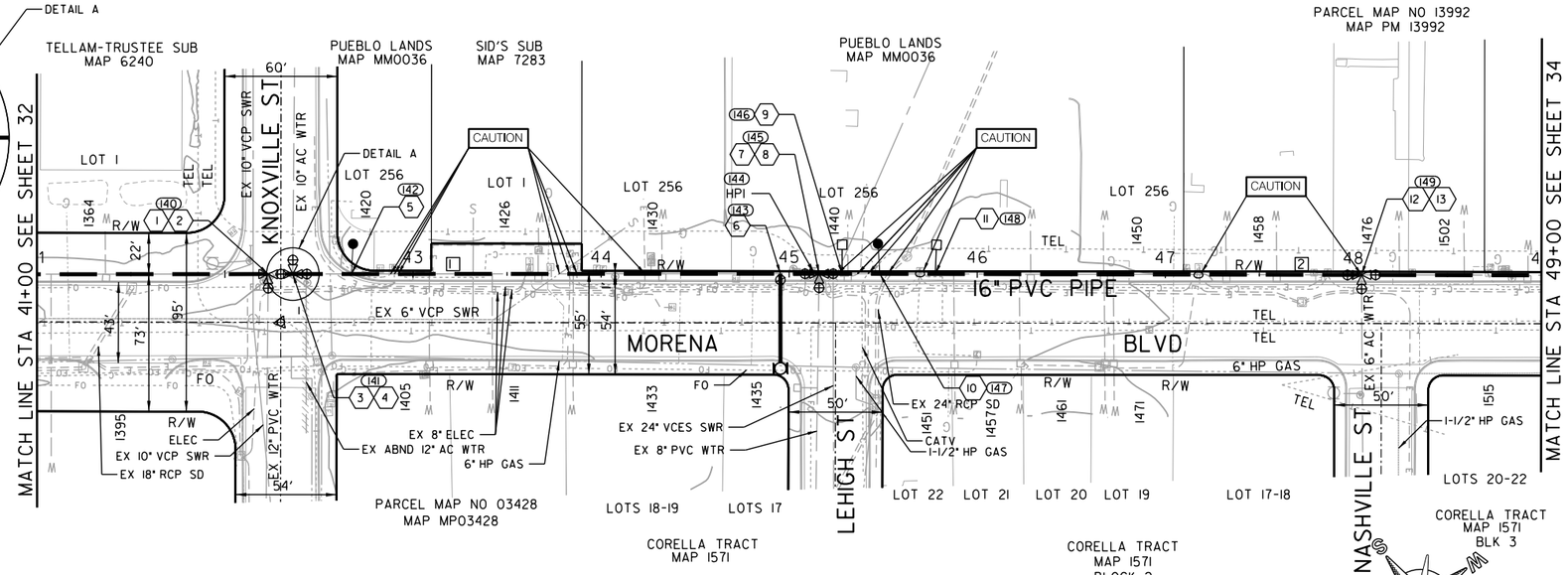
u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR5.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.




DETAIL A




- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

**CAUTION**

12" 6" 1-1/2" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

(10) (147)
BY CONTRACTOR
FURNISH AND INSTALL
STA 45+48.19
1 - B.O. ASSY

(11) (148)
BY CONTRACTOR
FURNISH AND INSTALL
STA 45+77.71
1 - ARV ASSY

(12) (149)
BY CITY FORCES
AHD OF CONTRACTOR
STA 48+04.35
CUT & PLUG:
EX 6" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(13) (149)
BY CONTRACTOR
FURNISH AND INSTALL
STA 48+04.35
1 - ARV ASSY

(1) (140)
BY CITY FORCES
AHD OF CONTRACTOR
STA 42+23.00
CUT & PLUG:
EX 12" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(2) (140)
BY CONTRACTOR
FURNISH AND INSTALL
STA 42+23.00
1 - 16" X 12" TEE (MJ,F,F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 12" BFV (F,MJ) RT

(3) (141)
BY CITY FORCES
AHD OF CONTRACTOR
STA 42+36.07
CUT & PLUG:
EX 10" AC WTR, 10'+- LT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(4) (141)
BY CONTRACTOR
FURNISH AND INSTALL
STA 42+36.07
1 - 16" X 10" TEE (F,MJ,F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 10" BFV (F,MJ) LT

(5) (142)
BY CONTRACTOR
FURNISH AND INSTALL
STA 42+67.30
1 - 4" B.O. ASSY

(6) (143)
BY CONTRACTOR
FURNISH AND INSTALL
STA 44+95.33
1 - 16" X 6" TEE (MJ,MJ,F)
1 - FH ASSY & MARKER

(7) (145)
BY CITY FORCES
AHD OF CONTRACTOR
STA 45+15.92
CUT & PLUG:
EX 8" CI WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(8) (145)
BY CONTRACTOR
FURNISH AND INSTALL
STA 45+15.92
1 - 16" X 8" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 8" BFV (F,MJ) RT

(9) (146)
BY CONTRACTOR
FURNISH AND INSTALL
STA 45+28.15
1 - 2" ARV ASSY

REFERENCE:

| | |
|---|---|
| WATER: | 7104-2, 2577-L, 31594-D, 31236-D, 9510-D |
| SEWER: | 1343-D, 1345-D, 1689-D |
| STORM DRAIN: | 6424-D, 16166-D |
| GAS: | 7104-2, 15772-118970, 15772-118965 |
| ELECTRIC: | 15772-118970, UTR 417-153 |
| CABLE TV: | BLP 1968 |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (140) | 1862446.60 | 6268473.97 | TEE |
| (141) | 1862454.39 | 6268463.47 | TEE |
| (142) | 1862473.01 | 6268438.40 | B.O. ASSY |
| (143) | 1862608.95 | 6268255.32 | FH |
| (144) | 1862621.23 | 6268238.79 | TEE |
| (145) | 1862619.74 | 6268240.79 | HPI |
| (146) | 1862628.55 | 6268229.00 | ARV ASSY |
| (147) | 1862640.54 | 6268212.94 | B.O. ASSY |
| (148) | 1862658.21 | 6268189.29 | ARV ASSY |
| (149) | 1862793.85 | 6268007.73 | TEE |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N53° 24'19"W | | 413.43' | 16" PVC |
| 2 | N53° 14'19"W | | 386.57' | 16" PVC |

C-29

MORENA BLVD

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 41+00 TO STA 49+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 33 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

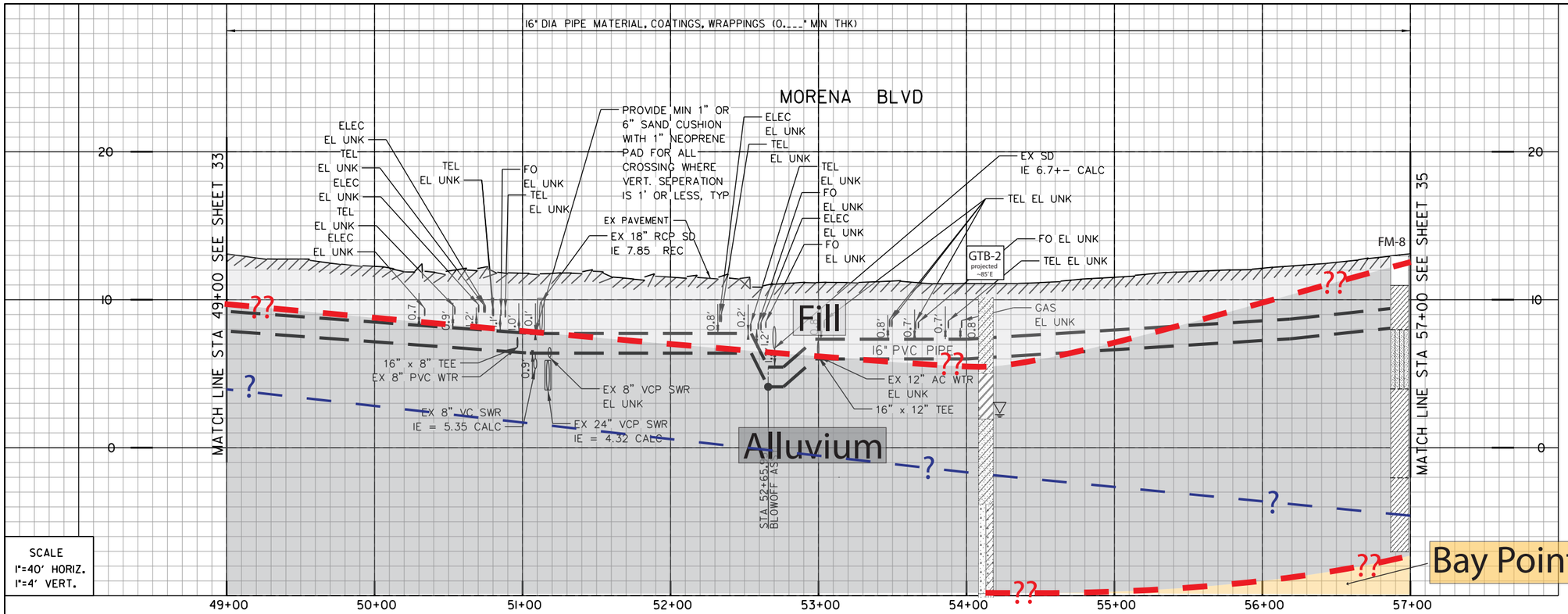
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-33-D

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR6.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$

60% SUBMITTAL




1 (150)
BY CITY FORCES
AHD OF CONTRACTOR
STA 50+96.33
CUT & PLUG:
EX 8" PVC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

2 (150)
BY CONTRACTOR
FURNISH AND INSTALL
STA 50+96.33
1 - 16" X 8" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 8" BFV (F,MJ) RT

3 (151)
BY CONTRACTOR
FURNISH AND INSTALL
STA 52+65.95
1 - 4" B.O. ASSY

4 (152)
BY CITY FORCES
AHD OF CONTRACTOR
STA 52+99.80
CUT & PLUG:
EX 12" AC WTR, 10'+- LT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

5 (152)
BY CONTRACTOR
FURNISH AND INSTALL
STA 52+99.80
1 - 16" X 12" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 12" BFV (F,MJ) LT

6 (149)
BY CONTRACTOR
FURNISH AND INSTALL
STA 54+33.59
1 - 16" X 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

7 (152)
BY CONTRACTOR
FURNISH AND INSTALL
STA 56+93.58
1 - 16" X 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

REFERENCE:

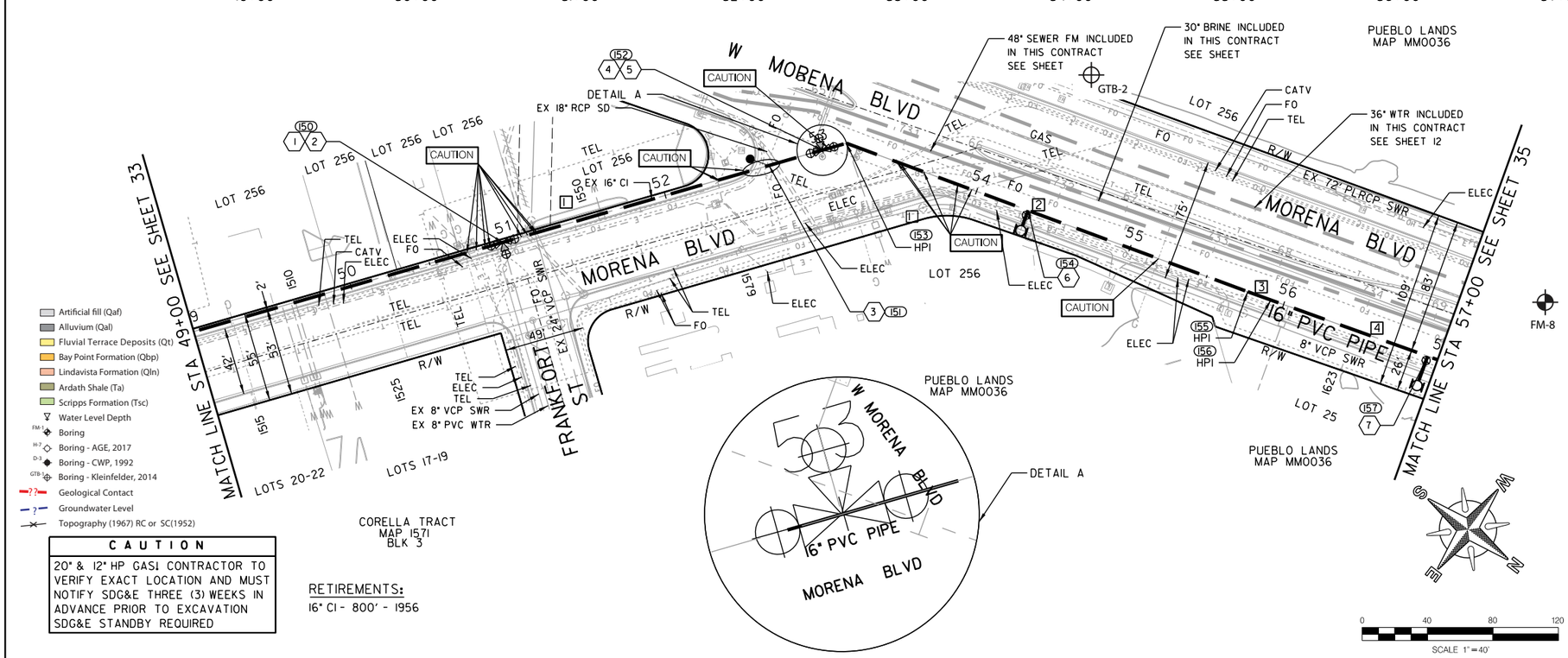
| | |
|---|---|
| WATER: | 11835-D, 7104-W, 6066-D, 7660-W, 31594-D |
| SEWER: | 3465, 25119-D, 1343-D, 6066-D, 12215-D, 1345-D, 4608-3-D |
| STORM DRAIN: | 10162-L, 3475-D |
| GAS: | 15765-118970, 15765-118975 |
| ELECTRIC: | 15765-118970, 15765-118975 |
| CABLE TV: | 417-153 |
| ATT&TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | NO INFO |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 146 | 1863070.11 | 6267637.92 | B.O. ASSY |
| 147 | 1863090.37 | 6267610.81 | TEE |
| 148 | 1863099.53 | 6267598.54 | HPI |
| 149 | 1863212.95 | 6267564.26 | FH |
| 150 | 1863349.93 | 6267522.86 | HPI |
| 151 | 1863364.37 | 6267518.33 | HPI |
| 152 | 1863461.56 | 6267488.17 | FH |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N53° 14'19"W | | 415.11' | 16" PVC |
| 2 | N16° 49'04"W | | 261.59' | 16" PVC |
| 3 | N17° 24'12"W | | 15.13' | 16" PVC |
| 4 | | | 108.17' | 16" PVC |




CAUTION

20" & 12" HP GASI CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

C-30

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 49+00 TO STA 57+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 34 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE — PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER

CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE

0000-0000 CCS83 COORDINATE

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

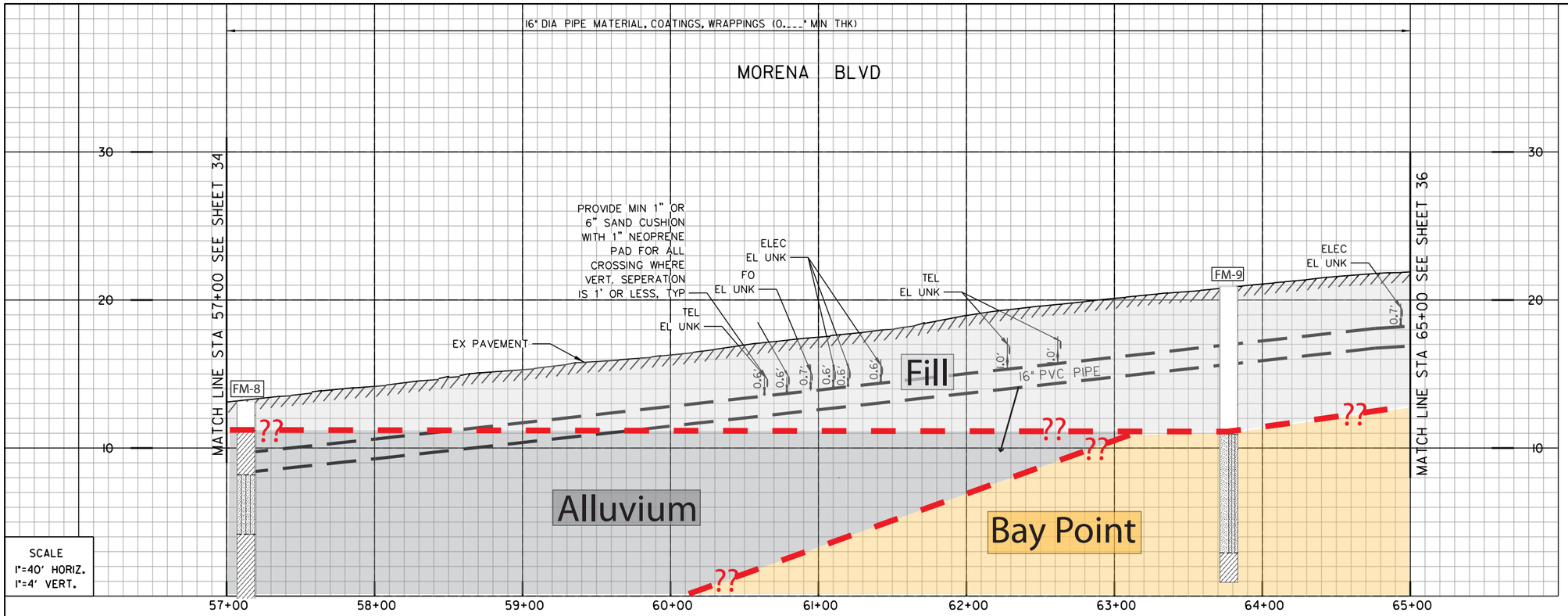
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-34-D

MORENA BLVD

60% SUBMITTAL

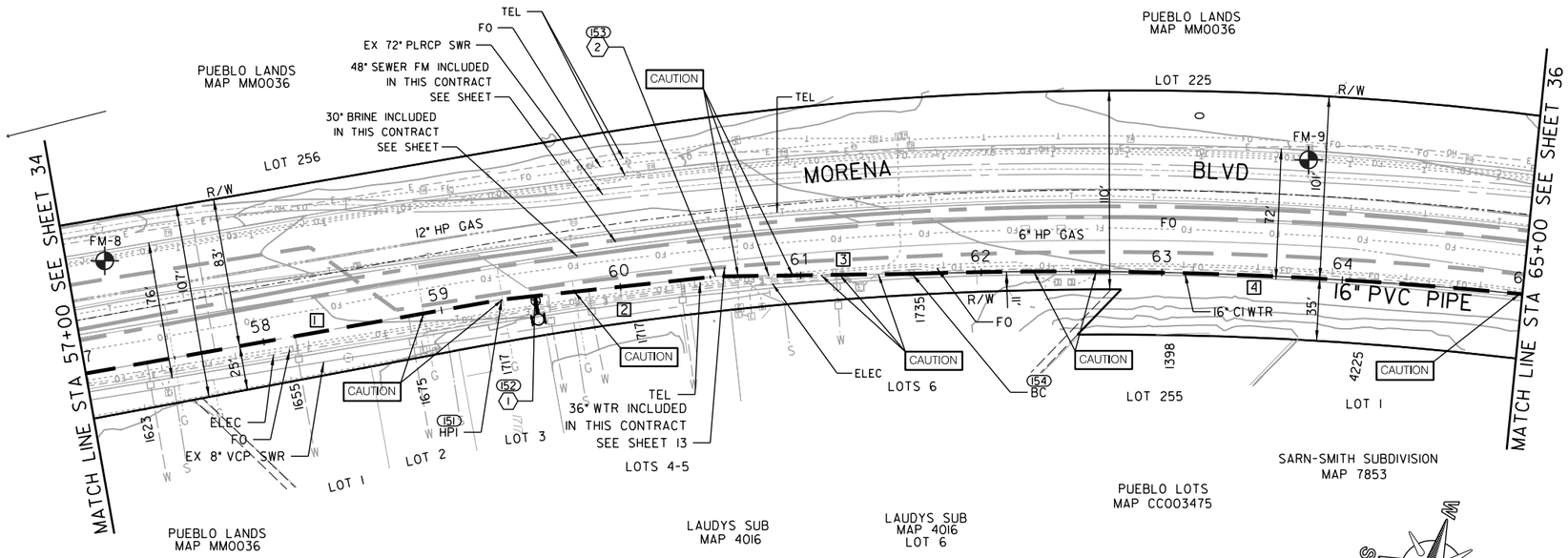
u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR7.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




(1) (152)
BY CONTRACTOR
FURNISH AND INSTALL
STA 59+52.33
1 - 16" X 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

(2) (153)
BY CONTRACTOR
FURNISH AND INSTALL
STA 60+53.04
1 - 5.38° HORIZ BEND

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)




REFERENCE:

| | |
|---|---|
| WATER: | 6066-D, 7760-W |
| SEWER: | 6066-D, 25119-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-11870 |
| ELECTRIC: | 15765-118975 |
| CABLE TV: | 222-1704-B, BL 1967 |
| ATT&TELEPHONE: | 104-212 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (151) | 1863690.74 | 6267416.03 | HPI |
| (152) | 1863708.71 | 6267411.72 | FH |
| (153) | 1863806.64 | 6267388.22 | HPI |
| (154) | 1863914.17 | 6267372.89 | BC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N17° 24'12"W | | 233.85' | 16" PVC |
| 2 | N13° 29'31"W | | 119.19' | 16" PVC |
| 3 | N8° 06'53"W | | 108.61' | 16" PVC |
| 4 | 7° 25'10" | 2613' | 338.35' | 16" PVC |

**CAUTION**

12" AND 6" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

MORENA BLVD

C-31

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 57+00 TO STA 65+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 35 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

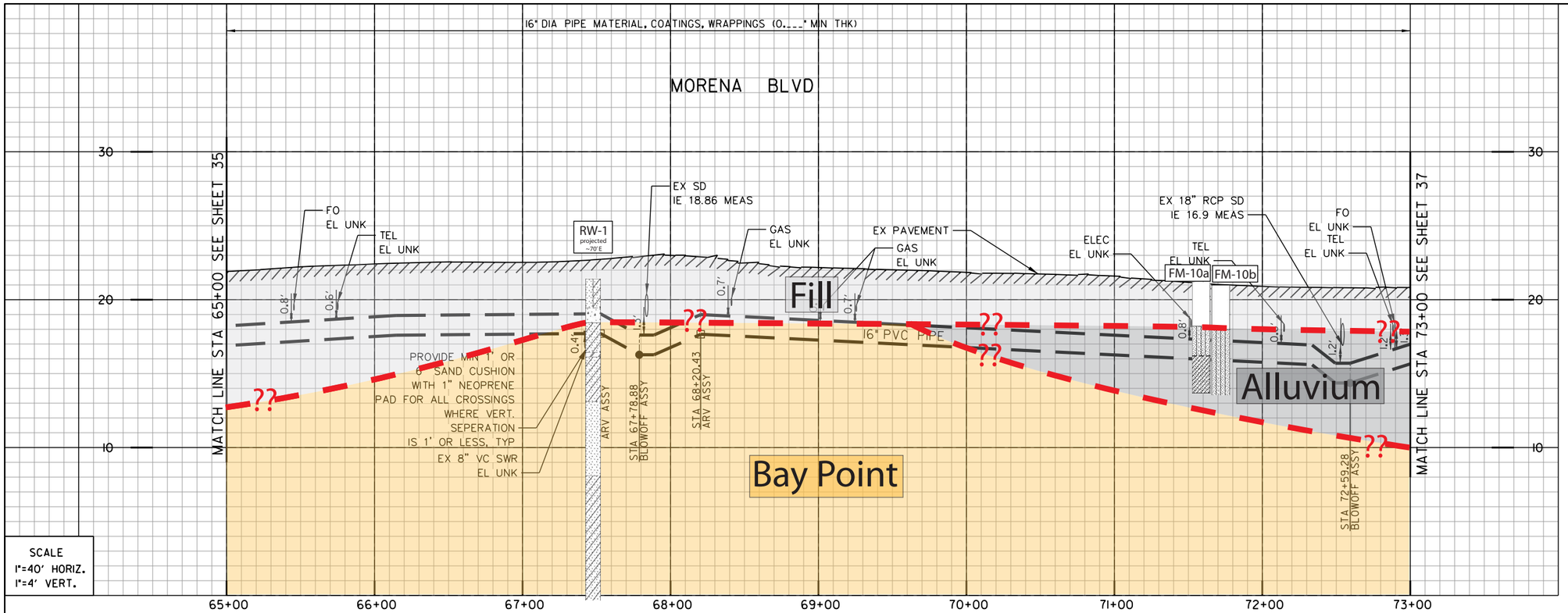
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-35-D

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR8.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

1 (156)
BY CONTRACTOR
FURNISH AND INSTALL
STA 67+52.61
1 - 2" ARV ASSY

2 (157)
BY CONTRACTOR
FURNISH AND INSTALL
STA 67+78.88
1 - 4" B.O. ASSY

3 (158)
BY CONTRACTOR
FURNISH AND INSTALL
STA 67+89.04
1 - 16" X 6" TEE (MJ,MJ,F)
1 - FH ASSY & MARKER

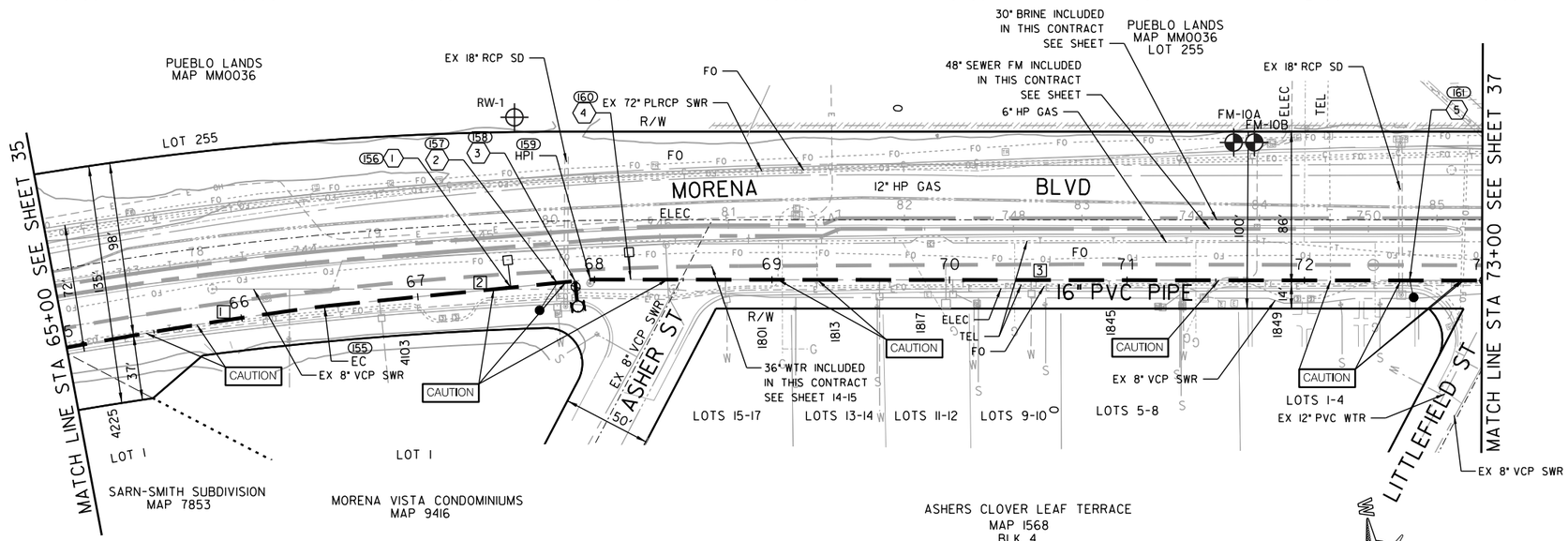
4 (160)
BY CONTRACTOR
FURNISH AND INSTALL
STA 68+20.43
1 - 2" ARV ASSY

5 (161)
BY CONTRACTOR
FURNISH AND INSTALL
STA 72+59.28
1 - 4" B.O. ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 6066-D, 7660-W, 3493-D, 31594-D |
| SEWER: | 1311-D, 25119-18-D, 1149-D |
| STORM DRAIN: | 3477-D |
| GAS: | 15765-11890 |
| ELECTRIC: | 15765-118990, 15765-118985 |
| CABLE TV: | 224-1704-D, BLN 1967 |
| ATT&TELEPHONE: | 104-213 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| (155) | 1864397.89 | 6267340.75 | EC |
| (156) | 1864503.18 | 6267346.87 | ARV ASSY |
| (157) | 1864529.41 | 6267348.40 | B.O. ASSY |
| (158) | 1864539.55 | 6267348.99 | FH |
| (159) | 1864548.23 | 6267349.49 | HPI |
| (160) | 1864570.64 | 6267353.08 | ARV ASSY |
| (161) | 1865003.96 | 6267422.50 | B.O. ASSY |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | 3°13'36" | 2613' | 147.14' | 16" PVC |
| 2 | N3°19'32"E | | 150.59' | 16" PVC |
| 3 | N9°06'06"E | | 502.26' | 16" PVC |

C-32

MORENA BLVD

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 65+00 TO STA 73+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 36 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-36-D

