

INVITATION FOR BIDS



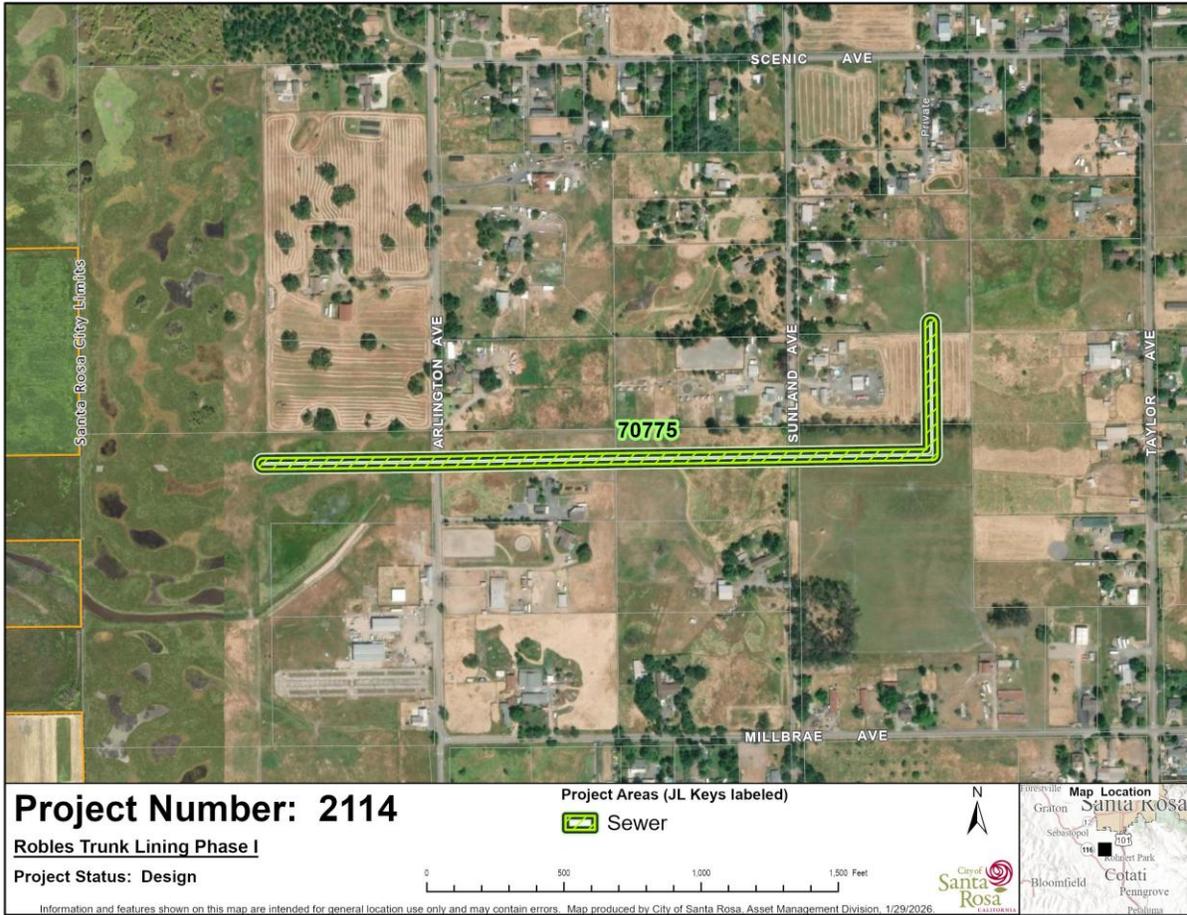
FOR CONSTRUCTION OF

Robles Trunk Lining Phase 1

**CITY CONTRACT NUMBER
C02114**

ISSUED BY
**CAPITAL PROJECTS ENGINEERING DIVISION
CITY OF SANTA ROSA, CALIFORNIA**

2026



LOCATION MAP

City of Santa Rosa

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Notice Inviting Bids

1. **Bid Submission.** City of Santa Rosa (“City”) will accept sealed bids for its Robles Trunk Lining Phase 1 Project, Contract No. C02114 (“Project”), before **March 11, 2026, at 2:00 p.m.**, at its Transportation and Public Works office, located at 69 Stony Circle, Santa Rosa, California, at which time the bids will be publicly opened and read aloud. Bidders may attend the public opening in person.
2. **Project Information.**
 - 2.1 **Location and Description.** The Project is located across eight (8) parcels in southwest Santa Rosa, with crossings across Sunland and Arlington Avenue, and is described as follows: Approximately 2,921 linear feet of 45” Reinforced Concrete Pipe will be rehabilitated utilizing cured in place pipe (CIPP) liner. Several manholes across this stretch of sewer trunk will be rehabilitated. This project is located in California Tiger Salamander critical habitat. Construction will require mitigation measures as needed to comply with California Department of Fish and Wildlife Incidental Take Permit, U.S Army Corps of Engineers 404 Permit, and State Water Resources Control Board 401 Permit.
 - 2.2 **Time for Final Completion.** The Project must be fully completed within 86 Working Days from the start date set forth in the Notice to Proceed. City anticipates that the Work will begin on or about June 15, 2025, but the anticipated start date is provided solely for convenience and is neither certain nor binding. Work within the project area shall be conducted within the dry season defined as June 15th – October 15th.
3. **License and Registration Requirements.**
 - 3.1 **License.** This Project requires a valid California contractor’s license for the following classification(s): **A**.
 - 3.2 **DIR Registration.** City may not accept a Bid Proposal from, or enter into the Contract with, a bidder without proof that the bidder is registered with the California Department of Industrial Relations (“DIR”) to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
4. **Contract Documents.** The plans, specifications, bid forms and contract documents for the Project, and any addenda thereto (“Contract Documents”) may be downloaded from the City’s PlanetBids portal, which may be accessed by selecting the “Bid/Proposal Opportunities” link on the City’s website at <https://www.srcity.org/165/Bids-Proposals>. A printed copy of the Contract Documents is not available.
5. **Bid Security.** The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier’s or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, valid Certificates of Reported Compliance as required under the California Air Resources Board’s In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) (“Off-Road Regulation”), if applicable, and any other submittals required by the Contract Documents and as specified in the Notice of Award.
6. **Prevailing Wage Requirements.**
 - 6.1 **General.** Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

- 6.2 Rates.** The prevailing rates are on file with the City and are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.
- 6.3 Compliance.** The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.
- 7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.
- 8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.
- 9. Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and portion of the Work to be performed for each Subcontractor that will perform Work or service, or fabricate and install Work, for the prime contractor in excess of one-half of 1% of the total bid price, using the Subcontractor List form included with the Contract Documents.
- 10. Bidders' Conference.** A bidders' conference will be held on **March 3, 2026, at 2:00 p.m.**, at the following location: Transportation and Public Works Department located at 69 Stony Circle, Santa Rosa to acquaint all prospective bidders with the Contract Documents and the Project site. The bidders' conference is not mandatory. A bidder who fails to attend a mandatory bidders' conference may be disqualified from bidding.
- 11. Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

By: 
 Sara Kozel (Feb 10, 2026 12:48:27 PST)
 Sara Kozel, Supervising Engineer

Date: 02/10/2026

Publication Date: February 11, 2026

END OF NOTICE INVITING BIDS

Instructions to Bidders

Each Bid Proposal submitted to the City of Santa Rosa ("City") for its Robles Trunk Lining Phase 1 Project, Contract No. 2114 ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

- 1.1 General.** Each Bid Proposal must be completed, using the form provided in the Contract Documents, signed, and submitted to City in a sealed envelope, with all required forms and attachments, before the deadline set forth in Section 1 of the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions (i.e., submissions at or after the exact hour of bid opening) will be returned unopened. The official time clock for accepting bids will be an electric date and time stamping clock located, and available for inspection during normal business hours upon request, at the front public counter in the Transportation and Public Work Department office, 69 Stony Circle, Santa Rosa, CA 95401. City reserves the right to postpone the date or time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead.
- 1.2 Vendor Registration.** To participate in the bidding process, each bidder must register as a vendor on PlanetBids, download the Contract Documents, and add itself to the "Prospective Bidders" list for the Project. If City issues an addendum, each bidder must log in to PlanetBids and acknowledge the addendum prior to the bid deadline. (See Section 8, below.)
- 1.3 Bid Envelope.** The sealed envelope containing the Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

BID PROPOSAL:

Robles Trunk Lining Phase 1 Project
Contract No. C02114

Transportation and Public Works Department
69 Stony Circle
Santa Rosa, California 95401
Attn: Lucas Bishop

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code §§ 1725.5 and 1771.1):

[Contractor company name]

[street address]

[city, state, zip code]

DIR Registration No: _____

- 1.4 DIR Registration.** Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code § 1725.5. If City is unable to confirm that the bidder is currently registered with the DIR, City may disqualify the bidder and return its bid unopened. (Labor Code §§ 1725.5 and 1771.1(a).)
- 1.5 Bid Tabulation.** To access the bid tabulation when available, visit the PlanetBids portal or the Project-specific website, available at cipublic.srcity.org/CIPList.html.

- 2. Bid Proposal Form and Enclosures.** Each Bid Proposal must be completed legibly using the Bid Proposal form included with the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible and must be initialed by the bidder's authorized representative. A Bid Proposal submitted with exceptions or terms such as "negotiable," "will negotiate," or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Bid Schedule, Subcontractor List, and Noncollusion Declaration using the forms included with the Contract Documents, and any additional forms required by the Notice Inviting Bids or Instructions to Bidders.
- 3. Authorization and Execution.** Each Bid Proposal must be signed by the bidder's authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal under California Corporations Code § 313 or as otherwise authorized by law.
- 4. Bid Security.** Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's check or certified check, made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California. The bid security must guarantee that, within ten days after issuance of the Notice of Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; submit the insurance certificates and endorsements; and submit valid Certificates of Reported Compliance as required by the Off-Road Regulation, if applicable, and any other submittals, if any, required by the Contract Documents or the Notice of Award.
- 5. Requests for Information.** Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to City via the PlanetBids portal. Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five Working Days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.
- 6. Pre-Bid Investigation.**

 - 6.1 General.** Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.
 - 6.2 Document Review.** Each bidder is responsible for review of the Contract Documents and any informational documents provided "For Reference Only," e.g., as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code § 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.
 - 6.3 Project Site.** Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection

or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.

- 6.4 Utility Company Standards.** The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.
- 7. Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.
- 8. Addenda.** Subject to the limitations of Public Contract Code § 4104.5, City reserves the right to issue addenda prior to bid time. Any addenda issued prior to the bid opening are part of the Contract Documents. Bidders should check City's PlanetBids portal periodically for any addenda or updates on the Project, which may be accessed via City's website at: <https://www.srcity.org/165/Bids-Proposals>. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid and must acknowledge each addendum in the PlanetBids portal.
- 9. Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after Notice of Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code § 3400(c).
- 10. Bid Protest.** Any bid protest against another bidder must be submitted in writing and received by City at the Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, California 95401 Attn: Lucas Bishop or sent via email at lbishop@srcity.org before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:
- 10.1 General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. For purposes of this Section 10, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code § 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code § 1771.1(b).

- 10.2 Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.
- 10.3 Copy to Protested Bidder.** Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.
- 10.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.
- 10.5 Copy to Protesting Bidder.** Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 10.6 Exclusive Remedy.** The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of a bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- 10.7 Right to Award.** City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.
- 11. Reservation of Rights.** Subject to the provisions of its charter and the Santa Rosa City Code ("City Code"), City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities; to accept or reject any or all bids; to cancel or reschedule the bid; to postpone or abandon the Project entirely; or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 90 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.
- 12. Bonds.** Within ten calendar days following issuance of the Notice of Award, the successful bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.

13. **License(s) and Certificate(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business tax certificate, issued pursuant to Chapter 6.04 of the City Code, within ten days following issuance of the Notice of Award and before performing any Work on the Project. Subcontractors must also obtain a City business tax certificate before performing any Work.
14. **Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code §§ 1777.1 or 1777.7 is prohibited from performing work on the Project.
15. **Safety Orders.** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code § 6707.
16. **In-Use Off-Road Diesel-Fueled Fleets.** If the Project involves the use of vehicles subject to the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), then within ten calendar days following City's issuance of the Notice of Award, the successful bidder must submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the Off-Road Regulation, unless exempt under the Off-Road Regulation.
17. **Community Workforce Agreement.** If checked below, the Project is subject to the City's Community Workforce Agreement ("CWA") and the successful bidder must comply with the requirements therein.

Select One:

- This Project is subject to the City's CWA, which is available on the City's website at <https://www.srccity.org/165/Bids-Proposals> and incorporated herein by reference. Within three Working Days following a request from City, the apparent low bidder must submit to City an executed Appendix A, Contractor Agreement to be Bound, using the form provided with the Contract Documents. Each bidder must provide a copy of the CWA to its Subcontractors, and the successful bidder and its Subcontractors must comply with the CWA. Entering into the CWA is a condition of award of the Contract for the Project.
- This Project is not subject to the City's CWA.

18. **Bid Schedule.** Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.
 - 18.1 **Incorrect Totals.** In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code § 5100 et seq.
 - 18.2 **Estimated Quantities.** Unless identified as a "Final Pay Quantity," the quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may

be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.

- 18.3 Bid Item Description.** The descriptions of bid items in the Specifications are not intended as exclusive descriptions of the Work. Each bidder must determine, and include in its unit pricing, all things necessary and incidental for the timely performance and completion of the Work as specified in the Contract Documents, including, but not limited to, all necessary labor, materials, supplies, tools, equipment, transportation, facilities, and utilities, unless otherwise specified.
- 19. Withdrawal.** A Bid Proposal may not be withdrawn for a period of 90 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code § 5100 et seq. In the event that a bid includes a material error, the bidder may request to withdraw its bid in accordance with Public Contract Code § 5100 et seq. The written request must establish the elements set forth in Public Contract Code § 5103.
- 20. Subcontractor Work Limits.** The prime contractor must perform at least 30% of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the 30% self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).
- 21. Bidder's Questionnaire.** A completed, signed Bidder's Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder's Questionnaire which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsive.

END OF INSTRUCTIONS TO BIDDERS

Bid Proposal

Robles Trunk Lining Phase 1 Project, Contract No. 2114

_____ (“Bidder”) hereby submits this Bid Proposal to the City of Santa Rosa (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead, for the following price (“Base Bid”):
\$ _____.
2. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this bid, as evidenced by its acknowledgement of each addendum on the City’s PlanetBids portal. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason.
3. **Bidder’s Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:
 - 3.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder’s knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code § 1104.
 - 3.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
 - 3.3 **Bidder Responsibility.** Bidder is a responsible bidder, with the necessary ability, capacity, experience, skill, qualifications, workforce, equipment, and resources to perform or cause the Work to be performed in accordance with the Contract Documents and within the Contract Time.
 - 3.4 **Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed bid. All statements and information provided in this Bid Proposal and enclosures are true and correct to the best of Bidder’s knowledge.
 - 3.5 **Nondiscrimination.** In preparing this bid, the Bidder has not engaged in discrimination against any prospective or present employee or Subcontractor on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status.
 - 3.6 **Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Bidder is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the “Act”), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.
 - 3.7 **Agreement to be Bound by CWA.** If the Project is subject to the City’s CWA, Bidder will submit an executed Appendix A, Contractor Agreement to be Bound, using the form provided with the Contract Documents, within three Working Days following a request from City. (See Section 17 of the Instructions to Bidders.)
4. **Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that, if City issues the Notice of Award to Bidder, then within ten days following issuance of the Notice of Award, Bidder will do all of the following:

- 4.1 Execute Contract.** Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;
- 4.2 Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents;
- 4.3 Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents; and
- 4.4 Certificates of Reported Compliance.** Submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, if the Project involves the use of vehicles subject to the Off-Road Regulation.

5. Bid Security. As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

_____ A cashier's check or certified check payable to City and issued by _____ [Bank name] in the amount of \$ _____.

_____ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on _____, 20__.

s/ _____

Name and Title

s/ _____
[See Section 3 of Instructions to Bidders]

Name and Title

Company Name

License #, Expiration Date, and Classification

Address

DIR Registration #

City, State, Zip

Phone

Contact Name

Contact Email

END OF BID PROPOSAL

Bid Schedule

BIDDER NAME: _____

This Bid Schedule must be completed legibly and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. If this Bid Schedule requests pricing for Alternates, pricing must be provided for each Alternate Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead.

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
 LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs)

BASE BID

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1	EARLY COMPLETION INCENTIVE	10	DAY	\$4,000	\$40,000
2	MOBILIZATION/DEMObILIZATION	1	LS		
3	COUNTY ENCROACHMENT PERMIT	1	LS		
4	TRAFFIC CONTROL	1	LS		
5	HYDROSEEDING	62,000	SF		
6	ENVIRONMENTAL MITIGATION	1	LS		
7	CONSTRUCTION MATS	34,800	SF		
8	TEMPORARY FENCING: WILDLIFE PERMEABLE	3,000	LF		
9	TEMPORARY FENCING: NO-CLIMB LIVESTOCK	2,500	LF		
10	TEMPORARY FENCING: CTS EXCLUSIONARY	6,500	LF		
11	SITE RESTORATION	1	LS		
12	MANHOLE REHABILITATION – EPOXY LINING	5	EA		
13	45" PRE-CIPP REHABILITATION CCTV INSPECTION	5,900	LF		
14	45" PRE-CIPP SEWER CLEANING	2,950	LF		
15	45" CIPP REHABILITATION	2,950	LF		
16	45" POST-CIPP REHABILITATION CCTV INSPECTION	2,950	LF		
17	BYPASS SYSTEM	1	LS		

* Final Pay Quantity

TOTAL BASE BID: Items 1 through 17 inclusive: \$ _____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

END OF BID SCHEDULE

Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ [title] of _____
[business name], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

This declaration is intended to comply with California Public Contract Code § 7106 and Title 23 U.S.C § 112.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at
_____ [city], _____ [state].

s/ _____

Name [print]

END OF NONCOLLUSION DECLARATION

Bid Bond

_____ (“Bidder”) has submitted a bid, dated _____, 20____ (“Bid”), to the City of Santa Rosa (“City”) for work on the Robles Trunk Lining Phase 1 Project, Contract No. 2114 (“Project”). Under this duly executed bid bond (“Bid Bond”), Bidder as Principal and _____, its surety (“Surety”), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the “Bond Sum”). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

- 1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.
- 2. **Submittals.** Within ten days following issuance of the Notice of Award to Bidder, Bidder must submit to City the following:
 - 2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents (“Contract Documents”);
 - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
 - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents;
 - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents;
 - 2.5 **Certificates of Reported Compliance.** Valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) (“Off-Road Regulation”), if the Project involves the use of vehicles subject to the Off-Road Regulation; and
 - 2.6 **Other Submittals.** Any other documents required by the Instructions to Bidders or Notice of Award.
- 3. **Enforcement.** If Bidder fails to execute the Contract or to submit the bonds, insurance certificates, and valid Certificates of Reported Compliance as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
 Address: _____
 City/State/Zip: _____
 Phone: _____
 Fax: _____
 Email: _____

- 4. **Duration and Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise, it will remain in full force and effect for 90 days following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code §§ 2819 and 2845.

This Bid Bond is entered into and effective on _____, 20_____.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

BIDDER:

Business Name

s/ _____

Date

Name, Title

END OF BID BOND

Bidder's Questionnaire

Robles Trunk Lining Phase 1 PROJECT, Contract No. 2114

Within 48 hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form and all required attachments, including clearly labeled additional sheets as needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening and may use the completed Questionnaire as part of its investigation to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part A: General Information

Bidder Business Name: _____ ("Bidder")

Check One: ___ Corporation (State of incorporation: _____)
 ___ Partnership
 ___ Sole Proprietorship
 ___ Joint Venture of: _____
 ___ Other: _____

Main Office Address and Phone: _____

Local Office Address and Phone: _____

Website Address: _____

Owner of Business: _____

Contact Name and Title: _____

Contact Phone and Email: _____

Bidder's California Contractor's License Number(s): _____

Bidder's DIR Registration Number: _____

Part B: Bidder Experience

1. How many years has Bidder been in business under its present business name? _____ years

2. If using on-site wet out, has Bidder completed at least three (3) different projects utilizing on-site wet out operations of minimum 45-inch CIPP in sewer mainlines??
_____ Yes _____ No _____ N/A

3. If using UV cure, has Bidder completed at least three (3) different projects utilizing UV cure operations of minimum 45-inch CIPP in sewer mainlines?
_____ Yes _____ No _____ N/A

4. Does Bidder have a lining field supervisor (defined as the person who is supervising in the field during all phases of the lining) that meets the following requirements?

- Installed at least 3,000 feet of minimum 39-inch CIPP lining in sewer mainlines as part of a lining crew.

- As lining field supervisor installed at least 1,500 feet of minimum 39-inch CIPP lining in sewer mainlines.
- As lining field supervisor performed CIPP lining in sewer mainlines on at least four (4) different projects, a minimum of two (2) of these projects being 36-inch diameter or larger sewer mainlines.

_____ Yes _____ No

5. Does Bidder have at least one (1) crew member who meets the following requirements?

- Installed at least 1,500 feet of minimum 36-inch diameter CIPP lining in sewer mainlines as part of a lining crew.
- Installed CIPP lining in sewer mainlines on at least two (2) different projects as part of a lining crew.

_____ Yes _____ No

6. Has Bidder ever been disqualified from a bid on grounds that it is not responsible, or otherwise disqualified or debarred from bidding under state or federal law?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the disqualification or debarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or debarred, and the month and year in which the disqualification or debarment occurred.

7. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

8. Provide information about Bidder's past projects performed as general contractor as follows:

- 8.1 Six most recently completed public works projects within the last three years;
- 8.2 Three largest completed projects within the last three years; and
- 8.3 Any project which is similar to this Project including scope and character of the work.

9. Use separate sheets to provide all of the following information for each project identified in response to the above three categories:

- 9.1 Project name, location, and description;
- 9.2 Owner (name, address, email, and phone number);
- 9.3 Prime contractor, if applicable (name, address, email, and phone number);
- 9.4 Architect or engineer (name, email, and phone number);
- 9.5 Project and/or construction manager (name, email, and phone number);
- 9.6 Scope of work performed (as general contractor or as subcontractor);
- 9.7 Initial contract price and final contract price (including change orders);
- 9.8 Original scheduled completion date and actual date of completion;
- 9.9 Time extensions granted (number of days);
- 9.10 Number and amount of stop notices or mechanic's liens filed;
- 9.11 Amount of any liquidated damages assessed against Bidder; and
- 9.12 Nature and resolution of any project-related claim, lawsuit, mediation, or arbitration involving Bidder.

Part C: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year:

- 2.1 Number of lost workday cases: _____
- 2.2 Number of medical treatment cases: _____
- 2.3 Number of deaths: _____

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

Name	Title	Email
------	-------	-------

Part D: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By: _____
Name and Title

END OF BIDDER'S QUESTIONNAIRE

Appendix A

**City of Santa Rosa Community Workforce Agreement
Contractor Agreement To Be Bound**

The undersigned, as a Contractor or Subcontractor ("Contractor") for the _____ Project, (hereinafter the "Covered Project"), for and in consideration of the award to it of a contract to perform work on said Covered Project, and in further consideration of the mutual promises made in the "City of Santa Rosa Community Workforce Agreement" (hereinafter "Agreement"), a copy of which was received and is acknowledged, hereby:

- (1) Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made thereto.
- (2) Agrees to be bound by the legally established local trust agreements as set forth in Article 17 of this Agreement.
- (3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor;
- (4) Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of the Agreement.
- (5) Agrees to secure from any Contractor(s) (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, a duly executed Agreement to be Bound in form identical to this document.

The obligation to be a party to and bound by the Agreement shall extend to all work for the Covered Project undertaken by the Contractor.

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

CONTRACTOR/SUBCONTRACTOR: _____
California Contractor State License No. or Motor Carrier (CA) Permit No.: _____
Name of Authorized Person (print): _____
Signature of Authorized Person: _____
Title of Authorized Person: _____
Telephone Number of Authorized Person: _____
Address of Authorized Person: _____
State Public Works Registration Number: _____

Contract

This public works contract ("Contract") is entered into by and between the City of Santa Rosa ("City") and _____ ("Contractor"), for work on the Robles Trunk Lining Phase 1 Project, Contract No. 2114 ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On _____, 20____, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below. City has elected to include the following bid alternate(s) in the Contract: No alternates.
2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the documents listed below. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, including this Contract.
 - 2.1 Notice Inviting Bids;
 - 2.2 Instructions to Bidders;
 - 2.3 Addenda, if any;
 - 2.4 Bid Proposal and attachments thereto;
 - 2.5 Contract;
 - 2.6 Payment and Performance Bonds;
 - 2.7 General Conditions;
 - 2.8 Special Conditions;
 - 2.9 Project Plans and Specifications;
 - 2.10 Change Orders, if any;
 - 2.11 Notice of Award;
 - 2.12 Notice to Proceed;
 - 2.13 City Standards and City Specifications, as applicable;
 - 2.14 City's CWA, if applicable;
 - 2.15 Caltrans Standard Specifications (excluding Division I) and Caltrans Standard Plans, as applicable; and
 - 2.16 The following:
 - California Department of Fish and Wildlife Incidental Take Permit Draft (No. 2081-2022-018-03) dated February 2024, included in Section A of the Technical Specifications.
 - U.S. Army Corps of Engineers 404 permit (No. SPN-2023-00228) dated January 16, 2025, included in Section A of the Technical Specifications.
 - State Water Resources Control Board 401 permit (No. SB24012N) dated February 14, 2024, included in Section A of the Technical Specifications.
 - City of Santa Rosa One-Time Discharge Permit Application, included in Section A of the Technical Specifications.
3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, onsite facilities, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to diligently prosecute and complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.
4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \$_____ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.

5. **Time for Completion.** Contractor will fully complete the Work for the Project, meeting all requirements for Final Completion, within **86 Working Days** from the start date set forth in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.
6. **Liquidated Damages.** As further specified in Section 5.4 of the General Conditions, if Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of \$5,200.00 per day for each day of unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.
7. **Labor Code Compliance.**
 - 7.1 **General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.
 - 7.2 **Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.
 - 7.3 **DIR Registration.** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
8. **Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."
9. **Conflicts of Interest.** Contractor, its employees, Subcontractors, and agents may not have, maintain, or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.
10. **Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.
11. **Notice.** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows:

City:

Transportation and Public Works
69 Stony Circle
Santa Rosa, California 95401
Attn: Lucas Bishop, Assistant Engineer
lbishop@srcity.org
Copy to: Joyce Brandvold, Administrative Technician
jbrandvold@srcity.org

Contractor:

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Attn: _____
Email: _____
Copy to: _____

12. General Provisions.

- 12.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City’s written consent. This Contract is binding on Contractor’s and City’s lawful heirs, successors and permitted assigns.
- 12.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract.
- 12.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the Sonoma County Superior Court, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure § 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of Sonoma County, California.
- 12.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 12.5 Integration.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.
- 12.6 Severability.** If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.
- 12.7 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Contractor certifies, by signing below, that it is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the “Act”), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.
- 12.8 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporations Code § 313 or as otherwise authorized by law.
- 12.9 Electronic Signatures.** In accordance with Government Code § 16.5 and Civil Code § 1633.1 et seq., the parties agree that this Contract may be transmitted and executed electronically and that electronic signatures will have the same force and effect as the use of manual signatures.

[Signatures are on the following page.]

The parties agree to this Contract as witnessed by the signatures below:

CITY:

Approved as to form:

s/ _____

s/ _____

Name, Title

Name, Title

Date: _____

Date: _____

Attest:

s/ _____

Name, Title

Date: _____

CONTRACTOR:

Business Name

s/ _____

Seal:

Name, Title

Date: _____

Second Signature (See Section 12.8):

s/ _____

Name, Title

Date: _____

Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT

Payment Bond

The City of Santa Rosa ("City") and _____ ("Contractor") have entered into a contract ("Contract") for work on the Robles Trunk Lining Phase 1 Project, Contract No. 2114 ("Project"). The Contract is incorporated by reference into this Payment Bond ("Bond").

- 1. General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee in an amount not less than \$ _____, under California Civil Code § 9550 et seq., to ensure payment to authorized claimants. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
- 2. Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code § 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code § 13020 with respect to the work and labor, then Surety will pay the obligation.
- 3. Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code § 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
- 4. Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
- 5. Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code § 9550. Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____

- 6. Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Sonoma County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

[Signatures are on the following page.]

7. **Effective Date; Execution.** This Bond is entered into and is effective on _____, 20__.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

Business Name

s/ _____

Date

Name, Title

APPROVED BY CITY:

s/ _____

Date

Name, Title

END OF PAYMENT BOND

Performance Bond

The City of Santa Rosa ("City") and _____ ("Contractor") have entered into a contract ("Contract") for work on the Robles Trunk Lining Phase 1 Project, Contract No. 2114 ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee for an amount not less than \$ _____ to ensure Contractor's faithful performance of its obligations under the Contract. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligations.** Surety's obligations are co-extensive with Contractor's obligations under the Contract. If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void. Otherwise, Surety's obligations will remain in full force and effect.
3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845.
4. **Application of Contract Balance.** Upon making a demand on this Bond for completion of the Work prior to acceptance of the Project, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
5. **Contractor Default.** Upon written notification from City of Contractor's termination for default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
 - 5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
 - 5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or
 - 5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
6. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.
7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

8. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Sonoma County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
9. **Effective Date; Execution.** This Bond is entered into and effective on _____, 20____.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

Business Name

s/ _____

Date

Name, Title

APPROVED BY CITY:

s/ _____

Date

Name, Title

END OF PERFORMANCE BOND

General Conditions

Article 1 - Definitions

Definitions. The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day,” or “working day.”

Allowance means a specific amount that must be included in the Bid Proposal for a specified purpose.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Awarding Authority means the City Council or its authorized delegee(s) unless the Contract is awarded by the Water Department, in which case it means the Board of Public Utilities.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the City of Santa Rosa, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s).

City Specifications means the City’s Construction Specifications for Public Improvements, which may be accessed on the City’s website at <https://www.srcity.org/2321/Design-Construction-Standards>.

City Standards means the City’s Design and Construction Standards, which may be accessed on the City’s website at <https://www.srcity.org/2321/Design-Construction-Standards>.

Claim means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; a written demand by Contractor disputing a unilateral Change Order or a portion thereof; or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal and attachments thereto; the Contract; the Notice of Award and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Plans and Specifications; any Change Orders; and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided “For Reference Only,” or documents that are intended solely to provide information regarding existing conditions.

Contract Price means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies, or equipment following submission of the Bid Proposal.

Contract Time means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

Contractor (or You) means the individual, partnership, corporation, or joint venture that has signed the Contract with City to perform the Work.

CWA means the Community Workforce Agreement for the City.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or other design professional services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

DIR means the California Department of Industrial Relations.

Drawings has the same meaning as Plans.

Engineer means the City Engineer for the City of Santa Rosa and his or her authorized delegees.

Excusable Delay is defined in Section 5.3(B), Excusable Delay.

Extra Work means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

Final Completion means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

Furnish means to purchase and deliver for the Project.

Government Code Claim means a claim submitted pursuant to California Government Code § 900 et seq.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

Inspector means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Laws means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

Materials Lab means City's Materials Engineering Laboratory, which may perform quality assurance functions for a Project relating to asphalt and concrete, including inspection and/or testing of workmanship, materials, and the manner of construction.

Non-Excusable Delay is defined in Section 5.3(D), Non-Excusable Delay.

Plans means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

Project means the public works project referenced in the Contract, as modified by any Project alternates elected by City, if any.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Recoverable Costs is defined in Section 5.3(F), Recoverable Costs.

Request for Information or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

Section, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

Specialty Work means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

Technical Specifications has the same meaning as Specifications.

Water Department means the City of Santa Rosa Water Department.

Work means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Work Day or **Working Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include the following holidays observed by the City:

- (A) New Year's Day, January 1;
- (B) Martin Luther King Jr. Birthday, the third Monday in January;
- (C) President's Day, the third Monday in February;
- (D) Cesar Chavez Day, March 31;
- (E) Memorial Day, the last Monday in May;
- (F) Juneteenth, June 19;
- (G) Independence Day, July 4;
- (H) Labor Day, the first Monday in September;
- (I) Veterans Day, November 11;

- (J) Thanksgiving Day, the fourth Thursday in November;
- (K) The day after Thanksgiving Day; and
- (L) Christmas Day, December 25.

Worksite means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

Article 2 - Roles and Responsibilities

2.1 City.

(A) **City Council.** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) **Engineer.** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) **Project Manager.** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. Unless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.

(D) **Design Professional.** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.

2.2 Contractor.

(A) **General.** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) **Responsibility for the Work and Risk of Loss.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism, or theft, subject to the limitations of Laws, including Public Contract Code § 7105.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards.** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents, Laws, and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) **Meetings.** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend and participate in a pre-construction conference, weekly Project progress meetings, and coordination meetings, as set forth herein.

(1) **Pre-Construction Conference.** City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed. Contractor must present City with the following information or documents at the conference, unless otherwise specified by City, for City's review and acceptance before the Work commences:

- a. Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;
- b. List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;
- c. Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;
- d. If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;
- e. Draft baseline schedule for the Work as required under Section 5.2, to be finalized within ten days after City issues the Notice to Proceed or as otherwise specified by City;
- f. Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;

- g. Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;
- h. Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;
- i. Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits;
- j. If requested by City, Contractor's cash flow projections; and
- k. Any other documents specified by City.

(2) **Progress Meetings.** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must participate in weekly Project progress meetings scheduled with City.

(3) **Coordination Meetings.** If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) **Construction Records.** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site; primary Work activities; major deliveries; problems encountered, including injuries, if any; weather and site conditions; and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with Subcontractors, and records of meetings with Subcontractors. Upon request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts, or equipment. Workmanship, materials, parts, or equipment that do not conform to the requirements under the Contract Documents, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. If requested by City in City's notice to correct, Contractor must submit a Work plan for correcting defective Work in advance of Contractor taking corrective action. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's

failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph also applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(J) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records, copies of the insurance policies and endorsements required by the Contract Documents, and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials, and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's records relating to the Project during Contractor's normal business hours. Contractor's records may also be subject to examination and audit by the California State Auditor, pursuant to Government Code § 8546.7. The record-keeping requirements set forth in this subsection 2.2(J) will survive expiration or termination of the Contract.

(K) **Copies of Project Documents.** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

(L) **Quality Control.** Contractor is responsible for developing, implementing, and maintaining a quality control plan that includes sampling, testing, and inspecting the Work to control material quality and to ensure that the Work satisfies the quality characteristics in the Contract Documents. Contractor must submit copies of the quality control plan to City, within two Working Days after the pre-construction conference, and make one copy available at each Worksite.

(1) **Records.** Contractor must prepare and maintain quality control records, including the names and qualifications of samplers, testers, and inspectors; testing laboratories' identification and certifications; testing equipment calibrations and certifications; inspection reports; sampling and testing records organized by date and type of material; test results with comparison of quality characteristic requirements; test results in relation to action and any suspension limits; and records of corrective actions and suspensions. Contractor will submit any quality control test data and test results to the Engineer within two Working Days following test completion. Contractor must immediately notify the Engineer of any noncompliant Work.

(2) **Quality Control Manager.** Unless otherwise specified in the Special Conditions or Specifications, before starting Work, Contractor will designate in writing, and provide complete contact information for, the quality control manager for the Project who will be responsible for receiving, reviewing, and approving all correspondence and submittals prior to submission to the City; signing and implementing Contractor's quality control plan; and maintaining quality control records. The quality control manager must either be an employee of Contractor, or a Subcontractor retained solely to provide quality control services for the Project. The quality control manager must not be employed or compensated by a Subcontractor who will provide other Work for the Project.

(3) **Test Modifications.** The following specific tests are modified as follows: For California Test 216 (Relative Compaction), a mechanical compactor (Ploog Engineering Co. Model M 100 or equal) with a 10-pound hammer and split compaction molds must be used in lieu of the specified manual compaction equipment. For California Test 231 (Nuclear Gage Determination of In-Place Density), in-place density and relative compaction may be determined on the basis of individual test sites in lieu of the area concept at the discretion of the Engineer.

2.3 Subcontractors.

(A) **General.** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the Subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business tax certificate before performing any Work.

(B) **Contractual Obligations.** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code § 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code § 4107(a), City may request removal of the Subcontractor from the Project. Upon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code § 4107, as applicable.

2.4 Coordination of Work.

(A) **Concurrent Work.** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any City work forces or utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any City work forces, utility company or agency, or another contractor or subcontractor.

(B) **Coordination.** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

2.5 **Submittals.** Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.

(A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project. Contractor must provide submittals in electronic format, unless otherwise specified by the Engineer.

(C) **Required Contents.** Each submittal must be uniquely numbered and include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s). Submittal resubmissions must include a revision designation.

(D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal. Except as required for corrections, Contractor will not make changes to a submittal upon resubmission. City reserves the right to reject a partial resubmission of a submittal.

(E) **Effect of Review and Acceptance.** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

(F) **Enforcement.** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, Inspector, and Materials Lab.

(G) **Excessive RFIs.** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

2.6 Shop Drawings. When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.

2.7 Material List. Unless otherwise specified by City, Contractor must submit to the Engineer, at or before the pre-construction conference, a list of all materials proposed for use in the Work and any supporting documentation and samples required by the Contract Documents and source of supply. For a material listed on the "Engineer's List of Approved Items," located in the Sewer and Water sections of the City Standards, Contractor must provide the name of the manufacturer and model and part number for each material proposed for the Work, unless the item has been replaced for the Project, as specifically set forth in the Contract Documents. For all other materials, Contractor must provide the name of the manufacturer, model and part number, and supporting documentation and samples that will enable the Engineer to evaluate the material.

2.8 Access to Work. Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City; and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.

2.9 Personnel. Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. Upon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including Laws pertaining to health and safety. Any such discharged personnel may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

Article 3 - Contract Documents

3.1 Interpretation of Contract Documents.

(A) **Plans and Specifications.** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) **Duty to Notify and Seek Direction.** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy, omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on the Contractor. If Contractor proceeds with the related Work before obtaining the City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Articles 5 and 6.)

(C) **Figures and Dimensions.** Figures control over scaled dimensions.

(D) **Technical or Trade Terms.** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) **Measurements.** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) **Compliance with Laws.** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.

3.2 Order of Precedence. Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version:

- (A) Change Orders;
- (B) Addenda;

- (C) Contract;
- (D) Notice to Proceed;
- (E) Attachment B – Federal Contract Requirements (only if used);
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;
- (I) Specifications;
- (J) Plans;
- (K) Notice of Award;
- (L) Notice Inviting Bids;
- (M) Attachment A – Federal Bidding Requirements (only if used);
- (N) Instructions to Bidders;
- (O) Community Workforce Agreement, if applicable;
- (P) Contractor’s Bid Proposal and attachments;
- (Q) City Standards and City Specifications, as applicable; and
- (R) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications, Caltrans Special Provisions, or Caltrans Standard Plans.

3.3 Caltrans Standard Specifications and Standard Plans. Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation (“Caltrans”), including “Standard Specifications,” “Caltrans Specifications,” “State Specifications,” or “CSS,” means the most current edition of Caltrans’ Standard Specifications, unless otherwise specified (“Caltrans Standard Specifications”), including the most current amendments and revisions as of the date that Contractor’s bid was submitted for this Project. Any reference to or incorporation of Caltrans’ Standard Plans means the most current edition of Caltrans’ Standard Plans, unless otherwise specified (“Caltrans Standard Plans”), including the most current amendments or revisions as of the date that Contractor’s bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications, Special Provisions, or Caltrans Standard Plans:

(A) **Limitations.** The “Division I General Provisions” of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents. Unless otherwise specified in the Specifications, the remaining Divisions of the Caltrans Standard Specifications, i.e., Division II through Division XII, are applicable to the extent relevant to the Work and are subject to any modifications set forth in the Specifications. A specific reference in the Specifications to a section from the Caltrans Standard Specifications will not be construed as excluding other applicable sections from the Caltrans Standard Specifications.

(B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) **Meanings.** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:

- (1) Any reference to the “Engineer” or “Director” is deemed to mean the City Engineer.
- (2) Any reference to the “Special Provisions” is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.
- (3) Any reference to the “Department” or “State” is deemed to mean City.
- (4) Any reference to “Laboratory” is deemed to mean the Materials Lab, or such other laboratory as may be authorized by the City.

- 3.4 For Reference Only.** Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as “For Reference Only.” Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that the City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.
- 3.5 Current Versions.** Unless otherwise specified by the City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code, or regulation in effect on the date that bids were due.
- 3.6 Conformed Copies.** If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor’s responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor’s sole expense.
- 3.7 Ownership.** No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is deemed to have conveyed the copyright in any designs, drawings, specifications, Shop Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

Article 4 - Bonds, Indemnity, and Insurance

- 4.1 Payment and Performance Bonds.** Within ten days following issuance of the Notice of Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, and each executed by Contractor and its surety using the bond forms included with the Contract Documents.
- (A) **Surety.** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City’s satisfaction, or terminate the Contract for default.
- (B) **Supplemental Bonds for Increase in Contract Price.** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.
- 4.2 Indemnity.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants (individually, an “Indemnitee,” and collectively the “Indemnitees”) from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, fees and costs of litigation or arbitration, and fees and expenses incurred in enforcing this Section) (collectively, “Liability”) of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability

caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code § 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.

4.3 Insurance. No later than ten days following issuance of the Notice of Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work. The required insurance must remain in full force and effect at all times during the period covered by the Contract through the date of City's acceptance of the Project, except as specified for commercial general liability insurance in subsection (A)(1), below, which requires a longer duration. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A-" or better and a financial size rating of "VII" or better. Each certificate of insurance must identify this Contract by the Project number and state: "The listed insurance policies include endorsements as required by contract." The City may, but has no obligation to, review insurance policies submitted by Contractor. The City's failure to demand evidence of full compliance with the insurance requirements set forth in this Contract or the City's failure to identify any insurance deficiency will not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance in accordance with this Section. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance, or Contractor's failure to procure and maintain the required insurance, will not be construed to limit Contractor's liability under this Contract. The procurement of the required insurance will not be construed to fulfill Contractor's indemnification obligations under this Contract.

(A) ***Policies and Limits.*** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) ***Commercial General Liability ("CGL") Insurance:*** The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form with coverage at least as broad as ISO CG 00 01, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protective coverage, contractual liability, products liability, completed operations, and broad form property damage, with limits of at least \$5,000,000 per occurrence and at least \$5,000,000 general aggregate. If insurance applies separately to a project/location, aggregate may be equal to per occurrence amount. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements. The products liability and completed operations coverage must continue for a period of three years following City's acceptance of the Project.

(2) ***Automobile Liability Insurance:*** The automobile liability insurance policy must provide coverage of at least \$3,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired, owned, and non-owned auto liability. Coverage must be at least as broad as ISO Form Number CA 00 01 covering any auto (Code 1).

(3) *Workers' Compensation Insurance and Employer's Liability:* The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least \$1,000,000 or as otherwise required by statute, per accident for bodily injury or disease. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance:* The pollution liability insurance policy must provide coverage of at least \$1,000,000 per occurrence and \$2,000,000 aggregate for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work. If the Work involves lead-based paint or asbestos identification and/or remediation, the pollution liability insurance policy must not contain lead-based paint or asbestos exclusions. If the Work involves mold identification, the pollution liability policy must not contain a mold exclusion and the definition of "pollution" in the policy must include microbial matter, including mold.

(5) *Builder's Risk Insurance:* The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City, without co-insurance provisions. Contractor must name City as loss payee.

(B) **Notice.** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days prior written notice to City, unless due to non-payment of premiums, in which case ten days prior written notice must be made to City.

(C) **Waiver of Subrogation.** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) **Required Endorsements.** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City of Santa Rosa, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. Coverage for an Additional Insured will not be limited to the Additional Insured's vicarious liability. The additional insured endorsement must be provided using ISO forms at least as broad as CG 20 10 04 13 or 20 38 04 13 (ongoing operations) and CG 20 37 04 13 (completed operations), or equivalent form(s) approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss. This endorsement must be provided using ISO form CG 20 01 04 13 or an equivalent form approved by the City.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Contractor's Responsibilities.** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own

risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage. Contractor's insurance coverage applies to the full extent of the policies, and nothing contained herein will be construed to limit the application of such coverage.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of \$10,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) **Subcontractors.** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

Article 5 - Contract Time

5.1 Time is of the Essence. Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) **Authorization.** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. Contractor will diligently prosecute the Work to minimize the public's exposure to construction activities. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

5.2 Schedule Requirements. Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. Contractor must provide the Engineer with a license for use of Contractor's scheduling software, unless otherwise specified by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) **Baseline (As-Planned) Schedule.** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials, and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) **Specialized Materials Ordering.** Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase order date(s).

(2) **High Dollar or Long Duration Projects.** In addition to the requirements set forth above, if the Contract Price is \$5,000,000 or more or if the Contract Time is 100 Working Days or more, Contractor's baseline (as-planned) schedule must include the following: the start and completion dates for submittal development, submittal review, milestones and constraints, equipment and plant setup, interfaces with outside entities, erection and removal of falsework and shoring, test periods, major traffic stage change, and final cleanup; logical links between time-scaled Work activities; controlling activities; at least 50 but no more than 500 activities, unless otherwise specified or authorized by the Engineer; alphanumeric activity identification and activity description system for labeling Work activities; identification code for each activity for responsibility, stage, Work shifts, location, and bid items; activity durations of at least one Working Day and no more than 20 Working Days for each activity, unless otherwise authorized by the Engineer; and float as the predecessor activity to Final Completion. Each activity description must indicate its associated scope or location of Work.

(B) **City's Review of Schedules.** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) **Progress Schedules.** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) **Float.** The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) **Failure to Submit Schedule.** Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to five percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code § 7102.

(D) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) **Effect of Acceptance.** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed or approved by City. If Contractor wants to perform non-critical Work activities that are out of sequence with the current City-accepted schedule, Contractor must notify and request approval from the Engineer in advance of performance of any such activities. Performance of any such Work must not impact the critical path Work activities. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) **Posting.** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, to facilitate City's use of its property, or to minimize the public's exposure to construction activities. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays observed by City, with noise generating activities limited to 7:00 a.m. to 7:00 p.m. and vehicular traffic impacts limited to 8:30 a.m. to 4:30 p.m., except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

5.3 Delay and Extensions of Contract Time.

(A) **Notice of Delay.** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) **Excusable Delay.** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract

Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, or diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) **Weather Delays.** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

- (1) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.
- (2) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.
- (3) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) **Non-Excusable Delay.** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight, or diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

- (1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;
- (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time;
- (3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time;
- (4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor;
- (5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers;
- (6) performance or non-performance by Contractor's Subcontractors or suppliers;
- (7) the time required to respond to excessive RFIs (see Section 2.5(G));

(8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals;

(9) time required for repair of, re-testing, or re-inspection of defective Work;

(10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work; or

(11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) **Compensable Delay.** Pursuant to Public Contract Code § 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to Weather Delay Days in excess of normal for a given month, as set forth in Section 5.3(C), is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) **Recoverable Costs.** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) **Request for Extension of Contract Time or Recoverable Costs.** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within 14 calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) **Required Contents.** The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) **Delay Days and Costs.** The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that: the delay was an Excusable Delay or Compensable Delay, as defined above; Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code § 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor fails to achieve Final Completion within the Contract Time due to Contractor's Non-Excusable Delay, City will charge Contractor in the amount specified in the Contract for each calendar day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegee.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable Delay or Compensable Delay, as set forth above.

(B) **Milestones.** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) **Other Remedies.** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from

defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

Article 6 - Contract Modification

6.1 Contract Modification. Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a “no-cost” Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor’s warranty obligations pursuant to Article 11 or any obligations of Contractor’s bond sureties.

(A) **City-Directed Changes.** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation for cost savings resulting from “value engineering” pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) **Disputes.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute, City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor’s sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) **Extra Work.** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must notify the Engineer in writing, within one Working Day following the date the Contractor first encounters the circumstances giving rise to Contractor’s contention that Extra Work is necessary. Contractor’s written notice must specifically identify the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit, by no later than close of business on that same Working Day, a daily report of the Extra Work performed that day, signed by the City and Contractor, identifying the labor, materials, and equipment used in the Extra Work (“Extra Work Report”). The Engineer may make any adjustments to Contractor’s Extra

Work Report(s) based on the Engineer's records of the Work. The Extra Work Report enables the parties to document and track the Extra Work, or Work that the Contractor contends is Extra Work. City's signature on the Extra Work Report is intended solely to document City's receipt of the Extra Work Report; it does not constitute any acknowledgement, acceptance, or approval of the Extra Work by City. To request compensation for Extra Work, Contractor must comply with the requirements in Section 6.2, below, including submission of the Extra Work Reports and a breakdown of the costs related to the Extra Work, together with copies of certified payroll, invoices, and other documentation substantiating the costs. Failure to submit the Extra Work Report by close of business on the same Working Day as the Extra Work is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) **Minor Changes and RFIs.** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

6.2 Contractor Change Order Requests. Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within 14 calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. Upon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants

that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived.”

6.3 Adjustments to Contract Price. The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented costs (including restocking fees), reasonably incurred before Contractor was notified of the City’s intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) **Lump Sum.** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) **Time and Materials.** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor’s performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work) will include allowed markup for overhead, profit, and other indirect costs, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15%:

- (1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15% markup;
- (2) All direct material costs provided by the Contractor, including sales tax, plus 15% markup;
- (3) All direct plant and equipment rental costs provided by the Contractor, plus 15% markup;
- (4) All direct additional subcontract costs plus 10% markup for Work performed by Subcontractors; and
- (5) Increased bond and insurance premium costs computed at 1.5% of the total of the previous four sums.

6.4 Unilateral Change Order. If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor’s sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6.5 Non-Compliance Deemed Waiver. Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

Article 7 - General Construction Provisions

7.1 Permits, Fees, Licenses, Certificates, and Taxes.

(A) **Fees, Licenses, Certificates, and Permits.** Contractor must obtain and pay for all fees, licenses, and certificates required to perform the Work, including a City business tax certificate. Contractor must obtain all permits required to perform the Work. Contractor is not responsible for the fees associated with obtaining permits unless otherwise specified in the Special Conditions or Specifications. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses and certificates required for the Work.

(B) **Taxes.** Contractor must pay for all taxes on labor, material, and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7.2 Temporary Facilities.

Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities are set forth in this Article 7 and may also be included in the Specifications or Special Conditions.

(A) **Utilities.** Contractor must install and maintain the power, water, sewer, and all other utilities required for the Project site and performance of the Work, including the piping, wiring, internet and Wi-Fi connections, and any related equipment necessary to maintain the temporary facilities. Contractor may obtain water from the City's water system or from a source other than City's water system, if approved in advance by the Engineer. Before obtaining water from the City's water system, Contractor must obtain a Water Use Permit from the Water Department and rent a hydrant or bridge meter. Contractor is responsible for the cost of all water and all related deposits, permits, and fees. Contractor is prohibited from operating gate valves or fire hydrants on the City's water system. The acquisition of water from the City's water system through un-metered hydrants or other facilities is a violation of Laws. Citations and fines may be levied for violation of these and other utility regulations and may be deducted from payment otherwise due Contractor.

(B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

7.3 Noninterference and Site Management.

Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours. Property owners, tenants, and businesses must have full access to their driveways during non-Work hours. The Engineer may, at any time, direct or

approve of opening completed sections of surfacing, pavement, or structure roadway surface for public use.

(A) **Offsite Acquisition.** Unless otherwise provided by City, Contractor must acquire, use, and dispose of, at its sole expense, any Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) **Offsite Staging Area and Field Office.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space and obtain a temporary use permit, in accordance with City Code § 20-52.040. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) **Traffic Management.** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise required to ensure public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, and pedestrian traffic.

(D) **Railroad Property.** Sonoma-Marin Area Rail Transit ("SMART") maintains railroad property within the City. Contractor will not interfere with railroad operations or perform Work on or adjacent to railroad property unless Contractor has obtained an encroachment permit from SMART. Contractor is responsible for obtaining an encroachment permit from SMART if necessary for the Work or for Contractor's traffic control. Contractor will not be entitled to an extension of time or additional compensation to obtain the SMART permit. For any excavation on or affecting railroad property, Contractor must submit Work plans to the City and SMART, if requested by SMART, showing the system to be used to protect the railroad facilities. Contractor will prevent material, equipment, and debris from falling onto railroad property.

(E) **Third Party Material Sourcing and Disposal.** If Contractor intends to procure materials from or dispose of materials on any property owned by a third party, before procuring material or disposing of material, Contractor must provide City with a copy of the agreement between Contractor and the third party authorizing the use of the property and absolving the City from responsibility in connection with the property. Contractor must obtain authorization from the third party to start sourcing or disposing of material on the property. As a condition precedent to Final Completion, Contractor must submit a document to the City, signed by the third party property owner, stating that the Contractor complied with its agreement with the third party.

7.4 Signs. No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

7.5 Project Site and Nearby Property Protections.

(A) **General.** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work; any Worksite, including the Project site; City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(6) All valves, hydrants, and other appurtenances of the City's water system that are the property of City and removed by Contractor in the performance of the Work must be delivered to City's Municipal Services Center (55 Stony Point Road) as a condition precedent to Final Completion, unless Contractor has obtained specific written approval from the Water Department to dispose of the items.

(B) **Securing Project Site.** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) **Notification of Property Damage.** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project, including damage to City's water system. Contractor must immediately provide a written report to City of any such property damage in excess of \$500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include: (1) the location and nature of the damage, and the owner of the property, if known; (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

(F) **Damage to City's Water System.** Contractor must promptly repair and remediate, at its sole expense, any damage caused by Contractor to the City's water system, in a manner satisfactory to the Water Department. This includes damage to property and facilities resulting from Contractor's failure to make a written request for a markout or starting Work without providing the Water Department a reasonable opportunity to mark facilities; Contractor's destruction of markouts; Contractor's failure to perform hand digging or probing for utilities near

markouts; and Contractor's failure to use reasonable caution, regardless of whether markouts are present or clear. Reasonable caution includes any efforts to avoid damaging existing facilities, such as when excavating in the vicinity of water mains. All repairs must be witnessed, inspected, and approved by the Water Department prior to backfilling the excavation. If backfilling occurs prior to inspection and approval, City may require re-excavation by Contractor, at Contractor's sole expense. Acting in its sole discretion, City may elect to have the damage remedied otherwise, including by its own forces, and may deduct the cost thereof from payment otherwise due to Contractor. If City elects to remedy damage to the water system with its own forces, the cost thereof will be in accordance with the emergency repair rate schedule of the Water Department.

7.6 Materials and Equipment.

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. All materials, equipment, and tools furnished or installed by Contractor must meet or exceed applicable Occupational Safety and Health Administration ("OSHA") standards. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices, or processes that are incorporated into the Work. Upon request, Contractor must provide proof of any such authorization or license to City. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights.

(D) **Equipment Labeling and Information.** Contractor must label each piece of equipment, except hand tools, with the following information, at a clearly visible location on each piece of equipment using a stencil or stamp: an identifying number; and for compacting equipment, its make, model number, and empty gross weight that is either the manufacturer's rated weight or the scale weight, or for meters and on the load-receiving element and indicators of each scale, the make, model, serial number, and manufacturer's rated capacity. Upon request, Contractor must submit the manufacturer's information that designates portable vehicle scale capacities.

(E) **Measuring Devices.** For proportioning materials, Contractor must use measuring devices, material plant controllers, and undersupports that comply with 4 CCR § 4000 et seq. and Business and Professions Code § 12001 et seq. Measuring devices must be tested and approved under California Test 109 in the Engineer's presence by any of the following: County Sealer of Weights and Measures; Scale Service Agency; or Official of the Division of Measurement Standards. The indicator over-travel must be at least one-third of the loading travel. The

indicators must be enclosed against moisture and dust. Contractor must group the measuring system dials such that the smallest increment for each indicator can be read from the location at which proportioning is controlled.

7.7 Substitutions.

(A) **“Or Equal.”** Any Specification designating a material, product, or thing (collectively, “item”) or service by specific brand or trade name, followed by the words “or equal,” is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item or service that is used solely for the purpose of describing the type of item or service desired, will be deemed to be followed by the words “or equal.” A substitution will only be approved if it is a true “equal” item or service in every aspect of design, function, and quality, as determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) **Request for Substitution.** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval at least four weeks in advance of Contractor’s proposed order date and sufficiently in advance of the time needed to avoid delay of the Work. A request for substitution must contain a description of any proposed changes to the Work required to accommodate the substitution and drawings and details showing all such changes.

(C) **Substantiation.** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor’s failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution at Contractor’s sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City’s determination is final.

(E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) **Contractor’s Obligations.** City’s approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7.8 Testing and Inspection.

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and at all locations during construction and/or fabrication, including at any Worksite, shops, and yards. All manufacturers’ application or installation instructions must be provided to the Engineer at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for testing or inspection. City may record, including by photograph or video, all materials, equipment, and workmanship used in the Work. Neither City’s inspection or testing of Work, nor its failure to do so, operate to waive or limit Contractor’s duty to complete the Work in accordance with the Contract Documents.

(B) **Scheduling and Notification.** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor’s expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor will coordinate directly with the Engineer when scheduling inspections or tests, unless otherwise specified in the Special Conditions or Specifications. Contractor must notify the Engineer no later than noon of the Working Day before any inspection

or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor. Contractor will not coordinate directly with, or provide direction to, the Materials Lab.

(C) **Responsibility for Costs.** City will bear the initial cost of inspection and testing to be performed by independent consultants retained by City, subject to the following exceptions:

- (1) Contractor will be responsible for the costs of any subsequent inspections or tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.
- (2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready, or Contractor fails to appear for a scheduled inspection.
- (3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.
- (4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.
- (5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) **Contractor's Obligations.** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection or testing of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Contractor has an independent duty to test and inspect its Work and perform quality control activities to ensure that the Work and the materials, products, and equipment incorporated into the Work comply with the Contract Documents. City is not responsible for any testing performed by Contractor or a third-party retained by Contractor. Contractor will submit its testing methodology to City for review and acceptance. Any Work done without the inspection(s) or testing required by the Contract Documents will be subject to rejection by City.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

7.9 Project Site Conditions and Maintenance. Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided and properly maintained and serviced for all workers on the Project site, and located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) **Air Emissions Control.** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws. Contractor must comply with all Laws, including the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.).

(B) **Dust and Debris.** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use the minimum necessary. Contractor must take all necessary steps to keep wastewater out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) **Clean up.** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) **Disposal.** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) **Completion.** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace, in accordance with City Standards, all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, gates, signs, landscaping, drainage ditches, irrigation systems, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements. Concrete surface treatment and score marks must match adjacent existing concrete improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) **Non-Compliance.** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or

undertake appropriate cleanup measures without further notice and deduct the cost from any amounts due or to become due to Contractor.

7.10 Instructions and Manuals. Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** The instructions and manuals, along with any required guarantees, must be delivered to City for review prior to requesting final inspection pursuant to Section 11.1(A), unless otherwise specified.

(B) **Training.** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

7.11 As-built Drawings. Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

7.12 Existing Utilities.

(A) **General.** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) **Unidentified Utilities.** Pursuant to Government Code § 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with

reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

(C) **Alteration or Relocation of Utilities.** If Contractor wishes to alter or relocate utilities for Contractor's convenience, and not due to a conflict that requires alteration or relocation, Contractor will be solely responsible for the time and cost required for such alteration or relocation, which may not proceed except as specified by the prior written authorization of the utility owner. Any damage to utilities or improvements caused by Contractor must be repaired by Contractor at its sole expense and to the full satisfaction of the utility owner and Engineer. Contractor will not be entitled to an extension of the Contract Time in connection with any such Work.

7.13 Notice of Excavation. Contractor must comply with all applicable requirements in Government Code § 4216 et seq., which are incorporated by reference herein, including, but not limited to, the requirement to notify Underground Service Alert ("USA") of a proposed excavation and provide USA all relevant data relating to the excavation, at least two Working Days before starting any excavation Work.

7.14 Trenching and Excavations of Four Feet or More. As required by Public Contract Code § 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in § 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing Laws;

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) **Disputes.** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

7.15 Trenching of Five Feet or More. As required by Labor Code § 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards or if the trench is expected to exceed 20 feet, the plan must be prepared by a California registered civil or structural engineer.

Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

- 7.16 New Utility Connections.** Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.
- 7.17 Lines and Grades.** Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project unless otherwise specified in the Special Conditions. All stakes or marks must be set by a California licensed land surveyor or a California registered civil engineer. All survey monuments that may be disturbed or destroyed during performance of the Work must be tied-out by Contractor prior to the start of Work. Contractor must also file a Pre-Construction Corner Record, prepared by a California licensed land surveyor, with the County of Sonoma Surveyor's Office, prior to the start of Work. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Contractor must replace any survey monuments that are disturbed, damaged, or destroyed during the Work and must file a Post-Construction Corner Record, prepared by a licensed land surveyor as required by law, with the County of Sonoma Surveyor's Office. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.
- 7.18 Historic or Archeological Items.**
- (A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").
- (B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.
- 7.19 Environmental Control.** Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.
- (A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").
- (B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws governing discharge of stormwater, including applicable municipal stormwater management programs.

(C) **Pest Management.** Contractor must comply with the City-Wide Integrated Pest Management (“IPM”) Policy, Policy Number 000-74, which is available at <https://www.srcity.org/DocumentCenter/View/41774/Integrated-Pest-Management-Policy-030524>. Contractor will not use pesticides or herbicides in the Work without City’s prior written approval. Contractor may submit a written request for use of pesticides or herbicides to the Engineer. Contractor’s written request must include the location proposed for use, the proposed date and time of application, product specifications, and all other information required by the IPM policy. City reserves the right, in its sole discretion, to approve or reject the use of pesticides or herbicides, for any reason.

7.20 Noise Control. Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

7.21 Mined Materials. Pursuant to Public Contract Code § 20676, Contractor will not purchase any sand, gravel, or other minerals for the Work from an operation subject to the Surface Mining and Reclamation Act of 1975 (Public Resources Code § 2710 et seq.) unless Contractor certifies, under penalty of perjury, that the minerals are from a mining operation included on the AB 3098 List, which may be accessed online at: <https://www.conservation.ca.gov/smgb/Pages/AB-3098-List.aspx>.

7.22 Water Department Notification. If Contractor requires the services of the Water Department in connection with the Work, Contractor must request such services at least two Working Days in advance of the time the services are needed. If the requested services require Water Department forces for more than eight hours or an extensive number of City-provided parts, Contractor must request services at least seven calendar days in advance of the time the services are needed.

(A) **Service Shut Down.** Contractor must minimize disruption of utility service to the greatest extent practicable. Contractor must coordinate any shut down or disruption of utility service with the Engineer, Water Department, and affected utility customers. If it is necessary to shut down or disrupt utility service to any customer of the Water Department, Contractor must request the services of the Water Department an additional three Working Days in advance of the time such services are needed, for a total of five Working Days advance notification for a standard service request, to allow affected customers a minimum of three days’ advance notice. If Contractor fails to keep field appointments, Contractor will be billed for scheduled Water Department crew standby time and for costs incurred by the Water Department for re-notification of customers.

(B) **Water Department Scheduling.** Water Department crews work a 9/80 schedule. This schedule may prohibit shutdowns for tie-ins on alternating Fridays. After-hours work or weekend work may be performed if authorized in advance by the Engineer. Requests by Contractor for after-hours or weekend work are to be avoided when possible. Contractor will be responsible for any overtime costs incurred by City for such work and the cost thereof may be deducted from payment otherwise due Contractor.

7.23 Public Safety and Traffic Control. Contractor must undertake all required and appropriate measures to ensure public safety during construction of the Project, in accordance with Laws, including, but not limited to, the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.). Contractor will ensure the safe passage of pedestrians around the Project site at all times. If Work is within a City-owned right-of-way, Contractor will ensure the safe passage of public traffic through the Project site at all times, consistent with the requirements of City Code Chapter 13-04. Contractor is solely responsible for the costs of all public safety and traffic control measures.

(A) **Warning Devices.** Contractor must furnish, install, and maintain, at its sole expense, all fences, barricades, signs, lights, and other devices necessary to prevent accidents, injuries, death, and property damage. All such devices must conform to the requirements of the current edition of the California Manual on Uniform Traffic Control Devices (“CA MUTCD”) and the

directions of the Engineer. Contractor's warning and safety devices will not obscure the visibility of or conflict with existing signs and traffic control devices. Contractor may be required to cover certain signs which regulate or direct public traffic to roadways that are not open to traffic, as directed by the Engineer.

(B) **Flaggers.** Contractor must also furnish, at Contractor's sole expense, trained flaggers as necessary to provide adequate warning to the public of construction conditions that may impact pedestrian or vehicular traffic.

(C) **Project Signage.** Unless otherwise specified in the Special Conditions, Contractor must install and maintain Project identification signs at each boundary of the Project site or as directed by the Engineer. Contractor must install the signs two weeks prior to the start of Work at the Project site, using sign panels furnished by City. To mount sign panels, Contractor must furnish and install 4" X 4" posts or mount by other appropriate methods as approved by the Engineer. Upon completion of the Project, Contractor will remove Project identification signs, in a timely manner, and return the City-furnished sign panels to the City Corporation Yard at 55 Stony Point Road.

(D) **Road Closure Signage.** If the Work requires road closures, Contractor must furnish and install advance notice signs for road closures at each boundary of the Project site. Panel construction and lettering are subject to advance approval of the Engineer. Contractor must install the signs two weeks prior to the start of Work at the Project site. The signs must remain in place for the duration of the road closure and must be removed by Contractor when no longer necessary for the Work.

(E) **Emergency Response Agencies.** Contractor is responsible for notifying emergency response agencies operating in the jurisdiction of the Worksite(s) of obstructions to roads resulting from Contractor's Work.

(F) **Additional Devices.** City reserves the right to require additional warning or safety devices for the Project at the Contractor's sole expense, but no actions by City to add to or improve signage or any other public safety requirements will waive or limit Contractor's duties under the Contract Documents.

(G) **Compliance.** If Contractor fails or refuses to comply with the requirements of this Section, the Engineer may take immediate action to protect the public, including, but not limited to, furnishing the required safety measures at Contractor's expense or suspending the Work, in addition to all other remedies available to City. Any such remedial costs incurred by City may be deducted from payment otherwise due to Contractor as specified in Section 8.3, Adjustment of Payment Application. If there are insufficient Contract funds remaining to cover the remedial costs, City is entitled to recover the balance from Contractor or its performance bond surety.

Article 8 - Payment

8.1 Schedule of Values. Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) **Measurements for Unit Price Work.** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) **Deleted or Reduced Work.** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material, or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

8.2 Progress Payments. Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code § 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct or withhold additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), Joint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner specified or within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner specified or within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated cost to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

(J) For any other fines, payments, or penalties assessed against the City relating to Contractor's acts or omissions, including violations of Laws, City may withhold or deduct such amounts from payment otherwise due to Contractor.

(K) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

8.4 Early Occupancy. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

8.5 Retention. City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment of Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work. Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's recordation of the Notice of Completion, subject to the terms of Public Contract Code § 7107.

(A) **Substitution of Securities.** As provided by Public Contract Code § 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code § 22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (g) of Public Contract Code § 22300 ("Escrow Agreement"), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City's rights pursuant to these Contract Documents to

withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or back charges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code § 7107(c).

8.6 Payment to Subcontractors and Suppliers. Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during

the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) **Withholding for Stop Notice.** Pursuant to Civil Code § 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.

(B) **Joint Checks.** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney's Office. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

8.7 Final Payment. Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.

8.8 Release of Claims. City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.

8.9 Warranty of Title. Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 - Labor Provisions

9.1 Discrimination Prohibited. Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.

9.2 Labor Code Requirements.

(A) **Eight Hour Day.** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.

(B) **Penalty.** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.

(C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.

(D) **Notices.** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.

9.3 Prevailing Wages. Each worker performing Work under this Contract that is covered under Labor Code §§ 1720, 1720.3, or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Project site.

(A) **Penalties.** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code §§ 1771.4, 1776, and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for monthly electronic submission of payroll records to the DIR.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct; and

(2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) **Enforcement.** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion thereof, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

- 9.5 Labor Compliance.** Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

Article 10 - Safety Provisions

- 10.1 Safety Precautions and Programs.** Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.

(A) **Reporting Requirements.** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must include: (1) the name and address of the injured or deceased person; (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.

(C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

- 10.2 Hazardous Materials.** Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

- 10.3 Material Safety.** Contractor is solely responsible for complying with § 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or

used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

10.4 Hazardous Condition. Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

10.5 Emergencies. In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

10.6 Confined Space Operations. If the Work requires a confined space entry, including, but not limited to, manhole or water storage tank entry, Contractor must obtain a confined space entry permit pursuant to Cal/OSHA regulations, as set forth in 8 CCR § 5156 et seq. For any confined space entry for construction operations regulated by 8 CCR § 1502, Contractor must comply with 8 CCR § 5158. For any other confined space operations, Contractor must comply with 8 CCR § 5157. With respect to entry to any City-maintained confined space, Contractor is responsible for obtaining any available information regarding hazards and operations for any City-maintained confined spaces, pursuant to 8 CCR § 5157. The City-maintained Confined Space Entry Manual is available for viewing at the Water Department or Transportation and Public Works Department office. Contractor must immediately notify the Engineer of any previously unidentified hazards confronted or created during confined space entry.

Article 11 - Completion and Warranty Provisions

11.1 Final Completion.

(A) **Final Inspection and Punch List.** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) **Requirements for Final Completion.** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) **Acceptance.** The Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) **Final Payment and Release of Retention.** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

11.2 Warranty.

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance pursuant to Section 11.1(C) (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. If the City accepts the Project as complete subject to exceptions for incomplete punch list item(s) and the Contractor thereafter completes the punch list item(s), the completed punch list item(s) will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon City's acceptance of the completed punch list item(s). Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) **City's Remedies.** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) **Emergency Repairs.** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) **Reimbursement.** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein, in addition to any and all costs City incurs to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion.

(A) **Non-Waiver.** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

11.4 Substantial Completion. For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

Article 12 - Dispute Resolution

12.1 Claims. This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(B) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code § 9204 and § 20104 et seq., which are incorporated by reference herein.

(C) **No Work Delay.** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or other dispute but

must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(D) **Informal Resolution.** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

12.2 Claims Submission. The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing by registered or certified mail with return receipt requested and clearly identified as a "Claim" submitted pursuant to this Article 12. The Claim must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) **Claim Format and Content.** A Claim must be submitted in the following format:

(1) Provide a cover letter, specifically identifying the submission as a "Claim" submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).

(2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.

(3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for each separate issue or Claim:

- a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
- b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above);
- c. A chronology of relevant events; and
- d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.

(4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known, Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative:

“The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived.”

(C) **Submission Deadlines.**

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 21 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 21 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 21 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. **Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.**

12.3 City's Response. City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) **Non-Waiver.** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Meet and Confer. If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to notify City of the dispute and demand for an informal conference to meet and confer in writing within the specified time, Contractor's Claim will be deemed waived.

(A) **Schedule Meet and Confer.** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure

the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) **Location for Meet and Confer.** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) **Written Statement After Meet and Confer.** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) **Submission to Mediation.** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

12.5 Mediation and Government Code Claims.

(A) **Mediation.** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) **Government Code Claims.**

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

12.6 Tort Claims. This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.

12.7 Arbitration. City does not consent to arbitration unless required by Laws. It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.

12.8 Burden of Proof and Limitations. Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not

be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.

- 12.9 Legal Proceedings.** In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.
- 12.10 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13 - Suspension and Termination

- 13.1 Suspension for Cause.** In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.
- (A) **Notice of Suspension.** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension; comply with directions for cleaning and securing the Worksite; and protect the completed and in-progress Work and materials. Contractor is solely responsible for any damages or loss resulting from its failure to adequately secure and protect the Project.
- (B) **Resumption of Work.** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified; and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.
- (C) **Failure to Comply.** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.
- (D) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.
- 13.2 Suspension for Convenience.** City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to

the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

13.3 Termination for Default. City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) **Default.** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; Contractor's refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage; Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project; evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time; suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration; Contractor's failure to procure, maintain, or renew insurance coverage or provide notice of any modifications or reductions in insurance coverage; dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity; unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) **Notice of Default and Opportunity to Cure.** Upon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) **Termination.** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contractor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) **Compensation.** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) **Wrongful Termination.** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including special or consequential damages, lost opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

13.4 Termination for Convenience. City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) **Compensation to Contractor.** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) **Completed Work.** The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) **Demobilization.** Demobilization costs specified in the schedule of values, or if demobilization costs were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs; and

(3) **Termination Markup.** Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) **Disputes.** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

13.5 Actions Upon Termination for Default or Convenience. The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) **General.** Upon termination, City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) **Submittals.** Unless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) **Close Out Requirements.** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following:

(1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksite(s).

(2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.

(3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.

(4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.

(5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) **Payment Upon Termination.** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance with the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor; payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged; and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) **Continuing Obligations.** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

Article 14 - Miscellaneous Provisions

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code § 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.
- 14.3 Waiver.** City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.

- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that bids were due.
- 14.6 Survival.** The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6 of Section 12, General Provisions; and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7, Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

Special Conditions

1. Authorized Work Days and Hours.

1.1 Authorized Work Days.

- (A) Unless expressly authorized by City in writing, due to permitting requirements, all work in the Project area must be performed between June 15 and October 15, inclusive.
- (B) Contractor is limited to performing Work on the Project Monday through Friday, excluding holidays observed by City except as expressly authorized by City or as indicated in the following condition:
- (C) Notwithstanding the requirement of subsection 1.1(B), work for testing, operation, and maintenance of the sewer bypass pumping facilities is authorized Monday through Sunday including holidays.

1.2 Authorized Work Hours. Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project between the hours of 7:00 a.m. and 7:00 p.m. except as expressly authorized in writing by City or as indicated in the following conditions:

- (A) Work is authorized 24-hours a day for testing, operation, and maintenance of the sewer bypass pumping facilities.
- (B) Night Work is authorized for the liner curing process and shall be limited to a total of ten (10) nights.

2. Construction Manager Role and Authority. The City plans to contract with a Construction Manager for this Project. The Construction Manager will assist City in the management of the construction of the Project. The Construction Manager may perform services in the areas of supervision and coordination of the work of Contractor and/or other contractors, scheduling the Work, monitoring the progress of the Work, providing City with evaluations and recommendations concerning the quality of the Work, recommending the approval of progress payments to Contractor, or other services for the Project in accordance with the Construction Manager's contract with City.

2.1 Communications. Contractor must submit all notices and communications relating to the Work directly to the Construction Manager in writing, as follows:

Construction Manager:

Contact information to be provided in the Meeting Minutes following the pre-Construction Conference.

Design Consultant:

Woodard and Curran

Madison Veggian – mveggian@woodardcurran.com

With a copy to the Engineer:

Lucas Bishop - LBishop@srcity.org

2.2 On-Site Management and Communication Procedures. The Construction Manager will provide and maintain a management team on the Project site to provide contract administration as an agent of City, and will establish and implement coordination and communication procedures among City, the Design Professional, Contractor, and others.

2.3 Contract Administration Procedures. The Construction Manager will establish and implement procedures for reviewing and processing requests for clarifications and interpretations of the Contract Documents, Shop Drawings, samples, other submittals, schedule adjustments, Change Order proposals, written proposals for substitutions, payment applications, and maintenance of logs.

- 2.4 Pre-Construction Conference.** Contractor will attend the pre-construction conference, during which the Construction Manager will review the Contract administration procedures and Project requirements.
- 2.5 Contractor's Construction Schedule.** The Construction Manager will review Contractor's construction schedules and will verify that each schedule is prepared in accordance with the requirements of the Contract Documents.
- 3. Early Completion Incentive.** In the event all soil disturbing construction activities, as specified in section 14 of the Technical Specifications, are completed before October 15, 2026, the city shall pay Four Thousand Dollars (\$4,000.00) for every working day prior to October 15, 2026, said work is complete. The maximum incentive payment shall not exceed Forty Thousand Dollars (\$40,000.00), which coincides with said work being completed on October 4, 2026.
- 4. Milestones.** Pursuant to Section 5.4 of the General Conditions, the following milestone(s) apply to the Project:
- Milestone No. 1.** Contractor must complete all work within the project area as set forth in the Contract Documents, by October 15, 2026 (for purposes of this milestone, the "Milestone Deadline"). If Contractor fails to complete the Work required for this milestone within the Milestone Deadline, City will assess liquidated damages in the amount of \$7,000.00 per day for each day of unexcused delay in completing the milestone within the Milestone Deadline, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract. This amount is in addition to any Liquidated Damages as specified in Section 6 of the Contract.
- 5. Survey Staking.** Contractor is responsible for providing the construction stakes for the Project.
- 6. Mitigation Measures and Environmental Protection Requirements.** Contractor must implement and comply with the mitigation measures and environmental protection requirements applicable to the Work, as set forth in the California Department of Fish and Wildlife Incidental Take Permit Draft (No. 2081-2022-018-03) , which are incorporated herein by reference. The mitigation measures and environmental protection requirements applicable to the Work are subject to change and will need to comply with the final version of the Incidental Take Permit issued by the California Department of Fish and Wildlife. A copy of the final Incidental Take Permit will be provided by the city upon receipt from the California Department of Fish and Wildlife.
- 7. Permit Compliance.** Contractor must comply with the requirements applicable to the Work contained in the following permits:
- 7.1** California Department of Fish and Wildlife Incidental Take Permit Draft (No. 2081-2022-018-03) dated February 2024, included in Section A of the Technical Specifications.
- 7.2** U.S. Army Corps of Engineers 404 permit (No. SPN-2023-00228) dated January 16, 2025, included in Section A of the Technical Specifications.
- 7.3** State Water Resources Control Board 401 permit (No. SB24012N) dated February 14, 2024, included in Section A of the Technical Specifications.
- 7.4** City of Santa Rosa One-Time Discharge Permit Application, included in Section A of the Technical Specifications.

END OF SPECIAL CONDITIONS



City of Santa Rosa
Technical Specifications

ROBLES TRUNK LINING PROJECT PHASE 1

January 2026

Prepared by:



WOODARD & CURRAN
2175 North California Boulevard, Suite 810
Walnut Creek, CA 94596
(925) 627-4100



Madison Veggian
Digitally signed by Madison Veggian
DN: CN=Madison Veggian,
OU=WCTestUsers,
OU=WCUUsers,
DC=woodardcurran, DC=net
Date: 2026.01.05
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Madison Veggian, P.E.
RCE 83346
Exp. 3/31/2027

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10 GENERAL CONSTRUCTION

10-1.01A General: Amendments to the Caltrans Standard Specifications are identified using the following section headings, each with a specific meaning:

1. "In Addition" – The language that follows supplements the existing language in the referenced Caltrans Standard Specifications section.
2. "Replace With" – The language that follows completely replaces the corresponding section in the Caltrans Standard Specifications.
3. "Modification" – Only specific portions of the referenced Caltrans Standard Specifications section have been modified; the rest remains unchanged.

10-1.01 General - In Addition: Technical Specifications use definitions per Standard Specifications 1-1.07 and Abbreviations Standard Specification section 1-1.06.

Equipment used shall follow Standard Specification 5-1.33 "Equipment".

The Engineer may order or consent to your request to open a completed section of surfacing, pavement, or structure roadway surface for public use.

Before Contract acceptance, submit a document signed by the owner of the material source or disposal site, as applicable, stating that the Contractor has complied with the Contractor-owner agreement.

Unless otherwise provided hereafter, when sections and subsections of the Standard Specifications are used or attention is directed to them within the technical specifications, such direction shall not be interpreted as excluding other applicable provisions within the correlating section the Standard Specifications.

10-2.01 Description: Mobilization shall conform to the provisions in Section 9-1.16D, "Mobilization," of the latest version of the Caltrans Standard Specifications and as modified herein.

Mobilization shall include the obtaining of all permits, moving onto the site of all equipment, temporary buildings, if needed, temporary fencing, and other construction facilities as required for the proper performance and completion of the work.

Mobilization shall include, but not be limited to the following principal items:

1. Signed Contract by the City and the Contractor.
2. Completion of tasks and submittal of documents (bonds, insurance, schedule, etc.) required as conditions of issuing the Notice to Proceed.
3. Moving onto the site(s) of Contractor's equipment required for operations.
4. Installing temporary construction water supply, power, wiring and lighting facilities, and other necessary temporary utilities, as required.
5. Providing field office trailers, if needed by the Contractor.
6. Providing on-site communication facilities, including telephones and radio pagers.
7. Obtaining and adhering to required permits and legal agreements (see **Appendix A** and **Appendix C**).
8. Compliance with submittal process.
9. Having OSHA required notices and establishment of safety programs.
10. Attendance at Pre-Construction and weekly progress meetings of Contractor's principal construction personnel.
11. Beginning work on the Project or at the subject site as applicable.
12. Demobilization from the site(s).

10-5.01 Payment: Full compensation for conforming to the provisions of these specifications shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

10-7 Mobilization/Demobilization: Mobilization/Demobilization includes all preparatory work and operations needed to begin and end construction. This includes, but is not limited to, furnishing labor, tools, incidentals, facilities, equipment, materials, and supplies to the project site, as well as any other tasks or costs that must be completed before starting work on the contract items.

Contractor shall utilize public rights-of-way until reaching the easements and/or temporary construction easements as designated on the Project Plans. Contractor may not encroach onto private property outside of the designated easements and temporary construction easements unless otherwise approved by the Engineer. The Contractor is advised that access to the Project site via the public right-of-way with oversized equipment may be insufficient if approaching from the intersection of Scenic Avenue and Sunland Avenue.

10-7.01 Payment: **Mobilization/Demobilization** shall not exceed 5% of the total contract price and shall be paid for the contract **lump sum** price, which price shall include but not limited to conforming to the provisions of this specification. Ninety percent (90%) of payment shall be for mobilization and 10% of payment shall be for demobilization.

Contractor acquisition of a Sonoma County Encroachment Permit shall not exceed the contract **lump sum** price, which price shall be paid under **County Encroachment Permit**.

No additional payment will be made for, including but not limited to, the following:

- Remobilization due to suspension, sequencing, or other reasons.
- Mobilization of subcontractors occurring after the start of construction.
- Any subsequent mobilizations following the initial mobilization.
- Mobilization due to project phasing, subcontractor scheduling, mobilization of specialized equipment, or delays caused by weather, utilities, or third parties

Any such costs shall be considered included in the original lump sum payment for Mobilization.

Payment for Mobilization will be made once, upon substantial completion of initial mobilization and commencement of construction activities, as determined by the Engineer.

11 QUALITY CONTROL AND ASSURANCE

11-10.01 General: Visitors, Contractor and others on City property shall, at all times, observe applicable Local, State, and Federal safety requirements, including, but not limited to, California Division of Occupational Safety and Health (Cal/OSHA) and Society for Protective Coatings (SSPC). In addition, visitors, Contractor, and others on City property or private properties required to be entered as part of the work shall, at all times, observe the safety rules and requirements listed in Section 11 of these Technical Specifications.

11-10.02 Safety Requirements: The Contractor shall designate a Safety Supervisor who is qualified and authorized to supervise and enforce compliance with the Contractor's Safety Program. The Contractor shall notify the Engineer in writing prior to the commencement of work of the name of the Contractor's Safety Supervisor. The Contractor will ensure that all of its employees and its subcontractors of any tier, fully comply with these Technical Specifications. The Safety Supervisor shall be either a full-time employee of the Contractor or a contracted safety consultant with experience and/or professional certifications indicating experience in construction safety. The Safety Supervisor provided by the Contractor must be approved by the City and provide the City with weekly safety inspection reports identifying hazards found and corrective actions taken. The site Safety Supervisor shall be responsible for supervising compliance with applicable safety requirements on the work site and to develop and implement safety training for all job personnel. The City shall have the authority to remove the Contractor's Safety Supervisor if their performance of duties is judged to be improper or inadequate. However, the City shall not in any way affect the Contractor's sole responsibility for performing work safely, nor shall it impose any obligation upon the City to ensure the Contractor performs its work safely.

The Contractor shall take all necessary action to prevent damage, injury, and loss to:

- A. Employees on the Project, employees of subcontractors, and other persons and organizations who may be affected.
- B. Work materials and equipment to be incorporated therein, whether in storage on or off the site.
- C. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement during the course of construction.

The Contractor shall comply with applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss and shall erect and maintain necessary safeguards for such safety and protection. All injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them in connection with the work or anyone for whose acts any of them may be liable, shall be remedied by the Contractor.

No smoking in any area designated "No Smoking" or "Flammable Storage" or any other area where smoking is prohibited by law.

Only City employees are permitted to have facility keys. Contractors are not permitted to have keys or other devices to gain access to City facilities.

Contractors are responsible for providing their employees with the required safety equipment such as, but not limited to, gas detection meters, rescue equipment, and personal protective equipment.

Contractor shall not move or relocate City first-aid equipment, blankets, stretchers, emergency eyewash/shower units, or any other safety equipment, without the permission of the City.

Contractors who damage City equipment or property shall report the incident immediately to the Engineer and complete the **Contractor's Report of Damage to City Equipment or Property** (*form(s) provided at Project's pre-construction meeting*).

Unless otherwise approved through a written authorization by the Engineer or their designee, Contractor is not allowed to tamper with valves, pumps, chemical storage tanks, or any other City equipment.

11-10.04 Accidents And Safety Emergencies(CCR Title 8, Sections 3203, 14301, 14001): In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer, is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give the Engineer prompt written notice if the Contractor believes that any significant changes in the work or variations from the Contract Documents have been caused thereby.

All accidents involving lost work time or damaged City property shall be reported to the Engineer on the same workday the incident occurred using the **Contractor's Injury/Fatality Incident Report** (*form(s) provided at Project's pre-construction meeting*) and/or the **Contractor's Report of Damage to City Equipment or Property**.

Should a *serious accident or emergency* occur, or if an emergency requires off-site emergency responders (police, fire, medical, etc.), Contractor shall immediately notify, including nights, weekends, and holidays, the City according to the **Emergency Equipment/Contact Information** (*form(s) provided at Project's pre-construction meeting*).

Should a *serious accident or emergency* occur, the City reserves the right to conduct an accident investigation of the incident, either in conjunction with, or separate of, the Contractor. The Contractor shall provide complete access to the City's representative(s) and shall allow the City's representative(s) to take photos and private witness statements.

Accidents involving lost work time or damaged City property shall be investigated and a copy of the **Contractor's Injury/Fatality Incident Report** and/or the **Contractor's Report of Damage to City Equipment or Property** provided to the Engineer or designee within 24 hours of the incident.

If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

11-10.05 Crane Operation (CCR Title 8, Sections 1604-1616, 4884-5049, et al): All Contractors shall only permit operators who have a valid certificate of competency (certificate) issued in accordance with CCR Title 8 Section 5006.1 by an Accredited Certifying Entity for the type of crane to be used to operate mobile cranes having a boom length equal to or greater than 25 feet or a maximum rated load capacity equal to or greater than 15,000 pounds.

Contractor shall only use cranes and hoisting equipment that have been inspected in accordance with CCR, Title 8, Article 99. Any defects noted during any inspection shall be corrected prior to using the equipment.

All rigging equipment (i.e., slings, softeners, bridles, blocking cables, and the like) shall be in good condition, properly identified as to capacity and properly stored when not in use.

A qualified signal person shall be provided when the point of operation is not in full and direct view of the crane operator.

All cranes shall be equipped with an audible warning device controllable by the operator.

No crane shall be operated with wheels or tracks off the ground unless properly bearing on outriggers.

All crane operators shall have documented training, including Cal/OSHA's Crane Operating Rules (CCR, Title 8, Article 98) and shall have crane operating experience prior to using a crane on City's property.

Crane operators shall have no physical impairments that will affect the safe operations of the assigned crane.

11-10.07 Emergency Action Plan (CCR, Title 8, Section 1512, 3220 & 3400): Contractor shall submit a written Emergency Action Plan that is applicable to the work site and work activities being performed for review at least two weeks prior to any work that involves man-entry into any pipes or structures.

Contractor is responsible for ensuring the availability of *emergency medical services* for its employees. Contractor employees who will render basic first aid are to be trained and immediately available. Contractor shall also provide its own first aid kit(s) that contain the minimum first-aid supplies as determined by a licensed physician or in accordance with CCR, Title 8, Section 1512.

To facilitate prompt emergency services, Contractor shall:

- A. Determine who is responsible for making emergency calls.
- B. Conspicuously post a list of emergency phone numbers along with information to be transmitted.

11-10.08 Fire Prevention & Protection (CCR Title 8, Sections 1922, 1930-1938, 3221, 5415-5551, et al): Contractor's employees shall not smoke in areas where "No Smoking" signs are posted or in any other area in which smoking is prohibited by law. In accordance with California law, all buildings are considered no smoking areas. Areas where smoking, open flames, or other ignition sources are prohibited included, but are not limited to:

- A. On or near sewage digester gas storage areas or equipment.
- B. Flammable/combustible storage areas.
- C. Welding areas.
- D. Spray paint booths.

All flammable and combustible materials shall be stored, piled, and handled in accordance with the National Fire Protection Association, Uniform Fire Code and CCR, Title 8 requirements. Additionally:

- A. Flammable liquids shall be stored in an approved manner and shall only be dispensed using approved safety containers.
- B. Oily rags shall only be stored in metal containers with self-closing lids and shall not be placed into any dumpster or trash receptacle.
- C. Welding gases shall be stored and handled in accordance with the "Compressed Gas Cylinders" section of this handbook.
- D. Cigarettes, matches, or other open lights shall be disposed of into an approved container or receptacle.

Contractor shall furnish a sufficient number of fire extinguishers to protect its work areas and material storage areas in accordance with the National Fire Protection Association, Uniform Fire Code, and CCR, Title 8 requirements. Fire extinguishers shall be currently certified and shall be inspected monthly. Monthly inspections shall be documented using the affixed tag or other means.

Contractor shall not move, block, or otherwise render fire equipment inaccessible.

Outdoor storage of flammable materials and liquids shall be located in a manner that reduces the spread of fire to other materials or to adjacent properties. Areas used for storing flammable materials and liquids shall be kept free of combustibles. Open flames and smoking are prohibited in these areas and the area shall be posted with a suitable warning sign.

Rubbish and debris shall not be allowed to accumulate on the City property or on the Project site. All trash and debris shall be routinely and properly disposed of. See **Sections 11-10.12 Housekeeping** and **11-10.22 Waste Disposal** of these Technical Specifications for additional disposal requirements.

11-10.09 Hazard Communication (CCR Title 8, Section 5194): Contractors wishing to bring any substance, other than gasoline or diesel, for which the manufacturer has prepared a Materials Safety Data Sheet (*MSDS*), hereafter referred to as a hazardous substances, in quantities greater than **25 lbs.** onto City properties, or whose work activities may expose City employees to hazardous substances, must first complete the **Request to Use/Store Hazardous Substances on City Property Form** (form(s) provided at *pre-construction* meeting).

MSDSs for all hazardous chemicals brought onto City property shall be kept on the premises where the hazardous chemical is used and/or stored and made available to City employees and their representative upon request.

Contractors who bring hazardous substances to the work site must take the appropriate safety precautions to protect the Contractor's and City employees and the general public from harmful exposure.

The City maintains *MSDSs* for each hazardous chemical it owns. Contractors and their representatives can request a copy of an *MSDS* for any City hazardous chemical by contacting the Engineer.

11-10.10 Hazardous, Flammable, Toxic Materials (CCR Title 22 & CCR Title 8, Sections 5139-5155): Contractor shall comply with all Federal, State, and Local hazardous materials laws, regulations, and ordinances.

Contractor shall request permission (in writing) to bring any hazardous substance(s) on site that, if released, may significantly impact site employees, Contractor employees, general public, or the environment. The request procedure shall include the type and quantity of material, where and how it will be stored, the type of secondary containment that will be used, and where and by whom the material will be used. Material Safety Data Sheets from the manufacturer shall accompany this request.

Any hazardous materials brought on-site shall be promptly removed or properly disposed of as hazardous waste once expired, no longer needed, or when the Project is completed.

Hazardous materials shall be limited to the amount needed to perform the job.

11-10.11 Hot Work Permits (CCR Title 8, Sections 4848 and 6777): Contractor shall use a *hot work permit* in accordance with CCR, Title 8, Section 6777 whenever job activities present a risk of fire from welding, cutting, grinding, brazing, burning, soldering, or any other use of open flames that may ignite materials, fumes, or vapors.

A completed copy of the *hot work permit* shall be posted in the immediate work area at all times during the work.

Employees performing *hot work* shall be trained on hot work safety.

Fire watchers equipped with, and trained on, appropriate fire suppression equipment shall be present whenever hot work is performed in locations where fire hazards might develop, or whenever any of the following conditions exist:

- A. There is appreciable combustible material closer than 35 feet to the hot work activities.
- B. There are appreciable combustibles that could be easily ignited by sparks.
- C. If wall or floor openings within a 35-foot radius expose combustible materials in adjacent areas including concealed spaces in walls or floors.
- D. If combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.

Fire watchers shall be trained on how to sound an alarm and shall be stationed at the hot work area for at least ½ hour after the hot work activities are completed to detect and distinguish smoldering fires.

11-10.12 Housekeeping (CCR Title 8, Sections 1513, 1529, 1532.1, et al): During the course of work all work areas, passageways, stairs, in and around buildings and structures shall be kept clear of debris. Construction materials shall be stored in an orderly manner and only in those areas designated by the City. Storage areas and walkways on the site shall be maintained free of depressions, obstructions, and debris.

Scrap lumber, metal, trash, and garbage shall be removed each day. City trash disposal containers shall not be used unless Technical Specifications have been made.

In accordance with the California Department of Fish and Wildlife (CDFW) Incidental Take Permit (**Appendix A**), the Contractor shall initiate a trash abatement program before beginning the work and shall continue the program for the duration of the Project. Contractor shall ensure that trash and food items are contained in animal-proof containers and removed daily.

Upon completion of the work, the Contractor shall remove from the Project area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment and parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, boxes, etc.

Unattended materials shall not be stored overhead without proper protection.