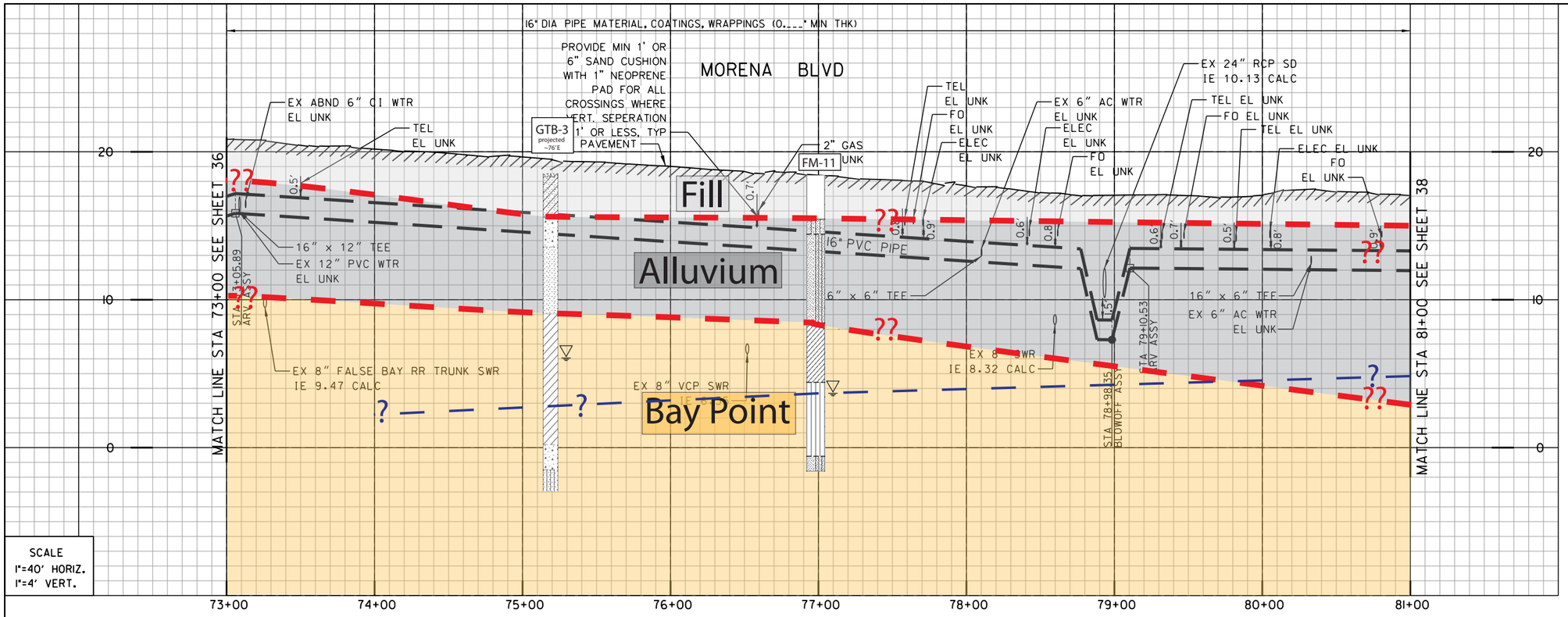
**CAUTION**

12" AND 6" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

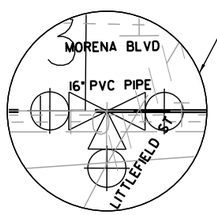
RETIREMENTS:
16" CI - 800' - 1956

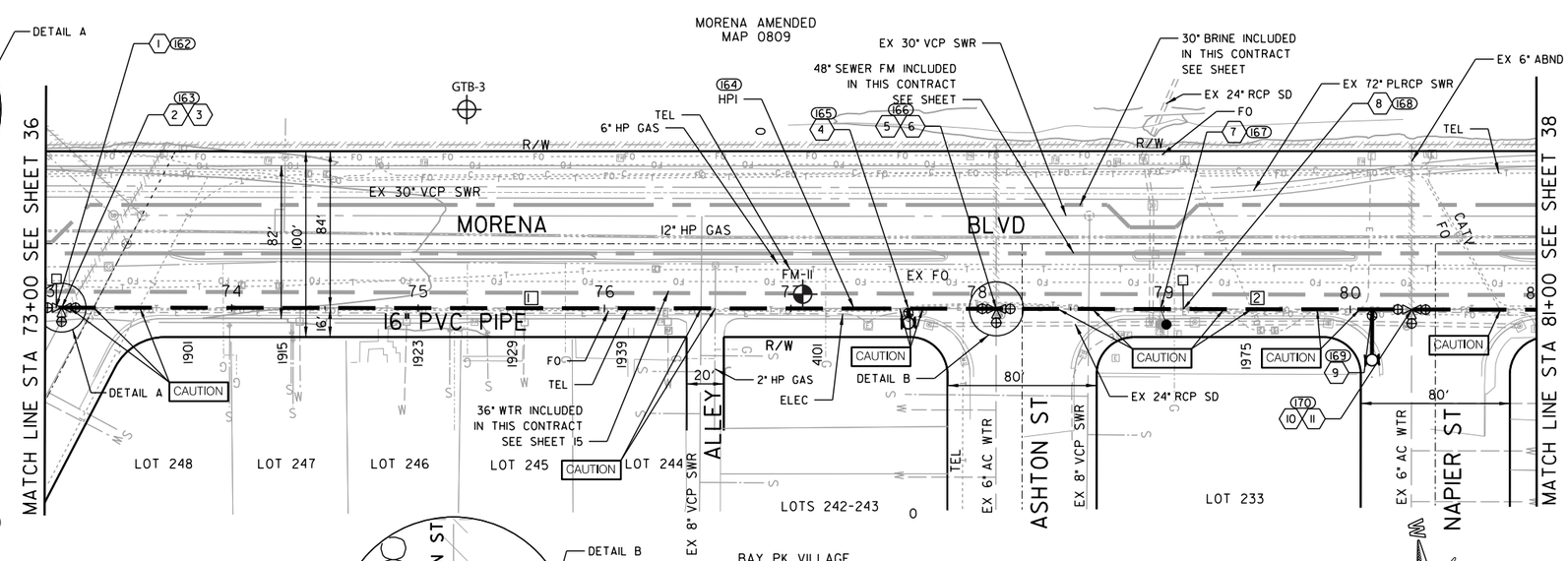
60% SUBMITTAL

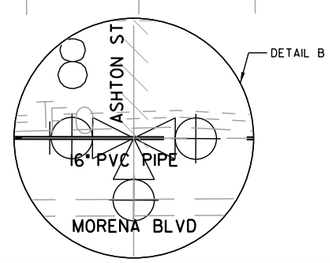
u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR9.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.




- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

**CAUTION**

12", 6", 2" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

(9) (169)
BY CONTRACTOR
FURNISH AND INSTALL
STA 80+11.80
1 - 16" X 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

(10) (170)
BY CITY FORCES
AHD OF CONTRACTOR
STA 80+33.02
CUT & PLUG:
EX 6" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(11) (170)
BY CONTRACTOR
FURNISH AND INSTALL
STA 80+33.02
1 - 16" X 6" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 6" BFV (F,MJ) RT

(1) (162)
BY CONTRACTOR
FURNISH AND INSTALL
STA 73+05.89
1 - 2" ARV ASSY

(2) (163)
BY CITY FORCES
AHD OF CONTRACTOR
STA 73+08.74
CUT & PLUG:
EX 6" CI WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(3) (163)
BY CONTRACTOR
FURNISH AND INSTALL
STA 73+08.74
1 - 16" x 6" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 6" BFV (F,MJ) RT

(4) (165)
BY CONTRACTOR
FURNISH AND INSTALL
STA 77+62.99
1 - 16" x 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

(5) (166)
BY CITY FORCES
AHD OF CONTRACTOR
STA 78+10.17
CUT & PLUG:
EX 6" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN (PHASE I) HAS BEEN ACCEPTED

(6) (166)
BY CONTRACTOR
FURNISH AND INSTALL
STA 78+10.17
1 - 16" X 6" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 6" BFV (F,MJ) RT

(7) (167)
BY CONTRACTOR
FURNISH AND INSTALL
STA 78+98.35
1 - 4" B.O. ASSY

(8) (168)
BY CONTRACTOR
FURNISH AND INSTALL
STA 79+10.53
1 - 2" ARV ASSY

REFERENCE:

| | |
|---|---|
| WATER: | 7660-W, 3493-D |
| SEWER: | 25119-D, 1311-D, 1149-D, 7146-D |
| STORM DRAIN: | 3477-D |
| GAS: | 15765-11890 |
| ELECTRIC: | 224-1704-D |
| CABLE TV: | BLN 1967, 104-213 |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| (162) | 1865049.99 | 6267429.87 | ARV ASSY |
| (163) | 1865052.80 | 6267430.33 | TEE |
| (164) | 1865472.54 | 6267497.57 | HPI |
| (165) | 1865501.33 | 6267502.20 | FH |
| (166) | 1865547.91 | 6267509.68 | TEE |
| (167) | 1865634.97 | 6267523.67 | B.O. ASSY |
| (168) | 1865647.00 | 6267525.61 | ARV ASSY |
| (169) | 1865746.99 | 6267541.68 | FH |
| (170) | 1865767.93 | 6267545.04 | TEE |

PROPOSED PIPE DATA TABLE

| NO. | △/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N9° 06'06"E | | 433.84' | 16" PVC |
| 2 | N9° 07'48"E | | 366.16' | 16" PVC |

C-33

MORENA BLVD

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 73+00 TO STA 81+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 37 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

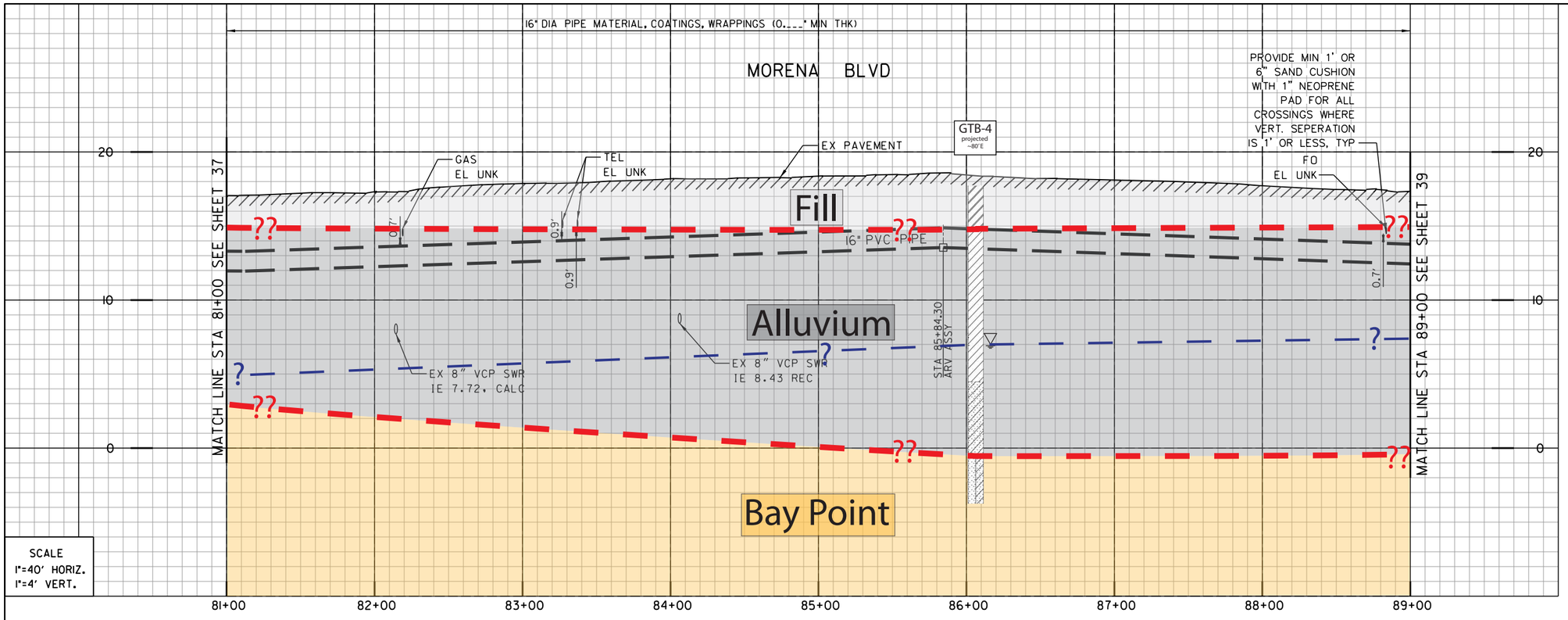
SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE
40067-37-D

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR10.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




1 (168)
BY CONTRACTOR
FURNISH AND INSTALL
STA 83+44.45
1- 16" X 6" TEE (MJ,MJ,F)
1- 6" FH ASSY & MARKER

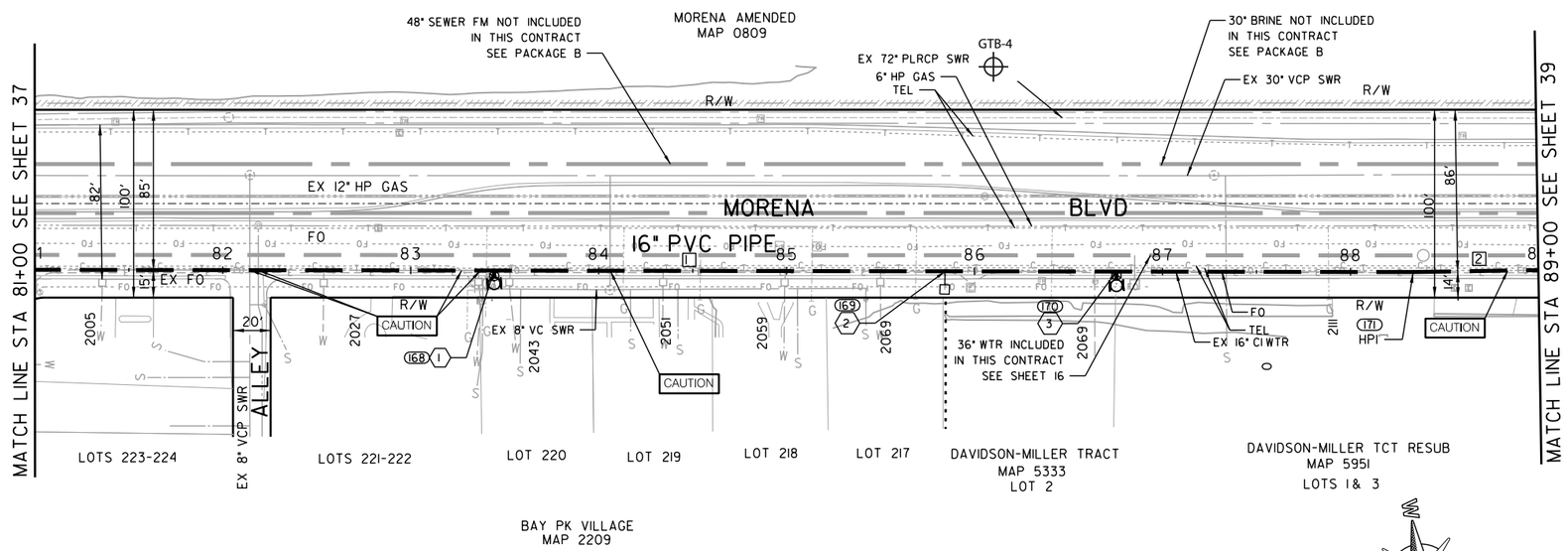
2 (169)
BY CONTRACTOR
FURNISH AND INSTALL
STA 85+84.30
1- 2" ARV ASSY

3 (170)
BY CONTRACTOR
FURNISH AND INSTALL
STA 86+75.50
1- 16" X 6" TEE (MJ,MJ,F)
1- 6" FH ASSY & MARKER

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7660-W |
| SEWER: | 25119-D, 1311-D, 7149-D |
| STORM DRAIN: | NO INFO |
| GAS: | 15765-119000 |
| ELECTRIC: | 15765-119000 |
| CABLE TV: | 224-1704-B, 104-213 |
| ATT&TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |




COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 168 | 1866075.42 | 6267594.46 | FH |
| 169 | 1866312.23 | 6267632.52 | ARV ASSY |
| 170 | 1866402.27 | 6267646.99 | FH |
| 171 | 1866558.20 | 6267672.05 | HPI |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N9° 07'48"E | | 733.42' | 16" PVC |
| 2 | N8° 08'45"E | | 66.58' | 16" PVC |

C-34

MORENA BLVD

**CAUTION**

12" AND 6" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

SCALE 1" =40'

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 81+00 TO STA 89+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 38 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

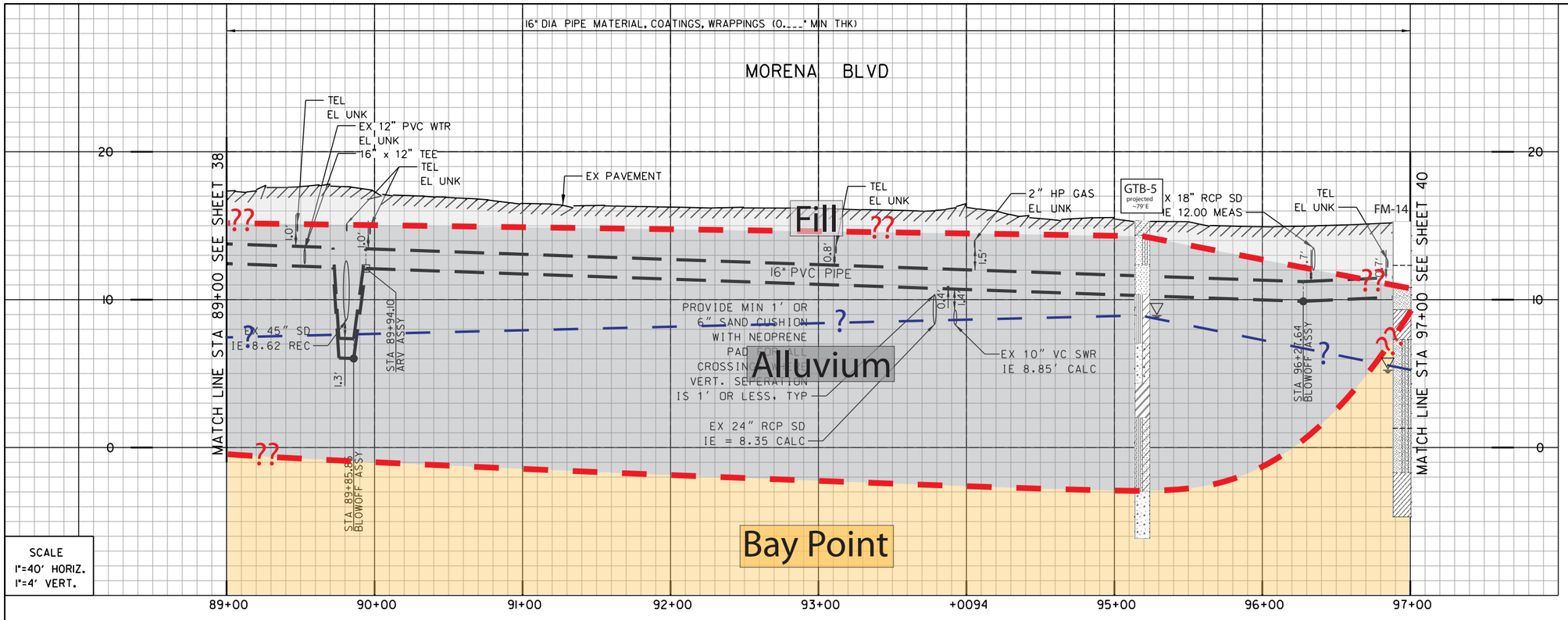
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

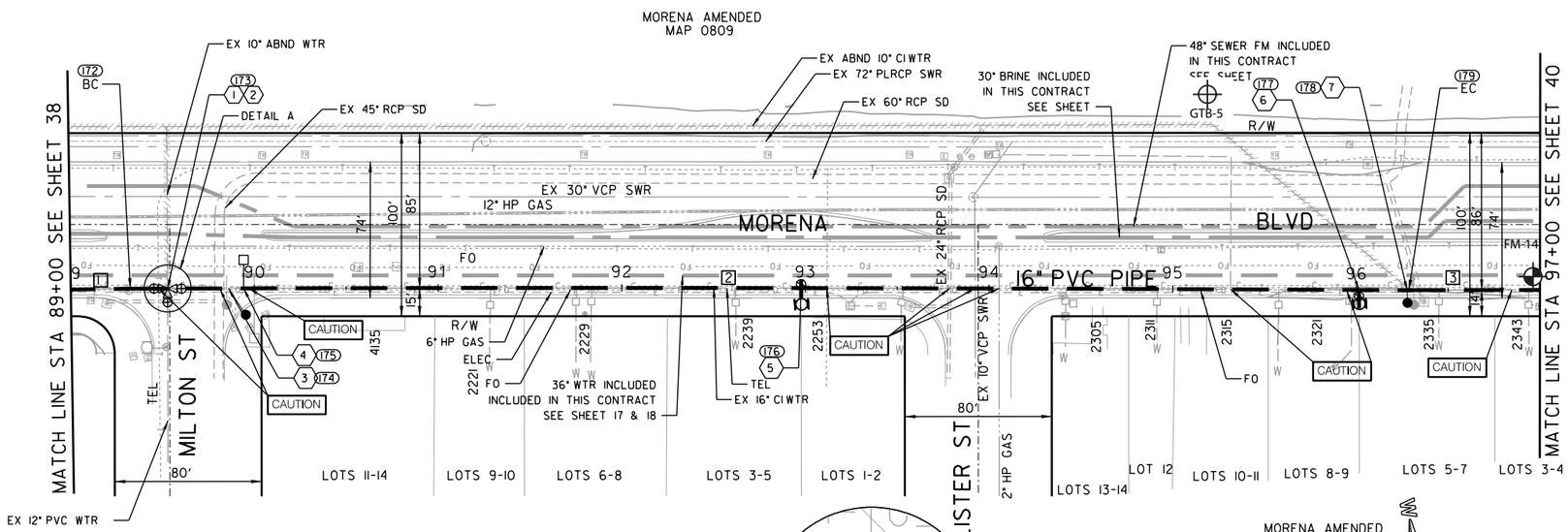
40067-38-D

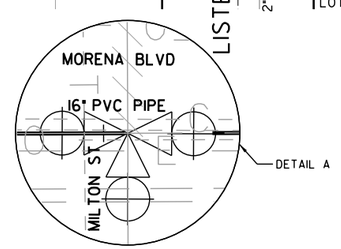
60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR11.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$

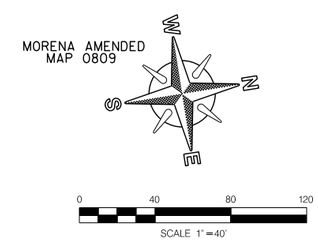



SCALE
1"=40' HORIZ.
1"=4' VERT.




MORENA AMENDED
MAP 0809
BLK 26




**CAUTION**

12", 6", 2" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

1 (173)
BY CITY FORCES
AHD OF CONTRACTOR
STA 89+52.77
CUT & PLUG:
EX 12" PVC WTR, 10'+- RT
RECONNECT AFTER NEW
MAIN HAS BEEN ACCEPTED

2 (173)
BY CONTRACTOR
FURNISH AND INSTALL
STA 89+52.77
1 - 16" X 12" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 12" BFV (F,MJ) RT

3 (174)
BY CONTRACTOR
FURNISH AND INSTALL
STA 89+85.85
1 - 4" B.O. ASSY

4 (175)
BY CONTRACTOR
FURNISH AND INSTALL
STA 89+94.10
1 - 2" ARV ASSY

5 (176)
BY CONTRACTOR
FURNISH AND INSTALL
STA 92+97.67
1 - 16" x 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

6 (177)
BY CONTRACTOR
FURNISH AND INSTALL
STA 96+01.45
1 - 16" x 6" TEE (MJ,MJ,F)
1 - 6" FH ASSY & MARKER

7 (178)
BY CONTRACTOR
FURNISH AND INSTALL
STA 96+27.64
1 - 4" B.O. ASSY

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-14 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-5 Boring - Kleinfelder, 2014
- ?? Geological Contact
- ? Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 34257-D, 7660-W |
| SEWER: | 1150-D, 1151-D, 25119-D |
| STORM DRAIN: | 9355-L |
| GAS: | 15765-119010 |
| ELECTRIC: | NO INFO |
| CABLE TV: | 226-7704 |
| ATT&TELEPHONE: | BLN 1967 |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 172 | 1866656.20 | 6267686.07 | BC |
| 173 | 1866676.31 | 6267689.21 | TEE |
| 174 | 1866708.99 | 6267694.32 | B.O. ASSY |
| 175 | 1866717.14 | 6267695.59 | ARV ASSY |
| 176 | 1867016.97 | 6267743.13 | FH |
| 177 | 1867316.81 | 6267791.86 | FH |
| 178 | 1867342.65 | 6267796.11 | B.O. ASSY |
| 179 | 1867343.59 | 6267796.26 | EC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N8° 08'45"E | | 32.42' | 16" PVC |
| 2 | 0° 30'15" | 79099' | 696.17' | 16" PVC |
| 3 | N8° 54'01"E | | 71.41' | 16" PVC |

C-35

MORENA BLVD

MORENA PUMP STATION AND
CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 89+00 TO STA 97+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 39 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

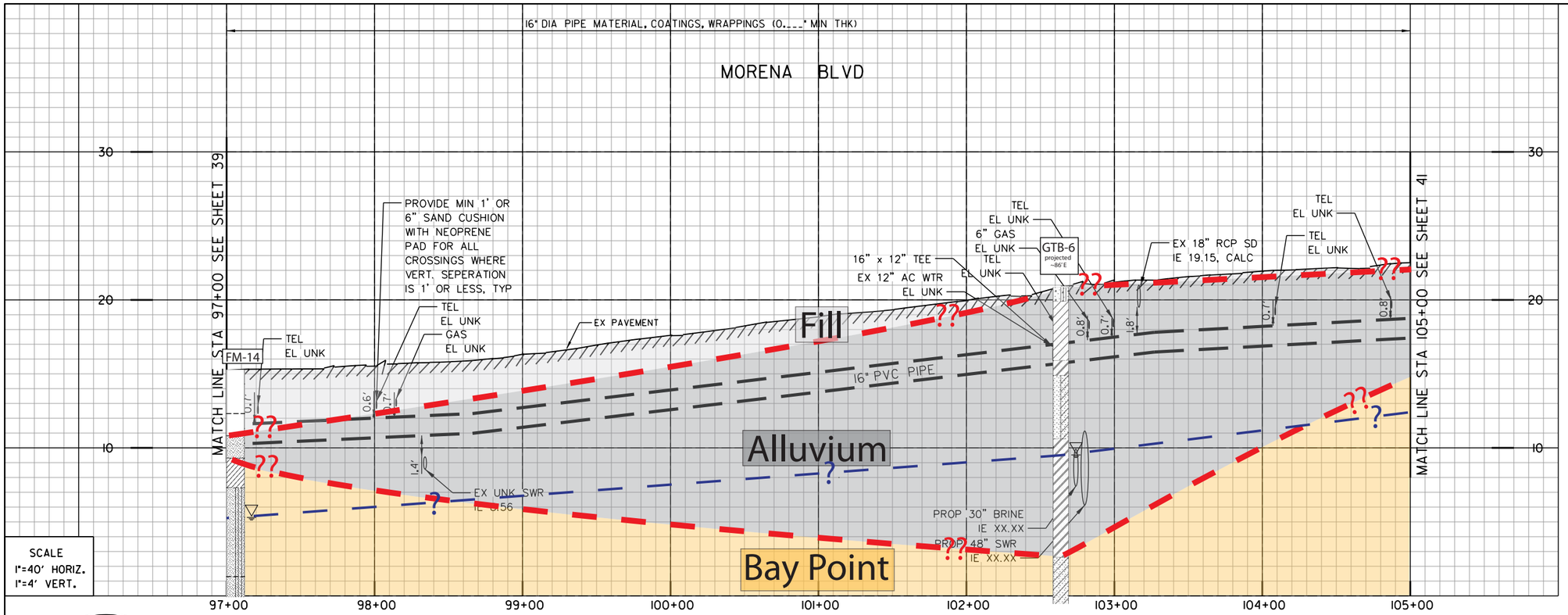
REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

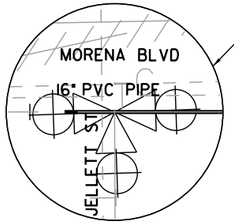
40067-39-D

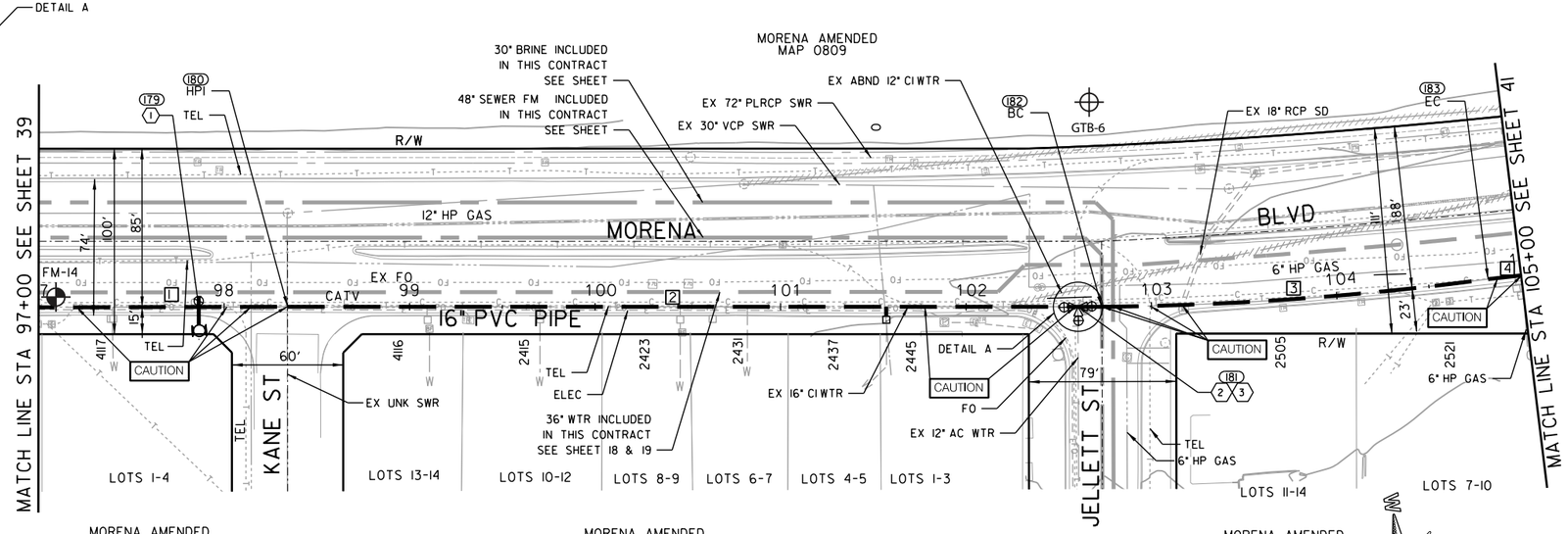
60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR12.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.