Work shall be performed in a manner that will minimize noise and mitigate the spread of dust and dirt into adjacent work areas. See **Section 14-6 Biological Resources** of these Technical Specifications for additional requirements.

Protruding nails, wire, spikes, etc. shall be immediately removed or completely bent.

Oil, grease, and water spills shall be cleaned up immediately or covered with absorbent materials.

All reinforced steel and rebar shall be removed, bent over, flattened, covered with steel reinforcing caps or wooden troughs, or be protected using other engineering controls that will eliminate exposure to the exposed reinforced steel.

Note: Mushroom caps shall not be used for protection against impalement hazards.

Spillage of earth, dusty materials, boulders, and mud on roads located on City property is not permitted. If spillage cannot be prevented, Contractor shall provide an hourly patrol to police and sweep such areas throughout the workday.

11-10.13 Industrial Trucks (Forklifts) (CCR Title 8, Section 3649-3669): Only trained and authorized personnel shall operate forklifts. Training documentation shall be provided upon request of the City.

Contractor shall provide its own forklift that meets the design and construction requirements of Part II ANS/ B-56.1-1975.

The rated lifting capacity shall be posted in a location readily visible to the operator.

A forklift shall not be used to elevate employees unless a platform with guardrails, a back guard, and a kill switch are provided on the vehicle. If guardrails are not possible, fall protection is required.

A copy of the operating rules shall be immediately available and shall be enforced at all times.

11-10.14 Lockout/Tagout (CCR Title 8, Sections 2320.1-2320.9, 3314, et al): Work involving systems shutdown or startup (e.g., tie-ins, connections, equipment shutdowns, etc.) shall be coordinated with, and approved by, the Engineer using whatever procedures or mechanism the Engineer deems appropriate.

Under no circumstances, shall Contractor initiate shutdown procedures of any City work, processes or equipment, without prior approval of the Engineer.

Whenever work is to be performed on any equipment or systems that may result in hazardous energy exposures to workers or other affected personnel, all sources of energy (primary and secondary) shall be de-energized and locked out or blocked.

Lockout procedures shall comply with the most stringent applicable standard, (e.g., CCR Title 8, CFR Parts 1910 and 1926, NEC) and shall include the following:

- A. Lockout procedures shall be coordinated between the Contractor and the City's designated representative.
- B. All locks shall be individually keyed. Group or crew locks are not allowed.
- C. All equipment or systems that have been locked out shall have a current accident prevention tag noting the reason for placing the tag, name of the individual placing the tag, how that person may be contacted, and the date the tag was placed.
- D. No employee shall remove another employee's lock(s) or tag(s). Any exceptions shall be coordinated between the Contractor and the Engineer.

If equipment or systems cannot be locked out or blocked, suitable tagout procedures shall be implemented. Only the person whose signature is on the accident prevention tag may remove it. Any exceptions to this shall be coordinated between the Contractor and the Engineer.

Upon completion of the work, energizing equipment is prohibited until all tags and locks have been removed. The person removing the last tag is responsible for re-installation of guards and for warning all affected personnel.

11-10.16A Spray Painting/Coating Operations: Contractor shall use positive-pressure airline respiratory protection when spraying in a confined space, or if employees are exposed to any hazardous contaminant in the product that is greater than the Permissible Exposure Limit (PEL). If flammable or combustible paints or products are used, continuous monitoring for combustible gas is required. When 10% of the lower explosive limit is reached, painting operations shall be suspended.

Contractor shall use *NIOSH* or *MSHA* approved respiratory equipment that provides adequate protection for the substance being used.

Contractor employees shall be instructed in the correct operation and location of all fire protection and safety equipment in the work area. An appropriately rated fire extinguisher shall be placed in a convenient location near any spray-painting/coating operation.

All air and steam equipment shall be bonded if using flammable or combustible paints.

Only Class I, Division I, Group D rated explosion-proof electric motors or blowers are allowed when flammable paints or solvents are used.

The work area shall be kept clean of accumulated rags or other combustible debris.

Employees shall wear the required personal protective equipment as identified in the products' Material Safety Data Sheets (*MSDS*). See **Section 11-10.18 Personal Protective Equipment** of these Technical Specifications.

Contractor shall inspect all electrical equipment in and around the spray-painting/coating work area to determine if they are an approved type and in proper working condition.

The spray-painting/coating work area shall be protected from electrical hazards using proper lockout/tagout procedures.

11-10.17 Permit And Registration Requirements (CCR Title 8, Section 341): As required by Cal/OSHA, State, County, or City regulations, Contractors are responsible for obtaining all applicable permits. These include, but are not limited to the following:

- A. Trench or excavation five (5) feet or more in depth in which workers may enter.
- B. Erection or demolition of any building, falsework, scaffolding, or structure of the equivalent of three (3) stories or higher.
- C. Operating diesel equipment underground.
- D. When performing asbestos-related work.
- E. When working with, transporting, or performing other work activities involving hazardous materials that require a permit.

11-10.18 Personal Protective Equipment (CCR Title 8, Sections 1514-1522, 3380-3386): All Contractors shall provide and enforce the use of personal protection equipment by all its employees and visitors in accordance with CCR Title 8 Subchapter 7 General Industry Safety Orders Group 2 Safe Practices and Personal Protection Article 10.

All Contractors shall enforce the use of head protection in accordance with CCR Title 8 Section 3381 Head Protection whenever its employees or visitors work in locations where there is a risk of receiving head injuries from flying or falling objects and/or electric shock and burns.

11-10.19 Powder-Actuated Tools (CCR Title 8, Sections 1684-1692): Contractor shall only allow *qualified persons* with valid operator cards to use powder-actuated tools.

Powder-actuated tools shall be stored in a locked container that is accessible only to *qualified persons* who carry valid operator cards.

A warning sign, as required by CCR Title 8, Section 1691, shall be posted within 50 feet of the area where the tool is being used.

Powder-actuated tools shall be serviced and inspected for worn or damaged parts. Inspection records shall be provided to the City upon request.

Eye and face protection shall be worn at all times when any powder-actuated tool is in use.

11-10.20 Protecting the General Public (CCR Title 8, Sections 1597-1599, 1662, et al):

Contractor shall take every precaution to prevent injury or property damages to the general public. The public includes any person not employed by the Contractor or subcontractors of any tier. Among the precautions to be taken, the following shall be observed:

- A. Every step necessary shall be taken to protect and maintain work areas that interface with public sidewalks, building entrances, stairways, and roadways. This protection shall be provided by the Contractor by installing and maintaining the appropriate barricades, fences, guardrails, overhead protection, or any other necessary form of protection.
- B. Welding screens or other means shall be used when welding in a public area to protect the public from welding hazards.
- C. Pedestrian or vehicle barriers shall be used around all open pits, manholes, or excavation openings when left unattended.

11-10.21 Signs & Barricades (CCR Title 8, Section 1513, 1541, 1590, 1597-1599, 1736, 3340, et al): When working in areas that present hazards to personnel or vehicles, Contractors shall place appropriate signs and barricades in accordance with appropriate CCR Title 8 requirements.

When signs or barricades are required, they shall be clearly visible at all times and shall be promptly removed or covered when the hazard no longer exists.

When barricades are used at night or in very dark work areas, a flashing beacon light shall be used in conjunction with the barricade.

11-10.22 Waste Disposal (CCR Title 22 Sections 60001-60283, CCR Title 8, Sections 1513, 3368): Contractor is responsible for all waste products that are produced as a result of the work being performed as part of the contract. As such, Contractor shall arrange for all debris, trash, rubble, and excavation spoils to be properly disposed of according to local, state, and federal disposal regulations.

All hazardous materials, including hazardous wastes, brought on-site or generated by the Contractor shall be removed by the Contractor within 30 days after the completion of the Project. Failure to do so will result in the City arranging for proper disposal and disposal costs will be deducted by the City from the contract amount.

Any hazardous wastes that are generated by the Contractor remain the property of the Contractor. As such, all hazardous wastes may not be stored longer than the allowable accumulation times, and shall be stored, labeled, handled, and disposed of according to CCR Title 22 regulations. This includes, but is not limited to:

- A. Secondary containment.
- B. Rain protection if stored outdoors.
- C. Hazardous waste labels meeting California EPA labeling requirements.
- D. Containers that are in good condition and kept closed when not in use.

11-10.23 Confined Space Entry (CCR Title 8, Sections 5156 & 5157): For the purpose of this contract, all Confined Spaces, as defined in California Code of Regulations (CCR) Title 8, Section 5157 Permit-Required Confined Spaces shall be entered by adhering to the provisions set forth in Section 5157 Permit-Required Confined Spaces. All work associated with inspection of existing sewers or rehabilitation of existing sanitary sewer manholes shall be considered as **Permit-Required Confined Space** as defined by CCR Title 8, Sections 5157 and should only be entered in accordance with a Permit System as described in CCR Title 8, Section 5157, with no reclassification allowed.

Attention is directed to CCR Title 8, Section 5157 (c) General Requirements (9)(A). Obtain any available information regarding permit space hazards and entry operations from the host employer(City); (B) Coordinate entry operations with the host employer(City), when both host employer personnel and Contractor personnel will be working in or near permit spaces, as required by subsection (d)(11); and (C) Inform the host employer of the permit space program that the Contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

Contractor will be required to submit their *Confined Space Entry and Rescue Plan*, pursuant to Title 8 CCR Section 5157, for review and approval at least two weeks prior to any work where the Contractor will be required to enter existing sewers or manholes. The City will review the plan for adequacy. The Contractor will be required to correct any deficiencies noted during this review prior to commencing work.

The Contractor will be required to provide, as part of their Confined Space Entry and Rescue Plan, evidence that their on-site confined space entry rescue team have received entry rescue training in accordance with CCR Title 5157 within the prior six months.

The Contractor shall supply all confined space entry and rescue equipment. Only trained personnel are permitted to enter confined spaces and to use confined space equipment.

Whenever Contractor and City personnel are working simultaneously in a permit space, the activities will be coordinated prior to entry so that employees of one employer do not endanger the employees of any other employer. Coordination of entry procedures must include procedures for emergency evacuation.

The Contractor shall immediately inform the Engineer of any previously unidentified hazards confronted or created during confined space entry.

11-20.01 Non-Compliance (CCR Title 8, Section 3203 & 1509): If the City's designated representative becomes aware of non-compliance with these general contractor safety provisions, the City or its designee will:

- A. Notify the Contractor that the unsafe condition must be corrected or the work in question will be stopped until the condition is corrected to the satisfaction of the City. This notice, when delivered to the Contractor or the Contractor's representative at the job site, shall be deemed sufficient notice of the non-compliance to immediately implement corrective action.
- B. Exercise the right to issue a suspend work order suspending all or part of the work if the Contractor fails or refuses to take corrective action within the time specified in the notice. The order shall remain in effect until satisfactory corrective action has been taken.

No extension of time or additional compensation will be granted as a result of any corrective or stop order.

Willful or repeated non-compliance may result in an employee or Contractor being removed for failing to perform work properly in accordance with the contract safety specifications.

A corrective order or any other action taken by the City does not relieve the Contractor of its obligations, under any applicable law, to provide a safe workplace and to comply with safety regulations.

11-20.02 Shoring and Bracing (CCR Title 8, Sections 341, 1539-1547, et al): In accordance with the provisions of Section 6705 of the Labor Code, the Contractor shall submit a detailed *Shoring and Bracing Plan*, or other provisions to be made for worker protection from hazard of caving ground or existing manhole structure during any work in which shoring is required. If such plans vary from the shoring system standards set forth in the Construction Safety Orders of the Division of Industrial Safety in Title 8, California Code of Regulations, the plans shall be prepared and **signed** by a currently registered civil or structural engineer in the State of California employed by the Contractor, and all costs therefore shall be included in the price named in the Contract for completion of the work as set forth in the Contract Documents. *Shoring and Bracing Plan* shall be submitted for review and approval at least two weeks prior to any work in which shoring is required.

For any work conducted by workers, Contractor shall:

- A. Obtain a permit from Cal/OSHA before starting work.
- B. Ensure that each employee conducting work is protected from cave-ins, failure of protective systems, hazardous atmospheres, vehicular traffic, falling loads, and any other hazardous conditions.

If there is a potential atmospheric hazard such as oxygen deficiency or toxic gases, the atmosphere in the excavation shall be tested before employees enter any excavation depth greater than four (4) feet.

Contractor shall have a *competent person on-site* who will make daily inspections of excavations, adjacent areas, and protective systems. The *competent person* will be responsible for ensuring that the protective system is based upon soil classifications, and that it provides the required protection in accordance with CCR, Title 8, Section 1541.1.

Sloping or benching for excavations shall not be allowed.

Required shoring/bracing system shall not affect and/or reduce required dimensions and clearances, as specified herein. The Contractor may install a shoring/bracing system that becomes either partially or entirely embedded within or adjacent to the proposed wall prism subject to the following limitations:

- A. Shoring/bracing system shall not impair the strength of construction.
- B. Shoring/bracing system to be embedded in concrete shall not be exposed to rusting or deterioration from exposure to hydrogen sulfide gas. Maintain minimum concrete cover as noted on Plans (if applicable).
- C. Shoring/bracing system to be embedded in concrete shall not be constructed of aluminum or other materials that would cause electrolytic action with concrete or cause adverse effects to the material required for doing manhole retrofit work.
- D. Shoring/bracing system shall be fabricated and installed such that cutting, bending, or displacement of reinforcement from its proper location will not be required.

11-3.01 Payment: Full compensation for conforming to the safety rules and requirements as specified in these Technical Specifications shall be considered as included in the prices paid for the **various contract items** of work involved and no additional compensation will be allowed therefor.

12 TEMPORARY TRAFFIC CONTROL

12-1 General

12-1.01 General: Construction area traffic control devices shall be installed and maintained by the Contractor in accordance with the applicable sections of these Technical Specifications, the Caltrans Standard Specifications, the current edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD), the Americans with Disabilities Act (ADA), and as directed by the Engineer.

12-3 Traffic-Handling Equipment and Devices

12-3.01 General: Prior to commencing construction which will affect existing vehicular and pedestrian traffic, Contractor shall submit for review by the Engineer, *Traffic Control Plans* on 11-inch x 17-inch sheets of paper which contains only information specifically related to work zone vehicular and pedestrian traffic control. If the Contractor proposes to use the current edition of the CA MUTCD published by Caltrans in lieu of a traffic control plan, in specific work operations, the Contractor shall submit in writing for consideration which Typical Application Diagram will be used and how it will be applied for each work operation. Traffic Control Plans or proposals shall be submitted for review at least two weeks prior to implementation.

Traffic Control Plans shall contain a title block which contains the Contractor's name, address, phone number, Project superintendent's name, contract name, dates, and hours traffic control will be in effect, and a space for review acknowledgment.

The content of the *Traffic Control Plans* shall include, but is not limited to, the following:

1. Show location and limits of the work zone.
2. Give dimensions of lanes affected by traffic control that will be open to traffic.
3. Indicate signing, cone placement, and other methods of delineation and reference to appropriate City or Caltrans Standards.
4. Dimension locations of signs and cone tapers.
5. Identify side streets and driveways affected by construction and show how they will be handled.
6. Show how pedestrian traffic will be handled through the construction site. Pedestrian pathways through the work zone shall be in compliance with the requirements of ADA during and after work hours.
7. Demonstrate how two-way traffic will be maintained.

No work except for installation of Project identification signs will be allowed to commence prior to approval of the Work Zone *Traffic Control Plans*.

12-4 Maintaining Traffic

12-4.01A General:

1. The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, and designated legal holidays, after 4:00 p.m. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress, unless work has specifically been authorized by the Engineer.
2. The location of traffic control signing, barricades, and other facilities shall be monitored frequently (i.e., a minimum of five times per day) by the Contractor to verify their proper location. All traffic signal and other traffic control devices shall be maintained at all times.
3. The Contractor shall conduct these operations so as to cause minimum obstruction and inconvenience to traffic and to places of business, multiple dwelling units, and residences adjacent to the work. The Contractor shall notify the Engineer of their planned work and utility service interruption at least five working days in advance to allow time to notify residents and businesses.

4. When construction activities will prevent vehicle access to individual driveways, the Contractor shall notify and receive permission from the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience" of the Caltrans Standard Specifications. **Full access shall be provided to all driveways during non-working hours.**
5. At locations where traffic is routed perpendicular to trench excavation, the excavation shall be conducted in a manner to provide a surface reasonably satisfactory for traffic at all times. Substructure installation or construction shall be conducted on only one-half the width of the roadway at a time, and that portion of the roadway being used by traffic shall be kept open and unobstructed until the opposite side of the roadway is ready for use. Upon completion of the rough grading, the surface of the roadbed shall be brought to a smooth, even condition free from humps and depressions and made satisfactory for traffic.

The Contractor shall submit a trucking route along with the *Traffic Control Plans* for approval by the Engineer. The route must minimize traffic on residential streets that are not part of the Project.

Existing pavement damaged by the Contractor's operations and not shown to be replaced shall be replaced at the Contractor's expense, per City Standard Details and Specifications and to the satisfaction of the Engineer.

12-4.02A General: Attention is directed to Section 7-1.03, "Public Convenience", to Section 5-1.05, "Order of Work," of the Caltrans Standard Specifications.

Exact locations of Project Identification signs and Advance Notice signs (Section 7-1.03, "Public Convenience" of the Caltrans Standard Specifications) shall be determined in the field by the Engineer.

Lane closures will be permitted between the hours of 8:30 a.m. and 4:00 p.m. only. Only one lane at a time may be closed and no lanes shall be closed at any other hours unless specifically approved by the Engineer. The Contractor shall maintain vehicle access to homes and other properties at all times while work is in progress.

The Contractor shall not park construction vehicles, contractor employee vehicles, staging materials, or stockpiles in front of any business or residential driveway access and Contractor shall maintain access to private parking lots within the block where work is in progress. Construction vehicles shall not be left running for any length of time if parked in front of a business or residential unit.

The Contractor shall keep the City of Santa Rosa Fire Department informed regarding the closure of any traveled way. At a minimum, Contractor shall call the Fire Department at 707-543-3535 and the Communications Center at 707-543-3666 daily to report any traveled way closure. This means immediately upon closure for that day and again immediately after removal of the closure. For closures over multiple days, the daily notification still applies. This requirement does not apply for single lane closures on multiple lane streets.

The Contractor shall notify Sonoma County Transit at (707) 585-7516, Superintendent of Golden Gate Transit at (415) 257-4442, Santa Rosa City Bus at (707) 543-3922, Sonoma County Airport Express at (707) 837-8700, the local Postal Service at (707) 526-0113, and Recology at (800) 243-0291, 5 calendar days prior to any lane closures or restrictions in turning movements.

Where necessary, and only after receiving written approval from the Engineer, the Contractor may temporarily suspend curb side parking in their immediate work zone. Notification to businesses and residents shall be hand delivered at least 72 hours prior to construction in the affected areas.

Notification shall be as follows:

1. A notice placed on the front door of each home or business where curb side parking will be suspended and attempt made to notify each business or resident verbally that work will

be underway within the block and that curb side parking will be suspended during stated working hours and request that vehicles be parked out of the roadway by 8:00 a.m. Service of notice shall not bar use of cars within the block, as individual plans change and emergencies arise.

2. Type 1 barricades every 50(-100 feet depending on street) feet adjacent to the curb where parking will be suspended with a notice posted on the barricade stating specific dates and times that curb side parking will be temporarily suspended. If work will not take place in the posted area, then you shall remove "No Parking" notices.

The Contractor shall maintain vehicle access to all homes and other properties along the work zone. During paving operations, the Contractor will be allowed to temporarily suspend vehicle access to a limited number of driveways when approved by the Engineer. When approved by the Engineer and at least 72 hours prior to suspending access to any driveway, the Contractor shall give both written and verbal notice to the affected businesses and residents and place barricades adjacent to the driveways with posted notices stating the specific dates and times of the suspension for that area. The notice shall also indicate an alternate parking location. Suspension of access to driveway will be permitted only as approved by the Engineer and only between the hours of 8:00 am and 4:30 pm.

Cross streets will require maintenance of at least one-half (1/2) width of each street for traffic purposes, unless a parallel route is approved by the Engineer. Flagging will only be allowed between the hours of 8:30 am and 4:00 pm. Barricades and flaggers shall be positioned to allow safe turns at intersections and curves.

The Contractor shall maintain traffic control as necessary and as directed by the Engineer for "cat-tracking" operations by City Forces. Flaggers, barricades, signing, etc., shall remain in place for protection of City personnel until such time as all temporary lane delineation is complete.

12-4.04 Temporary Pedestrian Access Routes

12-4.04A General: The Contractor is directed to Chapter 6D, Pedestrian and Worker Safety, in the CA MUTCD, the improvement plans and these Technical Specifications.

Pedestrians shall be provided with a safe convenient and accessible path that, at a minimum, replicates the most desirable characteristics of the existing sidewalk, path or footpath. At no point along the road shall the sidewalks on both sides of the road be closed at the same time.

The Contractor shall construct and maintain temporary pedestrian pathways through the work zone, where required, that shall be in compliance with the requirements of the Americans with Disabilities Act (ADA), and the CA MUTCD.

Pedestrian routes shall not be impacted for the purposes of any non-construction activities such as parking of vehicles or equipment, or stock piling of materials. Pedestrians shall not be led into conflicts with work site vehicles, equipment or operations.

Pedestrian routes shall be open and accessible at the end of the work day unless an alternate ADA compliant route has been approved by the Engineer. The construction of curb ramps and/or long sections of sidewalk do not alleviate the Contractor from this requirement.

12-8.04 Payment: Full compensation for furnishing all labor, materials, tools, and equipment, and doing all work involved in accommodating vehicular and pedestrian access and traffic control, including flaggers, is considered as included in the contract as a **lump sum** price paid for under **Traffic Control**, and no additional allowance will be made therefor.

13 WATER POLLUTION CONTROL (EXEMPT PROJECTS ONLY)

13-1.01A Summary: Water Pollution Control shall be performed in accordance with Section 13 Water Pollution Control of the Caltrans Standard Specifications and these Technical Specifications. In addition, construction activities shall comply with:

The current California Water Quality Control Board, North Coast Region Order No. R1-2015-0030 National Pollutant Discharge Elimination System Municipal Storm Water Permit, is commonly referred to as the “Storm Water Permit”. A copy of the Storm Water Permit is available for review at the City of Santa Rosa Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, CA, and at www.srcity.org/stormwaterpermit.

The California Stormwater Quality Association Storm Water BMP Handbook for Construction (CASQA Handbook). BMPs shall be selected, installed, and maintained in accordance with the latest edition. A copy of the handbook can be viewed at the City of Santa Rosa Department of Transportation and Public Works office at 69 Stony Circle or downloaded from CASQA, <http://www.casqa.org/>.

In this technical specification, the CASQA Handbook BMP numbers are appended to the associated Standard Specification sections. If a conflict occurs the CASQA Handbook BMPs shall govern.

13-1.01B Definitions - In Addition: **Construction phase:** Construction phase: The construction phase starts at the start of job site activities and ends at Contract acceptance.

13-1.01C(4)(c) Water Quality Monitoring Reports: If the Project is less than 1 acre, Contractor shall complete and sign the Storm Water Correction Notices (below) with the City as part of the Storm Water Permit.

13-1.02 Payment: Full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in Water Pollution Prevention shall be considered as included in the prices paid for the **various contract items** of work, and no additional allowance will be made therefor.

STORM WATER CORRECTION NOTICE

FAILURE TO CORRECT BY DUE DATE MAY RESULT IN STOP WORK NOTICE!

PROJECT NAME: _____
JOB ADDRESS: _____
PROJECT / PERMIT #: _____ DATE: _____

No storm water deficiencies identified.

I HAVE INSPECTED THIS PROJECT SITE. THE FOLLOWING ISSUES AND DEFICIENCIES HAVE BEEN IDENTIFIED AND REQUIRE CORRECTIVE ACTION:

STORMWATER BMPs:

- | | | | |
|---|--|---------------------------|-------------------------|
| <input type="checkbox"/> Storm Drain Protection: | Install | Maintain | Replace |
| <input type="checkbox"/> Perimeter Controls: | Install | Maintain | Replace |
| <input type="checkbox"/> Housekeeping: | Sweep | Clean | Remove Garbage & Debris |
| <input type="checkbox"/> Stockpiles: | Cover | Perimeter Controls | Remove |
| <input type="checkbox"/> Debris Bins: | Cover | Perimeter Controls | |
| <input type="checkbox"/> Tracking: | Clean-Up | Install Tracking Controls | |
| <input type="checkbox"/> Portable Toilet: | Secondary Containment Required | | |
| <input type="checkbox"/> Concrete: | Install BMPs for Pumper or Concrete Truck | | |
| | Cover / Maintain Concrete Washout Containers | | |
| <input type="checkbox"/> Sediment & Erosion: | Install Appropriate Controls | Dust Controls | |
| <input type="checkbox"/> Other: | | | |

***ALL DEFICIENCIES MUST BE CORRECTED PRIOR TO NEXT RAIN EVENT OR NO LATER THAN DUE DATE, WHICHEVER IS SOONER.**

DATE REQUIRED (SEE NOTE*): _____

INSPECTOR: _____ PH #: () _____

CONTRACTOR SIGNATURE: _____ DATE: _____

- Inspection Type:**
- Monthly** (Oct 1st-April 30th)
 - Pre-Rain** (Sept 1st-Oct 1st)
 - Deficiency Re-Inspection**
 - Following First 0.25" Rain** (within 2 business days)

13-4 Job Site Management

13-4.03B: Spill Prevention and Control: The Contractor shall comply with CASQA Spill Prevention and Control (BMP WM-4). If a spill occurs at the construction site and you do not take immediate and adequate steps to contain and clean up the spill, especially if rain is threatening or if a discharge to a storm drain or creek could occur, the City shall have the right, in its sole and absolute discretion, to clean up the spill using City forces or an independent contractor. The cost of any such cleanup, in addition to recovery of any penalty or fine imposed upon the City, plus an administrative charge of fifteen percent (15%) of the costs incurred by the City, shall be deducted from any amounts owed to you hereunder.

In the event there are insufficient amounts owed to you hereunder to cover the foregoing costs and charges, the City shall have the right to pursue any other remedy to recover same, including, but not limited to, proceeding against any surety or bond in favor of the City. The City's rights under this section are intended to be in addition to and not in lieu of any imposed by the City against Contractor for violations of City Code Chapter 17-12, "Storm Water".

13-4.03C(3): Stockpile Management- In Addition: The Contractor shall comply with CASQA Stockpile Management (BMP WM-3). Do not block storm water flows.

13-4.03D: Waste Management: The Contractor shall comply with Waste Management/CASQA Solid Waste Management (BMP WM-5). You shall dispose of all trash, rubbish, and waste materials of any kind generated by you, subcontractor, or any company hired by you on a daily basis.

13-4.03D(3 or I): Concrete Waste- In Addition: The Contractor shall comply with CASQA Concrete Waste Management (BMP WM-8). Ensure the containment of concrete washout areas and other washout areas that may contain pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

13-4.03D(4): Sanitary and Septic Waste- In Addition: The Contractor shall comply with CASQA Sanitary and Septic Waste Management (BMP WM-9). Sanitation facilities must be maintained periodically by a licensed service to keep them in good working order and prevent overflows. Portable toilets are required to have secondary containment.

13-4.03D(5): Liquid Waste- In Addition: Liquid waste includes water generated from excavation dewatering. Minimize transfer piping by locating containers near the excavation to be dewatered while protecting the containers from moving vehicles and equipment.

13-4.03E: Non stormwater Management: The Contractor shall comply with CASQA Water Conservation Practices (BMP NS-1 and NS-2).

13-4.03E(3): Vehicle and Equipment Cleaning- In Addition: The Contractor shall comply with CASQA Vehicle and Equipment Cleaning (BMP NS-8).

13-4.03E(4): Vehicle and Equipment Fueling and Maintenance- In Addition: The Contractor shall comply with CASQA Vehicle and Equipment Fueling (BMP NS-9), and CASQA Vehicle and Equipment Maintenance (BMP NS-10).

13-4.10 Payment: Full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in Job Site Management shall be considered as included in the prices paid for the **various contract items** of work, and no additional allowance will be made therefor.

14 ENVIRONMENTAL STEWARDSHIP

14-1.01 General: It is intended that the natural resources within the Project boundaries and outside the limits of permanent work performed under this Contract be preserved in their existing condition or restored to an equivalent or improved condition upon completion of the work. Contractor shall confine construction activities to areas defined by the access road limits, permanent easements, and temporary construction easements shown on the Plans. Contractor shall maintain natural drainage patterns. During progress of the work, keep the work areas occupied by the Contractor in a neat and clean condition and protect the environment both on and offsite, throughout and upon completion of the construction Project.

Construction activities shall be in accordance with the following constraints:

1. No construction equipment will be allowed to be parked within the road right-of-way during off-construction hours.
2. Construction and staging activities will be allowed only at the locations shown on the Plans. No materials will be allowed to be stockpiled within the road right-of-way or the Project landscape. Any stockpiling of excavation spoils must be stored in a location approved by the Designated Biologist.
3. Construction, staging, or stockpiling activities in existing swales will not be allowed. Location of existing swales shall be as shown in the Project Plans or as defined by the Designated Project Biologist. Work and access for equipment outside of the hardscape will only be allowed in the areas indicated as limits of work on the Plans. Existing swale(s) shall be protected with construction mats if traversal access is required.
4. Any construction activities within the Project work area, including the Hazel Mitigation Bank, which disturb the soil, including excavation, grading, contouring, trenching, road construction and repair, and seeding completed as part of site restoration work after completion of the pipe and manhole rehabilitation activities must be completed by October 15th. If the Contractor fails to meet the October 15th deadline, the Contractor must return to the jobsite after June 15th of the following year to complete restoration of disturbed soil associated with Project activities at the Contractor's expense.
5. Construction equipment shall be wheeled and not tracked.

14-1.03.1 Temporary Wildlife Permeable Construction Fence: Contractor shall install high-visibility, wildlife permeable construction fencing as shown on the Project Plans.

Wildlife permeable fencing has the following characteristics: (1) Uses a rail, high-visibility wire, flagging, or other visual markers for the top; (2) Smooth wire or rounded rail for the top and bottom; (3) Height of top rail or wire should be 42 inches or less from grade; (4) At least 12 inches or more between the top two wires; (5) At least 16 inches between the bottom wire or rail and grade; and (6) Delineator posts or other non-ground disturbing posts at a minimum of 16 foot intervals; . The Contractor shall submit to the Engineer for approval plans for the Temporary Wildlife Permeable Construction Fencing.

14-1.03.1.1 Payment: Full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in Temporary Wildlife Permeable Construction Fencing shall be considered as included in the per **linear foot** prices paid under **Temporary Fencing: Wildlife Permeable**, and no additional allowance will be made therefor.

14-1.03.2: Temporary Silt Fence: Where deemed necessary by the Engineer, temporary silt fence shall be prefabricated or constructed with silt fence fabric, posts, and fasteners.

Silt fence fabric shall be geotextile manufactured from woven polypropylene or polymer material. Silt fence fabric may be virgin or recycled, or a combination of virgin and recycled polymer materials. No virgin or recycled polymer materials shall contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. The Engineer may order tests to confirm the absence of biodegradable filler materials in conformance with the requirements of ASTM E204. Silt fence fabric shall conform to the following requirements:

Specification	Requirements
Width, inches, min.	36
Grab tensile strength (one-inch grip), pounds, min. in each direction ASTM Designation: D 4632*	124
Elongation, percent minimum in each direction ASTM Designation: D 4632*	15
Permittivity, 1/sec., min. ASTM Designation: D 4491	0.05
Flow rate, gallons per minute per square foot, min. ASTM Designation: D 4491	10
Ultraviolet stability, percent tensile strength retained after 500 hours, min. ASTM Designation: D 4355 (xenon-arc lamp and water spray weathering method)	70

* or appropriate test method for specific polymer

Posts for temporary silt fence shall be steel and have a "U," "T," "L," or other cross-sectional shape that can resist failure from lateral loads. The steel posts shall have a minimum weight of 0.8-pound per foot and a minimum length of 4 feet. One end of the steel posts shall be pointed, and the other end shall be capped with an orange or red plastic safety cap which fits snugly to the steel post. The Contractor shall submit to the Engineer for approval a sample of the capped steel post before installation.

Fasteners for attaching silt fence fabric to posts shall be as follows:

- A. When prefabricated silt fence is used, posts shall be inserted into sewn pockets.
- B. Silt fence fabric shall be attached to wooden posts with nails or staples as recommended by the manufacturer or supplier. Tie wire or locking plastic fasteners shall be used to fasten the silt fence fabric to steel posts. Maximum spacing of fasteners shall be eight inches along the length of the steel post.

Temporary silt fence shall be repaired or replaced at the expense of the Contractor on the same day when the damage occurs.

When no longer required as determined by the Engineer, temporary silt fence shall become the property of the Contractor and be removed and disposed of off-site in conformance with all City, County, and State regulations. Trimming the silt fence fabric and leaving it in place will not be allowed.

Ground disturbance, including holes and depressions, caused by the installation and removal of temporary silt fence shall be backfilled and repaired in conformance with the provisions in Section 5-1.36, "Property and Facility Preservation," of the Caltrans Standard Specifications.

14-1.03.2.1 Payment: Full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in Temporary Silt Fencing shall be considered as included in the **lump sum** prices paid under **Environmental Mitigation**, and no additional allowance will be made therefor.

14-1.03.3 Temporary No-Climb Livestock Fence: Within the properties as indicated on the Plans, Contractor shall install temporary no-climb livestock fencing. The fencing material shall be 4 feet (1.2 meters) in height and made of 12.5-gauge galvanized wire mesh. The mesh openings shall be no more than 2 inches by 4 inches.

The fencing materials, identified above, shall be supported by steel pipe, tee posts, U posts or 2-inch x 4-inch (50 mm x 100 mm) timber posts that are a minimum of 5-1/2 feet (1.68 meters) in height and spaced no more than 8 feet (2.44 meters) on centers. The fabric shall be securely fastened to the posts.

Temporary livestock fencing installed along the southern edge of the temporary construction easement at 4530 Arlington Avenue shall remain in place following completion of construction, unless otherwise directed by the Engineer.

14-01.3.1 Payment: Full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in Temporary No-Climb Livestock Fencing shall be considered as included in the prices per **linear foot** paid under **Temporary Fencing: No-Climb Livestock**, and no additional allowance will be made therefor.

14-1.03.3 Temporary California Tiger Salamander (CTS) Exclusionary Fence: Within the properties as indicated on the Plans and surrounding all excavations, Contractor shall install temporary CTS exclusionary fencing. The fencing material shall be Ertec CTS fencing, or equivalent. Ertec CTS fencing, or equivalent, shall be installed approximately around all excavations within the Hazel Mitigation Bank and along all areas defined on the Project Plans to exclude CTS egress. See Section 14-6 Biological Resources of these Technical Specifications for additional requirements. Temporary CTS exclusionary fencing shall be buried and secured without gaps to exclude CTS. Temporary exclusion barriers shall be erected across the vehicle access routes into the exclusion area (i.e., gates shall have CTS exclusion fencing attached). The CTS exclusionary fencing shall include a one-way funnel at 100-foot intervals to allow CTS to leave the project site.

14-1.03.4.1 Payment: Full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in **Temporary Fencing: CTS Exclusionary** shall be considered as included in the prices per **linear foot** paid under Temporary CTS Exclusionary Fencing, and no additional allowance will be made therefor.

14-1.03.3 Hydroseeding: Hydroseeding is defined as the simultaneous application of seed, fertilizer and fiber in a slurry.

All **non-wetland areas** denuded during construction and where specified on the Plans shall be hydroseeded with the specified type of Hydroseeding and seed mixes provided by the Contractor, as shown below. Hydroseeding shall be performed before installation of Erosion Control Fabric and within five (5) working days of the Engineer's notification to perform the work.

All areas to be hydroseeded shall be ripped in two directions (cross-ripped) to a depth of 8-inches and track walked with low ground pressure equipment (less than 10 PSI), unless otherwise noted.

The seeding area shall be cleared of all organic material, debris, and rocks 6-inches or greater in diameter. Hydroseeding shall not begin until the Engineer has inspected and approved the seedbeds.

All seed shall be new crop certified seed labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act. All seed shall be furnished in sealed, standard containers. Seed which has become wet, moldy, or otherwise damaged will not be acceptable and shall be replaced by the Contractor at no additional cost to the City.

All equipment shall be cleaned and free of all seed, soil or other residue prior to arrival at the job site. All slurry preparation and mixing shall be performed at the job site. All ingredients shall be added to the tank simultaneously so that the finished load is a homogenous mix of the specified ingredients. Seed shall be added last and discharged within 2 hours. Loads held over 2 hours shall be recharged with ½ the seed rate before application. Once fully loaded, the complete slurry shall be agitated for 3-5 minutes to allow for uniform mixing.

1. Apply specified slurry in a sweeping motion to form a uniform application and form a mat.
For all areas to be hydroseeded:

2. Successive applications or passes may be needed to achieve the required proportion rate.

3. Apply during dry weather or at least 48 hours before predicted rain.

4. Protection: Contractor is to stay off treated areas.

5. Unused Loads: If mixture remains in tank for more than 8 hours it shall be removed from the job site at Contractor's expense.
6. Reseeding: After "Final Acceptance", reseeding shall be done at the request of the Engineer and shall be considered extra.

Do not apply hydraulic mulch if:

1. Water is standing on or moving across the soil surface
2. Soil is frozen
3. Air temperature is below 40 °F during the tackifier curing period unless allowed by the tackifier manufacturer and the approved by the Engineer

Do not over-spray erosion control materials onto the road, private property, fencing, trees or culverts.

Watering shall be as follows:

1. Prior to hydroseeding, this area shall be irrigated by the Contractor in order to provide a moist seed for the hydroseed application.
2. Hydroseed areas shall receive several consecutive waterings the day of the hydroseeding to thoroughly saturate the soil.
3. After initial irrigation, water shall be applied as often and in sufficient amounts as conditions may require, keeping the soil wet above, around, and below the root systems of the plants (until germination is complete).

Hydroseeding Work Clean-up:

1. General: Erosion control work areas shall be maintained in a neat and orderly condition. Keep paved areas free of soil.
2. Overspray: Contractor is responsible for washing or otherwise cleaning excess material off all areas not intended to receive treatment.

Submittals: Submit for approval by the Engineer a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications for:

1. Humate
2. Soil Inoculant
3. Hydromulch
4. Fertilizers
5. Native Seed Mix
6. ReGreen Seed

Quality Control and Assurance

1. Contractor shall complete full sequence of operations including applying soil amendments, tilling and mixing and applying hydroseed, for a 500 square foot area under supervision of Engineer prior to starting work.
2. Retain and submit records of erosion control materials and applications including:
 1. Records showing quantities for all products delivered to the site
 2. Proof of compliance with specified rates
 3. Application area
 4. Application time
 5. Quantity

3. Ensure that any hydroseeded areas that have been disturbed have hydroseed reapplied before demobilizing from site.

Application: The slurry shall be applied in a two-step application process in the proportions indicated in the tables below, in a manner that is non-erosive and minimizes runoff. Spray from multiple directions to provide complete soil cover and eliminate shadowing and then cover with Erosion Control Fabric. Application area shall include all **non-wetland areas** denuded during construction and where specified on the Plans.

Step 1:

Application Rate (pounds per acre)	Material
35	Native Seed Mix
25	ReGreen Sterile Wheat Hybrid or approved equal
1500	Hydromulch
1200	Organic Fertilizer
400	Humate
60	Soil Inoculant

Step 2:

Application Rate (pounds per acre)	Material
2500	Hydromulch

Native Seed Mix

Native Seed Mix Species List

Species	Common Name	% of mix
<i>Hordeum brachyantherum</i>	meadow barley	20
<i>Bromus carinatus</i>	California brome grass	20
<i>Elymus triticoides</i>	creeping wild rye	20
<i>Eschscholzia californica</i>	California poppy	10
<i>Lupinus bicolor</i> and/or <i>Lupinus nanus</i>	California native lupines	10
<i>Festuca microstachys</i> (aka <i>Velupia microstachys</i>)	Three Weeks Fescue	20

ReGreen Sterile Wheat Hybrid or approved equal: ReGreen Sterile Wheat Hybrid is a sterile nurse crop that helps slower growing native seed mix get established. After a year or two it diminishes allowing the native plants to take over.

Hydromulch: For all surfaces the Contractor shall use Hydrostraw HE Bonded Fiber Matrix or approved equal. The Contractor shall follow the manufactures recommendations regarding content and application, modified with the seed mix, humate, soil inoculant, organic fertilizer, and step application outlined in this specification. The area to be hydroseeded shall include all **non-wetland areas** denuded during construction and where specified on the Plans.

Organic Fertilizer: Organic fertilizer to be used in the slurry, shall be of commercial quality, conform to the requirements of the California Food and Agriculture Code, and shall have a

guaranteed analysis as described in the fertilizer table below. Products specified as slow-release shall have been tested and demonstrate a nearly linear release curve. Fertilizer shall be a pelleted or granular form and shall be one of the following products:

Fertilizer Specifications

Products	Guaranteed Chemical Analysis (N-P-K) (%)	Company
Biosol Mix® - Granular	7-2-1	Rocky Mountains Bioproducts Edwards, CO
Fertil-Fibers™	6-4-1	Quattro Environmental Coronado, CA
Sustane®	5-2-4	Natural Fertilizer of America Cannon Falls, MN
Approved Equal*	(N) 5 to 7 (P) 2 to 10 (K) 1 to 5	_____

*Approved equal shall be within the ranges shown for N-P-K. The cumulative N release rate shall be no more than 70 percent the first 70 days after incubation (86° F) with 100 percent at 350 days or more.

Humate: Humate shall be OMRI listed and contain at least 40% Humic Acid. It shall be a natural granular humic acid-based material that functions as an organic chelator and microbial stimulator.

Humate Soil Conditioner Specifications

Humic Acids (from Leonardite)	40.00%
Organic matter	40.00% - 50.00%
Carbon	50.00% - 60.00%
Nitrogen	0.05% - 1%
Phosphoric Acid	0.07%
Potash	0.13%
Sulfur	0.21%
Magnesium	0.18%
Calcium	0.32%
pH	4
Soluble Salts	1.8

Soil Inoculant: Endo (arbuscular) mycorrhizal inoculum shall be registered by the California Department of Food and Agriculture and consist of spores, mycelium, and mycorrhizal root fragments in a solid carrier suitable for handling by hydro-seeding equipment. The carrier shall be the material in which the inoculum was originally produced, and may include organic materials, vermiculite, perlite, calcined clay, or other approved materials consistent with mechanical application and with good plant growth.

Each endomycorrhizal inoculum shall carry a supplier's guarantee of 36,000 propagules minimum per pound. The minimum propagule count shall be shown on each label provided. If more than one fungal species is claimed by the supplier, the label shall include a guarantee for each species of mycorrhizal fungus claimed.

Hydroseed Warranty: Contractor is responsible for maintaining adequate soil moisture for seedling germination and growth, which may involve watering with a water truck or portable sprinklers. Hydroseeded areas shall be inspected 30 days after the first rain (3/4-inches or more in a 24-hour period) or as requested by the Engineer. All areas not showing growth or showing a loss of cover shall be reseeded by the Contractor at their expense. The hydroseeding shall be re-inspected as soon as possible after March 1 of the following year to determine the success of the seeding. All areas with less than 80 percent germination as determined by the Engineer shall be reseeded by the Contractor as soon as it is practical, at no additional cost to the City

14-1.03.5.1 Payment: Hydroseeding shall be paid for at the contract **square foot** price, which shall include full compensation for all labor, materials, tools and equipment, for doing all the work involved in Hydroseeding as described in Section 14 Environmental Stewardship, as specified herein, and no additional allowance will be made therefor.

14-6 Biological Resources: This Project is within the range of the California Tiger Salamander (CTS). The City has obtained a California Department of Fish and Wildlife (CDFW) Incidental Take Permit (ITP) (**Appendix A**). The CTS is the “Covered Species” defined in the ITP.

Contractor must comply with all requirements of the ITP. The City will provide a pre-approved United States Fish and Wildlife Service (USFWS) and CDFW biologist to act as the Designated Project Biologist to monitor activities within the Hazel Mitigation Bank and the Project area as shown on the Plans and described herein.

The Designated Project Biologist will conduct surveys of the Project work areas prior to and during construction to determine the presence of protected and endangered species such as the CTS or rare plants. The survey shall also include the Contractor’s staging area as required. If rare plants are encountered the Contractor must avoid them. The Designated Project Biologist will be responsible for communications with CDFW and will oversee the Contractor’s compliance with the ITP.

The Contractor’s trained supervisory construction personnel shall be responsible for performing daily inspections of the worksite prior to the beginning of work including inspecting the integrity of the CTS fencing, silt fences/barriers, and inspecting the site for CTS.

MEASURES TO MINIMIZE THE POTENTIAL TO IMPACTS TO CALIFORNIA TIGER SALAMANDER (CTS) WITHIN THE HAZEL MITIGATION BANK AND PROJECT AREA

In accordance with the ITP, the Contractor shall follow these best management practices to further reduce the chance of impacting CTS:

- 1) Notification Before Commencement: The Contractor shall notify the City or the Designated Project Biologist 21 calendar days and 14 calendar days before beginning work within the Project area.
- 2) Designated Project Biologist: The Designated Project Biologist will oversee the implementation of these minimization/mitigation measures and shall be on site daily when work occurs within CTS habitat unless otherwise approved in writing by CDFW. A City inspector will also be on site each day during construction.
- 3) Education Program: The Designated Project Biologist will lead an Education Program for the City inspector and all construction personnel working within the Project area before work begins on the Project. Prior to commencing construction, the Designated Project Biologist will provide background training for all construction personnel employed or otherwise working in the Project area in accordance with Item 4.4 Education Program of the ITP. The Education Program will describe the biology and general behavior of the CTS, information about the distribution and habitat needs of the CTS, sensitivity of the CTS to human activities, the CTS status pursuant to CESA including legal protection, recovery efforts, penalties for violations, and Project-specific protective measures described in the ITP. Upon completion of the

Education Program, construction personnel working in the Project area shall sign a form indicating their attendance at the Program and understanding of protection measures. The Contractor shall be responsible for assuring all construction personnel have attended the Education Program. This training is estimated to last approximately one hour.

- 4) Trash Abatement: All trash, foods and food-related trash items shall be enclosed in sealed trash containers at the end of each day and removed completely from the site by the Contractor daily or at a maximum once every three days. Also see **Section 11-10.12 Housekeeping** for refuse removal requirements and **Section 11-10.22 Waste Disposal** for waste disposal requirements.
- 5) Erosion and Dust Control: Contractor shall develop and implement an erosion and sediment control plan to prevent impacts to areas outside of the Project work areas. The use of erosion control materials that are potentially harmful to CTS and other species, such as monofilament netting (erosion control netting) or similar materials within the CTS habitat is prohibited.
 - a. Erosion Control: Contractor shall prepare and implement a detailed Erosion Control Plan. The Plan shall: 1) include appropriate erosion control measures to be implemented during construction, and 2) limit ground disturbance activities to dry weather to avoid increased surface water runoff and erosion onsite, and sedimentation in sensitive habitats located offsite. Erosion control elements shall be checked and maintained daily to ensure proper function and shall not contain monofilament netting. Any straw wattles used shall be made from biodegradable materials only. Runoff from dust control shall be retained in the construction site and prevented from flowing into adjacent wetlands by installing appropriate erosion control devices, such as silt fences.
 - b. Dust Control: Work shall be performed in a manner that will minimize noise and mitigate the spread of dust and dirt into adjacent work areas. Contractor shall implement dust control measures for the duration of the work to facilitate visibility for monitoring for CTS in accordance with the ITP. Dust control water trucks shall be used throughout construction. The Designated Project Biologist shall check weekly the effectiveness of dust control measures and direct implementation of further measure if necessary to prevent damage to wetlands. Excessive dust control watering shall not occur. Puddling or sheeting flow of dust control water shall be prevented.
- 6) Delineation of Property Boundaries: Before starting work, the Contractor shall clearly delineate the boundaries of the Project work area with fencing, stakes, or flags. Contractor shall only conduct work within the designated work areas per the Project Plans. Work areas shall be fenced, staked, or flagged and such delineation shall be maintained by the Contractor until completion of the work. Work and access for equipment shall be limited to public rights-of-way and the designated easements and temporary construction easements as shown on the Project Plans. No encroachment onto private property outside of these areas is permitted unless otherwise specified by the Engineer.
- 7) Delineation of Habitat: Contractor, in coordination with the Designated Project Biologist, shall clearly delineate habitat of the CTS within the Project area with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of CTS habitat.
- 8) Before the start of work each morning, and after the initial groundbreaking, the Designated Project Biologist or their designee will check for animals within the work area including under any equipment such as vehicles and stored pipes. If CTS are found, work must be stopped until it is no longer a threat to the CTS.
 - a. Atypical Dens and Burrows: Contractor shall ensure that all construction pipes, culverts, or similar structures that are stored in the Project area for one or more overnight periods are either securely capped prior to storage or thoroughly inspected by the Designated Project Biologist before the pipe is subsequently buried, capped, or

otherwise used or moved in any way. If a CTS or other listed or endangered species is discovered inside a pipe by the Designated Project Biologist or anyone else, the Designated Project Biologist shall move the animal to a safe nearby location per the Relocation Plan described in the ITP.

- 9) **Project Access:** Contractor shall access the Project area using existing routes and shall not cross CTS habitat outside of or enroute to the Project area. Contractor's Project-related vehicle traffic is limited to established roads, staging, and parking areas and areas detailed as High Traffic and Low Traffic areas on the Project Plans. Contractor speeds shall not exceed 15 miles per hour. Access beyond the limits defined in the Project Plans shall be communicated to the Designated Project Biologist who will contact CDFW for written approval prior to carrying out such an activity.
- a. **Low Traffic Areas:** Work within Low Traffic Areas, as designated in the Project Plans, shall be limited to wheeled vehicle and equipment traffic, foot traffic, and the placement of the above-ground bypass pipeline.
 - i. Vehicle and equipment traffic within the Low Traffic Areas shall be limited to 40 total trips. A "trip" shall consist of one-way travel. Each trip shall be monitored and recorded by the Designated Project Biologist and/or Construction Inspector.
 - ii. Work within Low Traffic Areas shall avoid small mammal burrows and other CTS refugia.
 - b. **High Traffic Areas:** Contractor, in coordination with the Designated Project Biologist, shall develop a CTS Temporary Barrier Plan for the High Traffic Areas as shown in the Project Plans. This CTS Temporary Barrier Plan shall be submitted to the City a minimum of 35 days prior to commencing work within the Project area. The Designated Project Biologist will be responsible for communication with CDFW in order to obtain approval of the CTS Temporary Barrier Plan.
 - i. Prior to any ground disturbing work and under the direct supervision of the Designated Project Biologist, Contractor shall install a temporary barrier to prevent CTS from dispersing into the Project area within the four non-contiguous High Traffic Areas as shown in the Project Plans. The barrier shall be designed to allow CTS and other animals to leave the Project area using a one-way funnel at 100-foot intervals along the barrier, unless otherwise approved by CDFW in writing. The barrier shall remain in place until the work is complete, including during periods of inactivity.
 - ii. The Contractor shall maintain and repair the barrier immediately to ensure that it is functional and without defects. Contractor shall provide refuge opportunities, such as coverboards (2 foot x 2 foot plywood), along both sides at 100-foot intervals on each side, and a climbing barrier at the top of the temporary barrier, unless otherwise approved by CDFW in writing.
 - iii. The Designated Project Biologist shall be responsible for checking the temporary barriers and refuge areas daily during the work and before, during, and following storm events, and weekly during periods of inactivity. Animals found within the interior of the barrier shall be relocated by the Designated Project Biologist. The Contractor shall be responsible for any repairs deemed necessary by the Designated Project Biologist.
 - iv. **Recontouring Temporarily Impacted Wetlands:** Contractor shall recontour temporarily impacted wetlands within the High Traffic Areas to preconstruction hydrological conditions. The Designated Project Biologist shall ensure that preconstruction hydrological conditions are adequately documented and that

recontouring achieves preconstruction hydrological conditions. The Designated Project Biologist shall take pre- and post-construction photos of impacted wetlands and provide documentation to CDFW demonstrating recontouring achieves preconstruction hydrological conditions, and upon completion shall obtain CDFW's written approval that preconstruction hydrological conditions have been achieved. If soil has different layers (for instance clay layer and sandy clay loam layer), these layers shall be kept separate and replaced in the correct order and to the correct depth to match pre-construction conditions.

- 10) Bypass Piping: Bypass piping located within Low Traffic areas as identified on the Project Plans shall be propped upon 4-inch wide by 18-inch tall by 4-inch long wooden blocks at an interval of every 50 feet so as to elevate the pipeline above the ground to allow for wildlife passage. The Contractor shall remove the wooden blocks when the bypass pipe is removed.
- 11) Staging Areas: The Contractor is allowed to work in the areas designated on the Project Plans. Access routes and number and size of staging and work areas within the Project area will be limited to the minimum necessary to achieve the Project goals. Contractor shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and other surface-disturbing activities to the Project area using, to the extent possible, previously disturbed areas. Additionally, Contractor shall not use or cross CTS habitat outside of the marked Project area unless CDFW approval is provided.
- 12) Hazardous Materials: Contractor, in coordination with the Designated Project Biologist, shall prepare and implement a Hazardous Materials Spill Prevention and Response Plan before beginning work. Contractor shall immediately stop and, pursuant to pertinent local, state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Hazardous materials such as fuels, oils, solvents, etc., will be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitats. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 200 feet from any aquatic habitat. Contractor shall maintain equipment such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents.
 - a. Refueling and Equipment Maintenance: Refueling of construction equipment may not occur within 200 feet of any water body or anywhere that spilled fuel could drain to a wetland. Tarps or similar material shall be placed underneath construction equipment and vehicles, when refueling, to capture incidental spillage of fuels. Equipment and vehicles operating in the Project area shall be checked and maintained daily to prevent leaks of fuels, lubricants, or other liquids.
 - b. See **Sections 11-10.10 Hazardous, Flammable, Toxic Materials** and **11-10.22 Waste Disposal** of these Technical Specifications for additional requirements for handling hazardous materials.
- 13) CDFW Access: Contractor, in coordination with the Designated Project Biologist, shall provide CDFW staff with reasonable access to the Project and mitigation lands within the Project area, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth within the ITP.
- 14) Seasonal Work Period: Work within CTS habitat including, but not limited to, vehicle travel in High Traffic and Low Traffic Areas, bypass pipeline placement and removal, and construction and heavy equipment use (such as excavation, grading, contouring, trenching, road construction and repair, or disking) shall be limited to the work period between June 15 and October 15 (i.e., dry season).
- 15) Work Restriction and Preparation for All Rain Events: The Contractor shall consult the 72-hour weather forecast from the National Weather Service (NWS) prior to the start of all ground

disturbing activities involving construction and heavy equipment use (such as excavation, grading, contouring, trenching, road construction and repair, or disking). Ground disturbing activities shall not begin unless a 72-hour no precipitation forecast is obtained covering the entire Project area and necessary erosion control measures are implemented. The Designated Project Biologist shall keep precipitation records on-site, and these records shall be subject to CDFW inspection.

- a. If a 40 percent or greater chance of rain is forecasted, then ground disturbing activities shall cease at least 24 hours prior to the forecasted rain and the Designated Project Biologist shall confirm with the Contractor that all necessary erosion control measures have been implemented prior to the onset of precipitation, unless otherwise approved in writing by CDFW.
 - b. If ground-disturbing activities are approved by CDFW as described above, the Designated Project Biologist shall survey the work area before construction activity begins each day on which rain is forecast. If rain exceeds 0.25 inches during a 24-hour period, ground-disturbing activities shall cease.
 - c. Twenty-four hours after the rain ceases and once there is less than a 40 percent chance of precipitation in the 24-hour forecast, ground disturbing activities may continue.
- 16) Time of Day Work Restriction: Contractor shall terminate work within the Project area 30 minutes before sunset and shall not resume work in the Project area until 30 minutes after sunrise, unless otherwise approved in writing by CDFW. Contractor shall use sunrise and sunset times established by the U.S. Naval Observatory Astronomical Applications Department for determining these hours. This restriction does not apply for cured-in-place pipe inversion, curing, and cooling which may occur 24-hours per day as needed for proper installation. Contractor shall make every effort to comply with the CDFW time of day work restrictions when planning their CIPP inversions, curing, and cooling schedules.
- 17) Personnel Restriction: Contractor shall ensure that all construction activities and personnel, including subcontractors, are restricted to the active construction area surrounded by the CTS barrier and public roads.
- 18) Prevention of Spread of Invasive Species: Contractor shall conduct Project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria, etc.), from one project site and/or waterbody to another. All equipment including excavators, trucks, and hand tools that may have come in contact with invasive plants or the seeds of these plants shall be carefully cleaned before arriving on site and shall also be carefully cleaned before removal from the site to prevent dispersal. Prevention Best Management Practices (BMPs) and guidelines for invasive plants can be found on the California Invasive Plant Council's (Cal-IPC) website at: <http://www.cal-ipc.org/ip/prevention/index.php> and for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website at: <http://www.protectyourwaters.net/>.
- 19) Wetland Habitat Protection Plan: Contractor, in coordination with the Designated Project Biologist, shall develop a Wetland Habitat Protection Plan detailing how impacts to wetlands will be protected a minimum of 30 days prior to commencing work. The Designated Project Biologist shall obtain CDFW's written approval of the Wetland Habitat Protection Plan prior to beginning work. The Wetland Habitat Protection Plan shall include specifications on wooden or plastic construction mats placed over wetlands as shown in the Project Plans, avoiding placement of construction mats over CTS or other species burrows or other refugia in Low Traffic Areas, ensuring avoidance of Sonoma sunshine in the Sonoma Sunshine Targeted Survey Areas within the Low Traffic Area as shown in the ITP attachments, limiting vehicle traffic to 40 total trips in the Low Traffic Areas, methods for determining appropriate soil dryness to avoid rutting, minimizing excavation within wetlands in High Traffic Areas and

avoiding excavation in wetlands in High Traffic Areas, and any additional methods to physically avoid rutting from vehicle and equipment use and placement of the bypass pipeline. Additionally, construction mats shall be utilized in high traffic areas where the soil is wet and across swales even if the soil is dry as directed by the City.

- 20) Temporary Impacts: Contractor shall supply and install seed (hydroseed) in all temporary impact areas by October 15 of the year of the impact and the impacted area soils must be suitable to support small mammal burrows. Heavily compacted soil is not considered suitable. After October 15, these area shall be made available to fossorial mammals and CTS and shall not be surrounded by fencing that limits access. Impacted areas that do not meet these requirements will be considered permanent impacts under the CDFW ITP. Contractor shall be responsible for financial implications of modifications to the ITP should Contractor not meet these schedule requirements.
- 21) Designated Areas for Stockpiling Materials: Contractor shall ensure that all construction materials placed in the Project area are not placed in areas where they could impact any wetlands.
- 22) Groundwater Encountered: Nuisance groundwater encountered during excavation shall be discharged at a location where it will infiltrate into the soil, resulting in no overland flow. Discharged water shall not be allowed to flow into wetlands. Contractor shall ensure that BMPs are used to control runoff water quality.
- 23) Spoil Pile Stabilization: Active spoil piles shall be covered/stabilized adequately when rainy conditions are evident or at any time when spoil material could enter CTS or other species habitat.
- 24) Pesticides and Herbicides Prohibited: Contractor shall ensure that rodenticides or other poisons used in the control of fossorial (burrow-dwelling) mammals, and herbicides, are not used within the Project area during the term of the ITP. Contractor shall ensure that herbicides or other poisons used to control plants are not used within the Project area.
- 25) No pets will be allowed anywhere in the Project site during construction.

14-6.01D Payment: Environmental Mitigation shall be paid for at the contract **lump sum** price, which price shall include full compensation for all labor, materials, tools and equipment, for doing all work described in Section 13 Water Pollution Control and Section 14 Environmental Stewardship as specified in these Technical Specifications, and no additional allowance will be made therefor.

Construction Mats shall be paid for at the contract **square foot** price, which shall include full compensation for all labor, materials, tools and equipment, for doing the work of acquiring, placing, maintaining, and removing Construction Mats as described in Section 14 Environmental Stewardship, as specified herein, and no additional allowance will be made therefor.

14-10.01 General: Contractor shall dispose of all Portland cement concrete and asphalt concrete, generated from removal or demolition activities on the Project, at a recycler for these materials. See **Section 15-3.03 Construction** of these Technical Specifications.

All other excess materials from the Project shall become the property of the Contractor and shall be disposed of by him, at his expense.

14-10.02 Solid Waste Disposal and Recycling Report: Submit a Solid Waste Disposal and Recycling Report prior to final acceptance of work performed under the Contract. Show the types and amounts of Project-generated solid waste taken to or diverted from landfills or reused on the Project.

Contractor shall provide receipts verifying delivery and approximate quantity (in tons) of the material delivered to a material recycler.

14-11 Hazardous Waste and Contamination

14-11.07C Transport and Disposal of Department-Generated Hazardous Waste: All soil from excavations on this Project shall be tested for contamination and shall be transported to and disposed of at an approved landfill.

Contractor shall furnish completely filled out hazardous waste manifests ready for the Engineer's signature.

Contractor is responsible for disposal of contaminated soil, including trucking, disposal site fees, and additional testing if required by disposal sites. Contractor shall comply with all disposal regulations, such as City, County, and/or State permits and licenses, as may be required.

Prior to disposal of any excess material from the work site, submit to the Engineer written authorization for such disposal and entry permission signed by the approved disposal site. Contractor shall disclose in landfill applications the existing conditions and the written disposal and entry permission shall include acknowledgement of such disclosure.

Contractor shall be responsible for separating asphalt, concrete, base rock, asbestos cement pipe, and other non-contaminated debris from the soil prior to loading the soil for transport to disposal sites. Dispose of asphalt, concrete, and base rock at a recycler of these materials as specified in **Sections 11-10.22 Waste Disposal** and **15-3.03 Construction** of these Technical Specifications.

Within 5 business days of transporting Department-generated hazardous waste, submit documentation of proper disposal from the receiving landfill.

14-11.07: Department Generated Hazardous Waste

14-11.07A General: In general, Contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the Project limits and shall notify the City immediately upon discovery of any potential soil or groundwater contamination.

Contractor shall provide 40-hour OSHA-HAZWOPER certified workers in the contaminated area and provide a field Site Safety Officer that is also an 8-hour OSHA-HAZWOPER Supervisor trained to directly oversee the contaminated materials removal and handling operation. All workers in this circumstance must have their initial and annual renewal refresher training, medical clearance, and personal protection equipment in accordance with 8CCR Section 5192.

14-11.08 Payment: Full compensation for conforming to Section 14-11 Hazardous Waste and Contamination of these Technical Specifications shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

15 EXISTING FACILITIES

15-1.03A General: Existing facilities disturbed by construction shall conform to the applicable provisions of Section 5-1.36, "Property and Facility Preservation," of the Caltrans Standard Specifications. All existing active utilities found to reside in excavated areas shall be supported in place with service maintained during construction. The Contractor shall be responsible for any damage caused by Contractor operations and any needed repairs shall be completed by the Contractor to the Engineer's satisfaction.

Existing storm drains found to reside in excavated areas shall be supported or removed and replaced at the Contractor's option and at no additional cost to the City. The Contractor shall be responsible for maintaining the existing line and grade of the storm drains. If Contractor elects to remove and replace, it shall be done per applicable City or County Standard Details and Specifications and to the satisfaction of the Engineer.

Existing utility trenches and/or structures that are in close proximity to proposed trenches shall be safeguarded in an appropriate manner from damage.

15-1.03B Payment: Full compensation for supporting, removal, and disposal of existing utilities and their appurtenances is considered as included in the contract prices paid for **various contract items** of work and no additional allowance will be made therefor.

15-1.03C Traffic Stripes and Pavement Markings: All traffic stripes, pavement markings, or any other traffic markings shall be removed by the Contractor to the satisfaction of the Engineer and in accordance with Section 84 of the Caltrans Standard Specifications and the Project Plans.

15-1.03D Pavement Markers: All raised pavement markers shall be removed by the Contractor to the satisfaction of the Engineer and in accordance with Section 82 of the Caltrans Standard Specifications, City Standard Details and Specifications, and the Project Plans.

15-1.03E Adjust Existing Facilities: Existing manhole frames and covers, and monuments adjusted to grade shall conform to City Standard Details and Specifications.

The Contractor shall accurately locate and record the location of existing manholes and monuments to be adjusted to grade and shall furnish the Engineer a copy of said record prior to starting construction.

All facilities on active systems shall be accessible at all times to City personnel unless otherwise stated in these Technical Specifications or approved by the Engineer.

After placement of the finish course of asphalt concrete, the Contractor shall mark any overlaid manholes and monuments, whether new or existing, with white paint by the end of that working day.

All existing manholes and monuments shall be accessible within 48 hours after they are covered.

Final grade adjustments and installation of concrete collars shall be done on the same working day. Final paving around manholes cleanouts and monuments shall be completed the following working day.

All silt and debris shall be removed from finished structures. This shall include all existing silt and debris plus material caused by the Contractor's operation.

Prior to removal of an existing manhole frame, a platform shall be constructed in the manhole above the top of the sewer to prevent any dirt or debris from falling into the sewer. The platform shall remain in place until all work on the manhole has been completed and the asphalt concrete or other surface material has been placed around the manhole (if applicable). Prior to the removal of the platform from the manhole, all dirt and debris shall be removed.

All grade rings shall be set in cement mortar the same day they are placed. All joints shall be smoothly plastered inside and out.

Existing grade rings removed in the adjustment of manhole frames shall become the property of the Contractor and if undamaged and thoroughly cleaned of mortar may be reused in the work. If not so used, they shall be disposed of away from the site of work at the Contractor's expense.

Manhole frames shall be reinstalled to align directly over the grade rings. Any frames misaligned by more than ½ inch shall be removed and reinstalled.

Existing monuments adjusted shall conform to City Standard Details 280 to 284 and Section 78-2 Survey Monuments of the Caltrans Standard Specifications.

15-1.03F Payment: Full compensation for adjusting manholes to grade is considered as included in the contract prices paid for **various contract items of work** and no additional allowance will be made therefor.

15-1.03G Concrete Removal: All removed concrete shall become the property of the Contractor and shall be immediately off hauled. None of the removed concrete shall be dumped or stockpiled on the work site. Contractor shall dispose of all removed concrete at a recycler for this material. Burying broken concrete within the limits of the Project will not be allowed.

All concrete which is to be removed from sidewalk, curb, gutter, and driveway areas shall be removed to the nearest score mark or construction joint as directed by the Engineer unless otherwise noted on Project Plans. The edge of existing concrete to remain shall be neat and free of defects. Saw cutting may be required to achieve this.

Concrete removal includes removal of any reinforcing steel embedded in the concrete and no additional allowance will be made for the removal of such steel.

Irrigation facilities may be encountered during the work including concrete removal and replacement. Contractor shall exercise care in this area and repair any damage done by their operations at no additional cost to the City.

Maintain the existing water supply. If the existing water supply is interrupted for more than 3 consecutive days, provide an alternative water supply. Water the existing plants in the area irrigated from that water supply, including those maintained by the City, as necessary to maintain healthy plant growth.

Furnish enough water for watering plantings affected from construction activities as necessary to maintain a healthy condition through Contract acceptance.

If you damage irrigation facilities not to be removed:

1. Remove and dispose of them.
2. Repair and replace damaged facilities within 10 days.
3. Use similar commercial-quality components from the same manufacturer or components that are compatible with the existing irrigation system if authorized.
4. After completing the repair or replacement of the facilities, perform an operational test in the presence of the Engineer. If you repair or replace the remote-control valves, conduct the test with the irrigation controller in automatic mode.

Notify the Engineer:

1. At least 4 working days before shutting off the water supply to any portion of the existing irrigation system
2. Immediately after restoring the water supply to any portion of the existing irrigation system

Landscaping and other surfaces or structures shall be restored to original condition at no additional cost to the City.

If the Contractor damages plants not to be removed:

1. Dispose of them unless the Engineer authorizes you to reduce them to chips and spread the chips within locations designated by the Engineer
2. Replace them
 - a. Replace plants with plants of the same species.
 - b. Replace trees with 24-inch-box trees.
 - c. Replace shrubs with no. 15-container shrubs.
 - d. Replace ground cover plants with plants from flats. Replace Carpobrotus ground cover plants with plants from cuttings. Plant ground cover plants 1 foot on center.
3. If a plant establishment or permanent erosion control establishment period is specified, replace plants before the start of the plant establishment or permanent erosion control establishment period; otherwise, replace plants at least 30 days before Contract acceptance.
4. Water each plant immediately after planting. Saturate the backfill soil around and below the roots or the ball of earth around the roots of each plant. Water as necessary to maintain plants in a healthy condition until Contract acceptance.

The City may rearrange a third-party utility during the Contract. Rearrangement of a third-party utilities or City facilities includes installation, relocation, alteration, or removal of the facility.

The City may authorize third-party utilities or City facilities and their agents to enter the project limits to perform rearrangement work for their facilities or to make connections or repairs to their property. Coordinate activities to avoid delays.

15-1.04 Payment: Payment for saw cutting, removal and disposal of concrete sidewalk, curb and gutter, driveway areas, and existing City monuments shall be included in the contract prices paid for various contract items of work and no additional allowance will be made therefor.

Full compensation for repair of existing irrigation facilities damaged during any phase of the work shall be included in the prices paid for various contract items of work and no additional allowance will be made therefor.

15-7 Utility Clearances: *All items noted in this Section shall take place prior to any other construction activities.*

Potholing was not performed during design. No pothole information is provided on the Project Plans. Schematic line work for existing utilities shall be for reference use only and shall not be considered as accurate information for any areas within the Project limits.

The Contractor shall investigate, confirm, and/or determine the exact locations of existing utilities (including both invert and crown elevations), and verify clearances between existing and proposed utilities at crossings, excavations, and/or known potential conflicts. Contractor shall determine both invert and crown elevations and alignments of existing utilities at connection points.

The Contractor shall provide all relevant information in writing to the Engineer immediately upon discovery of any conflict. Any delay in notification to the Engineer may delay direction and/or corrective action and a delay claim due to this reason shall not be considered by the City. The Contractor shall not proceed with any work that is in conflict until direction is provided by the Engineer and shall redirect crews to other contract work. All the information required to be obtained per this Section and any other information not noted but relative to the Project shall be provided to the Engineer on a set of Plans when the investigative effort is complete.

15-7.01 Payment: Full compensation for verifying utility clearances shall be considered included in the prices paid for various contract items of work and no additional compensation will be allowed therefor. Potholing and verifying utility clearances shall include furnishing all labor, materials, tools and equipment, and doing all the work involved in verifying utility clearances, including but not limited to: potholing to verify potential conflicts, grades and alignments of existing facilities to be rehabilitated; excavation; backfill; notification; and coordination and redirection of crews to other contract work *if required*, as specified herein, shall also be considered included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

15-8 Tree Root Pruning: All tree roots two inches and greater which are encountered during excavation must be pruned by hand. The root shall be cut cleanly with a saw to avoid splits. When digging within the drip line of trees, Contractor shall exercise extreme caution to avoid pulling on roots with excavation equipment. Hand dig around all roots greater than one inch in diameter. Contractor shall notify the Engineer when encountering roots within the drip line of trees which are greater than one inch. If the Engineer elects to get direction from an arborist, Contractor shall redirect crews to other contract work after safeguarding the area.

15-8.01 Payment: Full compensation for removing and pruning tree roots, hand digging to avoid root damaging roots, and excavating cautiously with respect to tree roots is considered as included in the prices paid for various contract items of work and no additional allowance will be made therefor.

19 EARTHWORK

19-1.01 General

1. Contaminated site: Technical Specifications for handling and disposal of contaminated soil and water are included in section 14-11.06, Department Generated Contaminated Soil, and section 13-8, Temporary Active Treatment System, respectively.
2. Non-contaminated site: See section 19-2.03B, Surplus Material, of these Technical Specifications.

19-1.01A Summary – In Addition: Excavation of existing manhole cones and to install the temporary bypass pipeline across Arlington Road as necessary for construction. Earthwork shall also include excavation for trenching.

19-1.03B Unsuitable Material: Stabilization of unsuitable material shall comply with the following provisions:

- A. Unsuitable material may be processed in place, may be excavated and placed on the grade or other locations suitable for further processing, or may be partially excavated and partially processed in place.
- B. Processing may consist of drying to provide a stable replacement material or mixing with lime per Section 24 of City Specifications.
- C. Stabilized material shall be placed and compacted in layers as hereinafter specified for constructing embankments.

Backfill the space resulting from excavating unsuitable material with material suitable for the planned use. Place and compact suitable material under section 19-5.

19-1.03B(1) Subgrade stabilization: Any area of the subgrade determined by the Engineer to be unsuitable shall be stabilized. (Match plans or add desired stabilization method for the project) with 6-inches of class 2 Aggregate Base and Stabilization Fabric or HMA base. This may need two layers if one will not stabilize the soil. Processing of unsuitable subgrade material is not allowed. The areas to be stabilized will be marked in the field by the Engineer after excavation of the area is complete. Use of a pavement grinder shall be considered an acceptable method of excavation of areas requiring subgrade stabilization.

19-1.03C Grade Tolerance – In Addition: When aggregate subbase or aggregate base are to be placed on the grading plane, the grading plane shall not vary more than 0.05' above or 0.1' below the grade established by the Engineer.

19-1.03F Measurement: Subgrade Stabilization will be measured as marked in the field by the square foot.

19-1.04 Payment: Full compensation for Subgrade Stabilization is considered as included in the prices paid for various contract items of work and no additional allowance will be made therefor.

In the event of an increase or a decrease in the amount of the engineer's estimated quantity of Subgrade Stabilization, such increase or decrease shall not be considered an alteration in excess of the 25 percent of the contract amount of such items under provisions of Section 4-1.05 of the Standard Specifications and no adjustment of the contract price for Subgrade Stabilization will be made. Excavation and disposal of material, HMA base, Stabilization Fabric, and class 2 Aggregate Base is included but not limited to the price for subgrade stabilization.

No additional compensation will be made for excavation and stabilization beyond the limits of the areas marked by the Engineer or for excavation and stabilization of locations other than those marked by the Engineer. Any excavation for subgrade stabilization done by You to accommodate equipment width beyond the limits of the areas marked by the Engineer shall be at your expense.

19-2.03 Construction: The Engineer shall provide reference points and cut sheets for the excavation of the roadway. The Contractor shall furnish an excavation and paving plan and a qualified grade setter to ensure the subgrade conforms to the lines and grades established by the Engineer.

For roadway reconstruction, Roadway Excavation shall be performed with a pavement grinder. No other construction equipment including rubber-tired equipment shall be allowed on the subgrade.

Roadway excavation and asphalt concrete base paving, including stabilization fabric, and paving per Sections 19, 26, and 39 of the Caltrans Standard Specifications, shall be completed for half the street width before beginning excavation of the remaining street.

Where tree roots are encountered during roadway excavation, you shall cut the roots off six inches below the planned subgrade. Each cut shall be clean with no torn bark or splintered wood remaining on the root and shall be accomplished by use of a saw appropriate for the size of the root to be cut.

19-2.03B Surplus Material- In Addition: You shall be responsible for the removal and disposal of surplus materials. You shall notify the City of the disposal location before the start of construction. Surplus material, including removal of existing bituminous pavement and base materials will be paid for as roadway excavation.

19-2.03 Payment: Full compensation for Roadway Excavation and removal of existing bituminous pavement and base materials is considered as included in the prices paid for **various contract items of work** and no additional allowance will be made therefor.

19-5 Compaction

19-5.03B Relative Compaction (95 Percent) - In Addition: Relative compaction of not less than 95 percent shall be obtained for a minimum depth of 0.5-foot below the grading plane for the full width of the planned pavement structural section, whether in excavation or embankment.

Relative compaction of not less than 95 percent shall be obtained for embankment under bridge and retaining wall footings without pile foundations within the limits established by inclined planes sloping 1.5:1 out and down from lines one foot outside the bottom edges of the footing.

19-5.04 Payment: Full compensation for compaction conforming to the provisions of these specifications shall be considered as included in the prices paid for the **various contract items of work** and no additional compensation will be allowed therefor.

19-8 Subgrade Enhancement Geotextile

19-8.02 Materials: Soil stabilization fabric shall be installed per manufacturer's recommendations and shall meet or exceed the following specifications:

Grab Tensile Strength (ASTM D4632)	290 lb.
Mullin Burst Strength (ASTM D3786)	500 psi
Trapezoid Tearing Strength (ASTM D4533)	113 lb.
Modulus (Load at 10% Elongation) (ASTM D4632)	120 lb.
Apparent Opening Size (ASTM D4751)	40-70 sieve
Permittivity (ASTM D4491)	0.05 sec ⁻¹

Soil stabilization fabric shall be Mirafi 600-X, GeoTex 315ST, Carthage Mills FX-66, TerraTex HD, or approved equivalent.

Prior to placement of soil stabilization fabric, Contractor shall remove all loose dirt left from excavation operations.

Soil stabilization fabric shall be placed over the entire subgrade area. The soil stabilization fabric shall be held in place with wooden stakes driven through the fabric into the subgrade at the beginning and the end of the fabric and at 50-foot intervals. A minimum of three stakes shall be placed across the width of the fabric roll at each interval. The stakes shall be a minimum length of 8-inches and shall be driven at an angle opposite to the direction of pull exerted on the fabric by the paving machine.

19-8.04 Payment: Stabilization Fabric shall be paid for at the contract price per square yard as measured in the field. Payment shall include but not limited to doing all work involved in placing the fabric including root pruning labor, materials, tools and equipment, and no additional allowance will be made therefor.

26 AGGREGATE BASE

26-1.01 General: Aggregate base shall be Class 2 conforming to and placed in accordance with the requirements of Section 26 of the City Specifications.

Recycled material cannot be used below the designed structural section within the roadway and never for structural fill outside of the roadway structural section.

Compacting shall commence immediately after spreading of the damp material and before the material has dried sufficiently to allow separation between the fine and coarse particles.

26-1.02 Materials

26-1.02B Class 2 Aggregate Base: The minimum sand equivalent value shall be 31 for any individual test.

26-1.03 Construction

26-1.03E Compacting: The surface of the finished aggregate base shall be firm and unyielding. Any visible movement vertically or horizontally of the aggregate base under the action of construction equipment or other maximum legal axle loads shall be considered as evidence that the aggregate base does not meet this requirement.

26-1.04 Payment: Full compensation for Class 2 Aggregate Base shall be considered as included in the contract prices paid for various items of work, which shall include but not limited to furnishing and placing the material, labor, maintenance, tools, equipment, hauling, applying water, and doing all the work involved as specified herein, and no additional allowance will be made therefor.

39A ASPHALT CONCRETE TRENCH PAVING

39A-1.01 Description: Hot mix asphalt concrete (HMA) trench paving shall be per City STD-215. Trench surface shall be per the Trench AC Paving Table on sheet 1 of City STD-215. Trench base shall be 6" of HMA per note 1 on sheet 1 of City STD-215. 12" aggregate base may be used with a no cost change order and written approval from the Engineer. Trench paving shall be placed in areas outside of reconstruction and overlay limits, or as shown on the Plans. HMA base paving and surface shall be included in the prices paid for various contract items and no additional allowance will be made therefor. Temporary paving on all utility trenches and any other excavated areas shall be ½-inch maximum, medium grade aggregate hot mix asphalt concrete installed a minimum of two inches thick placed each day over the work. Temporary Paving is included in the prices paid for **various contract items** and no additional allowance will be made therefor. Temporary paving around edges of steel plates shall be a hot mix ½-inch maximum, medium graded aggregate and SC 3000 asphalt binder for use the same day or SC 250 asphalt binder for use over a one week period. Temporary Paving is included in the prices paid for **various contract items** and no additional allowance will be made therefor. The amount of asphalt binder to be mixed with the aggregate will be specified by the Engineer at the time of paving. Different asphalt binder content may be specified for each lift and each location.

Cutback shall not be used or stockpiled anywhere on the job site.

39A-5.01 Spreading Equipment: When trench width is three feet or less, the asphalt concrete used for trench paving may be deposited directly from the haul vehicle into the trench. The asphalt shall then be raked smooth prior to compaction.

39A-6.01 General Requirements: You shall provide compaction of backfill and base material as the job progresses. Temporary paving, as specified in **Section 39A-2.01 Asphalts** of these Technical Specifications, shall be placed over the work each day, leaving not more than 25 feet unpaved. This temporary paving shall be removed for final street reconstruction and/or trench paving. The 25 feet of unpaved trench shall be covered with skid resistant steel plates (with a coefficient of friction of 0.35 or greater per CTM342), capable of sustaining normal (H2O) traffic loads without shifting or bouncing and shall be secured per Caltrans requirements. Plates that have areas where the skid resistant material is missing shall not be used and must be removed from the job site. Hot mix asphalt concrete shall be placed and compacted around all edges of steel plates with sufficient width and gradual slope in order to provide a smooth transition to existing pavement. The Contractor shall only be allowed to plate one lateral trench at a time.

Temporary and permanent asphalt trench paving shall be even and smooth riding.

The Contractor shall monitor and maintain all temporary paving to the satisfaction of the Engineer.

Asphalt concrete used for temporary trench paving shall be removed and disposed of in accordance with Section 124 "Material Recycling" of these Technical Specifications.

Any existing manholes or valves that are encountered within the trench paving limits must be adjusted to grade per the requirements of Section 15 of these Technical Specifications. The Contractor is responsible for all coordination with the various utility company owners and their representatives, as well as the cost to adjust the various utilities to grade.

39A-6.03 Compacting: Compaction shall be in accordance with Section 39-6.03 of the City Specifications, reprinted here for clarity.

The basis for approval shall be the attainment of 97% relative compaction and satisfactory surface condition following final rolling. The number of coverages required shall be the minimum number required to obtain 97% relative compaction.

39A-8.02 Payment: Full compensation for furnishing and installing temporary and permanent paving asphalt and Asphalt Concrete Base used per Note 1 of City Standard 215 shall be considered as included in the prices paid for the **various contract items of work** and no additional allowance will be made therefor.

Site Restoration shall be paid for at the **lump sum** cost, which price shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved in placing temporary and permanent trench paving, including but not limited to: saw cutting, tack coat, compaction, and any other work required for permanent trench paving, replacement of sod and other landscaping, and other site restoration not specifically enumerated in the City Standard Details and Specifications, these Technical Specifications, or on the Project Plans, and no additional allowance will be made therefor.

44 EPOXY LINING MANHOLE REHABILITATION

44-1.01 Description: It is the intent of this Specification Section to provide for the rehabilitation of existing sanitary sewer main manholes by the installation of an epoxy lining system. Work shall be in accordance with these Technical Specifications, the Project Plans, and the latest version of the Caltrans Standard Specifications.

Existing stub abandonment as indicated on the Project Plans shall occur prior to manhole rehabilitation using epoxy lining.

Manholes to receive epoxy lining are indicated on the Plans. The scope of work for epoxy lining shall be the entire interior surface of existing manhole, including grade rings, cones, reducing slab (ceiling), the full height of the manhole barrel, base, shelf, and channel sections unless otherwise noted on the Project Plans. Channels previously lined with CIPP will not require epoxy lining. Epoxy lining work shall include, but is not limited to, dewatering, cleaning and surface preparation, liner application, touch-up, protection of previously lined and unlined surfaces, containment of debris, waste disposal, cleanup, and all appurtenant work.

An epoxy lining system consists of a trowelable epoxy filler, a high tensile elongation elastomeric grout, and an epoxy liner. All references to epoxy lining system within this Section apply to NeoPoxy NPR-5300 Series "PureEpoxy" manufactured by NeoPoxy International, Inc. or approved equivalent. Alternative material submitted shall comply with Caltrans Standard Specifications Section 6-4.03 "Trade Names and Alternatives".

44-1.02 Submittals: The following items shall be submitted:

- A. Technical data sheet on each product used, including required independent third party commercially tested physical and corrosion resistance properties, compressive strength, tensile elongation, flexural modulus, shore hardness, adhesive strength to damp concrete and 10,000-hour flexural creep results. Epoxy manufacturer's certification that the product conforms to and is suitable for its intended use per these Technical Specifications.
- B. Material Safety Data Sheets (MSDS) for each product used.
- C. Project specific guidelines and recommendations, installation requirements, set-up and cure requirements.
- D. Qualification of Applicator:
 1. Epoxy liner material must be applied by a Certified Applicator of the epoxy manufacturer.
 2. Manufacturer certification that applicator has been trained and approved in the handling, mixing and application of the products to be used. Applicator must provide current manufacturer's signed Certified Applicator certifications or re-certifications shall be considered current when issued within the previous 365 days.
 3. Certification that the equipment to be used for applying the products has been manufactured or approved by the epoxy lining material manufacturer and applicator personnel have been trained and certified for the proper use of the equipment and materials.
 4. Three references which verify that the lining applicator has demonstrated successful application of the specified lining systems in the past 3 years. Provide the size (area of lining), time of completion, name, and the owner's address and telephone number for each installation referenced.
 5. A written certification from the Contractor stating that they are qualified and experienced in the application of the specified lining system.

- E. Design details for any additional ancillary systems and equipment to be used on site and surface preparation, application, and testing.
- F. Complete Contractor plan for cleaning and other surface preparation prior to lining as well as application and testing of the lining after it is installed. Plan shall include materials and equipment to be used, exact steps to be taken, and quality control procedures to be implemented. This plan shall also include minimum time requirements for coating, recoating, and surface patches.
- G. Abrasive Blast Material Data: For each abrasive blast material to be used, the Contractor shall submit the manufacturer's catalog containing the following data:
 - 1. Technical data sheet for each product used, including statements on the suitability of the material to produce the required surface profile and the percentage mixture of grit/shot, and sieve size.
 - 2. Material safety data sheet for each product used.
 - 3. Country and state of origin.

44-1.03 Quality Assurance:

- A. Contractor shall allow and support the Engineer to access and inspect sanitary sewer manhole structures at any time.
- B. Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE, and SSPC standards and the protective coating manufacturer's recommendations.
- C. Epoxy applicator shall label two standard 3-inch x 5-inch brush steel paint test coupons with pertinent and unique identification for each structure being lined. The minimum acceptable information will include owner name, project designations, dates, and Contractor's project engineer or superintendent's name and signature. The non-data containing side of the coupon shall be sprayed with the specified epoxy immediately prior to application to the target surface. One cured coupon shall be submitted to the Engineer. The Contractor, as part of the Project record, shall keep the remaining coupon.

44-1.04 Delivery, Storage and Handling:

- A. Lining materials shall be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer, all of which shall be plainly legible at the time of use. Any products exceeding the manufacturer's recommended shelf life shall not be used.
- B. Materials are to be kept dry, protected from weather, and stored under cover.
- C. Protective lining materials are to be stored between 32°F and 110°F. Do not store near flame, heat or strong oxidants.
- D. Lining materials are to be handled according to their material safety data sheets.

44-1.05 Conditions:

- A. Applicator shall conform to all local, state, and federal regulations including those set forth by Cal/OSHA, RCRA, and the EPA, and any other applicable authorities.
- B. All work shall be executed in a workmanlike manner by skilled personnel and shall present a neat appearance when completed.
- C. Any labor, materials, equipment, and apparatus not specifically mentioned herein or shown on the Plans, which may be necessary to complete any portion

of the work in a substantial manner and in compliance with the requirements stated or implied by the contract documents, shall be furnished by the Applicator without additional compensation.

44-2.01 Materials:

- A. All epoxy spray lining to be installed shall be Neopoxy NPR-5304, High Viscosity Modified Structural Epoxy System, or approved equivalent. Neopoxy NPR-5305 trowelable epoxy filler, grout, and sealant shall be applied to surfaces that have defects that may interfere with the proper preparation or application of epoxy liner, or approved equivalent.
- B. Neopoxy NPR-3501 high tensile elongation epoxy elastomeric grout and sealant shall be applied to areas that exhibit movement or cracking due to expansion and contraction, such as manhole barrel joints, joints between the manhole and trunk sewer, and manhole adjustment rings, or approved equivalent.

44-2.02 Manufacturer:

- A. NeoPoxy International, Inc. Hayward, CA. 510-782-1290, Fax 510-782-1292, Internet address <http://www.neopoxy.us>, or approved equivalent.
- B. The manufacturer shall have directly employed, full time, on-staff chemists that interface directly with the in-house manufacturing personnel. The chemists interfacing with the production personnel shall be available to the agency and Contractor for technical support.
- C. A record of all quality control tests shall be maintained, and the finished production lot shall meet the manufacturer's standards prior to shipment. A certificate of compliance certifying that the production lot meets the manufacturer's specifications and standards at the time of shipment shall be provided with each lot shipment.
- D. A liquid retain shall be maintained by the manufacturer for each production lot. Each retain shall be properly identified, labeled, and stored for future reference. Retains may be properly disposed of six months from the production date.

44-2.03 Repair Materials:

- A. Repair materials shall be used to fill void(s), structurally reinforce, and/or rebuild surfaces, etc. Repair materials shall be 100% solids epoxy compatible with the specified lining epoxy and shall be applied in accordance with the manufacturer's recommendations. Epoxy repair materials shall be certified compatible with the epoxy liner material and suitable for municipal sewer use and are preferred over non-epoxy repair materials.
- B. The epoxy manufacturer shall provide instructions for proper application of the repair materials.

44-2.03a Manhole Repair:

- A. The Contractor shall inspect manholes regardless of being identified as needing repair. Contractor shall spray wash interior of manholes prior to start of inspection. Inspection shall be performed from the ground surface and consist of lowering a video camera down the manhole to record present defects or recording defects via hand-held video camera during man-entry into the manhole. Contractor shall inspect manhole surfaces, shelves, and channels with the City Inspector present. Contractor shall note present defects and provide recommendations for repair.

- B. Crack Repair: Epoxy for pressure grouting/crack injection shall be the two-component epoxy-resin compound SealGuard II, as manufactured by Seal Guard, Inc. or approved equal. Surface preparation and application shall be as recommended by the manufacturer. Existing concrete surfaces shall be cleaned and free from loose materials to secure a firm bond with epoxy resin compound. Contractor shall pressure grout or grout fill points of infiltration, cracks, and voids behind cracks in manholes per manufacturer requirements.
- C. Resurfacing Concrete: Product used for resurfacing manhole wall and shelves, as applicable, shall be the polymer concrete, "All Crete", as manufactured by Thoroc or the concrete, "Speed Crete", as manufactured by W.R. Meadows, or approved equal. Surface preparation and application shall be as recommended by the manufacturer. Concrete surfaces shall be chipped down to solid material, roughened, and cleaned to secure a firm bond with new concrete. Exposed rebar shall be cleaned to remove rust and loose concrete. Manhole walls shall be resurfaced with no less than one-inch cover over exposed rebar per manufacturers requirements. Manhole walls shall be troweled so that a smooth uninterrupted surface is achieved. Repair products used in manholes scheduled to receive a rehabilitation coating shall be fully compatible with coating products including the ability to bond effectively and form a composite system.
- D. Repair Materials shall be used to fill voids, structurally reinforce and/or rebuild surfaces, etc. Repair materials shall be 100% solids epoxy compatible with the specified lining epoxy and shall be applied in accordance with the manufacturer's recommendations. Epoxy repair materials shall be certified compatible with the epoxy liner material and suitable for municipal sewer use and are preferred over non-epoxy repair materials. The epoxy manufacturer shall provide instructions for proper application of repair materials.

44-2.04 Liner Material:

- A. Neopoxy NPR-5300 Series "PureEpoxy", or approved equivalent, a series of rapid curing reactive epoxy polymers made up of a variety of viscosities based upon identical reactive ingredients which exhibit excellent cure properties at low temperatures, in the presence of moisture and underwater. Develops a hard surface in about one hour, or less, under typical ground temperature conditions of 65°F at a liner thickness of 250 mils. Longer cure time will be allowed for lower surface temperatures or underwater conditions. The epoxy manufacturer shall prove cure guidelines to the Contractor for lower temperature conditions. The specified physical and chemical properties shall have been demonstrated by independent third-party testing to be resistant to acids, caustics, gasoline, and other normal municipal sewage chemicals, biological agents, and their byproducts. The product must be resistant to saturated hydrogen sulfide gas as found in municipal sewer systems. The product may either be trowel or spray applied and shall be color-coded light green, similar to what is generally accepted as "sewer pipe green".

Required Physical and Chemical Properties of Liner Material	
Product Type	Polyamine cured epoxy resin
Component Colors	Contrasting colors from part A & B
Mixed Color	Light Green
Solids (vol. %)	100
Solvent Content (vol. %)	0
Compressive Strength, psi.	>10,000
Tensile Elongation, %	>4
Flexural Modulus, psi.	>450,000
Shore Hardness, Type D	>80

Bond Strength – Concrete	200 psi and not less than 80% of the break shall be of a cohesive nature. >Tensile strength of concrete.
Primer Required	None (self-priming)
Chemical Resistance	City of Los Angeles, Standard Specifications for Public Works Construction, Section 210-2.3.3 and ASTM F1216-98, Table X2.1

44-2.05 Epoxy Liner Application Equipment:

- A. Equipment shall be specifically designed temperature controlled plural component spray equipment for use in the application of the specified epoxy. Equipment may be either high-pressure low-volume airless (HPLV), or low-pressure high-volume air assisted (HVLP). Equipment must be approved for use by the epoxy manufacturer. Air assisted spray application equipment atomization air must be filtered to adequately remove compressor oil and extraneous water.
- B. Standard plastic or metal cement working tools of the Contractor's may be used if trowel applied.
- C. Wet film thickness gage shall be 10-500 mil range, similar to Paul N. Gardner Company Item Number WF-790020, 800-762-2478.