**CAUTION**

6" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED

RETIREMENTS:
16" CI - 800' - 1956

(1) (179)
BY CONTRACTOR FURNISH AND INSTALL
STA 97+86.32
1 - 16" X 6" TEE (MJ,MJ,F)
1 - FH ASSY & MARKER

(2) (181)
BY CITY FORCES AHD OF CONTRACTOR
STA 102+60.36
CUT & PLUG:
EX 12" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED

(3) (181)
BY CONTRACTOR FURNISH AND INSTALL
STA 102+60.36
1 - 16" X 12" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 12" BFV (F,MJ) RT

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- Boring
- Boring - AGE, 2017
- Boring - CWP, 1992
- Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 7660-D,5373-W |
| SEWER: | 25119-D,1151-D |
| STORM DRAIN: | 9355-D,3493-D, 25119-17, 1150-D |
| GAS: | 15765-119020, 15765-119015 |
| ELECTRIC: | 15765-119020 |
| CABLE TV: | 226-1704B |
| ATT&TELEPHONE: | NO INFO |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |

COORDINATE TABLE

| NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 179 | 1867499.41 | 6267820.69 | FH |
| 180 | 1867546.76 | 6267828.08 | HPI |
| 181 | 1867967.60 | 6267895.01 | TEE |
| 182 | 1867980.2 | 6267897.02 | BC |
| 183 | 1868188.25 | 6267915.04 | EC |

PROPOSED PIPE DATA TABLE

| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
|---|---|---|---|---|
| 1 | N8° 54'01"E | | 134.24' | 16" PVC |
| 2 | N9° 02'13"E | | 438.88' | 16" PVC |
| 3 | 7° 07'06" | 1682' | 208.97' | 16" PVC |
| 4 | N2° 34'07"E | | 17.91' | 16" PVC |

C-36

MORENA BLVD

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 97+00 TO STA 105+00 AT MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 40 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

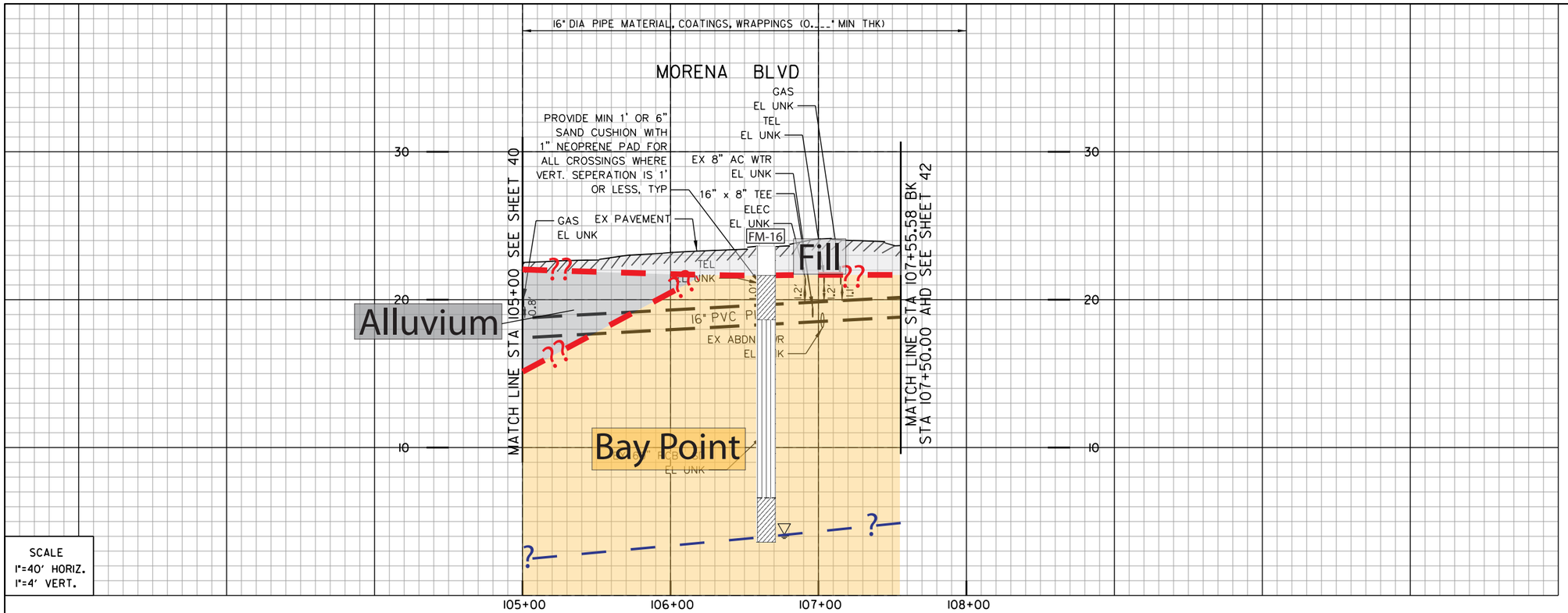
000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-40-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR13.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$




SCALE
1"=40' HORIZ.
1"=4' VERT.

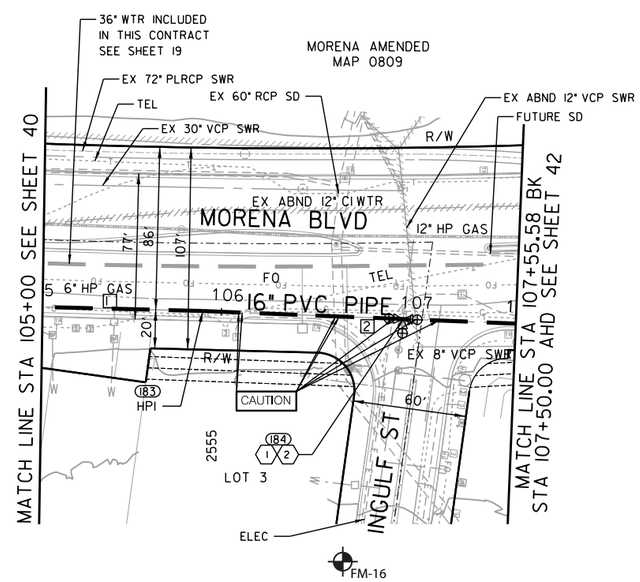
1 (184)
BY CITY FORCES
AHD OF CONTRACTOR
STA 106+96.05
CUT & PLUG:
EX 8" AC WTR, 10'+- RT
RECONNECT AFTER NEW MAIN HAS BEEN ACCEPTED

2 (184)
BY CONTRACTOR
FURNISH AND INSTALL
STA 106+96.05
1 - 16" X 8" TEE (F)
2 - 16" BFV (F,MJ) BK, AHD
1 - 8" BFV (F,MJ) RT

- Artificial fill (Qaf)
- Alluvium (Qal)
- Fluvial Terrace Deposits (Qt)
- Bay Point Formation (Qbp)
- Lindavista Formation (Qln)
- Ardath Shale (Ta)
- Scripps Formation (Tsc)
- Water Level Depth
- FM-1 Boring
- H-7 Boring - AGE, 2017
- D-3 Boring - CWP, 1992
- GTB-1 Boring - Kleinfelder, 2014
- Geological Contact
- Groundwater Level
- Topography (1967) RC or SC(1952)

REFERENCE:

| | |
|---|---|
| WATER: | 5209-D |
| SEWER: | 9321-L,25119-D,4242-D |
| STORM DRAIN: | 5207-D,3479-D |
| GAS: | 15765-119025 |
| ELECTRIC: | 15765-119025 |
| CABLE TV: | NO INFO |
| ATT&TELEPHONE: | BLM1968, pb0407dc |
| IMPROVEMENTS: | NO INFO |
| 100' SCALE/FIELD BOOK: | |
| THOMAS BROS.: | |
| HGL: | |



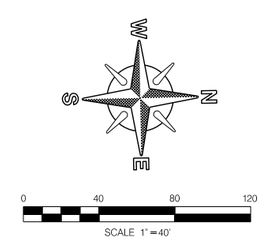

WEST CLAIRMONT PLAZA UNIT #1
MAP 3780

| COORDINATE TABLE | | | |
|---|---|---|---|
| NO. | NORTHING | EASTING | DESCRIPTION |
| 183 | 1868296.27 | 6267919.89 | HPI |
| 184 | 1868401.92 | 6267926.21 | TEE |

| PROPOSED PIPE DATA TABLE | | | | |
|---|---|---|---|---|
| NO. | Δ/BEARING | RADIUS | LENGTH | REMARKS |
| 1 | N2° 34'07"E | | 90.22' | 16" PVC |
| 2 | N3° 25'24"E | | 165.36' | 16" PVC |

| CAUTION |
|---|
| 12" AND 6" HP GAS CONTRACTOR TO VERIFY EXACT LOCATION AND MUST NOTIFY SDG&E THREE (3) WEEKS IN ADVANCE PRIOR TO EXCAVATION SDG&E STANDBY REQUIRED |

RETIREMENTS:
16" CI - 250' - 1956




MORENA BLVD

C-37

MORENA PUMP STATION AND CONVEYANCE SYSTEM

16" WATER DISTRIBUTION

STA 105+00 TO STA 107+50 MORENA BLVD

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC UTILITIES DEPARTMENT
SHEET 41 OF 50 SHEETS

WATER WBS S-16027

APPROVED: WENDY GAMBOA FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY: LAILA NASRAWI, PROJECT MANAGER
CHECKED BY: DARIN SANCHEZ, PROJECT ENGINEER

| DESCRIPTION | BY | APPROVED | DATE | FILMED |
|---|---|---|---|---|
| ORIGINAL | XX/XX | | | |

REGISTERED PROFESSIONAL ENGINEER JOSEPH F. LONG C 54329 Exp. 12/31/17 CIVIL STATE OF CALIFORNIA

000-0000 CCS27 COORDINATE
0000-0000 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

40067-41-D

60% SUBMITTAL

u:\resources\transportation_&_civil\pure_water_workspace\Sheets\60530732-SHT-C-DIST_WTR14.dgn
9/5/2017 raul.sierra $PLTDRVS$ $PENTBLS$

# APPENDIX D – Subsurface Conditions

This page intentionally left blank.

# APPENDIX E

This page intentionally left blank.

# APPENDIX E – Liquefaction Analyses Results

This page intentionally left blank.

# Calculation Cover Sheet

# Morena Pump Station

| | | | |
|---|---|---|---|
| Project Location: | San Diego, CA | Client Name: | The City of San Diego |
| PM Name: | Steve Fitzwilliam | PIC Name: | Joe Long |

**Identifying Information**

*This section is to be completed by the Project Manager.*

Assigned Checker: *Pallavi Kumar*

Calculation to be checked: Liquefaction Analyses

Calculation Originator: Ryan Bourdette

Checker's comments required by:

Submitted by: _____ 4/17/2017

Project Manager Signature — Date

**Checker Report**

*This Section is to be completed by the Checker.*

Check Box A or B:

A. [ ] All items have been found to be correct. Checker has no comments.

_____ 4/18/2017

Checker Signature — Date

or

B. [X] Checker's comments have been provided on:

- [X] Calculation
- [ ] Comment and Disposition Form (Form 3-5 (MM))
- [ ] Other _____

*This section is to be completed after verification of comment incorporation, if box B is checked off above.*

*Check box C* or D and E:

C. [X] *Back-check of Checker's comments has been performed by Originator AND all issues have been resolved between Originator and Checker.*

or

D. [ ] *Unresolved issues have been submitted to the Project Manager, Principal-in-Charge or designee for resolution.*

and

E. [X] *Verification of correct incorporation of resolved comments into final document is complete.*

_____ 4/212017

Checker Signature — Date

**APPROVAL and DISTRIBUTION**

*To be signed after box A or E are completed.*

The Calculation Check has been completed. Any significant issues not resolved between the Checker and the Originator have been resolved by the Approver.

_____ _____

Project Manager, Principal-in-Charge or Designee Signature — Date

*Distribution:*

Project Central File – Quality Folder

This page intentionally left blank.

# Liquefaction Analyses of Borings PS-1, PS-2 and PS-3

This page intentionally left blank.

**Method: Idriss and Boulanger (2008), *Soil Liquefaction during Earthquakes*, EERI MNO-12**

**Title:** SPT Liquefaction Analysis
**Project:** PURE Water
**Project No.:** 60530732
**Date:** 4/17/2017
**Boring No.** PS-1
**Units** American feet, pounds, pcf
**Fault** San Andreas

**Input Parameters:**

| | | | | |
|---|---|---|---|---|
| Peak ground acceleration, PGA (g): | 0.59 | | | |
| Earthquake Magnitude (M): | 7 | | | |
| Water Table Depth at the time of drilling | 9 | ft | 2.74 | m |
| Water Table Depth at the time of earthquake | 9 | ft | 2.74 | m |
| Avg Unit Weight above GWT | 120 | pcf | 18.8504957 | $kN/m^3$ |
| Avg Unit Weight below GWT | 125 | pcf | 19.635933 | $kN/m^3$ |
| Borehole Diameter | 0.5 | ft | 152 | mm |
| Correction for Sampler Liner (N/Y) | N | ft | | |
| Rod stickup above ground at start of drive | 0 | ft | 0 | m |
| Boring Total Depth | 61.5 | ft | 18.7452 | m |
| Ground Surface Elevation | 13 | ft | 3.9624 | m |

| | | |
|---|---|---|
| | 14.44 | in |
| Calculated Volumetric Settlement: | 1.20 | ft |
| Calculated LDI: | 13.9 | ft |
| MSF for Sand | 1.14 | |