44-3.01 Execution:

- A. Preparation, repair, and lining work shall be completed after CIPP lining of adjacent upstream and downstream trunk sewers has been completed.
- B. Preparation, repair, and lining work shall be completed while the sewer bypass system is operational and running. Lining shall be applied under dry and dust-free conditions and bypass operations shall continue until epoxy liner is fully cured.
- C. All preparation and application of the lining shall be completed all at one time for each manhole being rehabilitated. Starting and stopping of work within one manhole shall not be allowed.
- D. Lining shall be done in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to ensure that they have been thoroughly cleaned and that they receive an adequate thickness of lining material. The finished surfaces shall be free from runs, ridges, waves, laps, brush marks, roller marks, and variations in color, texture, and finish.
- E. Lining material shall be applied to all prepared surfaces from the invert of the channel to the base of the ring and cover unless otherwise specified. Termination points of the lining to the existing subsurface shall be keyed into the subsurface by mechanically scoring a minimum 6mm x 6mm (¼ inch x ¼ inch) keyway. Epoxy shall be applied to a thickness of 6.4mm (250 mils). Lining material shall be uniform in color, fully cured, free of holidays, surface imperfections, blisters and sags and adequately adhered to the subsurface.

44-3.02 Acceptable Applicators:

- A. Epoxy liner material must be applied by a Certified Applicator of the epoxy manufacturer.

44-3.03 Records:

- A. The Contractor shall maintain an accurate, written record of the quantity of lining material applied and the corresponding surface area covered, a description of the area coated, the batch number, surface temperature, ambient temperature, relative humidity, dewpoint, and applicator on a daily basis. The Contractor shall furnish a signed copy of said record to the inspector at the beginning of the next working day. These quantities shall be independently verified by the inspector and reported on the inspector's log. The inspector shall immediately investigate and resolve any discrepancies between these reported quantities and the inspector's log.

44-3.04 Examination:

- A. The Applicator shall comply with local, state, and federal regulatory and other applicable agencies with regard to environment, health, and safety.
- B. All extraneous flows into the manhole or structure, at or above the area to be lined, shall be stopped, plugged, and/or diverted until the epoxy has developed and evolved from a liquid to a solid phase. After reaching the solid phase, heat may be added to accelerate the cure.
- C. Temperature of the surface to be coated should be between 45°F and 90°F during application. Prior to and during application, care should be taken to avoid exposure of the uncured liner to any heat source capable of causing the uncured epoxy to exceed 90°F. Where varying surface temperatures exist, care should be taken to apply the coating when the temperature is falling versus rising.

44-3.05 Preparation:

- A. Applicator shall inspect all surfaces specified to receive a protective lining prior to surface preparation. Applicator shall notify Engineer of any noticeable disparity in the surfaces that may interfere with the proper preparation or application of any repair mortar and epoxy liner.
- B. Prior to the start of any work, the Contractor shall establish with the inspector, schedules and notification procedures to ensure all surface preparation work has been inspected prior to the application of any lining.
- C. Infiltration, crack repair, and surface restoration shall be addressed by methods required by the epoxy system manufacturer for the intended service and substrate materials.
- D. Covers shall be placed over all pipe openings to prevent extraneous material from entering sewer system.
- E. Infiltration shall be stopped by using chemical grouts or cementitious hydraulic plug material certified compatible with the epoxy repair mortar and liner epoxy. Chemical grout shall be injected into the soil surrounding the manholes on an as needed basis to completely seal infiltration where infiltration is identified during initial inspection and/or where infiltration will affect serviceability of applied coatings. Grouts injected near surface and chimney-corbel areas may require the addition of shrink control agents, gel reinforcing agents, and accelerators. Grouting shall be done using Avanti A-220 or an equivalent product and shall be performed prior to application of the rehabilitation coating.
- F. Loose or unsound concrete or masonry or existing coatings must be removed. Unsound concrete shall be determined by lightly tapping with a hammer and shall be removed to sound, hard concrete. Masonry materials may be thoroughly cleaned out and then re-mortared with epoxy or rapid setting cement and used

to fill the area from which they came.

- G. Surface shall be cleaned by removing any laitance, dust, unsound or contaminated materials, plaster, oil, paint, grease, corrosion deposits, or bacteriological growths. Chemical cleaning aids may be used with water blast equipment; however, Engineer must approve detergents or degreasers proposed by the Contractor and they must be suitable for the water temperature used in any pressure washer system employed. Where breaking out mortar is not required, roughen the surface and remove any laitance by mechanical means, low-pressure hot water blast (minimum 2500 psi pump pressure at 4 gpm), or high-pressure cold-water blast (>3000 psi pump pressure at 4gpm) with or without sand injection as is appropriate, abrasive (sand) blasting, acid etching and water cleaning, or shot blasting to a sound profile surface.
- H. Acceptable surface pH for epoxy grouting repairs and lining shall be not less than six or more than nine.
- I. Prior to lining, surfaces shall be dried by forced air to observe possible infiltration. In the event methods noted within the specification are ineffective at stopping infiltration, the Contractor shall immediately notify the Engineer for direction.
- J. Metal components shall, at the Engineer's option and at the Contractor's expense, be sandblasted to a NACE No. 2 "Near White Blast Cleaning", or high pressure (>5000 psi pump pressure) water blast, or water with sand injection. Minimum surface profile shall be CSP 3. Residual penetrating oil and grease deposits shall be removed by steam cleaning, detergent scrubbing, or by the use of degreaser to ensure optimum epoxy adhesion.
- K. For new concrete surfaces, epoxy lining may not commence until moisture content is 80%, or less, by hygrometer test, or "no visible moisture" by ASTM D4263-85, or 15g/24 hr./m (3lb/24hr/1000 ft.) maximum by calcium chloride test. For existing concrete surfaces, see Item I above.
- L. Epoxy lining may not commence until repair concrete has cured sufficiently to prevent pinholes in the liner due to outgassing. Concrete surfaces that have cured for 28 days or more may be considered sufficiently cured. In lieu of curing for 28 days prior to application of epoxy lining, the Contractor may submit a sample of cement being used on the Project to the epoxy manufacturer for adhesion testing and recommendations on a reduced curing time.
- M. Remove standing water and blow hot air for 15 to 30 minutes to dry the top surface prior to application of epoxy lining.
- N. Fill any voids with epoxy filler and/or grout according to the manufacture's recommendations. For flowing or weeping water conditions, rapid setting cementitious "plug" materials may be used instead of epoxy grouts.
- O. Determination of adequacy of preparation and substrate integrity may be made by ASTM D4541, with scoring.

44-3.06 Application of Epoxy Lining:

- A. Application procedures shall conform to the recommendations of the epoxy lining manufacturer, including material handling, mixing, environmental controls during application, safety, and spray equipment.
- B. Spray equipment shall be specifically designed to accurately ratio and apply the specified epoxy lining materials and shall be regularly maintained and in proper working order.

- C. Areas that exhibit movement or cracking due to expansion and contraction, such as manhole barrel joints and manhole adjustment rings, shall be grouted and sealed with a high tensile elongation epoxy Neopoxy NPR-3501, or equivalent, specifically designed and suitable for the service. Prior to placing the grout, surfaces within the joint shall be sealed to a minimum depth of one-half inch with the specified epoxy liner. Subsequently to placement of the epoxy grout, a bond breaker shall be used to prevent adhesion between the flexible grout and the specified epoxy liner material. If the flexible grout and sealant is to be applied to manhole adjusting rings, no bond breaker or topcoat will be applied.
- D. Specified surfaces shall be coated by trowel or spray application. Minimum application thickness shall be not less than **250 mils** above the aggregate topmost surface. A monolithic single wet film application is preferred over multiple thin layers. The epoxy lining shall be applied such that the total specified surfaces can be completed in one day. If sprayed, and cosmetically smoother appearance is specified, the initial application shall be sprayed and troweled level to aggregate tops with sufficient epoxy to completely fill interstitial voids. A subsequent application will be made to achieve the minimum above-aggregate specified thickness. When trowel applied, a single application may be made. The Contractor may elect to first perform the aggregated interstitial filling followed by the final above aggregate lining after the epoxy transition from liquid to solid phase.
- E. Thickness measurement shall be made at the aggregate peaks on three-foot centers, vertically and horizontally, in a grid pattern. A wet film thickness gauge shall be used to ensure that the minimum thickness is applied. See **Section 44-2.05 Epoxy Liner Application Equipment**.
- F. After the specified lining is applied, cured, and spark tested, a thin layer of epoxy shall be applied to the bottom of the structures and a broadcasting of sand (i.e., oven dried 20 to 30 gradation) shall be applied in horizontal regions to provide a slip resistant surface.

44-3.07 Testing and Inspection:

- A. When the epoxy liner has cured sufficiently to allow physical contact by applicator personnel, the surface shall be visually inspected for discontinuities. Visible discontinuities shall be marked for subsequent repair. After visible discontinuities are repaired, secondary discontinuity testing will be performed per ASTM D5162 at an inspection voltage of 90 volts per mil to allow for irregularities in the original host surface profile, host surface material and moisture permeation from groundwater or other sources. Care must be exercised, as excessive voltage will spark through the epoxy causing damage to an otherwise sound lining. Discontinuities shall be mechanically abraded and repaired with the specified lining epoxy. If during spark testing it is determined that excessive voltage has burned holes in the lining, and the liner thickness is of the specified thickness, the voltage may be reduced in increments of 5 volts per mil until burn-through ceases. Burn through is indicated by very small brown-black colored holes that penetrate through to the base material and are generally visible only with optical magnification. Repair of burn holes shall be the Contractors expense.
- B. As an acceptance criterion, measurement of bond strength of the protective coating to the substrate shall be measured in accordance with ASTM D4541, with scoring, by self-alignment adhesion tester type IV. Adhesion testing shall be performed at any time after the liner has cured. However, the minimum bond strength must be obtained within ten (10) days after completion of lining. To shorten the testing procedure, the epoxy cure may be accelerated by

application of localized supplemental heat, not to exceed 140°F for not less than one hour. The minimum pull off force shall be 200 psi and not less than 80% of the break shall be of a cohesive nature.

- C. Visual and bond strength tests as described above will be taken from three of the five fully epoxy lined Robles trunk sewer structures. The Engineer shall choose the lined structures to test. If deficiencies are found, then all lined structures shall be tested at the Contractors expense. Each testing point shall be repaired with the specified lining material. Additional testing may be performed to determine the extent of any potential deficiently bonded area and repairs shall be made by applicator in strict accordance with manufacturer's recommendations.

44-3.08 Payment: Manhole Rehabilitation - Epoxy Lining shall be paid for at the contract unit price per **each**. Price shall include full compensation for furnishing all labor, materials, tools and equipment, testing and measuring, confined space entry, and doing all the work involved in dewatering the existing manhole; cleaning; surface preparation and repair on all vertical and horizontal surfaces; furnishing and installing epoxy lining system as described herein on all vertical and horizontal surfaces; testing; and any other items necessary for epoxy lining not specifically enumerated in the Caltrans Standard Specifications and Technical Specifications, and no additional allowance will be made therefor.

78-2 SURVEY MONUMENTS

78-2.01 General: Survey monuments shall conform to City Standard Details 280 to 282. The exact location of the monument will be established by the Engineer. The monument will be approved after it is constructed then center point stamped by the Engineer.

Damaged Monuments will be replaced per City Standard Details and Specifications and existing components of the damaged monument may not be allowed.

78-2.02 Payment: Full compensation for survey monuments shall be considered included in the prices paid for the **various contract items** which shall include but not limited to furnishing labor, materials, tools, equipment, demolition, excavating, off hauling, disposal, backfilling, hot mix asphalt, concrete, and doing all the work involved in construction complete in place and no additional allowance will be made therefor.

80 FENCES

80-1.00 General: It is the intent of this specification to provide for the repair of existing fences encountered and removed or damaged within the Project area.

See Section 14 for requirements regarding the retention of the temporary livestock fencing at 4530 Arlington Avenue.

80-1.03 Connections: Existing cross fences shall be connected to the new fences. Corner posts with braces for every direction of strain shall be placed at the junction with existing fences. The wire in the new and existing fences shall be fastened to the posts.

80-2.02C(2) Untreated: Wood fencing materials shall consist of the following: 4-inch x 4-inch posts @ 6-foot O.C., 2-inch x 4-inch running rails, top and bottom, 5'- 1" x 6-inch or 1-inch x 8-inch fence boards.

All fencing material shall be standard, rough-sawn redwood or shall match the existing fencing material and replaced in-kind.

80-2.02G Gateways: Existing wood gates shall be re-hung from new 4-inch x 4-inch redwood posts as shown on the Plans and as directed by the Engineer.

80-2.04 Payment: Prices for Fence and Gate shall include but not limited to furnishing, placing, materials, clearing and grubbing, trimming trees overhanging the public right of way, labor, materials, tools, equipment, demolition, excavating, off hauling, disposal, backfilling, and doing all the work involved in construction complete in place and no additional allowance will be made therefor.

80-3.01 Payment: Full compensation for fences and gates shall be considered included in the prices paid for the **various contract items** of work involved and no additional compensation will be allowed therefor.

81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

81-3.01 General: Raised pavement markers shall be placed in accordance with the applicable provisions of Section 81 of the Caltrans Standard Specifications, these Technical Specifications, and the City of Santa Rosa Traffic Standards. Attention is directed to Section 15 “Existing Facilities” of these Technical Specifications.

81-3.02 Materials: All raised pavement markers (RPMs) shall conform to the most current State Specifications.

81-3.02B Nonreflective Pavement Markers: All non-reflective pavement markers shall be ceramic.

81-3.02C Retroreflective Pavement Markers: Blue reflective raised pavement markers are to be placed per City STD-857 for each fire hydrant within the construction limits of the Project. Where a hydrant, whether existing or new, is located at the corner of two streets, a blue RPM shall be placed in each street.

81-3.03 Construction: Existing raised pavement markers to remain, which are damaged by the Contractor, shall be replaced as determined by the Engineer, at the Contractor’s expense. This includes areas outside the immediate Project limits.

The exact locations and limits of raised pavement markers will be determined in the field by the Engineer.

The Contractor shall provide, install, and maintain temporary markers on the same day that the existing permanent markers are removed, or as directed by the Engineer, and maintain this delineation until new permanent markers are in place. Temporary markers on non-ground surfaces shall be plastic adhesive retroreflective delineators.

Existing raised pavement markers to remain, which are damaged by the Contractor, shall be replaced.

Holes left in the pavement due to the removal of raised pavement markers shall be filled with enough adhesive to replace any asphalt which comes off with the removal of the pavement marker, leaving a level driving surface.

Permanent raised pavement markers shall be installed within 5 days following final pavement operations. Temporary markings shall be in place the same day of pavement operations.

Raised pavement markers shall be installed the day following pavement overlay.

81-3.04 Payment: Full compensation for miscellaneous traffic control devices shall be considered included in the prices paid for the **various contract items** of work involved and no additional compensation will be allowed therefor.

121 NOTIFICATION

121-1.01: The Contractor shall notify the Engineer of any work to be performed on any given work day either on the afternoon of the prior working day or before 8:30 a.m. on the given working day. Any work completed for which the Engineer has not received prior notification of its scheduling MAY NOT BE ACCEPTED FOR PAYMENT.

121-3.01 Payment: Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the **various contract items** of work involved and no additional compensation will be allowed therefor.

124 MATERIAL RECYCLING

124-1.01 Description: The Contractor shall dispose of all Portland cement concrete (PCC) and asphalt concrete, generated from removal or demolition activities on the Project, at a recycler for these materials. The Contractor shall provide receipts verifying delivery and approximate quantity (in tons) of the material delivered to a material recycler.

All other excess materials from the Project shall become the property of the Contractor and shall be disposed of by the Contractor, at the Contractor's expense.

124-1.02 Payment: Full compensation for material recycling as specified herein shall be considered as included in the contract prices paid for **various items** of work, and no additional compensation will be allowed therefor.

130 SANITARY SEWER SYSTEM

130-1 General: Sanitary sewer system components and related appurtenances shall conform to all applicable City of Santa Rosa standards. Contractor's attention is specifically directed to the requirements as specified in the City of Santa Rosa Sanitary Sewer Standards Specifications Section 130, the Project Plans, and modifications herein.

130-1.02A Material Submittals: The Contractor shall submit the manufacturer's installation instructions for all sewer main pipe and sewer main fittings approved for use on this project. Instructions shall include proper procedures for laying and bedding, field cutting, joint assembly (insertion) and pipe lining.

130-1.03 Existing Structures: Contractor shall remove and dispose of manhole cone, grade rings, frame, collar, and cover as necessary for the installation of the new sewer main lining system and manholes lining systems as shown on the Plans.

Removal, disposal, and replacement of manhole cones, grade rings, frame, collar, and cover with new for installation of new sewer main lining system shall be considered included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor. Reinforcing steel may be encountered in portions of concrete to be removed and no additional allowance will be made for the removal of such steel.

130-1.09 Television Inspection: The television inspection shall be in accordance with these Technical Specifications and Section 130-1.09 of the City Standard Specifications and NASSCO PACP version 7.0 or the latest version at the time of inspection. All pre- and post-CIPP CCTV videos and associated data files shall be transmitted to the City at the completion of the Project.

Television inspection shall occur:

1. Prior to the start of construction (and before the bypass pumping system has been installed),
2. After the bypass system has been set up, the pipe has been cleaned, any necessary point repairs have been made, and prior to the start of lining operations, and
3. Again, when a sanitary sewer main rehabilitation segment has been completed and inspected, except as otherwise noted in these Technical Specifications or the City Standard Specifications.

Lining shall not commence until written acceptance by the Engineer of television inspection as listed under item No. 2 above.

Lining shall not be considered complete until written acceptance by the Engineer of television inspection as listed under Item No. 3. above.

130-1.09A Payment: Full compensation for **existing structures** shall be considered included in the prices paid for the **various contract items** of work involved and no additional compensation will be allowed therefor.

130-2 CURED-IN-PLACE PIPE LINING

130-2.01 Description: It is the intent of this Specification Section to provide for the rehabilitation of sanitary sewer mains by the installation of a cured-in-place pipe (CIPP) liner into the existing gravity sewer line. When formed, the liner shall extend over the length of the pipe indicated in the Project Plans from manhole to manhole in a continuous, tight fitting, smooth, hard, strong, chemically inert, and watertight pipe-within-a-pipe closely following the contours of the host pipe. The liner shall be installed using "Trenchless Technology", i.e., no excavation is necessary for this item of work except for that potentially required to gain access at diameter constrained manholes.

The Contractor shall furnish all labor, equipment, and materials necessary to complete the CIPP lining of sanitary sewers as specified herein and as shown on the Project Plans. This Contract shall include the preparation of the construction site, including delivery of all materials to the site, all equipment and materials required for either remote or on-site impregnation of lining, cleaning, flushing, and pre-television inspection of sewer to be lined; protection of existing conditions during installation work, existing lateral location and identification (as applicable), infiltration repairs and other point repairs as needed prior to lining, pre-liner and/or liner installation, lateral reinstatement, pipe sealing at manholes, final television inspection and testing of the lined pipe sewer system, and other accessories as required for the proper installation; protection of the site during the life of the Contract, including protection of inspection personnel, warning lights, barricades, traffic control, and dust control, as required; the cleanup of the work site, including maintenance and replacement of features such as paving, curb and gutter, landscaping, including hardscaping if damaged, seeding, sodding and graveling, if damaged.

The Contractor is advised that this lining project is required due to deterioration of the reinforced concrete pipe and shall be prepared to respond to complications due to pipe deterioration and issues associated with infiltration. The thickness of the CIPP liner shall be designed assuming a fully deteriorated pipe.

Water, steam, or UV cure is acceptable for inversion and curing.

The Contractor's attention is directed to the Project Plans for clarification of site locations, limitations and work specifics. Although the plans are based on record information, they may not match existing conditions entirely.

The conditions noted here, including curves in the alignment of the segments, may not be a complete list or match conditions entirely as they are found in the field. It shall be the Contractor's responsibility to perform a complete review and inspection of each site and pipe to verify existing conditions and to locate all features of each segment to be lined, including footage lengths and pipe diameters, prior to ordering, fabrication or lining.

Contractor CIPP operations shall comply with noise ordinance requirements per City of Santa Rosa's City Code Chapter 17-16 Noise.

130-2.02 Quality Assurance:

- A. Work performed under this Section shall conform to the Plans, City Specifications, these Technical Specifications, and shall comply with all standards, rules and regulations, laws and ordinances of the City and all other authorities having jurisdiction, as amended. That which is necessary to make the work comply with the above requirements shall be provided without additional cost to the City.

- B. Contractor Qualifications:
1. The Contractor shall have the following minimum qualifications for each method of installation and curing used on this project:
 - a. If using on-site wet out, the Contractor shall have previous experience with 'on-site wet out' operations on at least three different projects of minimum 45-inch CIPP lining in sewer mainlines. If using UV cure, the Contractor shall have previous experience on at least three different projects of minimum 45-inch lining in sewer mainlines.
 - b. Field Supervisor Experience: The lining field supervisor (defined as the person who is supervising in the field during all phases of the lining) must have the following experience:
 - i. **CIPP Lining:** Installed at least 3,000 feet of minimum 39-inch CIPP lining in sewer mainlines as part of a lining crew (includes both non-supervisory and supervisory work).
 - ii. **CIPP Lining Supervision:** As lining field supervisor, installed at least 1,500 feet of min 39-inch CIPP lining in sewer mainlines.
 - iii. **CIPP Lining Project Supervision:** As lining field supervisor, CIPP lining in sewer mainlines on at least four different projects, a minimum of two of these projects being 36-inches or larger.
 - c. Technician Experience: At least one of the crew members must have the following experience:
 - i. **CIPP Lining:** Installed at least 1,500 feet of min 36-inch CIPP lining in sewer mainlines as part of a lining crew.
 - ii. **CIPP Lining Projects:** Installed CIPP lining in sewer mainlines on at least two different projects as part of a lining crew.
 2. The final decision to accept or reject the product, manufacturer, and/or installer lies solely with the City. The named Manufacturer, Field Superintendent, CIPP Installer, Lateral Cutter, and Boiler Technician must be employed to perform the work, unless changes are specifically authorized by the City.
- C. Correction of failed liner or liner pipe deemed unacceptable, as a result of the post-lining video inspection and/or test reports for structural values, thickness, chemical resistance, etc., shall be the responsibility of the Contractor, at no extra cost to the City. Method of correction/repair must be approved by the City with prior field demonstration, if requested by the Engineer. If deemed necessary by the Engineer, corrective actions may include full liner removal and replacement at no additional cost to the City. Once corrections/repairs are completed, a new video inspection will be required at the Contractor's expense.
- D. The finished liner shall be continuous over the entire length of runs (from manhole to manhole or structure to structure as shown on the Plans) and shall be free from visual defects. The finished liner shall meet or exceed the requirements of this specification.
1. The Contractor shall televise the pipe after the liner has been installed, all laterals have been reinstated (as applicable), all sewer reconnections have been made, and manhole work has been completed as necessary. The original television inspection video tape shall be provided to the Engineer on compatible electronic media. If specialized software is needed to review the videos, it shall be provided to the City at no cost. The Contractor shall repair all damage found during the review of these final television inspection video tapes at no additional cost to the City. Damage shall be defined as any leaks, cracks, loose joints, visual defects, and other defects which in the opinion of the Engineer are not acceptable and would impair the serviceability of the new piping system.

2. All materials and work supplied under this section shall be warranted for a period of two years by the manufacturer and the Contractor. Warranty period shall commence upon written notice of completion by the City. The materials shall be warranted to be free from defects in workmanship, design, and materials. If the materials should fail during the warranty period, they shall be replaced or restored to service at no expense to the City.

130-2.03 Submittals: The Contractor shall submit to the Engineer a complete list of all materials proposed to be furnished and installed before materials are delivered to the job site. The Contractor shall not permit any sewer lining component to be brought onto the job site until the following has been reviewed and approved by the Engineer.

- A. The Contractor shall submit the following prior to starting CIPP lining Work:
 1. Quality Assurance / Quality Control
 - a. Contractor qualifications, as outlined in Technical Specifications **Section 130-2.02 Quality Assurance** of these Technical Specifications.
 - b. Contractor's safety plan.
 - c. Contractor's quality control plan which shall include the name and contact information of the Contractor's quality control personnel.
 - d. Contractor's statement of CIPP liner system product conformance to the Contract Documents.
 - e. Certificate of Compliance from the manufacturer certifying compliance with the Contract Documents. The manufacturing date of the lining materials and resin batch number(s) shall be included in the certification. Certification shall be signed by an authorized manufacturer's agent.
 - f. Repair and/or replacement procedures for finished liner defects (e.g., wrinkles, lifts, blisters, cracks). Repair/replacement procedures shall be as recommended by the CIPP liner manufacturer and in accordance with the Contract Documents.
 - g. Sampling procedures and proposed locations for obtaining representative samples of the finished liner.
 - h. Literature and background information on the independent third-party testing laboratory proposed for testing the physical properties of the installed pipe.
 2. Installation Procedures
 - a. Pre-lining:
 - i. Plans and procedures to shut down sewer services (including duration), bypass pumping plans, traffic control plans, and a list of equipment (including redundancy).
 - ii. Pre-liner material information, manufacture's installation instructions including splicing recommendations, identification of supplier, and Contractor's installation procedure.
 - b. CCTV: Color CCTV video (electronic format) and inspection reports of existing pipeline (host pipe) in live flow and again after cleaning and necessary point repairs (including arrest of I/I) and prior to lining. CCTV inspections shall be conducted per the latest version of NASSCO's PACP.
 - c. Air Quality: Contractor's plan for ensuring compliance with State of California Air Quality requirements. Plan shall include Contractor's means for air quality testing to ensure compliance.
 - d. Lining Layout: Provide a map showing the planned launch and reception site locations.

- e. Liner Installation:
 - i. Methods, materials, equipment, and procedures to stop existing infiltration into the host pipe prior to lining.
 - ii. CIPP liner system material and resin information, including, but not limited to, manufacturer's recommended shipping and storage requirements, MSDS sheets, and manufacturer's installation instructions and product data.
 - iii. Verification of product conformance by third party testing for the chemical resistance and physical testing requirements and the report of test results.
 - iv. Data, measurements, assumptions, and calculations for sizing liners (and pre-liners, if applicable), including a document that shows where the contractor field measured the diameter of the existing pipe segment and what those measurements were for each location. Diameter shall be measured along more than one axis (12:00 to 6:00, 3:00 to 9:00) and shall be taken from at least two different locations along each existing pipe segment to be lined. Liner design calculations shall be supported by field analysis, technical assumptions, requirements of these Technical Specifications, and ASTM F1216. Design assumptions shall be stated clearly as part of the calculations provided. Design calculations shall be checked and approved (stamped) by a Registered Civil Engineer in the State of California and shall be provided to the Engineer prior to ordering or fabricating any liner materials.
 - v. Methods, materials, equipment, and procedures to install the hydrophilic end seal gasket.
 - vi. Proposed hydrostatic head or pressure head required for insertion of the liner with associated calculations.
 - vii. If using steam or water cure, procedure to ensure that the liner and cure water or steam reaches the proper temperatures during curing, including at locations near cracks in the host pipe. The outlined procedures shall address Contractor's plans to ensure that water or steam is not trapped between the liner and the host pipe. Provide calculations indicating anticipated backpressure on the liner from pipe leaks.
 - viii. If using UV cure, manufacturer's recommended UV-light intensity levels and exposure times to be used throughout the various phases of installation and method of application for each diameter.
 - ix. Method for liner repair (i.e., vacuum holes, etc.).
- f. Resin Application:
 - i. Technical data sheets from resin manufacturer, including quality control values for viscosity and gel time and average values for flexural modulus and flexural strength.
 - ii. Certified copies of quality control resin batch test reports. Report to include measured values for viscosity and gel time, infra-red spectrum analysis for all resin batches associated with each CIPP liner used in the Project.
 - iii. After each impregnation of a tube for an installation, a process record that verifies that the resin impregnation yield matches the required

quantity for the diameters and thicknesses.

- iv. Certification from the manufacturer that the resin and tube material comply with the required application, meets the intended service condition and the physical requirements set forth in this specification.
 - v. Volume of resin required per unit length (gallons/foot or liters/meter) to fill the volume of air voids in the tube plus the additional allowance for polymerization shrinkage for each run (from manhole to manhole) installed on the Project.
- g. Contractor's Curing Plan:
- i. If using steam or water cure, Contractor's plan for procuring water for water or steam cure including, but not limited to, location of source water and materials and methodology to transmit water from source to discharge point.
 - ii. Curing process details and cure schedules (heat-up, hold, and cool-down cycles and temperature control).
 - iii. Methods for temperature control and monitoring for each pipe diameter and CIPP thickness including information on thermocouple sensors and cable that will measure temperatures between the CIPP liner and invert of the host pipe during the curing process. Include information on software that will be used to record temperatures during the curing process.
 - iv. Information on the proposed heating equipment, the boiler management and operational safety systems, and a list of certified boiler technicians approved as operators by the manufacturer or an independent testing agency.
 - v. Documentation describing methods, equipment, and material used to filter cure water. All filter equipment shall be placed on spill guards.
- h. Trimming and Finishing: Methods, materials, equipment, and procedures to seal the annular space between the CIPP and the host pipe at the manholes (also referred to as the "end seal") and at internally reinstated service connections, if applicable. End seals are required at every manhole including the manholes that are lined through.

B. Submit the following after completing the lining.

1. CCTV: Color CCTV video (electronic format) of the CIPP after complete cure of the liner.
2. Test Data: Verification of product conformance by third party testing on pre-installed materials and on installed and cured liner material for liner thickness, water tightness, chemical resistance and physical testing requirements. A Chain-of-Custody form shall accompany all materials to be tested and the report of test results.
3. For steam or water cured CIPP, submit Cure Records: Heating and cool down records showing the temperatures recorded at each thermocouple/sensor during the curing process. Temperature measurements shall be recorded continuously throughout the curing process.
4. For UV cured CIPP, submit documentation in the form of contemporaneous logging of the UV-light intensity and length of exposure time as the light train moves along the length of each installation. The log shall also report the air pressure maintained inside of the liner during the curing process. The data shall be recorded in a digital database that is tamper proofed.

- C. Noise: Contractor's plan for ensuring compliance with City of Santa Rosa Noise Ordinance during lining and associated activities.
- D. Traffic control information.
- E. Door hanger and other public notification information.
- F. Schedule: Overall Project schedule submitted within three days of Notice to Proceed. Updated overall Project schedule submitted two days before lining crew arrival on the jobsite.
- G. Upon approval of the Engineer, the manufacturer's recommendations shall become the basis for acceptance or rejection of actual methods of installation used in the work.

130-2.04 Product Handling:

- A. Liner pipes shall be properly stored and handled to prevent damage in accordance with the manufacturer's recommendations and as approved by the Engineer. Damage includes, but is not limited to, gouging, abrasion, flattening, cutting, puncturing, or ultra-violet (UV) degradation. All damaged materials and pipe rejected by the Engineer shall be promptly removed from the Project site at the Contractor's expense and disposed of in accordance with current applicable regulations.
- B. Protection: The Contractor shall use all means necessary to protect sewer lining materials before, during, and after installation and to protect the installed work and materials of all other trades.
- C. Replacement: In the event of damage, the Contractor shall immediately make all repairs and/or replacements necessary to the satisfaction of the Engineer, at no additional cost to the City.

130-2.05 Existing Sewer System:

- A. Active Sewers: The Contractor shall maintain in operating condition all active sanitary sewers encountered in the sewer lining installation.
- B. Connections to Existing Sewers and Manholes: The Contractor shall make all required connections to existing sewers and manholes and carry out such work in accordance with local standards and requirements and as directed by the Engineer. Extreme care to prevent debris from entering into existing sewers shall be exercised.
- C. The Contractor shall furnish, prior to use of the materials, satisfactory written certification of their compliance with the manufacturer's standards for all materials and conformance with the methods of the manufacturer and ASTM requirements.
- D. Best Management Practices for work at all sites:
 - 1. The Contractor shall prepare a Spill Contingency Plan, as part of their Emergency Response plan.
 - 2. The plan shall be submitted to the Engineer for approval prior to start of work, Best Management Practices (BMP) measures for work in the vicinity of a creek. The Contractor and Engineer shall meet prior to the beginning of work to discuss the plan.
 - 3. The plan shall be on site along with the CIPP Work Plan and working Plans. The following minimum BMPs shall be in place or available whenever the bypass pumping is being performed at sites near a waterway:
 - a. BMP measures (such as sandbags) shall be implemented around manholes/placement points.
 - b. Manholes or structures adjacent to a creek shall be monitored at all times with radio communication between crew members.

- c. Sandbags or straw wattles shall be placed around all areas where the backhoe is operating.
- d. Sewer manhole will be available for pumping all water used in the curing process or trench draining.
- e. The Contractor shall have a safety representative on site for security purposes and monitoring operations.
- f. Contractor shall have the equipment necessary on site for building emergency berms or containment basins, as needed.
- g. A vac-truck with hoses shall be available on Standby with a minimum response time of 30 minutes if required.
- h. A pump truck with hoses shall be available on Standby with a minimum response time of 30 minutes if required.

130-2.06 Cured-In-Place Pipe Lining:

- A. The hydraulic capacity of the lined section shall be maintained as large as possible.
- B. The liner pipe material shall be designed for use in gravity sanitary sewers and shall be in strict conformance with all applicable sections of ASTM F1216 specifications. All materials and procedures used in the cured-in-place pipe rehabilitation process shall be equal to or exceed the manufacturer's standards. The CIPP design shall assume no bonding to the original pipe wall. The pipe liner shall have at a minimum the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.
- C. Preliner Tube: Contractor shall use a preliner tube sized to fit host pipe in areas where active infiltration is present and cannot otherwise be arrested by other means (see **Section 130-2.11, H Existing Pipeline Infiltration and Inflow** of these Technical Specifications). Preliner tube must be composed of 3-ply laminate sheet combining two layers of polyethylene film and high strength nylon cord grid formed into a tube sized to fit host pipe and must be continuous for the entire length of host pipe.
- D. CIPP Tube: The tube shall be fabricated to meet the requirements of ASTM F1216 or ASTM F1743, Section 5 and the performance requirements as specified herein. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and be capable of stretching to fit irregular pipe sections. Two different types of systems shall be considered for CIPP: Fiber Felt Tube System or Fiberglass Mat System or approved equivalent. The Engineer shall make any determination of equivalency after being presented with relevant documentation published by the manufacturer of proposed substitution materials. Tubes reinforced with glass or carbon fibers shall be allowed by written permission by the Engineer.
 - 1. The tube shall have a uniform thickness that when compressed at installation pressures will meet or exceed the Design thickness.
 - 2. The tube shall be free of tears, holes, cuts, foreign materials, abrasions or other defects and will be subject to inspection by the City.
 - 3. Contractor shall determine the minimum tube length necessary to effectively span the designated run between manholes, unless otherwise specified. Contractor shall field verify the lengths of existing sewer to be lined in the field prior to impregnation of the tube with resin, to ensure that the tube will have sufficient length to extend the entire length of run.
 - 4. The minimum length of the flexible tube shall be as necessary to span the distance between manholes, with allowance for proper circumferential stretching during inversion or shrinkage due to pressure or expansion.
 - 5. Due to corrosion, the existing pipes may have an irregular shape. Before

ordering the liner materials, the Contractor shall measure the inside diameter of the existing pipelines in the field so that the liner tube can be custom fabricated to be installed in a tight-fitted condition in the existing pipes. Diameter measurements shall be taken from at least two different locations along an existing pipe segment and along more than one axis (12:00 to 6:00 and 9:00 to 3:00). The liner tube shall be sized so as to stretch to fit irregular pipe sections and negotiate bends.

6. The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident. It shall not be possible to separate any layers with a probe or knife blade such that the layers separate cleanly, or the probe or knife blade moves freely between the layers.
7. The outside of the tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 feet. Such markings shall include the Manufacturer's name or identifying symbol.
8. Fiber Felt Tube System
 - a. The felt tube shall be a sewn thermoplastic polyester or acrylic tube consisting of one or more layers of flexible needled felt or an equivalent woven and/or non-woven material capable of carrying resin, and with sufficient needling and cross-lapping and strength to withstand the installation pressures and curing temperatures. The felt tube to be furnished shall be compatible with the resin and catalyst systems to be utilized.
 - b. The finished lining shall consist of an inner polyurethane and an outer polyester felt layer (or layers) impregnated with a thermosetting resin and fabricated to fit tight against the existing pipe wall. An allowance shall be made for circumferential stretching during inversion.
 - c. The tube shall be sewn to a size that when installed will tightly fit the internal circumference and length of the original pipe and produce the required liner thickness after the resin is cured. Allowance should be made for circumferential stretching during inversion. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be utilized.
 - d. The outside layer of the tube (before wet-out) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wet-out) procedure.
 - e. Seams in the tube shall be stronger than the non-seamed felt.

OR

9. Fiberglass Mat System

Fiberglass Mat System: The tube shall be composed of a high strength, fiberglass mat system capable of retaining resin, contained within a system of polyethylene film on both the interior and exterior. The tube shall have sufficient needling and cross lapping to yield a minimum burst strength of 800 pounds per square inch in transverse directions (hoop stress), and strength to withstand the installation pressures and curing temperatures. The tube shall be free from tears, holes cuts, foreign materials and other defects, and will be subject to inspection by the City.

E. Resin/Catalyst:

For UV-cured CIPP, UV or heat curable resin suitable for the design conditions as well as the curing process shall be used. The resin shall saturate the tube and produce a properly cured liner which is resistant to abrasion due to solids, grit, sand,

and other deleterious materials.

For water or steam cured CIPP, the resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of the CIPP for this project. The resin shall produce CIPP which will comply with the structural and chemical resistance requirements of this specification.

1. The resin used shall produce a cured tube which shall be resistant to abrasion from solids, grit, and sand in wastewater and be compatible with the rehabilitation process used and designed for a wastewater environment. The resin shall be able to cure in the presence or absence of water, and the initiation temperature for cure shall be as recommended by the resin manufacturer and approved by the Engineer. The resin shall have sufficient properties to obtain non-draining characteristics when impregnated into the fiber fabric.
 2. The Engineer shall also be informed in advance, for verification and inspection of the resin material at the "wet out" of the tube. The inspection shall be at the discretion of the Engineer, which shall not relieve the Contractor of their responsibilities. The wet-out procedure shall utilize the resin and catalyst in sufficient quantities to ensure complete impregnation of the liner and provide the properties specified herein.
 3. If resin enhancers are proposed for use, the Contractor shall provide testing data to indicate that the enhanced resins meet the requirements for the Project. The Engineer can disallow the use of enhancers at no additional cost to the City.
 4. The catalyst system shall be compatible with the resin and other materials to be utilized in the rehabilitation process. Quantity and type of catalyst shall be selected based on the curing conditions and recommendations of the resin manufacturer.
- F. The chemical resistance of the resin system selected shall have been tested by the resin manufacturer in accordance with ASTM C581. Exposure to the chemical solution listed below shall result in a loss of not more than twenty percent of the initial physical properties when tested in accordance with ASTM C581 for a period of not less than one month.

CHEMICAL SOLUTION	CONCENTRATION, %
Tap Water (pH 6-9)	100
Nitric Acid	5
Phosphoric Acid	10
Sulfuric Acid	10
Gasoline	100
Vegetable Oil	100
Detergent	0.1
Soap	0.1

1. The resin system shall be manufactured by a company selected by the CIPP supplier. Only polyester and vinyl ester resins complying with the following requirements shall be used.

- a. Polyester Resin. A resin created by reaction products between isophthalic/terathalic acid, maleic anhydride, and a glycol characterized by reactive unsaturation located along the molecular chain. This resin is compounded with a reactive styrene monomer and reacted together with initiators/promoters to produce cross-linked copolymer matrices.
 - b. Vinyl Ester Resin. A resin created by reaction products of epoxy resins with methacrylic acid and characterized by reactive unsaturation located in terminal positions of the molecular chain. This resin is compounded with a reactive styrene monomer and reacted together with initiators/promoters to produce cross-linked copolymer matrices.
2. The initiation temperature and duration for cure shall be as recommended by the resin manufacturer. Temperature monitoring devices shall be installed at all exposed portions of the pipe (beginning and end of run- no intermediate manholes shall be allowed) for each inversion or run of installed liner pipe between the host pipe and the CIPP liner. The resin shall have sufficient thixotropic properties to obtain non-draining characteristics when impregnated into the fiber fabric.
 3. The catalyst system shall be compatible with the resin and other materials to be utilized in the rehabilitation process. Quantity and type of catalyst shall be selected based on the curing conditions and recommendations of the resin manufacturer.
 4. The wet-out procedure for the tube shall utilize the resin and catalyst in sufficient quantities to ensure complete impregnation of the liner and provide the properties as specified in this Specification.

G. CIPP Liner Design Criteria

1. The liner material and thickness shall be calculated and designed for use in gravity sanitary sewers and must be in strict conformance with all applicable sections of ASTM F1216 and D5813. The tube shall have a uniform thickness that, when compressed at installation pressures, will meet or exceed the Design thickness.
2. The Cured-In-Place Pipe thickness shall be calculated and designed upon the following physical conditions of the existing pipe to be rehabilitated:
 - a. All pipes shall be considered fully deteriorated.
 - b. All pipes shall be subjected to up to 20 feet of soil load of 120 lbs./cu. ft., with applicable live load.
 - c. Pipes in good condition shall have a minimum of 2% ovality in the circumference. A higher value of ovality shall be used if the pipe is deteriorated.
 - d. Factor of safety (N) of 2.0 shall be used for calculations.
 - e. Hydraulic Capacity:

Overall, the hydraulic profile shall be maintained as large as possible. The pipe liner shall have at a minimum the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.
 - f. Inside diameter of the existing pipe used in calculating liner thickness shall be as measured in the field, by the Contractor, prior to producing pipe calcs and ordering lining materials so that the liner can be lined in a tight fitted condition. See

Section 130-2.08.A Existing Conditions – Site Review.

- g. A Modulus of Soil Reaction (E) of 1000 psi shall be used.
 - h. Assume that groundwater level is at ground surface.
 - i. HS20 highway live loads.
 - j. External Buckling Design – Acceptable third-party testing and verification of the design analysis techniques (ASTM F1216, Section X1.2.2)
 - k. The pipe liner shall be designed to bear full pipe loading. Host pipe shall be assumed not to provide any structural support.
 - l. Minimum service life of 50 years.
3. Finished and Cured Liner Properties
- a. The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly, or the probe or knife blade moves freely between the layers. If separation of the layers occurs during testing of field samples, new samples will be cut from the cured CIPP liner. Any reoccurrence may cause rejection of the work and liner will have to be removed and replaced by the Contractor at no additional cost to the City.
 - b. The finished cured-in-place pipe liner shall fit tightly and neatly against the existing pipe walls.
 - c. The liner shall be fabricated from materials which, when cured, will be suitable for continuous service in sewerage environments containing hydrogen sulfide, carbon monoxide, carbon dioxide, methane, dilute (10%) sulfuric acid at an average wastewater temperature of 80°F, dilute (10%) phosphoric acid, petroleum hydrocarbons, gasoline, vegetable oil, tap water (pH 6.5 - 9), up to 1 hour per day exposure to 5 percent sodium hydroxide up to a pH of 11, moisture saturation, and external exposure to soil bacteria and chemical attack which may be due to materials in the surrounding ground or sewage within.
 - d. The physical properties of the cured liner shall meet the minimum chemical resistance requirements of ASTM F1216, shall conform to the structural standards as listed in Section 76-2.01 D, and with the minimum standard physical properties as follows. Any liner not meeting these criteria shall be repaired to the satisfaction of the Engineer at no additional cost to the City.

MINIMUM PHYSICAL PROPERTIES

PROPERTY	REFERENCE	MINIMUM VALUE	
		Short Term	Long Term
Wall Thickness	ASTM D 2122	As calculated	N/A
Flexural Strength	ASTM D 790	4,500 psi (polyester) 5,000 psi (vinyl ester)	N/A

Flexural Modulus of Elasticity	ASTM D 790	250,000 psi (polyester) 300,000 psi (vinylester)	125,000 psi (polyester) 150,000 psi (vinylester)
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Liner shall be homogenous throughout and free of:

1. Serious abrasion, cutting, or gouging of the outside surface extending to more than 10 percent of the wall thickness in depth.
 2. Cracks
 3. Kinking (generally due to excessive or abrupt bending)
 4. Flattening
 5. Holes
 6. Blisters
 7. Foreign materials
 8. Other injurious defects
- e. Liner shall be uniform in color, opacity, density, and other physical properties. Any lining not meeting these criteria shall be repaired to the satisfaction of the Engineer or rejected at the Engineer's option.
- f. Liner Color: Liner shall conform to the following:
 Inside: The interior of the liner shall be light in color. Light blue is acceptable. Proposed color(s) shall be submitted for review and approval prior to the Contractor ordering the liner.

H. One Time Wastewater Discharge

1. The Contractor shall comply with the General Discharge Requirements as well as any additional project-specific requirements established by the City of Santa Rosa's wastewater treatment plant in response to the Contractor's One Time Wastewater Discharge permit application (Appendix A).
2. The Contractor shall permit the City and/or its designated Construction Manager to collect samples of cure water and cooling water used during the CIPP installation process. Sampling shall occur at times determined by the City or Construction Manager and shall not interfere with the Contractor's operations. The Contractor shall provide reasonable access to the sampling location(s) and cooperate as necessary to facilitate sample collection. Samples will be tested by the City.

13-2.07 Execution: This section is intended to provide the Contractor with general guidance on the methods to be used to install the sewer pipe using the CIPP liner method. Nothing contained herein shall relieve the Contractor from completing the pipe rehabilitation in the most feasible, efficient and safe manner, using required materials to the lines and grades of the sewers to be rehabilitated as shown on the Project Plans and to the requirements of these Technical Specifications.

130-2.08 Existing Conditions:

- A. Site Review
 1. Prior to ordering any lining materials, fabrication of any lining materials, the commencement of bypass pumping operations, or the commencement of lining any pipes, the Contractor shall:
 - a. Perform a site review and CCTV video inspection of all pipe segments in live flow per City Standard

and accepted by the Engineer. Several passes, if necessary and at no additional cost to the City, with high-pressure jet cleaning equipment shall be performed until all debris is removed from the pipe to the written satisfaction of the Engineer. If roots are present, root cutters or mechanical brushes shall be attached to the jet nozzle and sent through the line to remove all root intrusions. All spoils shall be removed from the pipe and shall be properly disposed of. Contractor may dispose of spoils at the City's Wastewater Treatment Plant if the spoils are properly decanted to the satisfaction of the City. Contractor shall coordinate spoils disposal directly with personnel at the City's Wastewater Treatment Plant.

E. Inspection of Pipelines

1. CCTV Inspection: After bypass pumping has been set up and is in operation and the sewers have been cleaned, the Contractor shall provide experienced personnel trained in locating infiltration, breaks, obstacles and service connections to inspect the pipes via color closed circuit television (CCTV). The interior of the pipelines shall be carefully inspected to determine the location of any condition which may prevent the proper installation of the liner into the pipeline. Contractor shall report findings to the Engineer in writing so that these conditions can be monitored while being corrected by the Contractor. A DVD or flash drive, and a suitable legible log shall be kept for later reference by the City. Once any necessary point repairs have been completed by the Contractor and the Contractor is ready to proceed with lining, he shall CCTV inspect the pipeline and provide the results of that inspection to the Engineer for review and written acceptance.
2. The television inspection shall be in accordance with these Technical Specifications, Section 130-1.09 of the City Standard Specifications, and NASSCO PACP version 7.0. All pre- and post-CIPP CCTV videos and associated data files shall be transmitted to the City at the completion of the Project.
3. Contractor shall not proceed with any lining until he has received written acceptance of the CCTV inspection from the Engineer.

F. Bypassing Flow

See Section 130-02 of these Technical Specifications.

G. Line Obstruction

It shall be the responsibility of the Contractor to clear the line of obstructions or collapsed pipe that will prevent the insertion of the liner or closed-circuit television camera prior to lining. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment or by remotely performed point repair methods acceptable to the Engineer, then the Contractor shall make a point repair by either man-entry methods or excavation to uncover and remove or repair the obstruction via Change Order. Before any point repair via man-entry or excavation is pursued, the Contractor shall give the Engineer three (3) working days-notice. Point repair via man-entry or excavation shall proceed only with the Engineer's written authorization. Protruding laterals shall be removed either internally with a hydro jet cutter or by external point repair, via Change Order. The City may direct additional point repair and obstruction removal based on the pre-installation television inspection above. Point repairs and obstruction removal directed by the City will be added to the work of this Section by Change Order.

- H. Existing Pipeline Infiltration and Inflow
It is the responsibility of the Contractor to plug or otherwise stop existing active inflow and/or infiltration in the existing pipeline prior to lining. The Contractor shall demonstrate that inflow and/or infiltration has been arrested by providing CCTV footage of a clean and dry host pipe prior to beginning any lining per Technical Specifications Section 130. It is acceptable for the Contractor to grout cracks and leaks, if necessary for successful rehabilitation. Grouts shall be compatible with the CIPP lining system. All work associated with plugging or otherwise stopping existing active inflow and/or infiltration in the existing pipe prior to lining shall be considered as part of the price for CIPP lining. No extra payment shall be provided to the Contractor for this work.
- I. Manhole Protection
The Contractor shall protect the manholes or structures to withstand forces generated by equipment, water or air pressure used while inserting the liner. The Contractor shall be fully responsible for any damages to existing structures or utilities caused by the Contractor's operations.
- J. Service Connections
The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing the pipe liner. Only active connections shall be reinstated. The determination of whether or not a lateral is active will be as determined by the Engineer.
- K. Delivery, Storage, and Handling
1. If the flexible tube is impregnated with resin at the factory, it shall be transported, installed, and cured before expiration of the shelf life.
 2. Impregnated tube shall be stored and transported under refrigerated, ultraviolet light-free conditions.
 3. No cuts, tears, or abrasions shall occur during handling. The Engineer may inspect the tube before it is placed into the host pipe.

130-2.12 Installation:

- A. General
1. The Contractor shall be an approved manufacturer's licensed installer of the proposed pipe liner system.
 2. The liner shall be installed through the existing manholes or structures, in accordance with the manufacturer's recommendations and procedures. The finished pipe on mainline reaches shall be continuous over the entire length between manholes or structures as shown on the Plans and be free from visual defects such as foreign inclusions and pin holes. The ends of the pipe lining shall be cut flush at the outlet point in the manhole or structure by using a rotary cutter, and the ends shall be sealed to the rehabilitated pipeline. Any annular space between the CIPP liner and the rehabilitated pipe shall be filled with the same material as was used to seal the ends of the liner. The sealing material shall be compatible with the pipe liner, host pipe and field conditions (water, humidity etc.), and shall provide a watertight seal.
 3. CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with modifications as outlined in this specification.

- B. Preliner Installation (as required)
 - 1. The Engineer must witness the installation of each preliner tube. A preliner tube complying with these Technical Specifications must be used to protect against uncontrolled infiltration and may be used to control resin loss and prevent blocked laterals. For long segments, several sections of preliner tube may be spliced together under preliner manufacturer's recommendations to form a tube of adequate length.
 - 2. If the Contractor fails to install the required preliner tube over the entire segment as required by the Engineer (regardless of physical tests and thickness test results), the Contractor must remove the CIPP from the host pipe, dispose of it at, and install a new preliner and CIPP liner no additional cost to the City.
- C. Preparation and Protection of Existing Facilities
 - 1. The Contractor shall protect all existing landscaping, roadways, piping, and any other existing feature of the work area from damage. Any and all required repairs will be made by the Contractor at no additional cost to the City.
 - 2. On site wet out facilities (as necessary) shall be fully contained. A liner or other spill prevention exclusionary material shall be used beneath all wet-out facility equipment, chemicals, and materials so as to prevent any spills.
 - 3. The Contractor shall provide insulation protection from boiler hoses as necessary. In particular, where boiler hoses are in contact with grass or other landscaping the hoses shall be insulated, elevated, or separated in a manner such that the vegetation will not be damaged by the heat.
- D. Wet Out
 - 1. Wet out shall be done either on-site or off-site with the fully impregnated liner trucked to the site. If wet out is done off-site and impregnated liner is trucked to the site, Contractor shall comply with all City and County road ordinances and requirements related to roadway maximum bearing capacity and weight limits. If wet out is done on-site, all work shall be contained within the existing permanent and temporary construction easements.
 - 2. The fiber-felt tube shall be fully impregnated with resin by vacuum. The resin and catalyst systems that are compatible with the requirements of the method shall be used. The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowance for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall.
 - 3. The impregnated liner bag shall be protected from heat and ultraviolet light exposure until it is inverted into the host pipe. The impregnated liner bag shall be transported to and/or stored at the site as needed and stored in such a manner that it will not be damaged, exposed to heat and/or direct sunlight, or result in any public safety hazard. All materials shall be subject to inspection and review prior to installation. The impregnated liner bag must be installed prior to exceeding the resin pot life.
 - 4. On site wet-out facilities shall be fully contained. A liner or other spill prevention exclusionary material shall be used beneath all wet-out facility equipment, chemicals, and materials so as to prevent spills.
- E. Installation of temperature measuring sensors

1. Temperature monitoring devices shall be installed at all exposed portions of the pipe (beginning of run, end of run, and intermediate manholes) for each inversion or run of installed liner pipe between the host pipe and the CIPP liner.
2. Continuous temperature monitoring sensors shall be installed at least every three (3) inches between the outside of the liner and the invert of host pipe between the terminal points to determine the temperature during the cure. The temperature and duration of the cure shall be in accordance with the manufacturer's recommendations.
 - a. The temperature gradient across the CIPP liner material and the temperature of the exotherm shall be monitored by remote temperature sensors placed at the interface of the host pipe and the CIPP.
 - b. The temperature shall be held for an adequate length of time to ensure that the physical design properties are attained. The curing process shall not be terminated until the temperature sensor readings indicate that a satisfactory cure has been completed. Extended cure times shall not adversely affect the properties of the CIPP lining materials.
 - c. The heat source piping shall be fitted with continuous monitoring thermocouples to gauge the temperature of the incoming and outgoing water supply. Water temperature during the cure period shall meet the resin manufacturer's requirements as measures at the heat source inflow and outflow return lines.

F. Liner Insertion

1. The Contractor may use water or air pressure for inversion.
2. The impregnated tube shall be inserted through an existing manhole or other access points approved by the Engineer by means of the installation process. The application of hydrostatic head or air pressure shall fully extend the tube to the next designated manhole or termination point and inflate and firmly adhere the liner to the pipe wall until the pipe has been fully cured.
3. A liner shall not be installed and terminate at a "blind end" (i.e., in a location other than at an existing manhole or structure). No overlap shall be allowed between two existing manhole structures. A liner must run continuously with no joints or overlaps between two manholes or other access points.
4. The liner shall be installed at a rate less than 10 feet per minute at all times.
5. Where water or steam is used for the liner installation method, the Contractor is responsible for obtaining and paying for the water used. Potable or recycled water may be used for water cure.
6. In landscaped areas, whether native or aesthetic, the Contractor shall provide insulation protection from boiler hoses. Where boiler hoses are in contact with vegetation, the hoses shall be insulated, elevated, or separated in such a manner that the vegetation will not be damaged by the heat.

G. Water or Steam Curing

1. The Contractor may use water or steam for inversion and curing.
2. After liner placement is completed, a suitable heat source and distribution equipment shall be provided. The equipment shall be capable of circulating hot water or steam throughout the section by means of a pre-strung hose which has been perforated in accordance with the manufacturer's recommendations or other methods acceptable by the Engineer to raise the temperature uniformly above the temperature required to affect a resin cure. This temperature shall be determined by the manufacturer based on the resin/catalyst system employed. The curing of the CIPP must take into account the existing pipe material, the resin system, and the ground

- conditions (temperature, moisture level, and thermal conductivity of the soil).
3. Water or steam temperature during the cure period shall meet the requirements of the resin manufacturer as measured at the heat source inflow and outflow return lines. At the direction of the Engineer, the Contractor shall provide standby equipment to maintain the heat source supply. The temperature during the cure shall be in accordance with the manufacturer's recommendation.
 4. The initial cure shall be deemed to be completed when inspection of the exposed portions of the CIPP appear hard and sound and the remote temperature sensors indicate that an exotherm has occurred. The Contractor is responsible to determine the best way to cure the entire liner, including portions located at potential heat sinks. The cure period shall be of duration recommended by the resin manufacturer during which time the recirculation of the water or steam and cycling of the heat exchanger continuously maintain the required temperature.
 5. Temperature shall be maintained during the curing period as recommended by the resin manufacturer and shall follow the heating schedule supplied by the manufacturer and reviewed by the Engineer. During the cure process, the Contractor shall keep logs, charts, and/or graphs of the liner temperatures at the specified locations along the liner to ensure that proper temperatures and cure times have been achieved. The documents may be required by the City at any time during and after the cure process.

H. Cool Down (Water or Steam)

1. The hardened CIPP shall be cooled to a temperature below 100 degrees F before relieving the static head or pressure in the lined pipe and returning normal flow back into the system. The cool down may be accomplished by introducing cool water into the CIPP.
2. Cool down shall be at a uniform and steadily declining rate. Care shall be taken in the release of the static head or pressure so that a vacuum will not develop which could damage the newly installed CIPP liner.
3. Contractor shall install a vertical standpipe to direct cure off-gas discharge to the highest elevation possible so as to dissipate odors.
4. All cure and cool down water shall be carbon filtered to remove styrene prior to discharge to the City's Wastewater Treatment Plant. The Contractor shall comply with the requirements of the City of Santa Rosa's One Time Wastewater Discharge Permit (see Appendix A). The maximum styrene concentration of cure and cool down water shall not exceed 2.13 mg/L or the limit established by the City of Santa Rosa's treatment plant per the project-specific One Time Wastewater Discharge permit requirements, whichever is less. A redundant carbon filtration system shall be on standby in case failure of the primary carbon filtration system occurs.

I. UV CIPP

1. For ultraviolet curing, lights shall be tuned or optimized to the photo initiator system of the resin, or the initiator system of the resin shall be optimized to the output of the ultraviolet curing lights.
2. Travel through the pipe shall be at a pre-determined speed which allows for cross-linking polymerization of the CIPP resin.
3. Air pressure shall be adjusted to sufficient pressure to hold the impregnated fabric tube tight to the pipe wall. The desired pressure shall be maintained by adjustment of the outlet valves.
4. A full protocol for time, rate of travel of the UV assembly, pressures, and amounts of lamps in operation shall be maintained as documentation for the

correct curing of the fabric tube. The protocol shall be recorded automatically from the beginning of inflation of the liner until the end of curing. It shall also show the basic information in a header, and clearly identify the rehabilitation section (e.g., from manhole to manhole).

J. Finished Pipe

1. The finished product shall be continuous over the length of the pipe between manholes, and be free from defects such as dry spots, delamination, and lifts. If these conditions are present, the Contractor shall remove and replace the CIPP at no additional cost to the City.
2. If the finished product has defects that are deemed repairable by the Engineer, the Contractor may repair these defects at their own expense. See Technical Specifications **Section 130-2.16 Repair Procedures**.
3. At the manhole walls, a seal shall be applied per Technical Specifications **Section 130-2.13 Sealing Liner at Manholes** and in accordance with manufacturer specifications and approved by the Engineer.
4. The Contractor shall install the liner to provide a smooth interior surface that is free from significant wrinkles. Wrinkles in the finished lined pipe are unacceptable if they meet any of the following conditions:
 - a. Have a height equal to or greater than 5 percent of the pipe diameter outside of the 120-degree vertical arc,
 - b. Have a height equal to or greater than 2 percent of the pipe diameter inside of the 120-degree invert arc,
 - c. Cause backwater greater than 1 inch in depth,
 - d. Has a void between the wrinkle and the host pipe,
 - e. Cause a maintenance issue or inconvenience as determined by the Engineer,
 - f. Cause debris and solids to accumulate, or
 - g. Reduce the structural integrity of the pipe.

If any of these conditions are present in the finished liner, the Contractor shall provide photographs and dimensions of the wrinkle, including height and direction. The Engineer will determine on a case-by-case basis if replacement or repair of the CIPP liner is required. If replacement or repair is deemed to be required, replacement or repairs shall be made by the Contractor at no additional cost to the City.

130-2.13 Sealing Liner at Manholes:

- A. The manhole connection shall be sealed with a compression hydrophilic end seal gasket compatible with the installed CIPP liner with a minimum width of 3-inches. When the hydrophilic gasket comes in contact with water it must swell to create a 360-degree compression seal between the host pipe and the newly installed CIPP liner at all manhole connections. The swelling that occurs to create the seal between the liner and the host pipe shall not in any way deform the liner in such a manner that, in the opinion of the Engineer, an obstruction in the flow is created. The end seal system shall be compatible with the CIPP curing methods. End seals shall be Hydrotite CJ-0725 or an approved equivalent. End seals shall be installed in accordance with the Manufacturer's recommendations. Due to potential inconsistencies during the application of chemical grout, hydrophilic caulks or hydrophilic paste, these sealing methods shall not be considered an acceptable alternative.
- B. The beginning and end of the CIPP shall be cut flush at the inlet and outlet points in the manhole or at least 3-inches inside the elbow of the rodding inlet, and the ends shall be permanently sealed to the rehabilitated pipeline to prevent any infiltration between the CIPP and the host pipe. Pipe terminations into each manhole or rodding inlet shall be sealed with a resin

mixture that is recommended by the liner manufacturer that is compatible with the liner/resin system, host pipe, field conditions and provides a watertight seal, and is approved by the Engineer prior to start of construction. Hydraulic cements and quick-set cement products are not acceptable. Acceptable materials shall be approved epoxy type products that will bond, not crack, dry up, slough off, or shrink in time, and provide a good transition in the manholes. A bladder or other means shall be relied upon to seal the tapered end of the liner to the host pipe. Sealing shall be performed at no additional cost to the City.

- C. Restore manhole bottom and invert as necessary.
- D. If, due to a broken or offset pipe at the manhole wall, the liner fails to make a tight seal, the Contractor shall apply a seal at that point. The seal shall be a resin mixture compatible with the liner material. The cost for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in providing a watertight seal between the liner and the manhole shall be considered as included in the contract prices paid for sanitary sewer main pipe liner installation and no additional compensation will be allowed, therefore.
- E. On some installations, the cured liner contracts and the length shortens after curing. The Contractor shall execute this Project so that the cured liner does not recede into the host pipe. One acceptable strategy is to cut the liner with an "overhang" initially and then later, after the tensile forces have relaxed, to trim the cured liner flush at the inlet and outlet points. If the cured liner recedes into the host pipe, the liner shall be repaired by the Contractor at no additional cost to the City.

130-2.14 Field Testing:

- A. Unless an alternative test method is approved by the Engineer prior to lining, the Contractor shall test the new liner via the following methods. Obtain samples of the installed cured liner according to ASTM F1216 for short term flexural strength and short-term flexural modulus of elasticity. Analyze according to ASTM D790. All materials testing shall be performed at the Contractor's expense and by an independent third-party laboratory recommended by the manufacturer and pre-approved by the City. Test shall be conducted at a minimum of one location per CIPP inversion. Test samples shall be taken from the downstream manhole. Flat plate samples per ASTM F1216 are acceptable for this Project.
- B. The Contractor shall also remove a sample from each pipe segment to be used to check the liner thickness, by core drilling 2-inch diameter test plugs at locations specified by the Engineer. The Contractor shall repair sample holes per manufacturer's recommendations.
- C. A sample of cured liner from the testing shall be subject to delamination tests by aggressively prying and separation into layers with a knife or sharp-edged instrument. No separation shall be possible. Results shall be included in the report above.
- D. The laboratory results shall identify the test sample location as referenced to the nearest manhole. Final payment for the Project shall be withheld pending receipt and approval of the test results. If properties tested do not meet minimum requirements, the CIPP shall be removed and replaced at no additional cost to the City.

130-2.15 Post-Televising of Completed Work:

- A. Submit to the Engineer a color CCTV video showing completed work (electronic format) per Technical Specifications Section 130.
- B. Correction of failed CIPP or CIPP deemed defective by the Engineer from post-installation television inspection shall be repaired by the Contractor at no extra cost to the City. Method of repair, which may require field or workshop demonstration, shall be as approved by the Engineer.
- C. If the liner fails to install properly, the Contractor shall remove the failed liner and replace it with a new liner. This work shall be performed at the Contractors expense without additional cost to the City. The new liner shall also meet the testing requirements as specified herein.
- D. Any defects which will affect the integrity or strength of the liner shall be repaired by the Contractor at no additional cost to the City. Allowance shall be given for the excess pipe when the cross-sectional area has been reduced due to offset joints, partial collapse, out-of-round sections, etc.
- E. The Contractor shall perform a CCTV inspection of corrected work at no additional cost to the City.

130-2.16 Repair Procedures: Prior to any required repairs taking place, proposed means and methods for the repair shall be submitted by the Contractor to the Engineer for review and approval. The repair plan must include information adequate to describe repair methods in the same way as described in pre-installation information submittal. The Contractor may submit to use one or more of the following repair methods or submit their own repair method for review and approval by the Engineer:

- 1. If concentrated wrinkles/ridges fall outside the 120-degree invert arc and the Contractor demonstrates that grinding does not compromise CIPP structural integrity or reduce CIPP thickness below submitted calculated minimum thickness, the Contractor may grind concentrated ridges to required tolerance. After grinding to required tolerance, coat the ground area with manufacturer's approved resin or epoxy compatible with the liner material. At the end of each workday dispose of any residue generated from grinding.
- 2. If the Engineer approves, the Contractor may make internal spot repairs to CIPP. Internal spot repairs may be made using the approved fabric and resins compatible with CIPP to restore strength and integrity.
- 3. If CIPP does not fit tightly against host pipe at termination point, fill space between CIPP and host pipe with any of the following. "Termination point" is defined as the area between the hydrophilic gasket and the edge of the cured CIPP liner.
 - a. Quick-set epoxy mortar
 - b. High viscosity epoxy
 - c. Hydrophilic vulcanized expansive rubber strip

Material(s) used shall be compatible with CIPP, host pipe and field conditions. Any CIPP that, in the opinion of the Engineer, may affect the flow at or near the invert shall be corrected to the satisfaction of the Engineer.

- 4. If the Engineer orders, the Contractor must use repair methods in Table 2 at their own expense.

Table 2

Defect	Repair Method
<p>Wrinkles or ridges exceeding 5% and up to 8% of pipe diameter outside of 120-degree invert arc.</p> <p>Wrinkles or ridges exceeding 2% and up to 8% of pipe diameter inside of 120-degree invert arc (except corrugations in CMP).</p>	<p>Grind to required tolerance. Repair grinded area with resin/epoxy compatible with the CIPP lining material.</p> <p>Grind to required tolerance within the lower 120 degrees of pipe. Repair grinded area with resin/epoxy compatible with the CIPP lining material. Apply point repairs where needed to maintain minimum liner thickness, or else use procedure in accepted repair plan.</p> <p>If wrinkles or ridges exceed 8% of pipe diameter, you must remove CIPP.</p>
<p>Holes, tears, soft spots, and lifts up to 6 inches in major dimension.</p> <p>Delaminated areas up to 12 inches in major dimension; blistering or bubbling of the coating on CIPP surface present over a maximum of 5% of surface area.</p>	<p>Make point repair under manufacturer's recommendations.</p> <p>If defect covers a larger area than specified, you must remove CIPP.</p>
<p>CIPP thickness less than calculated minimum thickness.</p>	<p>You must remove CIPP. If groundwater conditions allow, you may install a second CIPP within the first CIPP that produces a similar dimension ratio to the first CIPP, or else use procedure in accepted repair plan.</p>
<p>Annular space at lateral connection or at end of CIPP or infiltration at lateral opening.</p>	<p>Seal with quick-set epoxy mortar, high viscosity epoxy or a hydrophilic vulcanized expansive rubber strip.</p>

130-2.17 Final Clean-up:**A. Clean-up**

1. The Contractor shall restore or replace all removed manhole collars, grade rings, frames, covers, and cones; paving; curbing, sidewalks, and gutters; street median; landscaping, fences, and sod; and any other disturbed surfaces or structures to a condition equal to that before the work began, to the satisfaction of the Engineer and appropriate property owner and shall furnish all labor and material incidentals as necessary.
2. Surplus liner material, tools and temporary structures shall be removed by the Contractor. All dirt, rubbish and excess earth from operation shall be legally disposed of by the Contractor and the construction site shall be left clean to the satisfaction of the Engineer.

130-2.18 Payment: The actual quantity of CIPP inspection, cleaning, and installation to be paid for will be the length measured from center of manhole to center of manhole along the finished grade to the nearest foot. CIPP purchased and/or installed by the Contractor in excess of the measured amount will not be paid for by the City.

45" Pre-CIPP Rehabilitation CCTV Inspection shall be paid for at the contract unit price of **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, testing and measuring, and doing all the work involved in CCTV inspection of the 45-inch sewers both in live flow and then again after bypass has been set-up and is running, pipe has been cleaned, point repairs have been completed, and prior to CIPP lining per City Standard Details and Specifications, and these Technical Specifications, and any other items necessary not specifically

enumerated in the Caltrans Standard Specifications and Technical Specifications, and no additional allowance will be made therefor. This bid item includes as many passes as necessary to get a complete CCTV inspection as per written acceptance by the Engineer for the entire sewer segment from manhole to manhole both in live flow and then again after bypass has been set-up, pipe has been cleaned, and necessary point repairs have been made and accepted by the Engineer, but prior to CIPP lining. Additional CCTV inspection may be necessary and required if initial cleaning and/or point repairs are not accepted by the Engineer. These additional CCTV inspections shall be included in the cost of this bid item.

45" Pre-CIPP Sewer Cleaning shall be paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools, and equipment, and doing all the work involved as described herein, including but not limited to, sewer cleaning of the 45-inch pipe to remove all debris, grease, roots, and other materials that would prevent the proper installation of the liner (as defined and accepted by the Engineer); several passes, if necessary, with high-pressure jet cleaning equipment; use of root cutters or mechanical brushes attached to the jet nozzle and sent through the line to remove all root intrusions (as necessary); all spoils removal from the pipe; and all spoils disposal.

45" CIPP Rehabilitation – KK2703MH003 to KK2702MH003 shall be paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved as described herein, including but not limited to, manhole removal, modification and reconstruction with new cones, grade rings, frame, collar, and cover (if removal required to gain access to the pipe for lining); temporary and permanent paving and surface restoration; testing; repair; and any other items necessary for sewer lining not specifically enumerated in these Technical Specifications, and no additional allowance will be made therefor.

Bracing and Shoring, as needed, shall be included in the unit price costs for 45" CIPP Rehabilitation – KK2703MH003 to KK2702MH003 as listed above and shall include full compensation for furnishing all labor, materials, tools and equipment; testing and measuring; and doing all the work involved in installation, maintenance, and removal of sheeting, shoring, and bracing for required excavations per City Standard Details and Specifications, and any other items necessary not specifically enumerated in the Caltrans Standard Specifications and Technical Specifications, and no additional allowance will be made therefor.

45" Post-CIPP Rehabilitation CCTV Inspection shall be paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, testing and measuring, and doing all the work involved in CCTV inspection of the 45-inch sewers after CIPP lining and while sewer bypass is still running per City Standard Details and Specifications and these Technical Specifications, and any other items necessary not specifically enumerated in the Caltrans Standard Specifications and Technical Specifications, and no additional allowance will be made therefor. This bid item includes as many passes as necessary to get a complete CCTV inspection as per written acceptance by the Engineer for the entire sewer segment from manhole to manhole.

Full compensation for these bid items shall be considered included in the prices paid for the above bid items and no additional compensation will be allowed therefor.

130-02 BYPASS PUMPING

130-02-1.01 Description: The Contractor shall provide bypass pumping and/or diversion as required to maintain flows for sewer manhole rehabilitation and CIPP lining works. Bypass pumping shall consist of furnishing, installing, and maintaining all equipment, tools, power, dams, plugs, piping, and anything else (both primary and back up units) required to maintain existing flows and services without interruption. The bypass discharge piping shall be propped up on wooden blocks at 50-foot intervals within the areas defined by the California Department of Fish and Wildlife Permit (**Appendix A**) as “Low Traffic Areas”, as shown on the Plans. See **Section 14 Environmental Stewardship** of these Technical Specifications.

All provisions of the noise ordinance from City of Santa Rosa’s City Code Chapter 17-16 Noise shall apply.

The City’s estimated peak dry weather flow (PDWF) is 7 MGD in this segment of the Robles Trunk Sewer.

The Contractor shall size the bypass pumping system for the Robles trunk to handle the PDWF listed above. Wet weather (defined as pre-April 15th and post-October 15th) peak flows are anticipated to be approximately two times the peak dry weather flows. The Contractor shall use due diligence to complete the work on time and within schedule (outside of the wet weather period). If the Contractor’s work goes beyond the October 15th deadline, then Contractor shall be liable for any additional costs associated with bypass pumping wet weather peak flows.

No lining or bypass pumping may be performed if the National Weather Service predicts more than 0.0 inches of rain (daily total) in the upcoming 72 hours. If unanticipated rain results in increased flows during the bypass pumping operation, exceeding that listed above, the Contractor shall be responsible for accommodating all increased flows within the bypass system and scope will be considered extra work. If unanticipated rain results in increased flows during the bypass pumping operation within dry weather period between April 15th and October 15th, the Contractor shall be responsible for accommodating all increased flows with the bypass system. Augmentation to the bypass pumping operation to accommodate unanticipated wet weather flows after April 15th and prior to October 15th will be paid for as extra work.

Suggested bypass routes and bypass piping quantities shown on Project Plans are for bidding purposes only. The City has obtained additional temporary construction easements where needed and a copy of those documents are contained as Appendix C of these Technical Specifications. The Contractor shall provide and operate all temporary facilities to intercept the sewage flow bypass flow around the work area and maintain traffic control in the work areas.

130-02-1.02 General Requirements: The following requirements shall be incorporated in the submitted bypass plan:

- A. Bypass piping shall be laid above ground unless otherwise specified herein or in the Project Plans.
 - a. Bypass piping shall be shallow buried through Arlington Avenue in order to provide traffic access. The trench shall be covered to allow continual passage of vehicles over the bypass piping. The Contractor may elect to use skid resistant trench plating to cover the trench. If a trench plate is used, the plate is

required to be inset into the pavement and hot mix asphalt shall be placed around the perimeter of the trench plate. If the trench is backfilled without a steel trench plate, it is the responsibility of the Contractor to ensure all the bypass components are capable of sustaining normal (HS20) traffic loads. Temporary paving shall be placed over trenches having temporary backfill per Technical Specifications Section 39 and 39A. Permanent paving shall be placed after bypass operations are completed per Technical Specifications Section 39A.

- B. Bypass piping located within the Hazel Mitigation Bank, and at any other location designated on the Plans, shall be propped up on 4-inch wide by 18-inch tall by 4-inch long wooden blocks at a minimum of every 50 feet so as to elevate the pipeline above the ground to allow for wildlife passage. See **Section 14-6 Biological Resources** of these Technical Specifications.
- C. Not all laterals may be shown on the Plans. Contractor is responsible for ensuring that all lateral flow into the existing trunk sewer system to be bypassed has been intercepted and handled by the bypass system.
- D. Plugs shall be pressure rated to withstand the pressure head in the system. Plugs shall be provided with a retrieval tag line. Upon completion, temporary plugs shall be removed gradually and sequentially at one location per day to control reintroduction of flow and facilitate maintenance and overall system functionality. Bypass plan shall include detail for removal of plugs. Plugs shall be selected and installed according to size of line to be plugged, pipe and manhole configurations, based on specific rehabilitation area. Additional plugs shall be available on site in the event that a plug fails.
- E. Air release valves shall be set into and surrounded by a double spill containment system.
- F. Discharge and suction pipes shall be sized according to flow calculations, system operation, pump size and manhole depths following manufacturer's specifications and recommendations. Flow velocity at discharge location shall not exceed 12 ft/sec.
- G. Surge of existing sewer pipes shall not exceed two feet above the pipe crown.
- H. Where required for bypass pumping operations, the Contractor shall remove and replace concrete (PCC) work. New concrete work shall conform to existing AC pavement. All concrete (PCC) work shall be per all applicable City Standard Details and Specifications and specifications contained herein. Where required for bypass pumping operations, the Contractor shall remove and replace concrete work. New concrete work shall conform to existing AC pavement. Sidewalk and ramps shall be 4-inch Class A Portland Cement Concrete on 2 inches of sand.
- I. A smooth, ADA compliant, temporary AC trench paving which matches the existing line and grade shall be provided where necessary during construction.
- J. Provide minimum 12 feet driveway access for each property in the vicinity of bypass areas.
- K. Existing fences affected by bypass piping shall have temporary fences installed.
- L. At least one (1) spare pump and one (1) spare generator are required to ensure 100% redundancy for all pumps and power sources. The spare equipment shall be plumbed to bypass, ready to operate if needed.

- M. 100% redundancy is required for all temporary plug applications.
- N. Bypass pumping shall be done in such a manner as will not damage private or public property or create a nuisance or public health menace. Pumps and generators used during bypass operations shall be sound attenuated and shall not exceed noise decibel limits per City noise ordinances. The pumped wastewater shall be in an enclosed hose or pipe that is adequately protected from traffic and shall be redirected into the sanitary sewer system. Dumping or free flow of wastewater on private property, gutters, trenches, streets, sidewalks, or into storm sewers is prohibited. The Contractor shall be liable for all damages associated with this work. After the work is completed, flow shall be restored to original conditions and temporary facilities removed.
- O. Keep and maintain spare parts for pumps and piping on site, as required.
- P. The Contractor shall perform leakage and pressure tests of the bypass pumping discharge piping using clean water prior to the actual operation. The pressure and leakage test shall be conducted at one-and-a-half times the maximum pressure the system will experience based on the approved Bypass Pumping Plan for a period of two hours. No leakage is permitted during this test.
- Q. Noise Attenuation: All components of the bypass pumping system, including standby pumps, shall be sound-attenuated and shall produce noise emissions less than the maximum allowed decibel level as outlined in the City's Code under Chapter 17-16 Noise. If needed, additional noise attenuation systems may consist of an exterior sound blanket containment system or exterior sound fence system.
- R. Odor Attenuation: Bypass system shall include odor attenuation as required by the Engineer.

130-02-1.03 Submittals:

- A. Bypass pumping and/or diversion systems provided by the Contractor shall be designed by a CA registered professional engineer.
- B. The Contractor shall submit bypass pumping and/or diversion plans, schedule and design flow calculations for review by the Engineer at least ten (10) working days prior to planned commencement of bypass or diversion. The bypass pumping and/or diversion plan shall include documentation of pump and discharge line capacities, manufacturer, and age. Location of air release valves shall be depicted on the bypass plan. Sound attenuation measures, including equipment to be used and noise levels that are anticipated to be produced shall be included in the plan. Air release valves shall have discharge piping plumbed to a container to contain sewer leaks. Air release valves shall not be installed over the existing swales. Plans shall depict the bypass system to be actually constructed in the field including all suction elevations, grade changes, etc.
- C. The Contractor shall be responsible for determining the required quantity, location and types of temporary plugs to fulfill the requirements of the Specifications. The Contractor shall submit a plan, describing said requirements, at least ten working days prior to installation for review by the Engineer.
- D. Bypass pumping and/or diversion plans shall include an emergency response plan to be followed in the event of a failure of the bypass pumping and/or diversion system. The Contractor shall notify the Engineer 24 hours prior to commencing the bypass pumping operation. The Contractor's plan for sewage bypass pumping and/or diversion shall be approved by the Engineer before the Contractor shall be allowed to commence sewage bypass pumping and/or diversion.

- E. The bypass pumping plan shall include an emergency discharge response plan to be followed in the event of a failure of the bypass pumping system which shall include standby pumps.
- F. Flow bypass system design as provided by the Contractor shall be a depiction of the bypass system to be actually constructed in the field including all suction elevations, grade changes, etc. and shall be designed by a CA registered professional engineer.
- G. The Contractor shall submit a traffic control plan that shows adequate protection of the proposed bypass equipment from vehicular and foot traffic within or adjacent to the travelled way.
- H. Bypass plan shall include detail for removal of plugs.
- I. Contractor shall provide a sewer spill prevention plan for flushing, cleaning, disassembling, handling and removal of bypass system.

130-02-2.01 Preparation: Bypass pumping shall consist of furnishing, installing, and maintaining all power, plugs, primary and standby pumps, appurtenances and bypass piping required to maintain **maximum** flows and services.

All bypass pumping components and sound attenuation components shall be installed and maintained in such a manner so as not to damage private or public property or create a nuisance or public menace. This includes erosion or scouring of the receiving manhole. The pumped sewage shall be in an enclosed hose or pipe that is adequately protected from traffic and shall be redirected into the sanitary sewer system. Dumping, leaks or free flow of sewage on private or public property, gutters, streets, sidewalks, creeks, streams or into storm sewers is expressly prohibited.

Where undergrounding bypass pumping is required, bypass pipe must be capable of withstanding compaction and HS20 traffic loading.

All pumps shall be set into or surrounded by spill containment devices. Existing drain boxes shall be protected by sandbags to prevent flow entering storm drain. All devices and material proposed for spill containment use shall be submitted for acceptance.

For temporary installation and removal of HDPE bypass piping, Contractor shall establish a containment plan for pipe clippings and shavings.

Provide onsite portable lights for emergency use only.

Provide standby power facilities for emergency use if pumps are equipped with electric motors.

The Contractor shall take all necessary precautions including constant continual manned monitoring (required 24 hours per day, 7 days per week continuously) during bypass pumping operations, to ensure that no private residences or properties are subjected to a sewage backup or spill and to ensure that the bypass system is secure. The Contractor shall be responsible for providing the appropriate and required amount of personnel for monitoring of entire bypass system. The Contractor shall provide personnel to observe, fuel, and maintain the bypass pumping system at all times that it is operating. Monitoring personnel shall be qualified with a minimum of 3 years of experience in the specified bypass pumping operations. An audible alarm shall be provided to signal high level at the bypass point. High-level setting shall be a minimum of 5 feet from the surface to the water level.

The Contractor shall immediately notify the City should a sanitary sewer overflow (SSO) occur. The Contractor shall be liable for all cleanup, damages, and resultant fines in the event of a spill.

After the work is completed, flow shall be restored to normal.

130-02-2.02 Materials:

- A. Discharge and suction pipes shall be sized according to flow calculations, system operation, pump size and manhole depths following manufacturer's specifications and recommendations.
- B. Bypass pipe material shall be HDPE (ASTM F714), high density solid wall, homogenous throughout, free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, blisters, or other deleterious faults. DR rating of the pipe shall be sufficient to withstand the external and internal loads anticipated, including pressure tests.
- C. HDPE fittings shall be fully pressure rated to match the pipe DR pressure rating.
- D. Flexible hoses, couplings and connectors, shall be abrasion resistant and rated for external and internal loads anticipated, including pressure tests.
- E. Bypass Pumping: Pumps shall be fully automatic self-priming units that do not require the use of foot-valves or vacuum pumps in priming system.
- F. Provide necessary start/stop controls for each pump. Pumps shall be able to allow dry running for long periods of time to accommodate cyclical nature of effluent flows.

130-02-2.03 Bypass plugs and flow diverters:

- A. Plugs shall be selected and installed according to size of line to be plugged, pipe and manhole configurations, based on specific rehabilitation area. Redundancy is required for all temporary pneumatic plug applications. Backup plugs shall be available to use in the instance of a failed primary plug. Plugs shall be pressure rated to withstand the pressure head in the system. Plugs shall be provided with a retrieval tag line. Upon completion, installed temporary pneumatic plugs shall be removed sequentially at one location per day to facilitate maintenance and overall system functionality.
- B. The Contractor shall be responsible for determining the required quantity, location and types of temporary pneumatic plugs and flow through diverters to fulfill the requirements of these Technical Specifications. The Contractor shall submit a plan, describing said requirements, at least ten working days prior to installation for review by the Engineer. Plugs and flow-through diverters shall be as manufactured by Plug-It Products, Lansas Products or approved equal. Plugs and diverters shall be pressure rated and installed such that they withstand 30 feet of head or the anticipated pressure head in the system, whichever is greater. Plugs and diverters shall be installed to resist sliding. 100% redundancy is required for all temporary pneumatic plugs and flow-through diverters (on upstream side) applications installed in the existing sewers. To achieve redundancy, two plugs shall be used. Flow-through diverters shall have redundant bladders. Plugs and diverters shall be tethered by a chain; the chain must be shorter than the inflation hoses between the two plugs such that it prevents the inflation hoses from being stretched apart during inflation. The chain shall be rated to withstand the thrust pressures in the system. The inflation line for the first plug must pass through the second plug. Inflation hoses shall be long enough to reach the surface and shall be furnished with gauges located such that they are easily visible. Plugs and flow-through diverters shall be installed in accordance with the manufacturer's recommendations. Plugs shall either be installed upstream or downstream.

- C. Bypass plan shall include calculations for thrust pressure and shall detail restraint systems, diverters and bracing for diverters capable of withstanding the determined thrust pressure.

130-02-3.01 Payment: Bypass System shall be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved to install a bypass system from KK2703MH004 to KK2701MH001 including but not limited to: preparation of all bypass submittals; materials procurement and shipping; installation of above and below-ground bypass system; installation of security fencing; notification; security; coordination; temporary and permanent excavation, backfill, and trench paving associated with bypass system; ramp or other means with which to protect bypass pipe at road or other crossing locations; obtainment, usage and disposal of construction water; excavation, backfill and compaction; manhole removal, modification and reconstruction of existing manhole affected as a result of bypass operations per City Standard Detail 500 (if required to gain access to the pipe); replacement of traffic stripes and disturbed traffic markings; spoils disposal; steel plating (if needed); removal and reinstallation of existing fencing (if needed); system start-up testing; all efforts required to run and maintain the bypass system per these Technical Specifications; removal of entire bypass system and return of surface conditions to pre-Project condition; and any other items necessary for a bypass system not specifically enumerated in these Technical Specifications, and no additional allowance will be made therefor.

The estimated bypass system quantities shown on the Project Plans are for bidding purposes only. This quantity may be increased or decreased based on field condition evaluation by the Contractor, and no adjustment in the contract bid price or other contract items will be made therefor.

A - FEES AND PERMITS

The Contractor shall obtain all necessary and required permits for the Project. All required permits shall be obtained at the Contractor's expense.

The Contractor shall obtain the following permits unless otherwise noted:

1. Sonoma County Encroachment permit for work within Sonoma County right-of-way. The Contractor shall be fully informed and comply with all fees, permit, insurance, and bonding requirements of the Sonoma County. The Contractor shall conduct its work in accordance with the latest edition of Standards for Construction Activity within the County Road Right-of- Way.
2. A permit for excavating and shoring trenches in excess of five feet or more in depth will be required from the State of California Division of Industrial Safety, as applicable.
3. In the event that hazardous material is encountered, the Contractor shall obtain a hazardous material excavation permit from the Santa Rosa Fire Department prior to removal and disposal of contaminated soils.

The City has applied and paid for an Incidental Take Permit (ITP) with the California Department of Fish & Wildlife for construction work within delineated California Tiger Salamander Habitat. The draft ITP for this Project has been provided as a reference document only but is not finalized and could change. Actual permit conditions and mitigation requirements may differ for this Project. The approved ITP will be provided prior to the Notice to Proceed.



DRAFT

California Department of Fish and Wildlife
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534

California Endangered Species Act
Incidental Take Permit No. 2081-2022-018-03

ROBLES SEWER TRUNK LINING – ARLINGTON TO SUNLAND

I. Authority:

This California Endangered Species Act (CESA) incidental take permit (ITP) is issued by the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, title 14, section 783.0 et seq. CESA prohibits the take of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species. However, CDFW may authorize the take of any such species by permit pursuant to the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c). (See Cal. Code Regs., tit. 14, § 783.4.)

Permittee: City of Santa Rosa
Principal Officer: Andrew Allen, Deputy Director of Capital Projects Engineering
(707) 543-4291, aallen@srcity.org
Contact Person: Kellen Johnston, (707) 543-3947, kjohnston@srcity.org
Mailing Address: 69 Stony Circle
Santa Rosa, CA 95401

II. Effective Date and Expiration Date of this ITP:

This ITP is effective as of the date signed by CDFW below. Unless renewed by CDFW, this ITP and its authorization to take the Covered Species shall expire on **December 31, 2028**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 5.10 of this ITP.

III. Project Location:

The Robles Sewer Trunk Lining – Arlington to Sunland Project (Project) is a linear project that is approximately 0.76 mile long and located within a City of Santa Rosa-owned easement south of Scenic Avenue and north of Millbrae Avenue, and crosses Arlington Avenue and Sunland Avenue within unincorporated Sonoma County south of the City of Santa Rosa from approximate GPS coordinates 38.3748° N, 122.7479° W on the eastern end of the Project to 38.371984° N, 122.758657° W on the western side of the Project (Figures 1 and 2). The western portion of the Project also crosses Hazel Mitigation Bank. The Project site is bounded by undeveloped land and rural residences in all directions. The Project footprint is 2.39 acres and located on the following Assessor's Parcel Numbers:

- 134-243-037
- 134-243-008
- 134-243-009
- 134-243-011
- 134-243-025
- 134-242-011
- 134-242-010
- 134-241-014

The Project is within Township 6N, Range 8W, Sections 9 and 16 of the Cotati and Two Rock U.S. Geological Survey 7.5-minute quadrangle maps.

IV. Project Description:

The Project includes the rehabilitation of 3,000 linear feet of reinforced concrete pipe trunk sewer main. The existing underground 45-inch diameter sewer main pipeline is within a City of Santa Rosa-owned easement that spans the entire length of the Project. The trunk sewer main will be rehabilitated using trenchless cured-in-place pipelining technology, which consists of internally inspecting the pipeline via a closed-circuit television feed mounted on a "pig" within the pipeline, cleaning the interior of the pipe, and applying a sealant, fabric liner, and epoxy coat. The trenchless cured-in place pipeline technology will not require excavation, except for two sewer manholes that the fabric liner will be launched from and a road crossing at Arlington Avenue, with a total excavation area of 110 square feet. There will also be work at six manholes not requiring excavation that includes temporary bypass pipeline suction and reinsertion, internal manhole rehabilitation, and liner termination, as outlined below. The Project does not include the construction of any new permanent above-ground surface facilities.

The Project will also include an above-ground temporary sewer bypass system for the duration of the Project. The temporary bypass pipeline will be between 12 and 18 inches in diameter and will maintain peak sewer function while the sewer main pipeline is being repaired. The temporary bypass pipeline will be connected to the sewer main via openings in one upstream and one downstream

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manhole. The temporary bypass pipeline will be removed after the completion of the sewer main repairs.

The following Project Activities will take place at each manhole within the Project (Figure 1):

- Manhole KK2703MH004: bypass suction location, no excavation required, 700 square foot-High Traffic Area work area required
- Manhole KK2703MH003: liner termination point and internal manhole rehabilitation, no excavation required, 225 square foot-work High Traffic Area work area required
- Manhole KK2703MH002: liner launch point and internal manhole rehabilitation, 25 square feet of excavation required, work area within large central High Traffic Area
- Manhole KK2703MH001: internal manhole rehabilitation, no excavation required, work area within large central High Traffic Area
- Manhole KK2702MH001: liner launch point and internal manhole rehabilitation, 25 square feet of excavation required, work within large central High Traffic Work Area
- Manhole KK2702MH002: internal manhole rehabilitation and Arlington Avenue trenched crossing, 60 square feet of excavation required, work within large central High Traffic Work Area
- Manhole KK2702MH003: liner termination point, no excavation required, all work conducted underground
- Manhole KK2701MH001: bypass reinsertion point, no excavation required, 700 square foot-High Traffic Area work area required

The Project will be divided into two levels of construction activity: High Traffic Areas and Low Traffic Areas (Figures 1 and 2).

High Traffic Areas include the primary egress and ingress routes, staging and stockpiling locations, liner launch points, non-excavation work areas requiring more extensive vehicle and equipment access (including manhole work areas at Manhole KK2703MH004, Manhole KK2703MH003, and Manhole KK2701MH001 abutting the Low Traffic Areas), the road crossing at Arlington Avenue, and the bypass suction and reinsertion locations. The High Traffic Areas comprise 1.24 acres.

Low Traffic Areas include the western and northern portions of the Project where activity will be limited to no more than 40 one-way vehicle trips throughout the course of the Project. The primary work in these areas will include installation of the bypass pipe and liner termination points. Liner termination is done underground inside existing manholes. The bypass pipe will be propped up on

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wooden blocks every 50 feet within the Low Traffic Areas. In addition, plastic or wooden mats will be placed over wetland habitat within the Low Traffic Areas to avoid soil rutting and crushing vegetation from vehicle traffic. The Low Traffic Areas comprise 1.15 acres.

All Project access will be from Arlington Avenue.

V. Covered Species Subject to Take Authorization Provided by this ITP:

This ITP covers the following species:

<u>Name</u>	<u>CESA Status</u> ¹
California tiger salamander (<i>Ambystoma californiense</i> , CTS)	Threatened ²

This species and only this species is the “Covered Species” for the purposes of this ITP.

VI. Impacts of the Taking on Covered Species:

Project activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above expected to result in incidental take of Covered Species include preparing the construction work areas; excavating; stockpiling of soil and materials; spoils disposal; constructing temporary access routes; preparing staging areas; operating heavy equipment; removing vegetation; vehicular movement; installing and maintaining Covered Species barrier fencing; capturing, handling, and relocating Covered Species; and surveying for Covered Species (Covered Activities).

Incidental take of individuals of Covered Species in the form of mortality (“kill”) may occur as a result of Covered Activities such as crushing and entombing of individuals during construction; vehicular access; collapsing of burrows; and entrapment in excavated pits, trenches, or within construction materials. Incidental take of individuals of Covered Species may also occur from the Covered Activities in the form of pursue, catch, capture, or attempt to do so of Covered Species from surveying and relocating operations. The areas where authorized take of Covered Species is expected to occur include 1.23 acres of undeveloped land in the High Traffic Areas, including three isolated manhole work areas abutting by the Low Traffic Areas, within the 2.39-acre Project site (collectively, the Project Area).

The Project is expected to cause the temporary loss of 1.23 acres of upland habitat for Covered Species. Impacts of the authorized taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, and the Project’s incremental contribution to cumulative impacts (indirect impacts). These impacts include stress resulting from noise and vibrations from tunneling and capture and relocation, and long-term effects due to increased pollution, displacement from preferred habitat, increased competition for food and space, increased vulnerability to predation, and capture and relocation.