| Data No. | Depth | Elevation | Measured N (*) | Soil Type (USCS) | Flag: "Unsaturated", "Clay", "85% Sat" | Fines Content (%) | Energy Ratio (%) | $N_{60}$ | $(N_1)_{60}$ | $(N_1)_{60\text{-}cs}$ for liquefaction triggering | $(N_1)_{60\text{-}cs}$ for residual strength | CRR | CSR | Factor of Safety | Limiting Shear Strain, $\gamma_{lim}$ | Parameter A | Maximum Shear Strain, $\gamma_{max}$ | Layer Thickness $\Delta H_i$ | $\Delta LDI_i$ | Vertical Reconsol. Strain, $\varepsilon_v$ | Layer Settlement $\Delta S_i$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ft | ft | | | | | | | | | | | | | | | | ft | ft | | ft |
| 1 | 3 | 10 | 9.0 | SM | Unsaturated | 20 | 80 | 10.4 | 17.6 | 22.1 | 19 | na | 0.383 | na | 0.1256 | 0.4043 | 0.0000 | 3.00 | 0.00 | 0.000 | 0.000 |
| 2 | 8 | 5 | 9.0 | SP-SM | Unsaturated | 10 | 80 | 10.4 | 15.0 | 16.2 | 15 | na | 0.376 | na | 0.2418 | 0.7034 | 0.0000 | 5.00 | 0.00 | 0.000 | 0.000 |
| 3 | 13 | 0 | 6.0 | SP-SM | | 10 | 80 | 7.4 | 9.4 | 10.6 | 9 | 0.145 | 0.438 | 0.33 | 0.4447 | 0.9013 | 0.4447 | 5.00 | 2.22 | 0.036 | 0.181 |
| 4 | 18 | -5 | 6.0 | SP | | 5 | 80 | 7.8 | 9.0 | 9.0 | 9 | 0.130 | 0.483 | 0.27 | 0.5000 | 0.9323 | 0.5299 | 5.00 | 2.65 | 0.040 | 0.199 |
| 5 | 23 | -10 | 3.0 | SM | | 20 | 80 | 4.4 | 4.6 | 9.0 | 6 | 0.128 | 0.508 | 0.25 | 0.5000 | 0.9315 | 0.5268 | 5.00 | 2.63 | 0.040 | 0.198 |
| 6 | 29 | -16 | 8.0 | SM | | 20 | 80 | 11.7 | 11.1 | 15.6 | 12 | 0.182 | 0.520 | 0.35 | 0.2583 | 0.7299 | 0.2583 | 6.00 | 1.55 | 0.028 | 0.168 |
| 7 | 32 | -19 | 8.0 | SM | | 20 | 80 | 11.7 | 10.7 | 15.2 | 12 | 0.176 | 0.522 | 0.34 | 0.2701 | 0.7473 | 0.2701 | 3.00 | 0.81 | 0.029 | 0.086 |
| 8 | 38 | -25 | 4.0 | ML | | 70 | 80 | 6.1 | 5.2 | 10.8 | 9 | 0.137 | 0.520 | 0.26 | 0.4354 | 0.8966 | 0.4354 | 6.00 | 2.61 | 0.036 | 0.215 |
| 9 | 41.5 | -28.5 | 8.0 | ML | | 70 | 80 | 12.3 | 10.2 | 15.8 | 14 | 0.177 | 0.516 | 0.34 | 0.2536 | 0.7226 | 0.2536 | 3.50 | 0.89 | 0.028 | 0.097 |
| 10 | 43 | -30 | 13.0 | ML | Clay | 70 | 80 | 19.9 | na | na | na | na | 0.514 | na | #VALUE! | 0.0000 | 0.0000 | 1.50 | 0.00 | 0.000 | 0.000 |
| 11 | 45 | -32 | 9.0 | CL | Clay | 70 | 80 | 13.8 | na | na | na | na | 0.510 | na | #VALUE! | 0.0000 | 0.0000 | 2.00 | 0.00 | 0.000 | 0.000 |
| 12 | 46.5 | -33.5 | 10.0 | SP-SM | | 10 | 80 | 15.3 | 12.0 | 13.1 | 12 | 0.153 | 0.508 | 0.30 | 0.3359 | 0.8247 | 0.3359 | 1.50 | 0.50 | 0.031 | 0.047 |
| 13 | 49 | -36 | 10.0 | ML | Clay | 70 | 80 | 15.3 | na | na | na | na | 0.503 | na | #VALUE! | 0.0000 | 0.0000 | 2.50 | 0.00 | 0.000 | 0.000 |
| 14 | 51 | -38 | 27.0 | ML | Clay | 70 | 80 | 41.4 | na | na | na | na | 0.499 | na | #VALUE! | 0.0000 | 0.0000 | 2.00 | 0.00 | 0.000 | 0.000 |
| 15 | 56 | -43 | 23.0 | SM | | 20 | 80 | 35.3 | 28.2 | 32.7 | 29 | 0.697 | 0.488 | 1.43 | 0.0316 | -0.2715 | 0.0149 | 5.00 | 0.07 | 0.003 | 0.014 |
| 16 | 61.5 | -48.5 | 50.0 | SP | Unreliable | 5 | 80 | 76.7 | 63.3 | 63.3 | 63 | 1.793 | 0.475 | ? | 0.0000 | -2.7091 | 0.0000 | 5.50 | 0.00 | 0.000 | 0.000 |

**Method: Idriss and Boulanger (2008), *Soil Liquefaction during Earthquakes*, EERI MNO-12**

**Title:** SPT Liquefaction Analysis
**Project:** PURE Water
**Project No.:** 60530732
**Date:** 4/17/2017
**Boring No.** PS-2
**Units** American feet, pounds, pcf
**Fault** San Andreas

**Input Parameters:**

| | | | | |
|---|---|---|---|---|
| Peak ground acceleration, PGA (g): | 0.59 | | | |
| Earthquake Magnitude (M): | 7 | | | |
| Water Table Depth at the time of drilling | 8.5 | ft | 2.59 | m |
| Water Table Depth at the time of earthquake | 8.5 | ft | 2.59 | m |
| Avg Unit Weight above GWT | 120 | pcf | 18.8504957 | kN/m³ |
| Avg Unit Weight below GWT | 125 | pcf | 19.635933 | kN/m³ |
| Borehole Diameter | 0.5 | ft | 152 | mm |
| Correction for Sampler Liner (N/Y) | N | ft | | |
| Rod stickup above ground at start of drive | 0 | ft | 0 | m |
| Boring Total Depth | 65 | ft | 19.812 | m |
| Ground Surface Elevation | 13 | ft | 3.9624 | m |

| | | |
|---|---|---|
| | 4.11 | in |
| Calculated Volumetric Settlement: | 0.34 | ft |
| Calculated LDI: | 3.6 | ft |
| MSF for Sand | 1.14 | |

| Data No. | Depth | Elevation | Measured N (*) | Soil Type (USCS) | Flag: "Unsaturated", "Clay", "85% Sat" | Fines Content (%) | Energy Ratio (%) | $N_{60}$ | $(N_1)_{60}$ | $(N_1)_{60\text{-}cs}$ for liquefaction triggering | $(N_1)_{60\text{-}cs}$ for residual strength | CRR | CSR | Factor of Safety | Limiting Shear Strain, $\gamma_{lim}$ | Parameter A | Maximum Shear Strain, $\gamma_{max}$ | Layer Thickness $\Delta H_i$ | $\Delta LDI_i$ | Vertical Reconsol. Strain, $\varepsilon_v$ | Layer Settlement $\Delta S_i$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ft | ft | | | | | | | | | | | | | | | | ft | ft | | ft |
| 1 | 5.5 | 7.5 | 7.0 | SM | Unsaturated | 20 | 80 | 8.1 | 13.7 | 18.2 | 15 | na | 0.380 | na | 0.1950 | 0.6115 | 0.0000 | 5.50 | 0.00 | 0.000 | 0.000 |
| 2 | 8 | 5 | 7.0 | SP-SM | Unsaturated | 10 | 80 | 8.1 | 12.0 | 13.1 | 12 | na | 0.376 | na | 0.3364 | 0.8252 | 0.0000 | 2.50 | 0.00 | 0.000 | 0.000 |
| 3 | 13 | 0 | 5.0 | SM | | 20 | 80 | 6.1 | 7.9 | 12.3 | 9 | 0.162 | 0.448 | 0.36 | 0.3666 | 0.8517 | 0.3666 | 5.00 | 1.83 | 0.033 | 0.164 |
| 4 | 18 | -5 | 6.0 | SM | | 20 | 80 | 7.8 | 8.9 | 13.4 | 10 | 0.168 | 0.492 | 0.34 | 0.3261 | 0.8150 | 0.3261 | 5.00 | 1.63 | 0.031 | 0.155 |
| 5 | 24 | -11 | 3.0 | SM | Unreliable | 20 | 80 | 4.4 | 4.5 | 9.0 | 6 | 0.127 | 0.519 | ? | 0.5000 | 0.9321 | 0.0000 | 6.00 | 0.00 | 0.000 | 0.000 |
| 6 | 28 | -15 | 4.0 | CL-ML | Clay | 50 | 80 | 5.8 | na | na | na | na | 0.526 | na | #VALUE! | 0.0000 | 0.0000 | 4.00 | 0.00 | 0.000 | 0.000 |
| 7 | 33 | -20 | 21.0 | SP-SM | | 10 | 80 | 32.2 | 30.1 | 31.2 | 30 | 0.629 | 0.528 | 1.19 | 0.0390 | -0.1728 | 0.0244 | 5.00 | 0.12 | 0.005 | 0.023 |
| 8 | 38 | -25 | 5.0 | CL-ML | Clay | 50 | 80 | 7.7 | na | na | na | na | 0.525 | na | #VALUE! | 0.0000 | 0.0000 | 5.00 | 0.00 | 0.000 | 0.000 |
| 9 | 43 | -30 | 16.0 | CL-ML | Clay | 50 | 80 | 24.5 | na | na | na | na | 0.519 | na | #VALUE! | 0.0000 | 0.0000 | 5.00 | 0.00 | 0.000 | 0.000 |
| 10 | 50 | -37 | 10.0 | CL-ML | Clay | 50 | 80 | 15.3 | na | na | na | na | 0.505 | na | #VALUE! | 0.0000 | 0.0000 | 7.00 | 0.00 | 0.000 | 0.000 |
| 11 | 53 | -40 | 27.0 | SP-SM | | 10 | 80 | 41.4 | 34.1 | 35.2 | 34 | 1.116 | 0.498 | 2.00 | 0.0212 | -0.4514 | 0.0000 | 3.00 | 0.00 | 0.000 | 0.000 |
| 12 | 58 | -45 | 27.0 | SP-SM | Unreliable | 10 | 80 | 41.4 | 33.0 | 34.2 | 33 | 0.893 | 0.487 | ? | 0.0251 | -0.3773 | 0.0000 | 5.00 | 0.00 | 0.000 | 0.000 |
| 13 | 65 | -52 | 39.0 | SP-SM | | 10 | 80 | 59.8 | 48.8 | 50.0 | 49 | 1.764 | 0.470 | 2.00 | 0.0004 | -1.5879 | 0.0000 | 7.00 | 0.00 | 0.000 | 0.000 |

**Method: Idriss and Boulanger (2008), *Soil Liquefaction during Earthquakes*, EERI MNO-12**

**Title:** SPT Liquefaction Analysis
**Project:** PURE Water
**Project No.:** 60530732
**Date:** 4/17/2017
**Boring No.** PS-3
**Units** American feet, pounds, pcf
**Fault** San Andreas

**Input Parameters:**

| | | | | |
|---|---|---|---|---|
| Peak ground acceleration, PGA (g): | 0.59 | | | |
| Earthquake Magnitude (M): | 7 | | | |
| Water Table Depth at the time of drilling | 10 | ft | 3.05 | m |
| Water Table Depth at the time of earthquake | 10 | ft | 3.05 | m |
| Avg Unit Weight above GWT | 120 | pcf | 18.8504957 | $kN/m^3$ |
| Avg Unit Weight below GWT | 125 | pcf | 19.635933 | $kN/m^3$ |
| Borehole Diameter | 0.5 | ft | 152 | mm |
| Correction for Sampler Liner (N/Y) | N | ft | | |
| Rod stickup above ground at start of drive | 0 | ft | 0 | m |
| Boring Total Depth | 81 | ft | 24.6888 | m |
| Ground Surface Elevation | 13 | ft | 3.9624 | m |

| | | |
|---|---|---|
| | 11.86 | in |
| Calculated Volumetric Settlement: | 0.99 | ft |
| Calculated LDI: | 8.8 | ft |
| MSF for Sand | 1.14 | |

| Data No. | Depth | Elevation | Measured N (*) | Soil Type (USCS) | Flag: "Unsaturated", "Clay", "85% Sat" | Fines Content (%) | Energy Ratio (%) | $N_{60}$ | $(N_1)_{60}$ | $(N_1)_{60\text{-}cs}$ for liquefaction triggering | $(N_1)_{60\text{-}cs}$ for residual strength | CRR | CSR | Factor of Safety | Limiting Shear Strain, $\gamma_{lim}$ | Parameter A | Maximum Shear Strain, $\gamma_{max}$ | Layer Thickness $\Delta H_i$ | $\Delta LDI_i$ | Vertical Reconsol. Strain, $\varepsilon_v$ | Layer Settlement $\Delta S_i$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ft | ft | | | | | | | | | | | | | | | | ft | ft | | ft |
| 1 | 3 | 10 | 4.0 | SM | Unsaturated | 15 | 80 | 4.6 | 7.8 | 11.1 | 9 | na | 0.383 | na | 0.4203 | 0.8883 | 0.0000 | 3.00 | 0.00 | 0.000 | 0.000 |
| 2 | 9 | 4 | 4.0 | SM | Unsaturated | 15 | 80 | 4.6 | 6.6 | 9.9 | 8 | na | 0.375 | na | 0.4797 | 0.9165 | 0.0000 | 6.00 | 0.00 | 0.000 | 0.000 |
| 3 | 13 | 0 | 5.0 | SP-SM | | 10 | 80 | 6.1 | 7.7 | 8.9 | 8 | 0.131 | 0.419 | 0.31 | 0.5000 | 0.9337 | 0.5356 | 4.00 | 2.14 | 0.040 | 0.160 |
| 4 | 19 | -6 | 15.0 | SP-SM | | 10 | 80 | 19.6 | 21.1 | 22.2 | 21 | 0.277 | 0.473 | 0.59 | 0.1232 | 0.3950 | 0.1232 | 6.00 | 0.74 | 0.021 | 0.126 |
| 5 | 23 | -10 | 3.0 | ML | Clay | 70 | 80 | 4.4 | na | na | na | na | 0.492 | na | #VALUE! | 0.0000 | 0.0000 | 4.00 | 0.00 | 0.000 | 0.000 |
| 6 | 30 | -17 | 3.0 | ML | Clay | 70 | 80 | 4.4 | na | na | na | na | 0.508 | na | #VALUE! | 0.0000 | 0.0000 | 7.00 | 0.00 | 0.000 | 0.000 |
| 7 | 38 | -25 | 7.0 | ML | Clay | 70 | 80 | 10.7 | na | na | na | na | 0.509 | na | #VALUE! | 0.0000 | 0.0000 | 8.00 | 0.00 | 0.000 | 0.000 |
| 8 | 43 | -30 | 9.0 | ML/SM | | 50 | 80 | 13.8 | 11.2 | 16.9 | 13 | 0.187 | 0.504 | 0.37 | 0.2249 | 0.6734 | 0.2249 | 5.00 | 1.12 | 0.026 | 0.132 |
| 9 | 51 | -38 | 12.0 | ML/SM | | 50 | 80 | 18.4 | 14.2 | 19.9 | 16 | 0.215 | 0.491 | 0.44 | 0.1616 | 0.5252 | 0.1616 | 8.00 | 1.29 | 0.023 | 0.185 |
| 10 | 53 | -40 | 10.0 | SP | | 5 | 80 | 15.3 | 11.1 | 11.1 | 11 | 0.135 | 0.487 | 0.28 | 0.4193 | 0.8878 | 0.4193 | 2.00 | 0.84 | 0.035 | 0.070 |
| 11 | 61 | -48 | 16.0 | SP | | 5 | 80 | 24.5 | 17.5 | 17.5 | 17 | 0.185 | 0.469 | 0.40 | 0.2104 | 0.6449 | 0.2104 | 8.00 | 1.68 | 0.026 | 0.205 |
| 12 | 65 | -52 | 11.0 | SM | | 20 | 80 | 16.9 | 11.6 | 16.1 | 13 | 0.172 | 0.460 | 0.37 | 0.2452 | 0.7092 | 0.2452 | 4.00 | 0.98 | 0.027 | 0.109 |
| 13 | 66 | -53 | 8.0 | SC/CL | Clay | 50 | 80 | 12.3 | na | na | na | na | 0.458 | na | #VALUE! | 0.0000 | 0.0000 | 1.00 | 0.00 | 0.000 | 0.000 |
| 14 | 73 | -60 | 6.0 | ML | Clay | 70 | 80 | 9.2 | na | na | na | na | 0.443 | na | #VALUE! | 0.0000 | 0.0000 | 7.00 | 0.00 | 0.000 | 0.000 |
| 15 | 75 | -62 | 6.0 | ML | Clay | 70 | 80 | 9.2 | na | na | na | na | 0.439 | na | #VALUE! | 0.0000 | 0.0000 | 2.00 | 0.00 | 0.000 | 0.000 |
| 15 | 77 | -64 | 53.0 | GP | | 15 | 80 | 9.2 | na | na | na | na | 0.439 | na | #VALUE! | 0.0000 | 0.0000 | 2.00 | 0.00 | 0.000 | 0.000 |
| 16 | 81 | -68 | 32.5 | GP | | 15 | 80 | 49.8 | 36.9 | 40.2 | 38 | 1.620 | 0.427 | 2.00 | 0.0084 | -0.8192 | 0.0000 | 6.00 | 0.00 | 0.000 | 0.000 |