¹ Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species.

²See Cal. Code Regs. tit. 14, § 670.5, subd. (b)(3)(G).

VII. Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this ITP.

VIII. Conditions of Approval:

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular ingress and egress, staging and parking, and noise and vibration generating activities that may cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

- 1. Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.
- 2. ESA Compliance:** Permittee shall implement and adhere to the terms and conditions related to the Covered Species in the Biological Opinion for the Project pursuant to the Federal Endangered Species Act (ESA). For purposes of this ITP, where the terms and conditions for the Covered Species in the federal authorization are less protective of the Covered Species or otherwise conflict with this ITP, the conditions of approval set forth in this ITP shall control.
- 3. ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.
- 4. General Provisions:**
 - 4.1. Designated Representative.** Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.
 - 4.2. Designated Biologist(s).** Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of the Designated Biologist(s) using the Biologist Resume Form (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=202869>) or another

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format containing the same information at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist(s) are knowledgeable and experienced in the biology, natural history, collecting and handling of the Covered Species. The Designated Biologist(s) shall be responsible for monitoring Covered Activities to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist(s) in writing before starting Covered Activities and shall also obtain approval in advance, in writing, if the Designated Biologist(s) must be changed.

- 4.3. Designated Biologist Authority.** To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall immediately stop any activity that does not comply with this ITP and/or order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species. Permittee shall provide unfettered access to the Project Site and otherwise facilitate the Designated Biologist in the performance of his/her duties. If the Designated Biologist is unable to comply with the ITP, then the Designated Biologist shall notify the CDFW Representative immediately. Permittee shall not enter into any agreement or contract of any kind, including but not limited to non-disclosure agreements and confidentiality agreements, with its contractors and/or the Designated Biologist that prohibit or impede open communication with CDFW, including but not limited to providing CDFW staff with the results of any surveys, reports, or studies or notifying CDFW of any non-compliance or take. Failure to notify CDFW of any non-compliance or take or injury of a Covered Species as a result of such agreement or contract may result in CDFW taking actions to prevent or remedy a violation of this ITP.
- 4.4. Education Program.** Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures.
- 4.5. Construction Monitoring Documentation.** The Designated Biologist(s) shall maintain construction-monitoring documentation on-site in either hard copy or digital format throughout the construction period, which shall include a copy of this ITP with attachments and a list of signatures of all personnel who have successfully completed the education

program. Permittee shall ensure a copy of the construction-monitoring documentation is available for review at the Project site upon request by CDFW.

- 4.6. Trash Abatement.** Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in animal-proof containers and removed, ideally at daily intervals but at least once a week, to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.
- 4.7. Dust Control.** Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee shall keep the amount of water used to the minimum amount needed and shall not allow water to form puddles.
- 4.8. Erosion Control Materials.** Permittee shall prohibit use of erosion control materials potentially harmful to Covered Species and other species, such as monofilament netting (erosion control matting) or similar material, in potential Covered Species' habitat.
- 4.9. Delineation of Property Boundaries.** Before starting Covered Activities, Permittee shall clearly delineate the boundaries of the Project Area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities.
- 4.10. Delineation of Habitat.** Permittee shall clearly delineate habitat of the Covered Species within the Project Area with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of Covered Species' habitat.
- 4.11. Project Access.** Project-related personnel shall access the Project Area using existing routes, and shall not cross Covered Species' habitat outside of or en route to the Project Area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas or as detailed in the High Traffic and Low Traffic Areas specifications of the Project Description. Permittee shall ensure that vehicle speeds do not exceed 20 miles per hour to avoid Covered Species on or traversing the roads. If Permittee determines construction of routes for travel are necessary outside of the Project Area, the Designated Representative shall contact CDFW for written approval before carrying out such an activity. CDFW may require an amendment to this ITP, among other reasons, if additional take of Covered Species will occur as a result of the Project modification.
- 4.12. Staging Areas.** Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project Area using, to the extent possible, previously disturbed areas. Additionally, Permittee shall not

use or cross Covered Species' habitat outside of the marked Project Area unless provided for as described in Condition of Approval 4.11 of this ITP.

- 4.13. Hazardous Materials.** Permittee shall prepare and implement a Hazardous Materials Spill Prevention and Response Plan before starting Covered Activities. Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off site.
- 4.14. CDFW Access.** Permittee shall provide CDFW staff with reasonable access to the Project and mitigation lands under Permittee control, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP.
- 4.15. Refuse Removal.** Upon completion of Covered Activities, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.

5. Monitoring, Notification and Reporting Provisions:

- 5.1. Geographic Information Systems Data Files.** Before starting Covered Activities, the Permittee shall provide CDFW with Geographic Information Systems (GIS) data files for temporary habitat impact areas authorized under this ITP for each Covered Species. The Permittee shall provide any additional GIS data files for the Project or related Covered Species features within 30 days of CDFW's request. All GIS data files shall be provided in a format acceptable to CDFW.
- 5.2. Notification Before Commencement.** The Designated Representative shall notify CDFW 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.
- 5.3. Notification of Non-compliance.** The Designated Representative shall immediately notify CDFW if the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall follow up within 24 hours with a written report to CDFW describing, in detail, any non-compliance with this ITP and suggested measures to remedy the situation.
- 5.4. Compliance Monitoring.** The Designated Biologist shall be on-site daily when Covered Activities occur unless otherwise approved in writing by CDFW. The Designated Biologist

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shall also conduct compliance inspections and check Covered Species temporary barriers and refuge areas pursuant to Condition of Approval 6.7 a minimum of once per week during periods of inactivity, and shall check Covered Species temporary barriers and refuge areas before, during, and following storm events pursuant to Condition of Approval 6.7, unless otherwise approved in writing by CDFW. The Designated Biologist shall conduct compliance inspections to:

- (1) minimize incidental take of the Covered Species;
- (2) prevent unlawful take of species;
- (3) check for compliance with all measures of this ITP;
- (4) check all exclusion zones; and
- (5) ensure that signs, stakes, and fencing are intact, and that Covered Activities are only occurring in the Project Area.

The Designated Representative or Designated Biologist shall prepare daily written observation and inspection records summarizing oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP.

- 5.5. Reporting of Habitat Impacts.** Permittee shall monitor, calculate, and record in an electronic ledger the total amount of temporary impacts to Covered Species habitat and shall at a minimum account for these impacts based upon grassland and wetland habitat types.
- 5.6. Reporting of Vehicle and Equipment Trips within Low Traffic Areas.** Permittee shall monitor and record in an electronic ledger the total number of vehicle and equipment trips within Low Traffic Areas, which shall be limited to 40 total trips pursuant to Condition of Approval 6.6.1. A “trip” shall consist of one-way travel.
- 5.7. Monthly Compliance Report.** The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Conditions of Approval 5.3, 5.4, 5.5, and 5.6 into a Monthly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Monthly Compliance Reports shall be submitted to the CDFW offices listed in the Notices section of this ITP and via e-mail to CDFW’s Regional Representative and Headquarters CESA Program. At the time of this ITP’s approval, the CDFW Regional Representative is Nick Wagner (Nicholas.Wagner@wildlife.ca.gov) and Headquarters CESA Program email is CESA@wildlife.ca.gov. CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.

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- 5.8. Annual Status Report.** Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Monthly Compliance Reports for that year identified in Condition of Approval 5.7; (2) a general description of the status of the Project Area and Covered Activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (5) all available information about Project-related incidental take of the Covered Species; (6) an accounting of the number of acres subject to temporary disturbance, both for the prior calendar year, and a total since ITP issuance; and (7) information about other Project impacts on the Covered Species.
- 5.9. CNDDDB Observations.** The Designated Biologist shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Monthly Compliance Report or ASR, whichever is submitted first relative to the observation.
- 5.10. Final Mitigation Report.** No later than 45 days after completion of all mitigation measures, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Monthly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.
- 5.11. Notification of Take or Injury.** Permittee shall immediately notify the Designated Biologist if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Biologist or Designated Representative shall provide initial notification to CDFW by calling the Regional Office at (707) 428-2002. The initial notification to CDFW shall include information regarding the location, species, and number of animals/plants taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within two calendar days. The report shall include the date and time of the finding or incident,

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location of the animal/plant or carcass, and if possible, provide a photograph, explanation as to cause of take or injury, and any other pertinent information.

5.12. Notification of Non-Native Salamanders or Hybrids. The Designated Biologist shall immediately notify CDFW if a suspected barred tiger salamander (*Ambystoma tigrinum mavortium*) or California tiger salamander and non-native salamander hybrid is found within the Project Area within 24 hours by calling the Regional Office at (707) 428-2002. Permittee shall consult with CDFW to determine measures to address non-native or hybrid populations.

6. Take Minimization Measures: The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

6.1. Seasonal Work Period. Permittee shall limit all Covered Activities including but not limited to vehicle travel in in High Traffic and Low Traffic Areas, bypass pipeline placement and removal, and construction and heavy equipment use (such as excavation, grading, contouring, trenching, road construction and repair, or disking) to the work period from June 15 to October 15 (Dry Season).

6.2. Work Restriction and Preparation for All Rain Events. Permittee or the Designated Biologist shall consult the 72-hour weather forecast from the National Weather Service (NWS) prior to the start of all ground disturbing activities involving construction and heavy equipment use (such as excavation, grading, contouring, trenching, road construction and repair, or disking). For a weekly forecast see <https://forecast.weather.gov/MapClick.php?lat=38.4381&lon=-122.7125> and for a 48-hour percent precipitation forecast see <https://graphical.weather.gov/sectors/northcalifornia.php> and click on QPF in Amount of Precipitation row then toggle +/- 12 hours. Ground disturbing activities shall not begin unless a 72-hour no precipitation forecast is obtained covering the entire Project Area and necessary erosion control measures are implemented. The Designated Biologist shall keep precipitation records on-site, and these records shall be subject to CDFW inspection.

- If a 40 percent or greater chance of rain is forecasted, then ground disturbing activities shall cease at least 24 hours prior to the forecasted rain and the Designated Biologist shall confirm with the Permittee that all necessary erosion control measures have been implemented prior to the onset of precipitation, unless otherwise approved in writing by CDFW.
- If ground-disturbing activities are approved by CDFW as described above, the Designated Biologist shall survey the work area before construction begins each day

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rain is forecast. If rain exceeds 0.25 inches during a 24-hour period, ground-disturbing activities shall cease.

- Twenty-four hours after the rain ceases and once there is less than a 40 percent chance of precipitation in the 24-hour forecast, ground disturbing activities may continue.

6.3. Time of Day Work Restriction. Permittee shall terminate all Covered Activities 30 minutes before sunset and shall not resume Covered Activities until 30 minutes after sunrise, unless otherwise approved in writing by CDFW. The Permittee shall use sunrise and sunset times established by the U.S. Naval Observatory Astronomical Applications Department for determining when Covered Activities shall terminate and resume.

6.4. Personnel Restriction. Permittee shall ensure that all construction activities and personnel, including subcontractors, are restricted to the active construction area surrounded by the CTS temporary barrier and public roads.

6.5. Prevention of Spread of Invasive Species. Permittee shall conduct Project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria, etc.), from one Project site and/or waterbody to another. All equipment including excavators, trucks, and hand tools that may have come in contact with invasive plants or the seeds of these plants will be carefully cleaned before arriving on the site and shall also be carefully cleaned before removal from the site to prevent dispersal. Prevention Best Management Practices (BMPs) and guidelines for invasive plants can be found on the California Invasive Plant Council's (Cal-IPC) website at: <http://www.cal-ipc.org/ip/prevention/index.php> and for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website: <http://www.protectyourwaters.net/>.

6.6. Covered Activities within Low Traffic Areas. Covered Activities within the Low Traffic Areas shall be limited to wheeled vehicle and equipment traffic, foot traffic, and the placement of the above-ground bypass pipeline.

6.6.1. Vehicle and equipment traffic within the Low Traffic Areas shall be limited to 40 total trips. A "trip" shall consist of one-way travel. Each trip shall be monitored and recorded pursuant to Condition of Approval 5.6.

6.6.2. The bypass pipe shall be propped up on 4-inch wide by 18-inch tall by 4-inch long wooden blocks every 50 feet within the Low Traffic Areas to allow for passage of Covered Species beneath the bypass pipe. The wooden block shall be removed once the bypass pipe is no longer in place.

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- 6.6.3.** Project activities within the Low Traffic Areas shown on Figure 1 shall avoid small mammal burrows and other Covered Species refugia, as further described in Condition of Approval 6.15.1.
- 6.7. Covered Species Temporary Barrier for High Traffic Areas.** Permittee shall submit to CDFW for approval a Covered Species Temporary Barrier Plan for High Traffic Areas as shown on Figure 1 a minimum of 30 days prior to commencing Covered Activities. Permittee shall obtain CDFW's written approval of the Covered Species Temporary Barrier Plan prior to commencing Covered Activities. Prior to any ground disturbing Covered Activities and under the direct supervision of the Designated Biologist, Permittee shall install a temporary barrier to prevent Covered Species from dispersing into the Project Area within the four noncontiguous High Traffic Areas shown on Figure 1. The barrier shall be designed to allow Covered Species to leave the Project Area using a one-way funnel at 100-foot intervals along the barrier, unless otherwise approved by CDFW in writing. The barrier shall remain in place until Covered Activities are completed, including during periods of inactivity. The Permittee shall maintain and repair the barrier immediately to ensure that it is functional and without defects. Permittee shall provide refuge opportunities, such as coverboards (2-foot x 2-foot plywood), along both sides at 100-foot intervals on each side, and a climbing barrier at the top of the temporary barrier, unless otherwise approved by CDFW in writing. The Designated Biologist shall check Covered Species temporary barriers and refuge areas daily during Covered Activities and before, during, and following storm events, and weekly during periods of inactivity. Animals found within the interior of the barrier shall be relocated outside of the barrier as described in the Covered Species Relocation Plan (see Condition of Approval 6.8).
- 6.8. Covered Species Relocation Plan.** Permittee shall submit a Covered Species Relocation Plan (Relocation Plan) a minimum of 30 days prior to the commencement of Covered Activities for approval in writing by CDFW. The Designated Biologist shall follow this Relocation Plan to install the Covered Species temporary barrier (see Condition of Approval 6.7); install any pitfall traps, cover boards, and drift fence arrays; check any pitfall traps and cover boards according to the rainfall-dependent schedule; and relocate captured Covered Species adults, juveniles, and larva to a suitable site.
- 6.9. Covered Species Handling and Injury.** Covered Species shall be handled and assessed according to the Restraint and Handling of Live Amphibians, USGS, National Wildlife Health Center (D. Earl Greene, ARMI SOP NO. 100; 16 February 2001) (Attachment 2). If an injured Covered Species is found during the Project term, the individual shall be evaluated by the Designated Biologist who shall then immediately contact the CDFW Regional Representative, via email and telephone, to discuss the next steps pursuant to Condition of Approval 5.11. If the CDFW Regional Representative cannot be contacted immediately, the injured Covered Species shall be placed in a shaded container and kept moist. If the CDFW

Regional Representative is not available or has not responded within 2 hours of initial attempts, then the following steps shall be taken by the Designated Biologist:

- 6.9.1.** If the injury is minor or healing and the Covered Species is likely to survive, the Covered Species shall be released immediately in accordance with the Condition of Approval 6.8.
- 6.9.2.** If it is determined that the Covered Species has major or serious injuries as a result of Project-related activities the Designated Biologist shall immediately take it to a CDFW approved wildlife rehabilitation or veterinary facility. If taken into captivity the individual shall remain in captivity and not be released into the wild unless it has been kept in quarantine and the release is authorized by the CDFW and U.S. Fish and Wildlife Service. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. The circumstances of the injury, the procedure followed, and the final disposition of the injured animal shall be documented in a written incident report as described in Condition of Approval 5.11
- 6.10. Atypical Dens and Burrows.** Permittee shall ensure that all construction pipes, culverts, or similar structures that are stored in the Project Area for one or more overnight periods are either securely capped prior to storage or thoroughly inspected by the Designated Biologist before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a Covered Species is discovered inside a pipe by the Designated Biologist or anyone else, the Designated Biologist shall move the animal to a safe nearby location per the Relocation Plan described in Condition of Approval 6.8.
- 6.11. Pre-Construction Covered Species Surveys in High Traffic Areas.** The Designated Biologist shall complete walking surveys of the four noncontiguous High Traffic Areas as shown on Figure 1 prior to any initial ground disturbing activity and shall follow earthmoving equipment to look for Covered Species during initial site excavation and other ground disturbing activities. Areas to be surveyed shall include suitable habitat features for the Covered Species such as upland areas as well as under woody or other debris. Pre-construction surveys shall be conducted in conjunction with Covered Species temporary barrier installation. If a Covered Species is discovered, the Designated Biologist shall move the animal to a safe nearby location (e.g., mouth of small mammal burrow outside of the construction area) and monitor it until it is determined that the animal is not imperiled by predators or other dangers (see Condition of Approval 6.8).
- 6.12. Pre-Construction Covered Species Surveys in Low Traffic Area Surveys.** Immediately prior to all ground disturbing activities, such as vehicle or equipment traffic or bypass pipe setup within the Low Traffic Areas as shown on Figure 1, the Designated Biologist shall complete walking surveys ahead of each vehicle and equipment trip to survey for Covered Species. If a Covered Species is discovered, the Designated Biologist shall move the animal to a safe

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nearby location (e.g., mouth of small mammal burrow outside of the construction area) and monitor it until it is determined that the animal is not imperiled by predators or other dangers (see Condition of Approval 6.8).

6.13. Protocol Plant Surveys. In the plant survey season immediately prior to commencement of Project activities, the Designated Biologist shall complete protocol plant surveys of wetland habitat in the “Sonoma Sunshine Targeted Surveys” area shown on Figure 3 during the appropriate blooming seasons for Sonoma sunshine (*Blennosperma bakeri*). Surveys shall utilize appropriate local reference sites and be conducted during the peak bloom period. Protocol surveys shall be conducted in accordance with the Santa Rosa Conservation Strategy, Appendix D (available here: <https://www.fws.gov/library/collections/santa-rosa-plain-conservation-strategy>) and CDFW’s *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (available here: <https://wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants>), with the exception that survey timing shall focus on the peak bloom for Sonoma sunshine and therefore does not need to comprise three site visits. If any blooming Sonoma sunshine are detected, the Designated Biologist shall immediately contact the CDFW Representative and the Project shall not place wooden or plastic construction mats on the wetland occupied by the blooming plant until: 1) the plant is no longer blooming and has set seed as determined by the Designated Biologist, and 2) CDFW has provided written approval of the Wetland Habitat Protection Plan pursuant to Condition of Approval 6.16, and CDFW provide written approval that placement of the construction mats on the wetland may proceed. All locations of Sonoma sunshine shall be recorded in the field to ensure that the individuals can be located and avoided.

6.14. Trench Escape and Inspection. The Designated Biologist shall inspect all open holes, sumps, and trenches within the Project Area at the beginning of each working day for trapped animals. To prevent inadvertent entrapment of Covered Species, the Designated Biologist shall oversee the covering of all trenches, holes, sumps, or other excavations with a greater than 1:1 (45 degree) slope of any depth with barrier material at the close of each working day such that Covered Species are unable to dig or squeeze under the barrier and become entrapped. The outer two feet of excavation cover shall conform to solid ground so that gaps do not occur between the cover and the ground and secured with soil staples or similar means to prevent gaps.

Each morning prior to beginning Covered Activities and immediately before trenches, holes, sumps, or other excavations are back-filled, the Designated Biologist shall thoroughly inspect them for Covered Species. Trenches, holes, sumps, or other excavations that are covered long-term shall be inspected at the beginning of each working day to ensure inadvertent entrapment has not occurred. Permittee shall cease all Covered Activities in the vicinity and notify the Designated Biologist immediately if any worker discovers that Covered Species have become trapped. If at any time a trapped Covered Species is

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discovered by the Designated Biologist or anyone else, the Designated Biologist shall capture and relocate the animal to a safe nearby location per the Relocation Plan described in Condition of Approval 6.8.

- 6.14.1** If the open holes, sumps, trenches, or excavations cannot be covered, then a Covered Species temporary barrier shall be installed around any trenches, holes, sumps, or other excavations to prevent Covered Species from becoming trapped. Refuge opportunities, such as coverboards shall be provided on the outside perimeter of the barrier.
- 6.15. Burrow and other Covered Species Potential Refugia Protection.** The Designated Biologist shall mark for avoidance all small mammal burrows and other Covered Species potential refugia with flagging at the limits of access areas, including vehicle routes, and staging areas.
- 6.15.1.** All Project activities, such as vehicle and equipment access and placement of the bypass pipe and wooden or plastic mats, within the Low Traffic Areas shown on Figure 1 shall avoid small mammal burrows and other Covered Species refugia.
- 6.16. Wetland Habitat Protection Plan.** Permittee shall submit to CDFW for approval a Wetland Habitat Protection Plan detailing how impacts to wetlands will be protected a minimum of 30 days prior to commencing Covered Activities. Permittee shall obtain CDFW's written approval of the Wetland Habitat Protection Plan prior to commencing Covered Activities. The Wetland Habitat Protection Plan shall include specifications on wooden or plastic construction mats placed over wetlands as shown on Figure 2, avoiding placement of construction mats over Covered Species burrows or other refugia in Low Traffic Areas, ensuring avoidance of Sonoma sunshine in the Sonoma Sunshine Targeted Surveys area shown on Figure 3 within the Low Traffic Area, limiting vehicle traffic to 40 total trips in the Low Traffic Areas, methods for determining appropriate soil dryness to avoid rutting, minimizing excavation within wetlands in High Traffic Areas and avoiding excavation in wetlands in Low Traffic Areas, recontouring to preconstruction conditions impacted wetlands in High Traffic Area pursuant to Condition of Approval 6.23, and any additional methods to physically avoid rutting from vehicle and equipment use and placement of the bypass pipeline.
- 6.17. Temporary Impacts.** To be considered a temporary impact, Permittee shall recontour and seed all temporary impact areas by October 15 of the year of the impact and the impacted area soils must be suitable to support small mammal burrows. Heavily compacted soil is not considered suitable. Additionally, these areas shall be made available to fossorial mammals and shall not be surrounded by fencing that limits access. Impacted areas that do not meet these requirements will be considered permanent impacts, an Amendment will

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be required, and additional Habitat Management Lands pursuant to Condition of Approval 7 may be required.

- 6.18. Refueling and Equipment Maintenance.** Refueling of construction equipment and vehicles may not occur within 175 feet of any water body or anywhere that spilled fuel could drain to a wetland. Tarps or similar material shall be placed underneath construction equipment and vehicles, when refueling, to capture incidental spillage of fuels. Equipment and vehicles operating in the project area shall be checked and maintained daily to prevent leaks of fuels, lubricants, or other liquids.
- 6.19. Erosion and Dust Control.** Permittee shall prepare and implement a detailed Erosion Control Plan (Plan). The Plan shall: 1) include appropriate erosion control measures to be implemented during construction, and 2) limit ground disturbance activities to dry weather to avoid increased surface water runoff and erosion onsite, and sedimentation in sensitive habitats located offsite. Erosion control elements shall be checked and maintained daily to ensure proper function and shall not contain monofilament netting. Any straw wattles are used shall be made from biodegradable materials only. Runoff from dust control shall be retained in the construction site and prevented from flowing into adjacent wetlands by installing appropriate erosion control devices, such as silt fences. Dust control water trucks shall be used throughout construction. The Designated Biologist shall check weekly the effectiveness of dust control measures and direct implementation of further measures if necessary to prevent damage to wetlands. Excessive dust control watering shall not occur. Puddling or sheeting flow of dust control water shall be prevented.
- 6.20. Designated Areas for Stockpiling Materials.** Permittee shall ensure that all construction materials placed in the Project Area are not placed in areas where they could impact any wetlands.
- 6.21. Groundwater Encountered.** Nuisance groundwater encountered during excavation shall be discharged at a location where it will infiltrate into the soil, resulting in no overland flow. Discharged water shall not be allowed to flow into wetlands. Permittee shall ensure that best management practices are used to control runoff water quality.
- 6.22. Spoil Pile Stabilization.** Active spoil piles shall be covered/stabilized adequately when rainy conditions are evident (see Condition of Approval 6.2) or at any time when spoil material could enter Covered Species habitat.
- 6.23. Recontour Temporarily Impacted Wetlands within High Traffic Area.** Temporarily impacted wetlands within the High Traffic Area shall be recontoured to preconstruction hydrological conditions. The Designated Biologist shall ensure that preconstruction hydrological conditions are adequately documented and that recontouring achieves preconstruction hydrological conditions. The Designated Biologist shall take pre- and post-construction

photos of the impacted wetlands and provide documentation to CDFW demonstrating recontouring achieves preconstruction hydrological conditions, and upon Project completion Permittee shall obtain CDFW's written approval that preconstruction hydrological conditions have been achieved.

6.24. Pesticides Prohibited. Permittee shall ensure that rodenticides or other poisons used in the control of fossorial (burrow-dwelling) mammals, and herbicides, are not used within the Project Area during the term of this ITP unless otherwise approved in writing by CDFW.

6.25. Herbicides Prohibited. Permittee shall ensure that herbicides or other poisons used to control plants are not used within the Project Area unless otherwise approved in writing by CDFW.

7. Covered Species Credits or Habitat Management Land Acquisition, and Restoration: CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result from implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the protected acreage required to provide for adequate compensation.

To meet this requirement, the Permittee shall either purchase 2.46 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank pursuant to Condition of Approval 7.2 below OR shall provide for both the permanent protection and management of 2.46 acres of Habitat Management (HM) lands pursuant to Condition of Approval 7.3 below and the calculation and deposit of the management funds pursuant to Condition of Approval 7.4 below. Purchase of Covered Species credits OR permanent protection and funding for perpetual management of HM lands must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 8 below for all uncompleted obligations. The Permittee shall also restore on-site 1.23 acres of temporarily impacted Covered Species habitat pursuant to Condition of Approval 7.6 below.

7.1. Cost Estimates. For the purposes of determining the Security amount, CDFW has estimated the cost sufficient for CDFW or its contractors to complete purchase of credits OR acquisition, protection, and perpetual management of the HM lands, and restoration of 1.23 acres of temporarily impacted habitat as follows:

7.1.1. Purchase of Covered Species credits at a conservation or mitigation bank as described in Condition of Approval 7.2 OR acquisition, protection, and perpetual management of HM lands as described in Condition of Approval 7.3 estimated at \$235,341 per acre, therefore for 2.46 acres the estimated cost is **\$578,939**.

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- 7.1.2.** Restoration of on-site temporary impacts to Covered Species habitat as described in Condition of Approval 7.6 estimated at \$6,199 per acre, therefore for 1.23 acres the estimated cost is **\$7,625**.
- 7.1.3.** All costs associated with CDFW engaging an outside contractor to complete the mitigation tasks, including but not limited to acquisition, protection, and perpetual funding and management of the HM lands and restoration of temporarily disturbed habitat. These costs include but are not limited to the cost of issuing a request for proposals, transaction costs, contract administration costs, and costs associated with monitoring the contractor's work estimated at **\$40,000**.
- 7.2. Covered Species Credits.** If the Permittee elects to purchase Covered Species credits to complete compensatory mitigation obligations, then Permittee shall purchase 2.46 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 8 below. Prior to purchase of Covered Species credits, Permittee shall obtain CDFW approval to ensure the mitigation or conservation bank is appropriate to compensate for the impacts of the Project. Permittee shall submit to CDFW a copy of the Bill of Sale(s) and Payment Receipt prior to initiating Covered Activities or within 18 months from issuance of this ITP if Security is provided.
- 7.3. Habitat Management Lands Acquisition and Protection.** If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall:
- 7.3.1. Fee Title.** Transfer fee title of the HM lands to CDFW pursuant to terms approved in writing by CDFW. Alternatively, CDFW, in its sole discretion, may authorize a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended.
- 7.3.2. Conservation Easement.** If CDFW does not hold fee title to the HM lands, CDFW shall act as grantee for a conservation easement over the HM lands or shall, in its sole discretion, approve a non-profit entity, public agency, or Native American tribe to act as grantee for a conservation easement over the HM lands provided that the entity, agency, or tribe meets the requirements of Civil Code section 815.3. If CDFW elects not to be named as the grantee for the conservation easement, CDFW shall be expressly named in the conservation easement as a third-party beneficiary. The Permittee shall obtain CDFW written approval of any conservation easement before its execution or recordation. No conservation easement shall be approved by CDFW unless it complies with Civil Code sections 815-816, as amended, and Government Code sections 65965-

65968, as amended and includes provisions expressly addressing Government Code sections 65966(j) and 65967(e). Because the “doctrine of merger” could invalidate the conservation interest, under no circumstances can the fee title owner of the HM lands serve as grantee for the conservation easement.

- 7.3.3. HM Lands Approval.** Obtain CDFW written approval of the HM lands before acquisition and/or transfer of the land by submitting, at least three months before acquisition and/or transfer of the HM lands, documentation identifying the land to be purchased or property interest conveyed to an approved entity as mitigation for the Project’s impacts on Covered Species;
- 7.3.4. HM Lands Documentation.** Provide a recent preliminary title report, Phase I Environmental Site Assessment, and other necessary documents (please contact CDFW for document list). All documents conveying the HM lands and all conditions of title are subject to the approval of CDFW, and if applicable, the Wildlife Conservation Board and the Department of General Services;
- 7.3.5. Land Manager.** Designate both an interim and long-term land manager approved by CDFW. The interim and long-term land managers may, but need not, be the same. The interim and/or long-term land managers may be the landowner or another party. Documents related to land management shall identify both the interim and long-term land managers. Permittee shall notify CDFW of any subsequent changes in the land manager within 30 days of the change. If CDFW will hold fee title to the mitigation land, CDFW will also act as both the interim and long-term land manager unless otherwise specified. The grantee for the conservation easement cannot serve as the interim or long-term manager without the express written authorization of CDFW in its sole discretion.
- 7.3.6. Start-up Activities.** Provide for the implementation of start-up activities, including the initial site protection and enhancement of HM lands, once the HM lands have been approved by CDFW. Start-up activities include, at a minimum: (1) preparing and implementing a Development and Restoration Plan approved by CDFW in writing; (2) preparing an Interim Management Plan, including the costs of interim management activities, approved by CDFW in writing; (3) preparing a Long-Term Management Plan, including the endowment assessment (see Condition of Approval 7.4.2), approved by CDFW in writing: (see <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Templates>); (4) conducting a baseline biological assessment and land survey report within four months of recording or transfer; (5) developing and transferring Geographic Information Systems (GIS) data if applicable; (6) establishing initial fencing; (7) conducting litter removal; (8) conducting initial habitat restoration or enhancement, if applicable; and (9) installing signage;

7.3.7. Interim Management (Initial and Capital). Provide for the interim management of the HM lands. The Permittee shall ensure that the interim land manager implements the interim management of the HM lands as described in the final Interim Management Plan conservation easement approved by CDFW. The interim management period shall be a minimum of three years from the date of HM land acquisition and protection and full funding of the Endowment and includes expected management following start-up activities. Interim management period activities described in the final Interim Management Plan shall include but not be limited to fence repair, continuing trash removal, site monitoring, and vegetation and invasive species management.

Permittee shall either (1) provide Security to CDFW for the minimum of three years of interim management that the land owner, Permittee, or land manager agrees to manage and pay for at their own expense, (2) establish an escrow account with written instructions approved in advance in writing by CDFW to pay the land manager annually in advance, or (3) establish a short-term enhancement account with CDFW or a CDFW-approved entity for payment to the land manager.

7.4. Endowment Fund. If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall ensure that the HM lands are perpetually managed, maintained, and monitored by the long-term land manager as described in this ITP, the conservation easement, and the Long-Term Management Plan approved by CDFW . After obtaining CDFW approval of the HM lands, Permittee shall provide long-term management funding for the perpetual management of the HM lands by establishing a long-term management fund (Endowment). The Endowment is a sum of money, held in a CDFW-approved fund that is permanently restricted to paying the costs of long-term management and stewardship of the mitigation property for which the funds were set aside, which costs include the perpetual management, maintenance, monitoring, and other activities on the HM lands consistent with this ITP, the conservation easement, Long-Term Management Plan required by Condition of Approval 7.3.6. Endowment as used in this ITP shall refer to the endowment deposit and all interest, dividends, other earnings, additions and appreciation thereon. The Endowment shall be governed by this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

After the interim management period, Permittee shall ensure that the designated long-term land manager implements the management and monitoring of the HM lands according to the Long-Term Management Plan. The long-term land manager shall be obligated to manage and monitor the HM lands in perpetuity to preserve their conservation values in accordance with this ITP, the conservation easement, and the Long-Term Management Plan. Such activities shall be funded through the Endowment.

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- 7.4.1. Identify an Endowment Manager.** The Endowment shall be held by the Endowment Manager, which shall be either CDFW or another entity qualified pursuant to Government Code sections 65965-65968, as amended.

Permittee shall submit to CDFW a written proposal that includes: (i) the name of the proposed Endowment Manager; (ii) whether the proposed Endowment Manager is a governmental entity, special district, nonprofit organization, community foundation, or congressionally chartered foundation; (iii) whether the proposed Endowment Manager holds the property or an interest in the property for conservation purposes as required by Government Code section 65968(b)(1) or, in the alternative, the basis for finding that the Project qualifies for an exception pursuant to Government Code section 65968(b)(2); and (iv) a copy of the proposed Endowment Manager's certification pursuant to Government Code section 65968(e).

Within thirty days of CDFW's receipt of Permittee's written proposal, CDFW shall inform Permittee in writing if it determines the proposal does not satisfy the requirements of Fish and Game Code section 2081(b)(3) and, if so, shall provide Permittee with a written explanation of the reasons for its determination. If CDFW does not provide Permittee with a written determination within the thirty-day period, the proposal shall be deemed consistent with Section 2081(b)(3).

- 7.4.2. Calculate the Endowment Funds Deposit.** After obtaining CDFW written approval of the HM lands and Endowment Manager, Permittee shall prepare an endowment assessment (equivalent to a Property Analysis Record (PAR)) to calculate the amount of funding necessary to ensure the long-term management of the HM lands (Endowment Deposit Amount) and include the endowment assessment in the Long-Term Management Plan. Note that the endowment for the easement holder is a separate cost from the Endowment Deposit Amount and should not be included in this calculation. The Permittee shall submit to CDFW for review and approval the results of the endowment assessment before transferring funds to the Endowment Manager.

7.4.2.1. Capitalization Rate and Fees. Permittee shall obtain the capitalization rate from the selected Endowment Manager for use in calculating the endowment assessment and adjust for any additional administrative, periodic, or annual fees.

7.4.2.2. Endowment Buffers/Assumptions. Permittee shall include in the endowment assessment assumptions the following buffers for endowment establishment and use that will substantially ensure long-term viability and security of the Endowment:

- 7.4.2.2.1. 10 Percent Contingency. A 10 percent contingency shall be added to each endowment calculation to hedge against underestimation of the fund, unanticipated expenditures, inflation, or catastrophic events.
- 7.4.2.2.2. Three Years Delayed Spending. The endowment shall be established assuming spending will not occur for the first three years after full funding.
- 7.4.2.2.3. Non-annualized Expenses. For all large capital expenses to occur periodically but not annually such as fence replacement or well replacement, payments shall be withheld from the annual disbursement until the year of anticipated need or upon request to Endowment Manager and CDFW.

7.4.3. Transfer Long-term Endowment Funds. Permittee shall transfer the long-term endowment funds to the Endowment Manager upon CDFW approval of the Endowment Deposit Amount identified above.

7.4.4. Management of the Endowment. The approved Endowment Manager may pool the Endowment with other endowments for the operation, management, and protection of HM lands for local populations of the Covered Species but shall maintain separate accounting for each Endowment. The Endowment Manager shall, at all times, hold and manage the Endowment in compliance with this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

Notwithstanding Probate Code sections 18501-18510, the Endowment Manager shall not make any disbursement from the Endowment that will result in expenditure of any portion of the principal of the endowment without the prior written approval of CDFW in its sole discretion. Permittee shall ensure that this requirement is included in any agreement of any kind governing the holding, investment, management, and/or disbursement of the Endowment funds.

Notwithstanding Probate Code sections 18501-18510, if CDFW determines in its sole discretion that an expenditure needs to be made from the Endowment to preserve the conservation values of the HM lands, the Endowment Manager shall process that expenditure in accordance with directions from CDFW. The Endowment Manager shall not be liable for any shortfall in the Endowment resulting from CDFW's decision to make such an expenditure.

7.5. Reimburse CDFW. Permittee shall reimburse CDFW for all reasonable costs incurred by CDFW related to issuance and monitoring of this ITP, including, but not limited to transaction fees, account set-up fees, administrative fees, title and documentation review

and related title transactions, costs incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW.

7.6. Habitat Restoration. Permittee shall restore on-site the 1.23 acres of Covered Species habitat that will be temporarily impacted during construction to pre-Project or better conditions. At least 30 days prior to the initiation of Project construction, the Permittee shall submit a Vegetation Restoration Plan (Plan) to CDFW for approval to facilitate revegetation of the 1.23 acres of temporary construction impacts on-site. The Permittee shall obtain CDFW's written approval of the Plan and ensure that the Plan is successfully implemented. The Plan shall identify plant species that will be damaged or removed during Project activities and include detailed specifications for restoring all temporarily impacted areas, such as seed mixes and application methods. For seeding and mulching exposed slopes, the seed blend shall include locally native grass species at a ratio appropriate to the site. The Plan shall also indicate the best time of year for seeding to occur, three (3) years of monitoring, maintenance, and reporting, and success criteria. Permittee is responsible for monitoring and maintaining the restored areas for a period of three (3) years or until the Plan success criteria have been met, whichever is longer. The Plan shall include regular watering of plantings to ensure adequate growth if necessary. Permittee shall complete seeding/planting as soon as possible, but no later than October 15 of the year of impact. At the discretion of CDFW, all exposed areas where seeding/planting is unsuccessful after 90 days shall receive appropriate soil preparation and a second application of seeding/planting, straw, or mulch as soon as is practical on a date mutually agreed upon.

8. Security: The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 7 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:

8.1. Security Amount. The Security shall be in the amount of **\$626,564** or in the amount identified in Condition of Approval 7.1 specific to the obligation that has not been completed. This amount is determined by CDFW based on the cost estimates identified in Condition of Approval 7.1 above, sufficient for CDFW or its contractors to complete purchasing Covered Species credits OR HM land acquisition, property enhancement, startup costs, initial management, long-term management, and monitoring, AND restoration of on-site temporary impacts.

8.2. Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 3) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.

8.3. Security Timeline. The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.

- 8.4. Security Holder.** The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.
- 8.5. Security Transmittal.** Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 4) or by way of an approved instrument such as an escrow agreement, irrevocable letter of credit, or other.
- 8.6. Security Drawing.** The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.
- 8.7. Security Release.** The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:

For Covered Species credits

- Copy of Bill of Sale(s) and Payment Receipt(s) or Credit Transfer Agreement for the purchase of Covered Species credits; and
- Timely submission of all required reports.

OR for the permanent protection and management of HM Lands

- Written documentation of the acquisition of the HM lands;
- Copies of all executed and recorded conservation easements;
- Written confirmation from the approved Endowment Manager of its receipt of the full Endowment; and
- Timely submission of all required reports.

AND for habitat restoration

- Successful restoration of temporary impacts.

Even if Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM lands and record any required conservation easements no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional HM lands and/or additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.

IX. Amendment:

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may be amended without the concurrence of the

Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

X. Stop-Work Order:

If CDFW determines the Permittee has violated any term or condition of this ITP or has engaged in unlawful take, CDFW may issue Permittee a written stop-work order instructing the Permittee to suspend any Covered Activity for an initial period of up to 30 days or risk suspension or revocation of this ITP. CDFW can issue a stop-work order to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the unauthorized take of any CESA endangered, threatened, or candidate species, regardless of whether that species is a Covered Species under this ITP. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 30 additional days.

If Permittee fails to remedy the violation or to comply with a stop-work order, CDFW may proceed with suspension and revocation of this ITP. Suspension and revocation of this ITP shall be governed by California Code of Regulations, title 14, section 783.7, and any other applicable law. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

XI. Liability:

All terms and conditions of this ITP shall be binding upon each Permittee. Notwithstanding California Civil Code section 1431 or any other provision of law, each Permittee shall be jointly and severally liable for performance of all terms, conditions, and obligations of this ITP and shall be jointly and severally liable for any unauthorized take or other violations of this ITP, whether committed by Permittees or any person acting on behalf of one or more Permittees, including their officers, employees, representatives, agents or contractors and subcontractors. Any failure by one or more Permittees to comply with any term, condition, or obligation herein shall be deemed a failure to comply by all Permittees.

XII. Compliance with Other Laws:

This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local law.

XIII. Notices:

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by email or registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name,

Incidental Take Permit
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CITY OF SANTA ROSA

ROBLES SEWER TRUNK LINING – ARLINGTON TO SUNLAND

Permittee, and ITP Number (2081-2022-018-03) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Erin Chappell, Regional Manager
California Department of Fish and Wildlife – Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
R3CESA@wildlife.ca.gov

DRAFT

and a copy to:

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
Post Office Box 944209
Sacramento, CA 94244-2090
CESA@wildlife.ca.gov

Unless Permittee is notified otherwise, CDFW's Regional Representative for purposes of addressing issues that arise during implementation of this ITP is:

Nick Wagner, Senior Environmental Scientist (Specialist)
California Department of Fish and Wildlife – Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Telephone: (707) 428-2075
Email: Nicholas.Wagner@wildlife.ca.gov

XIV. Compliance with the California Environmental Quality Act:

In general, the issuance of an ITP under CESA constitutes the approval of a project by CDFW subject to the California Environmental Quality Act (CEQA). (See generally Pub. Resources Code, § 21000 et seq.). CDFW has issued the ITP in the present case as a public agency for purposes of CEQA. (Id., § 21067). CDFW determined in that capacity that the Project and issuance of this ITP is statutorily exempt from environmental review pursuant to Public Resource Code 21080.21 and California Code of Regulations, title 14, section 15282, subdivision (k).

Issuance of the ITP, in this respect, is statutorily exempt from further environmental review under CEQA because under Public Resources Code section 21080.21 and California Code of Regulations, title 14, section 15182, subdivision (k), CEQA does not apply to any project of less than one mile in length within a public street or highway or any other public right-of-way for the installation of a new pipeline or the maintenance, repair, restoration, reconditioning, relocation, replacement, removal, or

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demolition of an existing pipeline. For purposes of Public Resources Code section 21080.21, “pipeline” includes subsurface facilities but does not include any surface facility related to the operation of the underground facility. The Project is less than one mile in length within a public right-of-way and involves the maintenance of an existing pipeline as set forth in Public Resources Code section 21080.21.

XV. Findings Pursuant to CESA:

These findings are intended to document CDFW’s compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code, § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds, (a)-(b), 783.5, subd. (c)(2).)

CDFW finds based on substantial evidence in the ITP application, the results of site visits and consultations, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

- (1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;
- (2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) establishment of avoidance zones; (3) worker education; and (4) Monthly Compliance Reports. CDFW evaluated factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW’s estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of 2.46 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking caused by the Project;
- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee’s objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;
- (6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;

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- (7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and
- (8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

XVI. Attachments:

FIGURE 1	CTS Habitat & Impact Areas Summary
FIGURE 2	Construction Mat Potential Placement Locations
FIGURE 3	Pre-Construction Plant Survey Locations
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Restraint and Handling of Live Amphibians
ATTACHMENT 3	Letter of Credit Form
ATTACHMENT 4	Mitigation Payment Transmittal Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE ON [MM/DD/YYYY]

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Erin Chappell, Regional Manager
Bay Delta Region

Incidental Take Permit
No. 2081-2022-018-03
CITY OF SANTA ROSA
ROBLES SEWER TRUNK LINING – ARLINGTON TO SUNLAND



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

January 16, 2025

Regulatory Division

Subject: File Number SPN-2023-00228

Ms. Kellen Johnston
City of Santa Rosa
69 Stony Circle
Santa Rosa, California 95401
kjohnston@srcity.org

Dear Ms. Johnston:

This correspondence is in reference to your submittal of September 5, 2024, on behalf of the City of Santa Rosa, concerning Department of the Army (DA) authorization for the Robles Sewer Trunk Lining from West of Arlington Avenue to East of Sunland Avenue Project located east of the Laguna Wastewater Treatment Plant in the City of Santa Rosa, Sonoma County, California; Latitude 38.3721°, Longitude -122.7541°.

Work within U.S. Army Corps of Engineers (Corps) jurisdiction will include excavation and subsequent replacement of substrate within 0.0025 acre of seasonal wetlands to remove manhole covers in two locations for the sewer liner launch points and to trench the temporary bypass pipe across Arlington Avenue to allow continued use of the roadway. In addition, protection mats will be placed in 0.46 acre of wetlands to protect habitat from construction access. All mats will be removed following project construction. All work shall be completed in accordance with the plans and drawings titled: "USACE File SPN-2023-00228, Robles Sewer Trunk Lining from West Arlington Avenue to East Sunland Avenue Project, Santa Rosa, Sonoma County," dated January 15, 2025, in 12 sheets, provided as enclosure 1.

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act (RHA) generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

Based on a review of the information in your submittal, the project qualifies for authorization under Department of the Army Nationwide Permit (NWP) NWP 58 Utility Line Activities for Water and Other Substances (86 Fed. Reg. 2744, January 13, 2021), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 et seq.). The project must be in compliance with the terms of the NWP, the general conditions of the Nationwide Permit Program, and the San Francisco District regional conditions cited on our website (www.spn.usace.army.mil/Missions/Regulatory/Permitting/Nationwide/). You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law. Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, enclosure 2, verifying that you have complied with the terms and conditions of the permit.

This verification will remain valid until March 14, 2026, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. § 330.5(c) or (d). This verification will remain valid if, during the time period between now and March 14, 2026, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs would be announced by Public Notice posted on our website (www.spn.usace.army.mil/Missions/Regulatory/Public-Notices.aspx).

The State Water Resource Control Board (SWRCB) issued Section 401 water quality certification for 18 NWPs, subject to conditions and notification requirements (www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders.html#yr_2021). If your project qualifies to be authorized under one of these pre-certified NWPs, the activities authorized are exempt from California Environmental Quality Act (CEQA) review since the activities should not have a significant effect on the environment, either individually or cumulatively. Applicants for the 2020 certified Nationwide Permits (NWPs) are required to submit notification and any applicable fees to the SWRCB and RWQCB on the 2020 Certified Nationwide Permit Notification Form

(https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2020/noi.docx). The signed notification must be received by the appropriate Regional Water Board, with a copy to the State Water Board, not less than 45 days before any activity which may result in a discharge is commenced.

General Condition 18 stipulates that project authorization under a NWP does not allow for the incidental take of any federally-listed species in the absence of a biological opinion with incidental take provisions. As the principal federal lead agency for this project, the Corps initiated consultation with the United States Fish and Wildlife Service (USFWS) to address project related impacts to listed species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended, 16 U.S.C. § 1531 *et seq.* By email of December 31, 2024, USFWS, concurred with the determination that the project was not likely to adversely affect California tiger salamander (*Ambystoma californiense*) (CTS), Burke's goldfields (*Lasthenia burkei*), Sebastopol meadowfoam (*Limnanthes vincularis*), Sonoma sunshine (*Blennosperma bakeri*), and designated critical habitat for CTS.