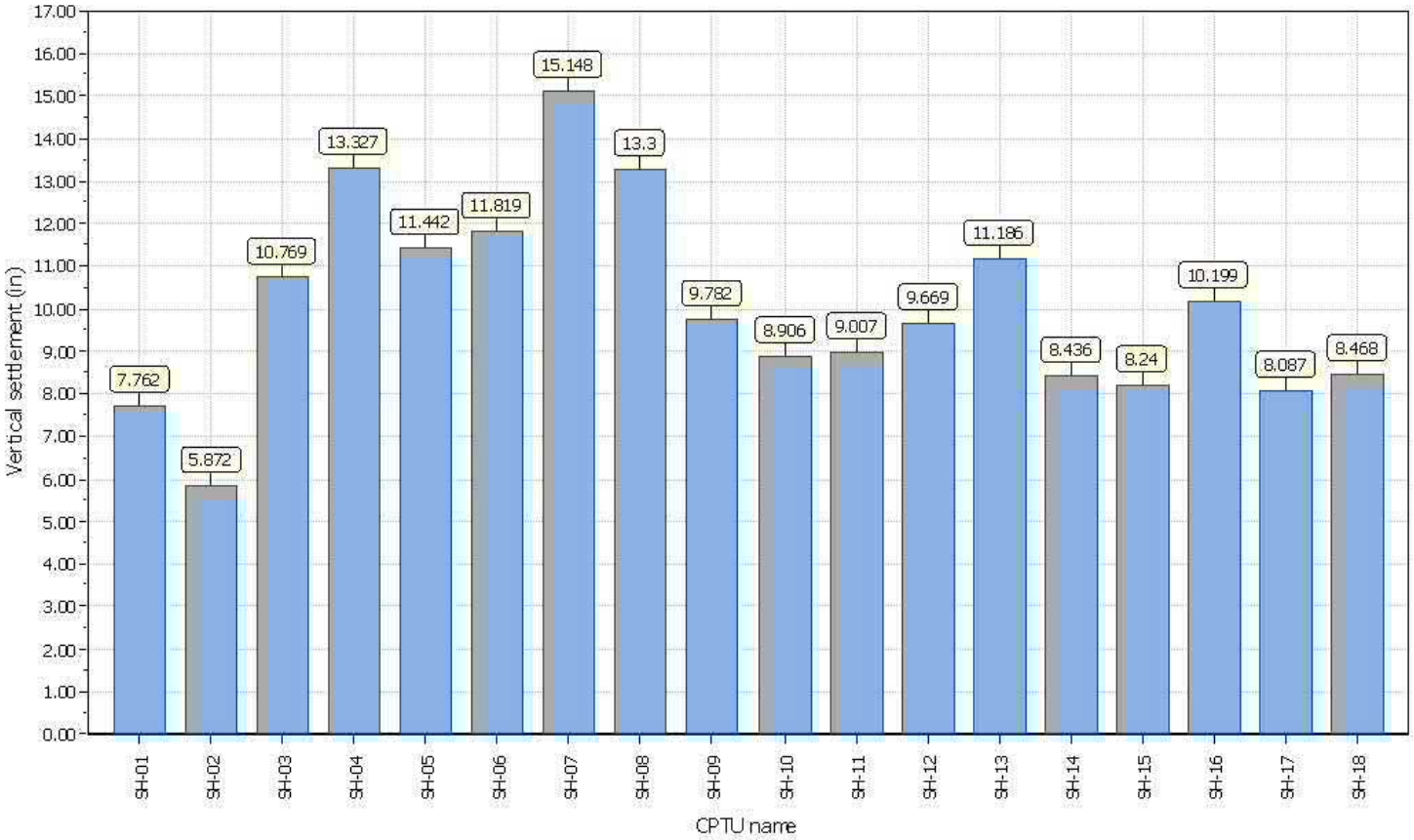
This page intentionally left blank.

# Liquefaction Analyses of CPTs Located on Sherman Street

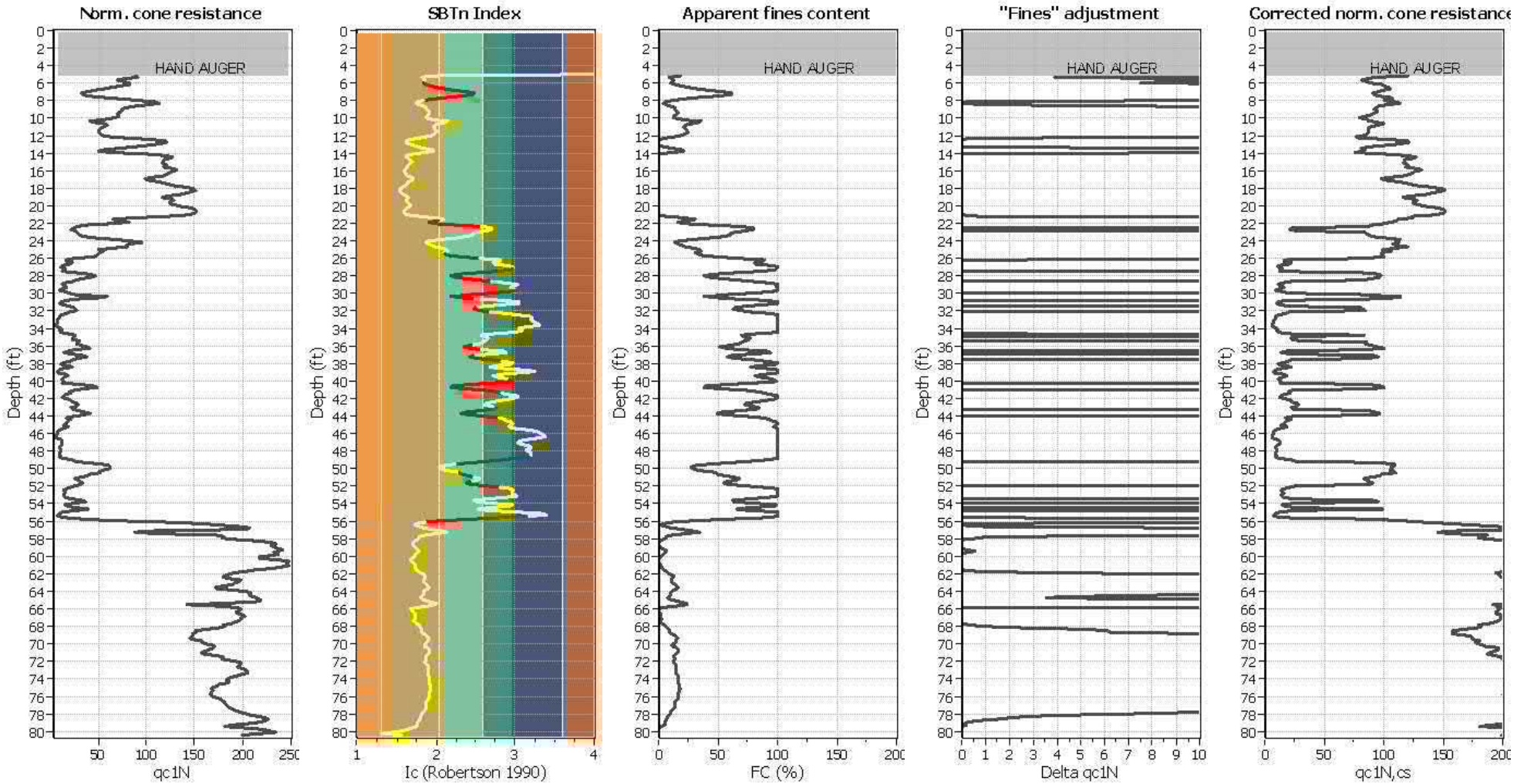
**Project title : PURE Water**

**Location : Sherman Street**

## Overall vertical settlements report



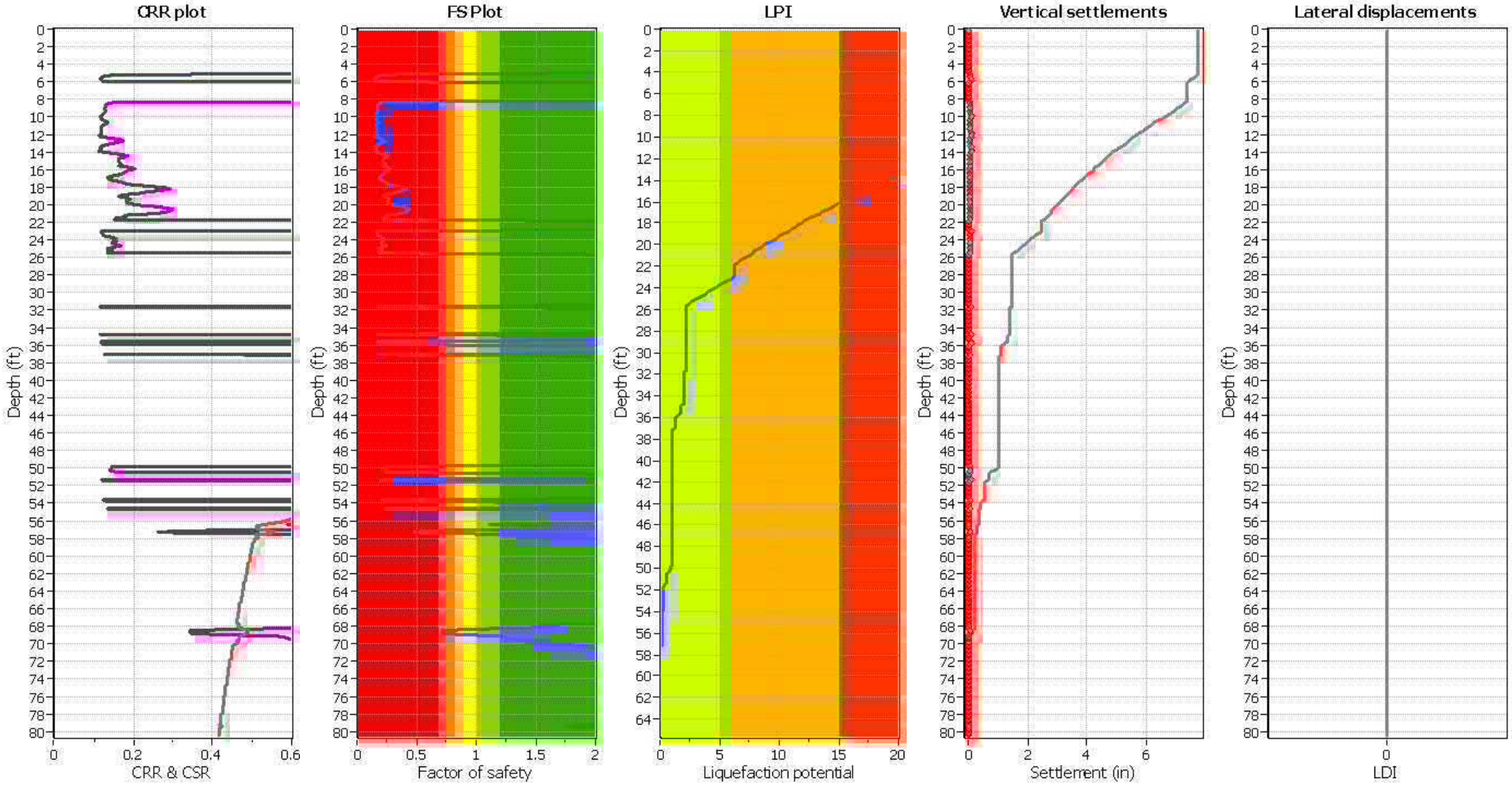
## Liquefaction analysis overall plots (intermediate resu




### Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | B&I (2014) | Depth to GWT (erthq.): | 0.00 ft | Fill weight: | N/A |
| Fines correction method: | B&I (2014) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 7.00 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.59 | Use fill: | No | Limit depth applied: | No |
| Depth to water table (insitu): | 9.00 ft | Fill height: | N/A | Limit depth: | N/A |

# Liquefaction analysis overall plot




## Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | B&I (2014) | Depth to GWT (erthq.): | 0.00 ft | Fill weight: | N/A |
| Fines correction method: | B&I (2014) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 7.00 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.59 | Use fill: | No | Limit depth applied: | No |
| Depth to water table (insitu): | 9.00 ft | Fill height: | N/A | Limit depth: | N/A |

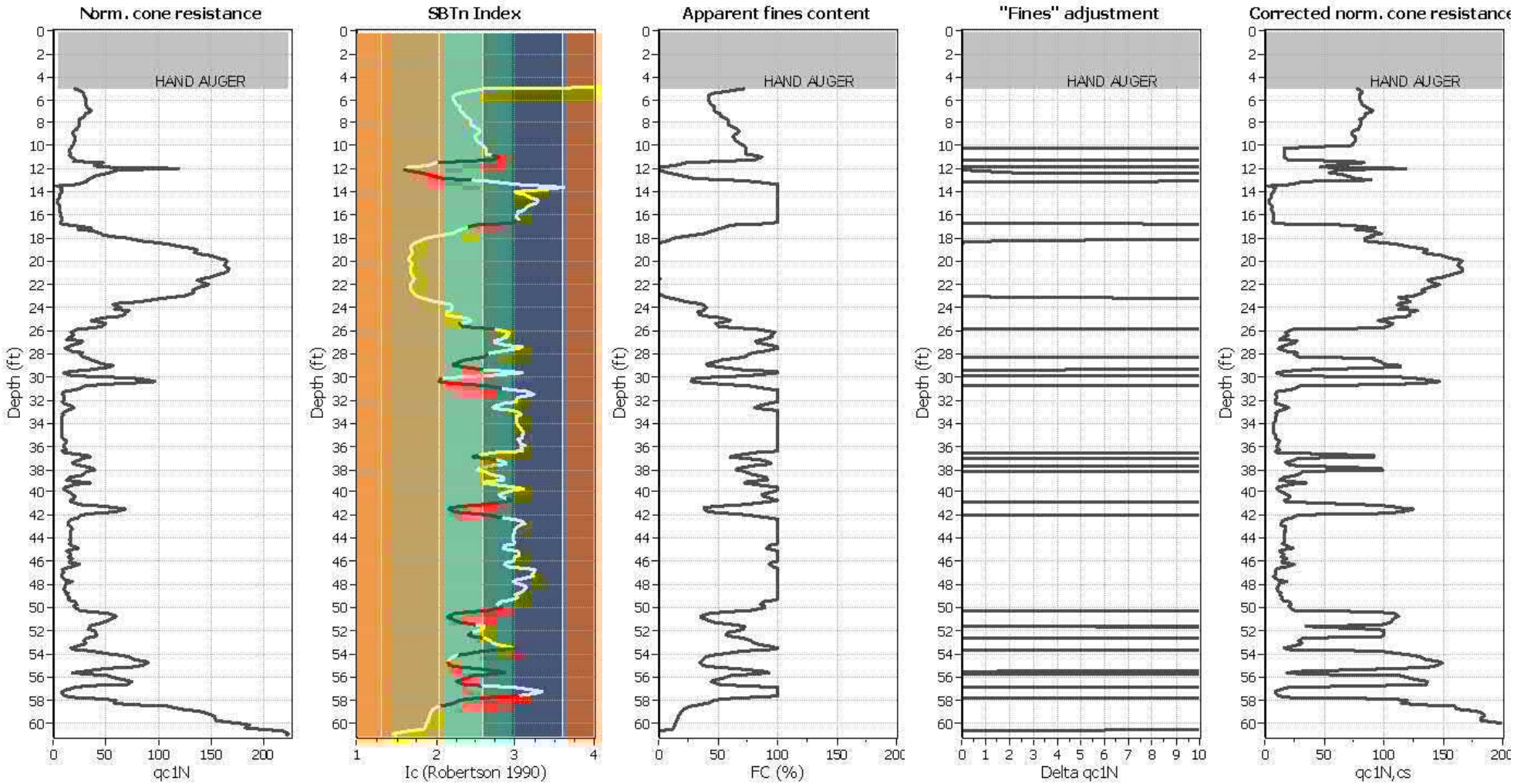
**F.S. color scheme**

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

**LPI color scheme**

- Very high risk
- High risk
- Low risk

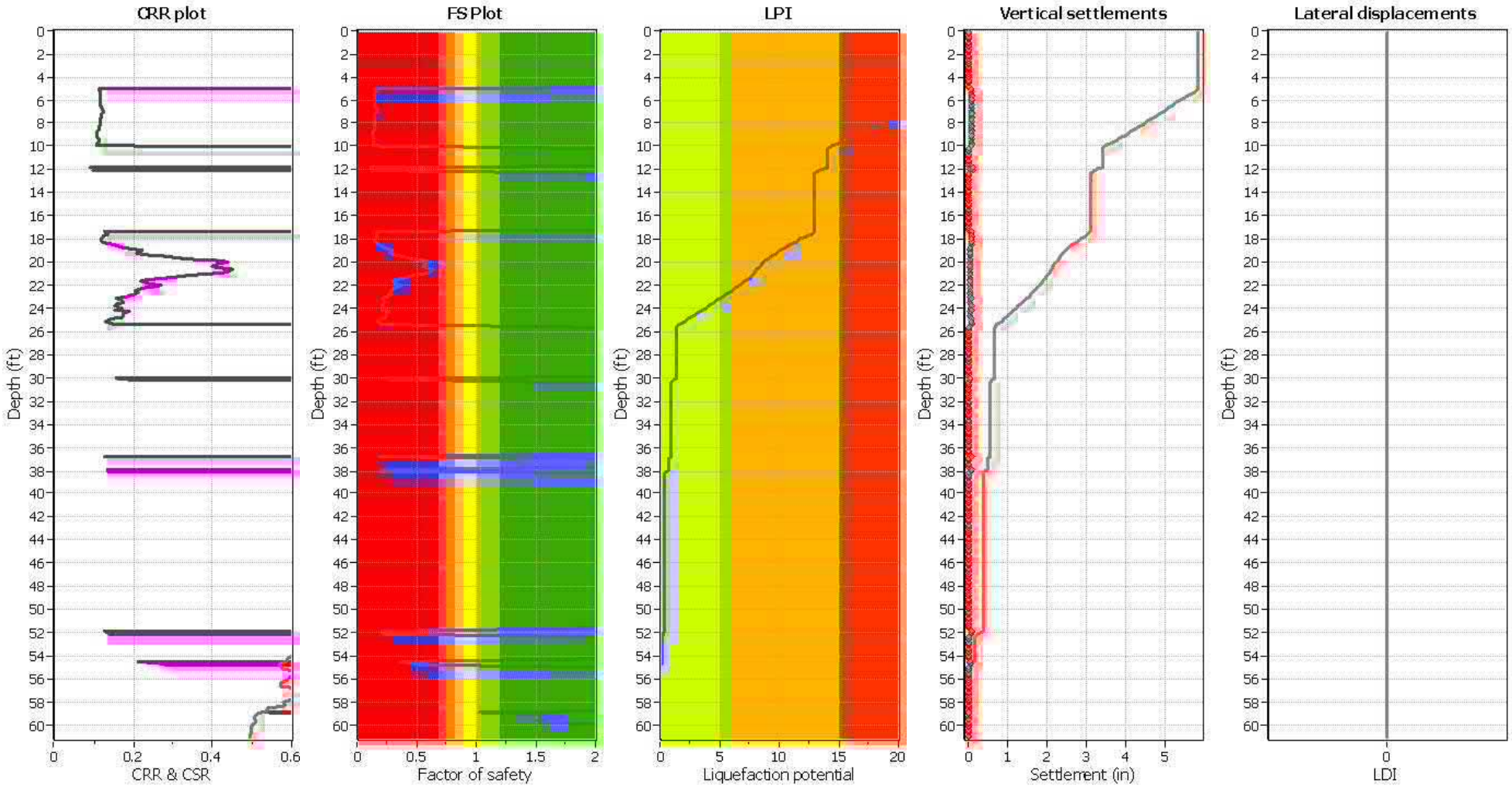
## Liquefaction analysis overall plots (intermediate resu




### Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | B&I (2014) | Depth to GWT (erthq.): | 0.00 ft | Fill weight: | N/A |
| Fines correction method: | B&I (2014) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 7.00 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.59 | Use fill: | No | Limit depth applied: | No |
| Depth to water table (insitu): | 9.00 ft | Fill height: | N/A | Limit depth: | N/A |

# Liquefaction analysis overall plot




## Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | B&I (2014) | Depth to GWT (erthq.): | 0.00 ft | Fill weight: | N/A |
| Fines correction method: | B&I (2014) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 7.00 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.59 | Use fill: | No | Limit depth applied: | No |
| Depth to water table (insitu): | 9.00 ft | Fill height: | N/A | Limit depth: | N/A |

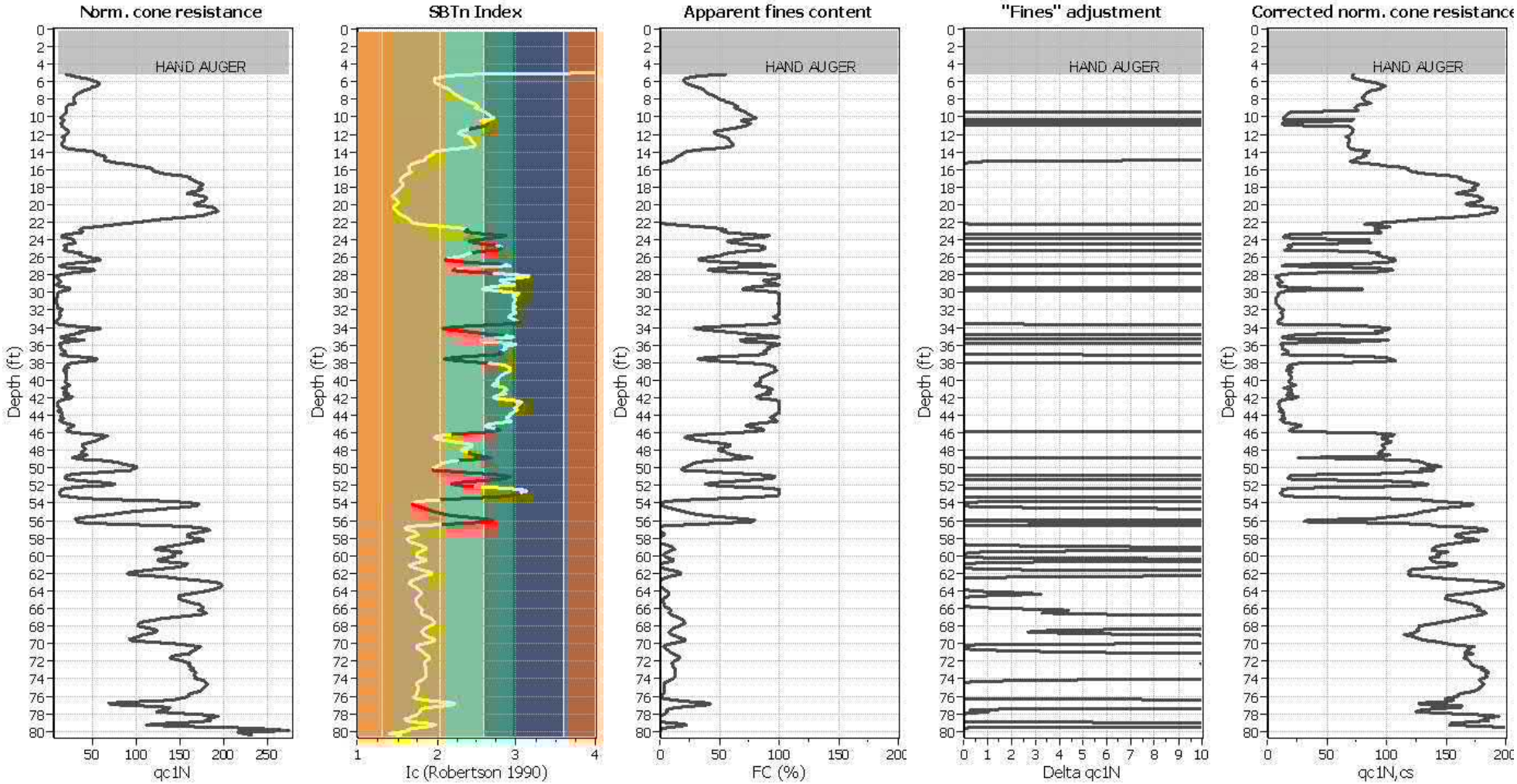
**F.S. color scheme**

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

**LPI color scheme**

- Very high risk
- High risk
- Low risk

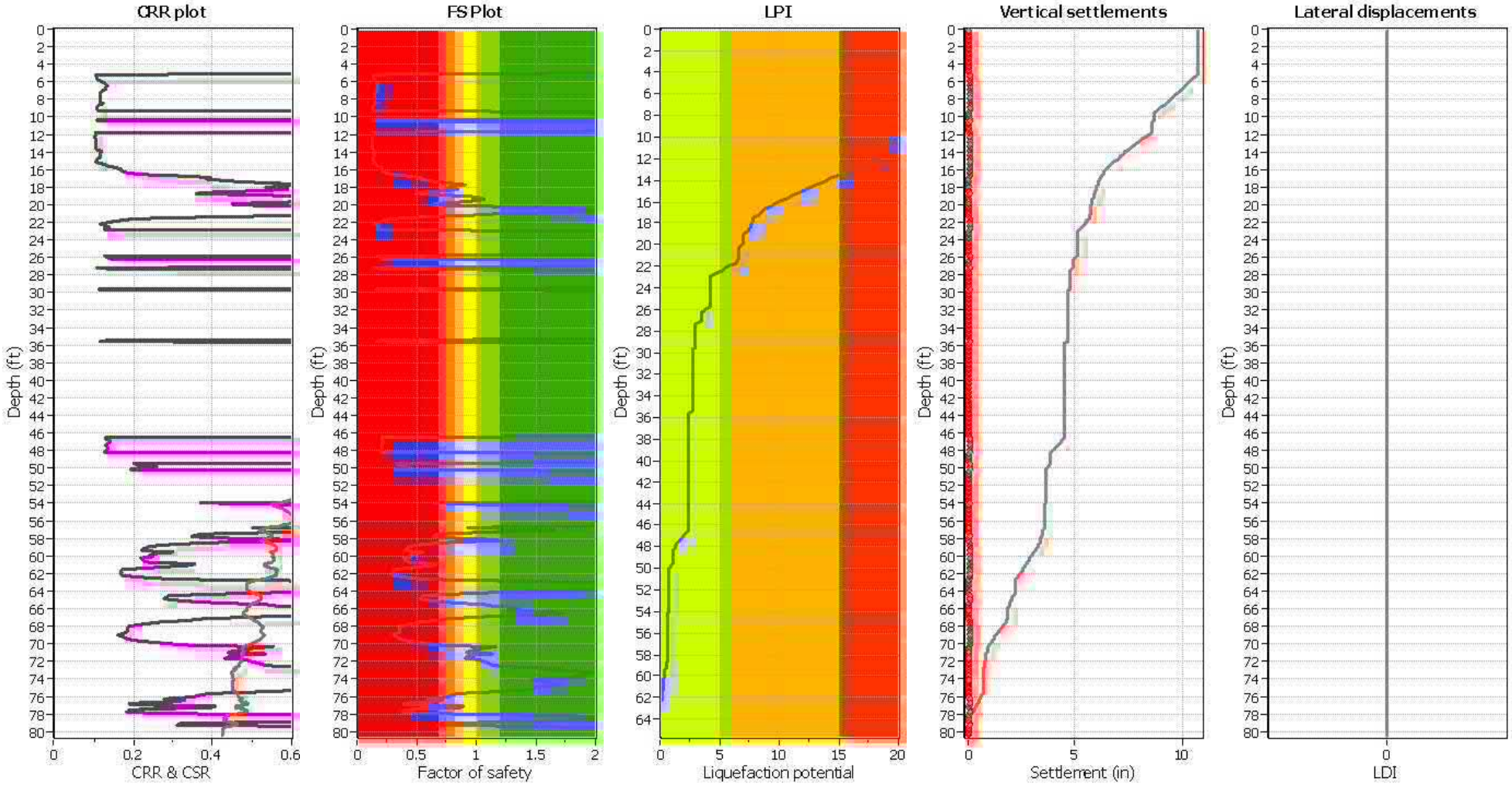
## Liquefaction analysis overall plots (intermediate resu




### Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | B&I (2014) | Depth to GWT (erthq.): | 0.00 ft | Fill weight: | N/A |
| Fines correction method: | B&I (2014) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 7.00 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.59 | Use fill: | No | Limit depth applied: | No |
| Depth to water table (insitu): | 9.00 ft | Fill height: | N/A | Limit depth: | N/A |

# Liquefaction analysis overall plot




## Input parameters and analysis data

| | | | | | |
|---|---|---|---|---|---|
| Analysis method: | B&I (2014) | Depth to GWT (erthq.): | 0.00 ft | Fill weight: | N/A |
| Fines correction method: | B&I (2014) | Average results interval: | 3 | Transition detect. applied: | Yes |
| Points to test: | Based on Ic value | Ic cut-off value: | 2.60 | $K_\sigma$ applied: | Yes |
| Earthquake magnitude $M_w$: | 7.00 | Unit weight calculation: | Based on SBT | Clay like behavior applied: | Sands only |
| Peak ground acceleration: | 0.59 | Use fill: | No | Limit depth applied: | No |
| Depth to water table (insitu): | 9.00 ft | Fill height: | N/A | Limit depth: | N/A |

**F.S. color scheme**

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

**LPI color scheme**

- Very high risk
- High risk
- Low risk