In order to ensure compliance with this NWP authorization, the following special conditions shall be implemented:

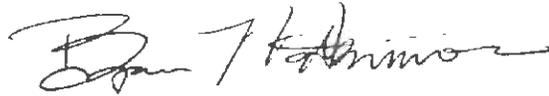
1. The USFWS concurred with the determination that the project was not likely to adversely affect CTS, Burke's goldfields, Sebastopol meadowfoam, Sonoma sunshine, or designated critical habitat for CTS. This concurrence was premised, in part, on project work restrictions and the description of the proposed action outlined in the "Biological Assessment Update, Robles Sewer Trunk Lining from West Arlington Avenue to East of Sunland Avenue," dated December 3, 2024. These work restrictions are incorporated as special conditions to the NWP authorization for your project to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

You may refer any questions on this matter to me by telephone at (415) 503-6786 or by e-mail at Bryan.T.Matsumoto@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. The Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the

Customer Service Survey Form available on our website:
www.spn.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

A handwritten signature in black ink, appearing to read "Bryan Matsumoto". The signature is fluid and cursive, with a long horizontal stroke at the end.

Bryan Matsumoto
Senior Project Manager

Enclosures

cc:

USFWS, Vincent Griego, vincent_griego@fws.gov

SWRCB, Alex Lopez, alexander.lopez@waterboards.ca.gov

City of Santa Rosa, Dan Hennessey, dhennessey@srcity.org



State Water Resources Control Board

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION ORDER NO. WQ 2024-0017-DWQ AND NOTICE OF APPLICABILITY FOR ENROLLMENT UNDER STATE WATER BOARD GENERAL ORDER FOR THE CORPS' NATIONWIDE PERMITS (ORDER NO. [WQ] 2020-0039-EXEC)

Effective Date: Upon Deputy Director's Signature

Program Type: Fill/Excavation

Project Type: Agriculture, Domestic, and Industrial Water Pipeline
Conveyance and/or Supply

Project: Robles Sewer Trunk Lining from West of Arlington Avenue
to East of Sunland Avenue
Regulatory Measure ID: 455714
WDID: SB24012N

Applicant: City of Santa Rosa
Applicant Contact: James Jensen
Deputy Director of Engineering Services
69 Stony Circle
Santa Rosa, CA 95401
Phone: (707) 543-3944
Email: Jjensen@srcity.org

State Water Board Staff: Alex Lopez
Environmental Scientist
1001 I Street
Sacramento, CA 95814
Phone: (916) 327-5620
Email: Alexander.Lopez@waterboards.ca.gov

State Water Board Contact Person:

For further assistance, please call the State Water Resources Control Board (State Water Board) Staff listed above or (916) 322-7781 and ask to speak with the Wetlands Permitting and Enforcement II Unit Supervisor.

E. JOAQUIN ESQUIVEL, CHAIR | ERIC OPPENHEIMER, EXECUTIVE DIRECTOR

I. Summary

This document serves as a Notice of Applicability for enrollment under the State Water Board General Order for the Nationwide Permits (Order No. [WQ] 2020-0039-EXEC; SWRCB ID SB20031GN; hereafter referred to as the General Order) at the request of City of Santa Rosa (Applicant). The General Order can be accessed at [the Clean Water Act Section 401 - Certification and Wetlands Program, General Orders webpage](https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders.html#yr_2020) (https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders.html#yr_2020). On January 2, 2024, the State Water Board received a complete Notice of Intent requesting authorization for the Applicant's Robles Sewer Trunk Lining from West of Arlington Avenue to East of Sunland Avenue (Project). After reviewing the Notice of Intent, the State Water Board has determined that the Project meets General Order requirements for Nationwide Permit 58: Utility Line Activities for Water and Other Substances.

This order also serves as an individual certification of the Corps Nationwide Permit 58 under the authority of Clean Water Act Section 401.

II. Project Description

As described in the Project Notice of Intent and supplemental information (hereafter referred to as the Application), which is incorporated herein by reference, the purpose of the Project is to rehabilitate approximately 18-foot underground trunk sewer main using trenchless cured-in-place pipe (CIPP) lining technology.

III. Project Location

The Project is located on eight contiguous parcels southwest of Santa Rosa and east of the Laguna Treatment Plant in unincorporated Santa Rosa Plain area, in Santa Rosa, Sonoma County, California. The Project coordinates are 38.366758°N, 122.750031°W.

IV. Receiving Waters Information

The Project is located within the jurisdiction of the North Coast Regional Water Quality Control Board. Receiving waters and groundwater potentially impacted by this Project are listed in Table 1. These waters are regulated in accordance with the applicable water quality control plan (Basin Plan) for the region and other plans and policies of the California Water Boards, which may be accessed online at [the State Water Boards' Plans and Policies webpage](http://www.waterboards.ca.gov/plans_policies/) (http://www.waterboards.ca.gov/plans_policies/).

Table 1: Receiving Water Information

Impact Site ID	Waterbody Name	Impacted Aquatic Resource Type	Water Board Hydrologic Units	Receiving Waters	Receiving Waters Beneficial Uses	303(d) Listing Pollutants
Arlington Avenue East Side	Unnamed (Colgan Creek)	Wetlands	114.21	Laguna De Santa Rosa	MUN, AGR, IND, PRO, GWR, FRSH, NAV, POW, REC1, REC2, COMM, WARM, COLD, WILD, RARE, MIGR, SPWN, SHELL, AQUA	Indicator Bacteria, Dissolved Oxygen, Sedimentation/ Siltation, Temperature, Water
KK2702 MH001	Unnamed (Colgan Creek)	Wetlands	114.21	Laguna De Santa Rosa	MUN, AGR, IND, PRO, GWR, FRSH, NAV, POW, REC1, REC2, COMM, WARM, COLD, WILD, RARE, MIGR, SPWN, SHELL, AQUA	Indicator Bacteria, Dissolved Oxygen, Sedimentation/ Siltation, Temperature, Water
KK2703 MH002	Unnamed (Colgan Creek)	Wetlands	114.21	Laguna De Santa Rosa	MUN, AGR, IND, PRO, GWR, FRSH, NAV, POW, REC1, REC2, COMM, WARM, COLD, WILD, RARE, MIGR, SPWN, SHELL, AQUA	Indicator Bacteria, Dissolved Oxygen, Sedimentation/ Siltation, Temperature, Water

V. Direct Impacts to Waters of the State

Total Project fill/excavation quantities for all impacts are summarized in Table 2.

Table 2: Total Project Fill/Excavation Quantity to Wetlands

Temporary Impact ¹	Permanent Impact - Physical Loss of Area	Permanent Impact - Degradation of Ecological Condition Only
0.46 acres 0 linear feet	0 acres 0 linear feet	0 acres 0 linear feet

VI. Description of Indirect Impacts to Waters of the State

The State Water Board recognizes the potential for indirect impacts to waters of the state associated with the Project. Potential indirect adverse effects include but are not limited to: increased sediment loading to streams from riparian and/or upland areas used for access or staging areas, possibility of introducing invasive species into the Project areas, and changing timing of runoff delivery to streams in the Project area. The Project, as designed, will not have significant indirect impacts to waters of the state.

VII. Conditions

A. Scope of Authorization

The Project may proceed only as described in the Application submitted to the State Water Board by the Applicant and in accordance with the conditions in State Water Board General Order No. [WQ] 2020-0039-EXEC and this Notice of Applicability. This Certification and coverage under the General Order is no longer valid if the Project (as described) is modified. A copy of the General Order and its attachments can be found on the State Water Resources Control Board's [General Order Website](https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders.html#yr_2020) (https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders.html#yr_2020).

Compliance with 40 CFR § 121.7(d)(2) - This condition is necessary to assure that any discharge under this Order will comply with water quality requirements as described in the General Order. Water Code section 13264 prohibits any discharge that is not specifically authorized in an order. The conditions set forth in State Water Board

¹ Includes only temporary direct impacts to waters of the state and does not include upland areas of temporary disturbance which could result in a discharge to waters of the state. Temporary impacts, by definition, are restored to pre-project conditions and therefore do not include a physical loss of area or degradation of ecological condition.

Water Quality General Order No. [WQ] 2020-0039-EXEC are further justified in Attachment C of that General Order.

B. Standard Conditions (These conditions are also set forth in State Water Board General Order No. [WQ] 2020-0039-EXEC, in Section VI.A.1-A.3.)

- i. Every certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Section 13330 of the Water Code and Article 6 (commencing with Section 3867) of this Chapter.
- ii. Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission license or an amendment to a Federal Energy Regulatory Commission license unless the pertinent certification application was filed pursuant to Subsection 3855(b) of this Chapter and that application specifically identified that a Federal Energy Regulatory Commission license or amendment to a Federal Energy Regulatory Commission license for a hydroelectric facility was being sought.
- iii. Certification is conditioned upon total payment of any fee required under this Chapter and owed by the applicant.

Compliance with 40 CFR § 121.7(d)(2) – Each standard condition in Section VII.B is necessary to assure that any discharge authorized under the general license or permit will comply with water quality requirements. Water quality requirements include state regulatory requirements for point source discharges into waters of the United States. California Code of Regulations, title 23, Chapter 28 sets forth regulations pertaining to water quality certifications for point source discharges to waters of the United States. These conditions were included to comply with section 3860, which sets forth conditions that must be included in all water quality certifications.

C. Avoidance and Minimization

In order to avoid and minimize impacts to waters of the state and their designated beneficial uses, the Applicant will follow the avoidance and minimization measures as proposed in their Application. Each avoidance and minimization measure demonstrates that a sequence of actions has been taken to first avoid, then to minimize, and lastly compensate for loss of or significant adverse impacts to beneficial uses of waters of the state that cannot be practicably avoided or minimized.

Compliance with 40 CFR § 121.7(d)(2) – The Water Board may approve a project only if the applicant has demonstrated that a sequence of actions has been taken to first avoid, then minimize, and, lastly, compensate for loss of or significant adverse impacts to beneficial uses of waters of the state. (Dredge or Fill Procedures, section IV.B.1.a.)

D. Mitigation for Temporary Impacts

All temporarily affected areas will be restored to pre-construction contours and conditions upon completion of construction activities in compliance with the General Order and according to the restoration plan submitted by the Applicant in the Application.

Compliance with 40 CFR § 121.7(d)(2) – Mitigation is required to ensure compliance with Executive Order W-59-93 that requires no net loss of the structure or function of California’s wetland resources.

VIII. California Environmental Quality Act

The State Water Board has determined that the Project is exempt from review under the California Environmental Quality Act pursuant to California Code of Regulations, title 14, section 15282. Additionally, the State Water Board finds that no exceptions to the exemptions apply to the activities approved by this Notice of Applicability.

IX. Certification Fees

The total fee amount required by California Code of Regulations, title 23, sections 3833(b)(3) and 2200(a)(3), Category A - Fill and Excavation Discharges (fee code 84) is \$12,240. A payment of \$2,734 was received on November 6, 2023. No impacts to waters of the state shall occur until an additional payment of \$9,506 is received by the State Water Board.

X. Public Notice

The State Water Board provided public notice of the Application pursuant to California Code of Regulations, title 23, section 3858 from November 14, 2023, to December 5, 2023. The State Water Board did not receive any comments during the comment period.

XI. Reporting and Notification Requirements

The Applicant shall submit an Annual Report each year on January 15 until a Notice of Project Complete Letter is issued to the Applicant. Notices and reporting shall be provided to the State Water Board according to section VI.E, “Application for Coverage and Termination,” of the General Order.

The Applicant shall submit Report Types 2 and 3, as described in Attachment B, “Report and Notification Requirements,” of the General Order. The Applicant must also submit Report Types 4 through 9 if the Project encounters the conditions described in these Report Types. The Applicant must submit all reports and information required under this Certification according to the Report Submittal Instructions found in Attachment B, “Report and Notification Requirements,” of the General Order.

Compliance with 40 CFR § 121.7(d)(2) – These reporting and notification requirements are necessary to confirm that the requirements set by this certification are satisfied, and that the requirements are sufficient to protect beneficial uses and water quality objectives. Monitoring and reporting requirements are authorized by Water Code sections 13267 and 13383.

XII. Water Quality Certification

I hereby issue this Notice of Applicability for the Robles Sewer Trunk Lining from West of Arlington Avenue to East of Sunland Avenue certifying that as long as all of the conditions listed in the General Order are met, any discharge from the referenced Project will comply with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards).

As a water quality certification and enrollment under State Water Board General Order No. [WQ] 2020-0039-EXEC, this Certification and Notice of Applicability serve as waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.). State Water Board Order No. [WQ] 2020-0039-EXEC serves as waste discharge requirements in accordance with State Water Board Water Quality General Order No. 2003-0017-DWQ. The State Water Board will file a Notice of Exemption (NOE) at the State Clearinghouse within five (5) working days of issuance of this Notice of Applicability.

Except insofar as may be modified by any preceding conditions, all Notice of Applicability actions are contingent on: (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the conditions of the General Order and the attachments to the General Order; and, (b) compliance with all applicable requirements of Statewide Water Quality Control Plans, and the Regional Water Boards' Water Quality Control Plans.

Date

Karen Mogus, Deputy Director
Division of Water Quality

**Application for a One Time Wastewater Discharge
For City of Santa Rosa Projects**

Form ECS-02

1. APPLICANT'S CONTACT INFORMATION

CIP CONTRACT NAME: Robles Trunk Lining Phase I

CIP CONTRACT NUMBER: 2114

CONTACT NAME: Lucas Bishop

PHONE & EMAIL: (707)543-3861, LBishop@srcity.org

MAILING ADDRESS: 69 Stony Circle, Santa Rosa, CA 95401

2. SOURCE OF THE WASTEWATER AND/OR GROUNDWATER INTENDED FOR DISCHARGE TO THE SANITARY SEWER:

Wastewater generated from construction dewatering activities (CIP Projects).

Wastewater generated through remediation project activities.

Generated through other City business activities (if other please describe):

Wastewater will be generated from the cure/cool down process which utilizes hot water to cure the CIPP liner to the host pipe.

3. CITY OF SANTA ROSA PROJECT DESCRIPTION:

Approximately 2921 lineal feet of 45-inch sewer trunk will be rehabilitated using CIPP lining. The rehabilitation will increase the longevity of the sewer trunk before extensive corrosion and pipe wall damage occur within the trunk.

4. PROJECT LOCATION

Located in southwest Santa Rosa, spanning eight residential properties within City owned utility easements with crossings on Sunland Avenue and Arlington Avenue.

5. APPROXIMATE VOLUME OF DISCHARGE (if known): Unknown

6. PROJECT ACCOUNT NUMBER: 70775

7. DESCRIPTION OF PROPOSED TREATMENT (if applicable):

The cure/cool down water will be run through a carbon filtration system prior to being discharged back into the Robles Trunk Line.

8. SUPPORTING DOCUMENTATION include as an attachment(s) to this application.

- **NOTE 1 CHECK BOXES 1A, 1B & 1C are applicable only for CIP projects** to determine if the supporting documentation indicates that the construction corridor and project is located within an area with groundwater and/or soil contamination issues.
- **NOTE 2 CHECK BOXES 2A & 2B are applicable for all other City projects** to determine if the supporting documentation indicates if the wastewater proposed for discharge will meet local discharge limits.

The supporting documentation indicates CHECK BOX THAT APPLIES.

- | | |
|---|--|
| <input checked="" type="checkbox"/> 1 A) No Contamination | <input checked="" type="checkbox"/> 2 A) Proposed discharge meets local limits |
| <input type="checkbox"/> 1 B) Potential Contamination | <input type="checkbox"/> 2 B) Proposed discharge does not meet local limits |
| <input type="checkbox"/> 1 C) Contamination | |

FORM ECS-02 ADDITIONAL INFORMATION

Application Form ECS-02 is intended for City of Santa Rosa staff use only. All other non City of Santa Rosa requests must use One Time Discharge Permit Application Form ECS-01

Completed applications and the applicable supporting documentation can be faxed or mailed to:

Attention: One Time Discharge Permit Processing
Environmental Compliance Section
The City of Santa Rosa, Utilities Department
4300 Llano Road Santa Rosa, CA 95407
Telephone (707) 543-3369 and Fax (707) 543-3398

Alternatively, the completed application and applicable supporting documentation can be emailed directly to the Environmental Compliance Inspector who is assigned to reviewing and processing One Time Discharge Permits. If you are unsure of the appropriate staff member to email this information to please contact the Environmental Compliance Supervisor.

GENERAL DISCHARGE REQUIREMENTS

All discharges must comply with the limitations set forth under the City of Santa Rosa Municipal Code, Title 15 Sewers. The typical "constituents of concern" discharge limitations & prohibitions "local limits" that are applicable to One Time Discharges include, but are not limited to:

- Tetrachloroethylene is prohibited and shall not be discharged to the sanitary sewer
- *Total Toxic Organics (including BTEX's) shall not exceed 2.13 mg/l
- **Total BTEX shall not exceed 2.0 mg/l
- Summation of Total Petroleum Hydrocarbons or TPH (Gas) & TPH (Diesel) shall not exceed 100 mg/l
- Cadmium (***) shall not exceed 0.04 mg/l
- Chromium VI shall not exceed 0.1 mg/l
- Chromium (***) shall not exceed 1.71 mg/l
- Copper (***) shall not exceed 0.2 mg/l
- Lead (***) shall not exceed 0.03 mg/l
- Mercury (***) shall not exceed 0.003 mg/l
- Nickel (***) shall not exceed 1.51 mg/l
- Zinc (***) shall not exceed 1.63 mg/l
- Silver (***) shall not exceed 0.17 mg/l

* Total Toxic Organics, or TTO is the summation of all quantifiable values greater than 0.01 mg/l for listed toxic organics

** BTEX includes Benzene, Toluene, Ethylbenzene and Xylene

*** T = Total

SAMPLING & ANALYSIS

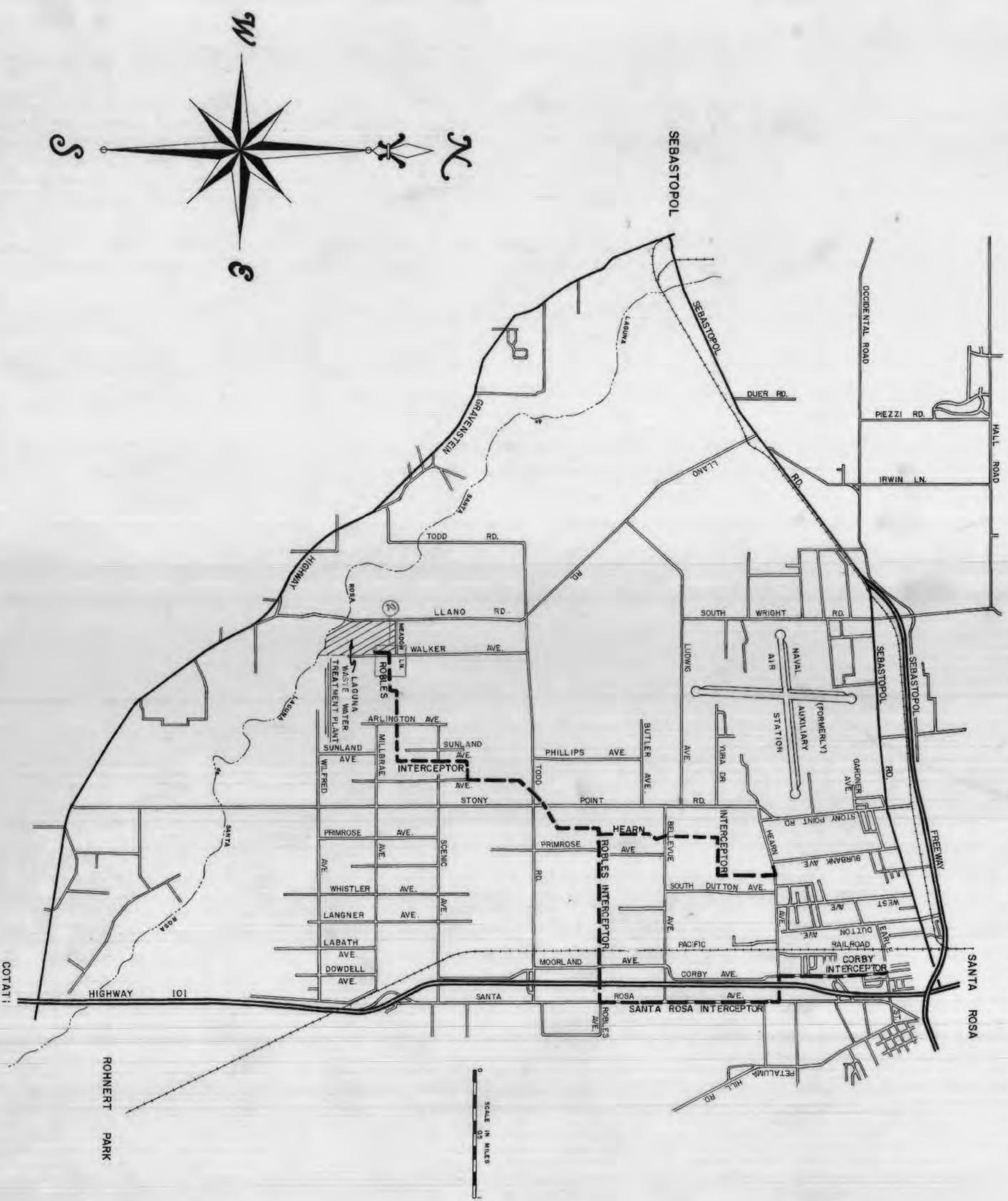
- * For City of Santa Rosa projects Environmental Compliance Section staff and the City's Laguna Environmental Lab can be utilized upon request to conduct the required sampling and analysis. Alternatively, when sampling is conducted by a Consultant or other non Environmental Compliance Section staff member representative sampling and analysis for all of the pollutants of concern that are present in the wastewater or any other testing deemed necessary by the Environmental Compliance Section is required.
- * Generally testing for Total Toxic Organics or TTO as per EPA 8260 test methodology and Total Petroleum Hydrocarbons or TPH (gas) and TPH (diesel) as per EPA 8015M test methodology will satisfy most sampling requirements.
- * All laboratory analysis must be performed by a California State Certified Laboratory and all test procedures must comply with standards set forth in EPA Solid Waste 846 and Title 40 Code of Federal Regulations, Part 136.
- * Please contact the Environmental Compliance Section to clarify the required sampling if you are unsure of what specific constituents to sample and have analyzed.

B - AS-BUILT DRAWINGS

Annotated sheets from the Southwest Santa Rosa Interceptor Sewer System Construction Plans for Robles, Santa Rosa, Corby and Hearn Interceptor Sewers – As-Built Drawings dated June 20, 1968

SOUTHWEST SANTA ROSA INTERCEPTOR SEWER SYSTEM
CONSTRUCTION PLANS

FOR
ROBLES, SANTA ROSA, CORBY AND HEARN INTERCEPTOR SEWERS
CITY OF SANTA ROSA, CALIFORNIA



LEGEND

SYMBOL	DESCRIPTION
○	Type I Manhole
○	Type II Manhole
△	Type III Manhole
△	Type IX Manhole
□	Type X Manhole
□	Type XII Manhole
□	Type XIII Manhole
□	Type XIII Manhole
○	Manhole
○	Cleanout
○	R.C.P. Reinforced Concrete Pipe
○	A.C.P. Asbestos Cement Pipe
○	V.C.P. Vitrified Clay Pipe
○	C.C.P. Concrete Cylinder Pipe
○	C.M.P. Corrugated Metal Pipe
○	Existing Manhole
—	Existing Sewer Line
—	Existing Sewer Pressure Line
—	Existing Water Line
—	Existing Gas Line
—	Flow Line
—	Edge Of Pavement
—	Plant Mix Surface
—	Fire Hydrant
—	M.H. with Stub (Applicable To Any M.H. Symbol)
—	M.H. To Receive Temporary Cover As Per Detail "C-49 (Applicable To Any M.H. Symbol)

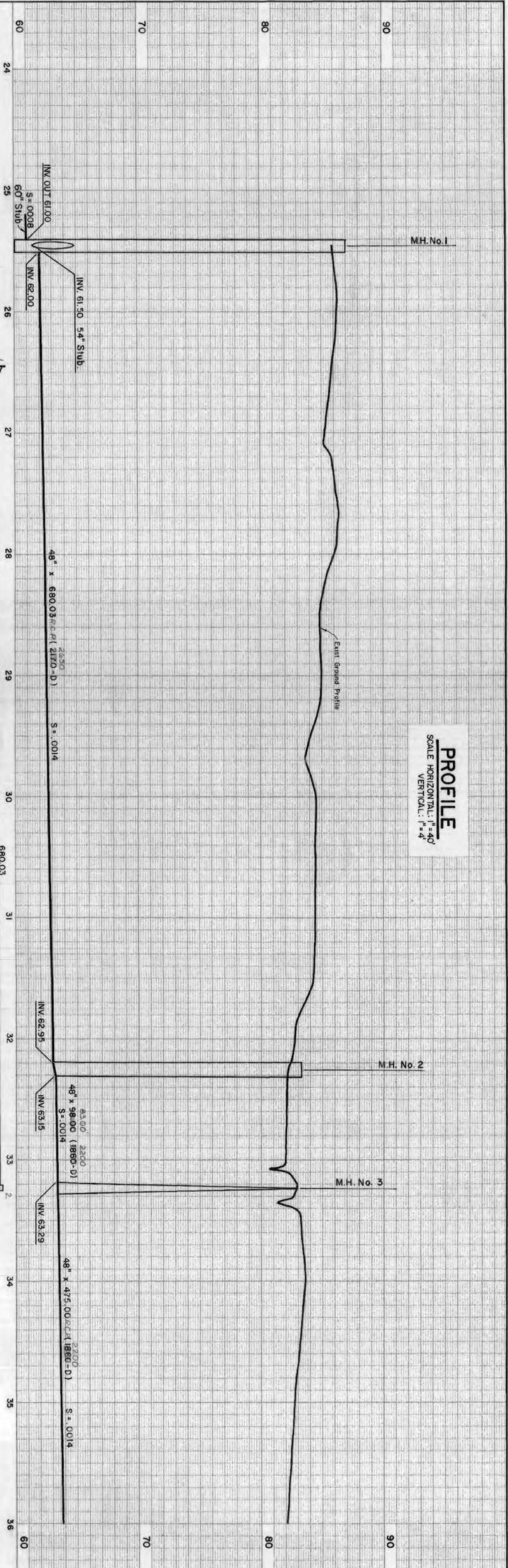
APPROVED:

Robert H. Van Guelpen
ROBERT H. VAN GUELPHEN R.C.E. 8007
CITY ENGINEER, CITY OF SANTA ROSA

Donald B. Head
DONALD B. HEAD R.C.E. 9217
SANITATION ENGINEER, COUNTY OF SONOMA

AS BUILT
MAY 20 1958
J.M.H.

PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'



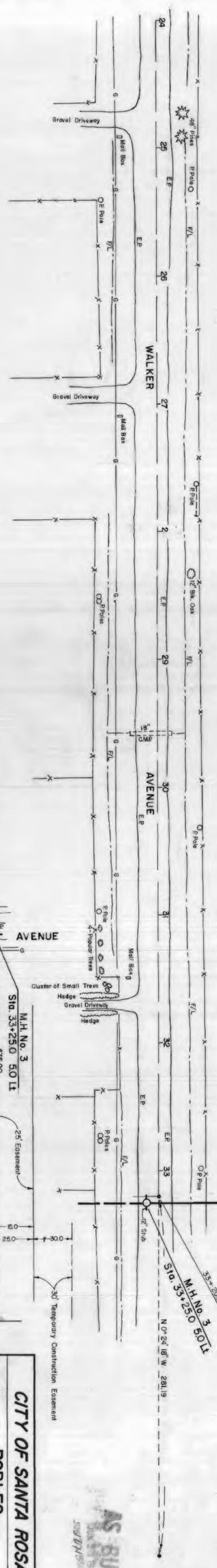
M.H. No. 1
 Sta. 25+47.0
 See Detail 'b' 46

54" (2220-D) Pipe Stub S = 0.0083
 Plug Outer End With Approved Plug
 And Inner End With 8" Brick
 And Mortar Bulkhead Flush
 With The End Of The Pipe

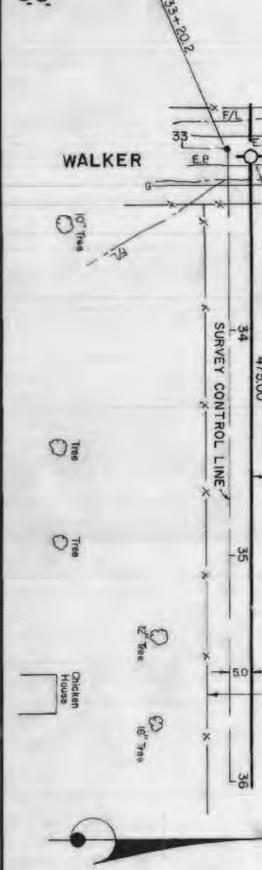
60" (2600 D) Pipe Stub With Temporary, Water-tight Plug.
 Connection Therein Will be Made By Others.



OPEN
FIELD



PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'



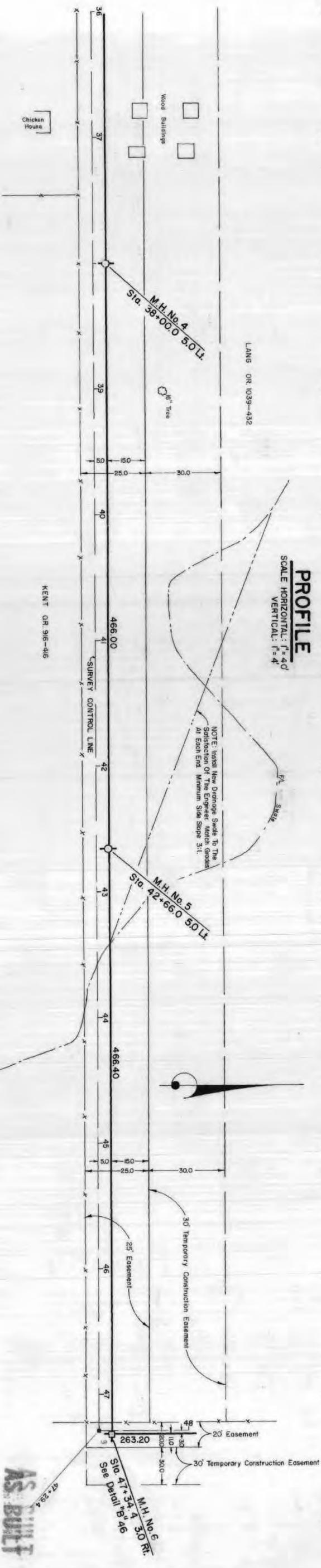
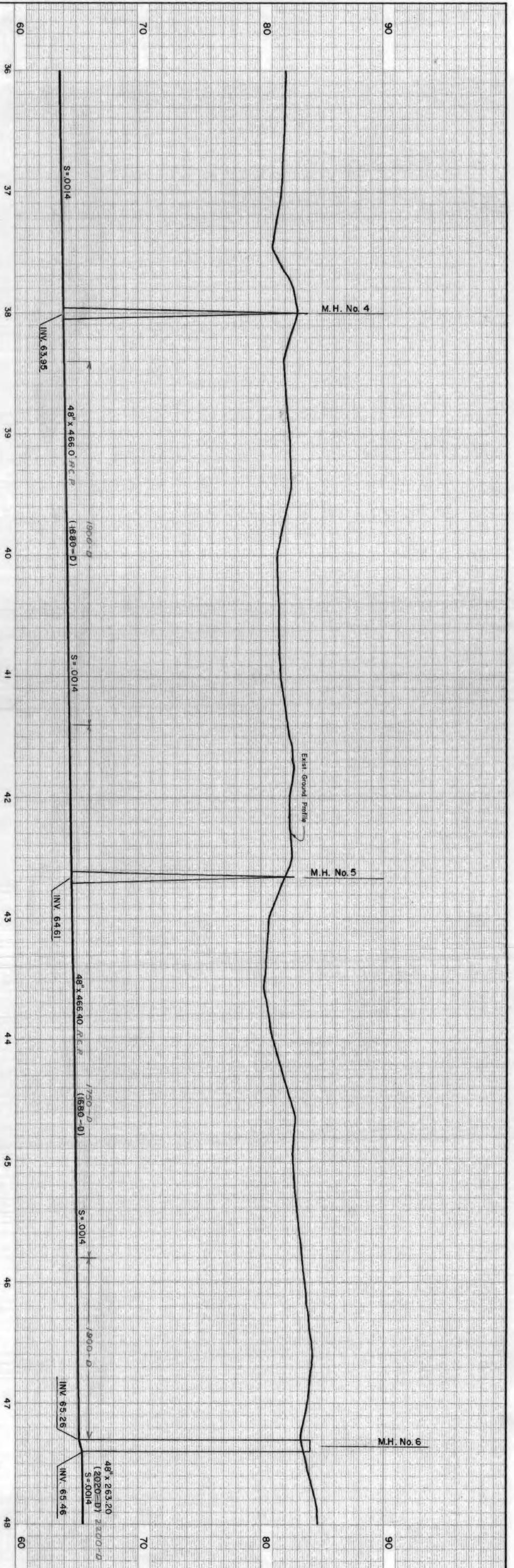
CITY OF SANTA ROSA
ROBLES INTERCEPTOR SEWER
PLAN AND PROFILE
STA. 24+00 TO STA. 36+00

Scale As Shown
 Date December, 1965
 SHEET No. 2 OF 52 SHEETS
 FILE No. 65-146

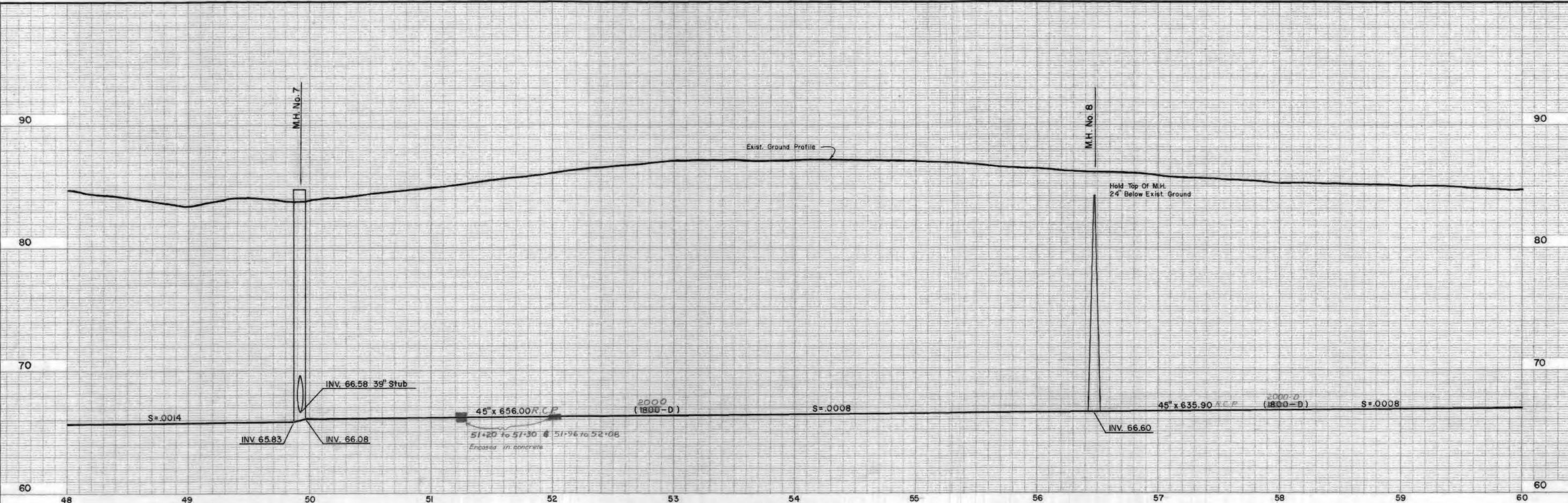
APPROVED
 ROBERT VAN SICKLEN, CITY ENGINEER
 12-21-65

CHK. M.E.S.

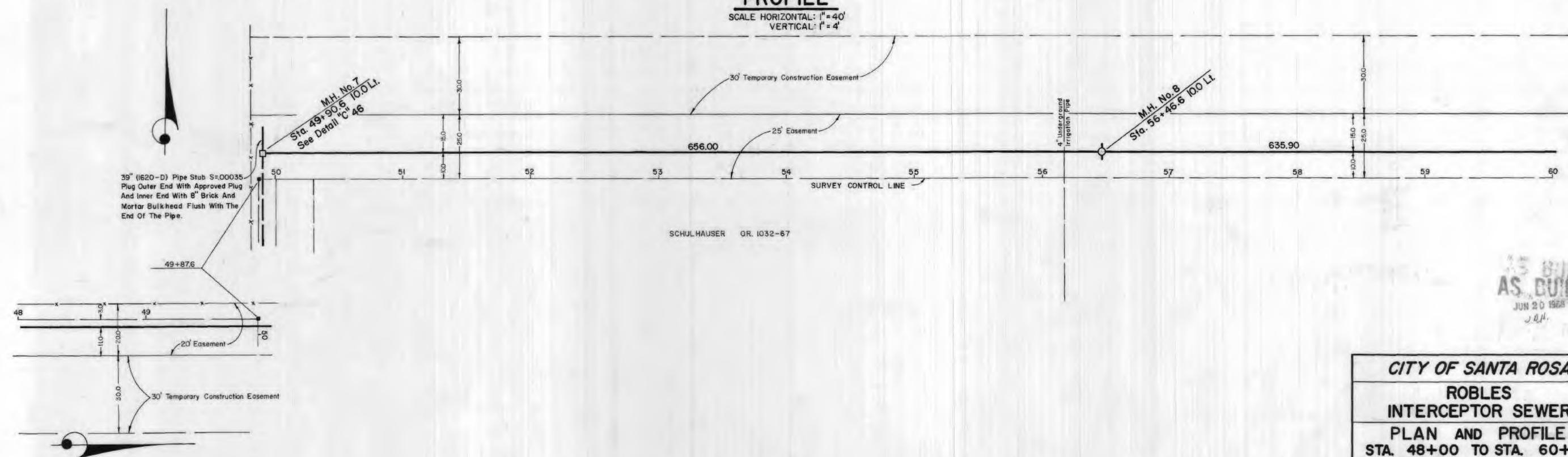




CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 36+00 TO STA. 48+00	
Scale As Shown	SHEET No. 3
Date December, 1965	Of 52 SHEETS
DRW. H.S.P. ROBERT VAN GULDERMAN, CIVIL ENGINEER	FILE No. 65-146
CHK. M.E.S. Chief Survey Engineer	



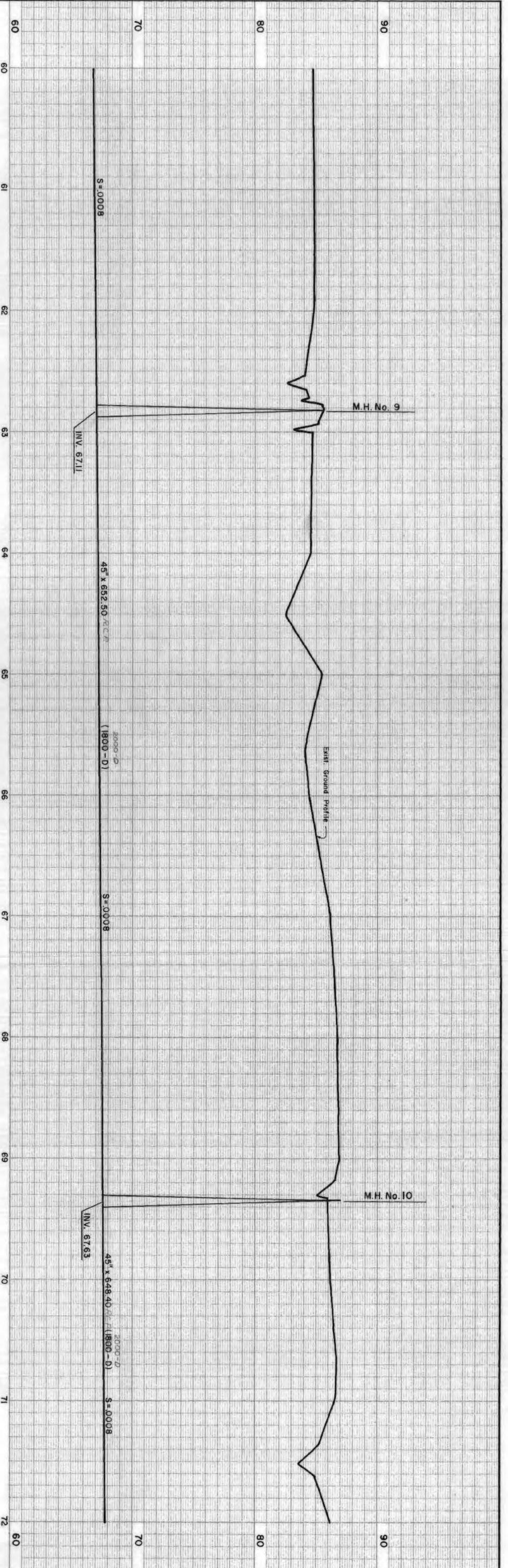
PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'



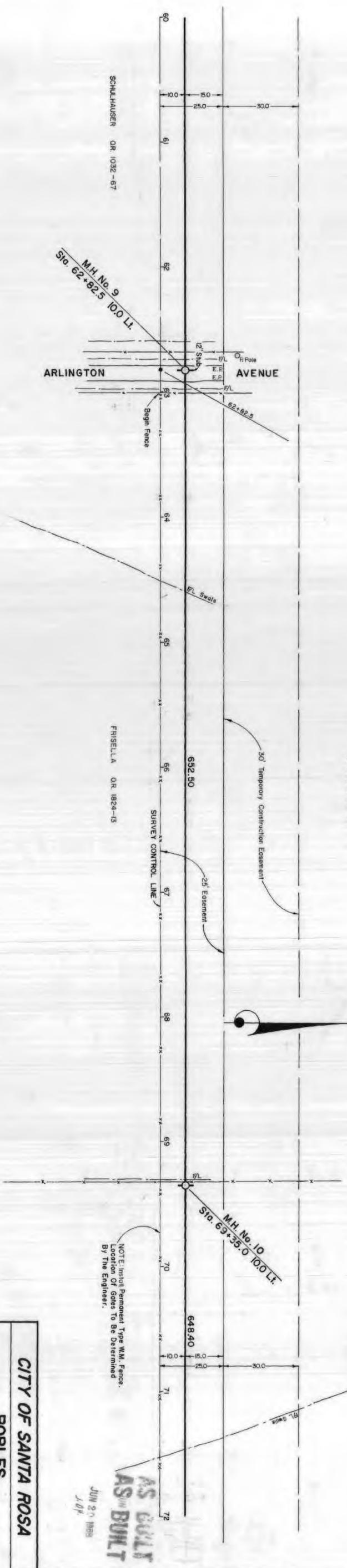
PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

AS BUILT
 JUN 20 1968
 J.H.

CITY OF SANTA ROSA		
ROBLES INTERCEPTOR SEWER		
PLAN AND PROFILE		
STA. 48+00 TO STA. 60+00		
SCALE As Shown	SHEET No. 4	
DATE December, 1965	OF 52 SHEETS	
DWN. H.G.P.	APPROVED ROBERT VAN BUELLEN, CITY ENGINEER	FILE No.
CHK. M.E.S.	Chief Design Engineer C.E. 5967	65-146



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'



AS BUILT
 JUN 20 1965
 J.M.F.

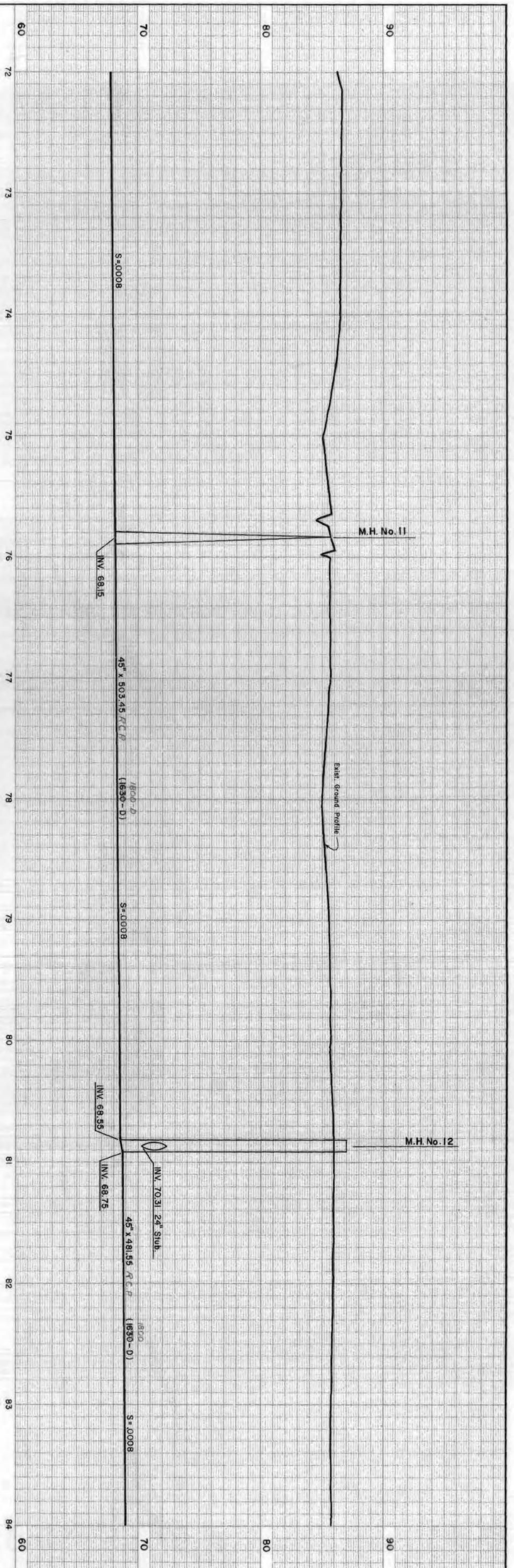
NOT E. Initial Permanent Type W.M. Fence.
 Location Of Gates To Be Determined
 By The Engineer.

FRISSELLA O.R. 1824-13

SCHULHAUSER O.R. 1032-67

PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

CITY OF SANTA ROSA	
ROBLES	
INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 60+00 TO STA. 72+00	
SCALE AS SHOWN	SHEET No. 5
DATE December, 1965	OF 52 SHEETS
DRN. HGB.	ROBERT VAN ALSTON, CIVIL ENGINEER
CHK. M.E.S.	FILE No. 65-146



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 SCALE VERTICAL: 1" = 4'



NOTE: Install Permanent Type W.M. Fence.
 Location of Gates To Be Determined
 By The Engineer.

M.H. No. 11
 Sta. 75+83.4 100 L.L.
 End of Fence

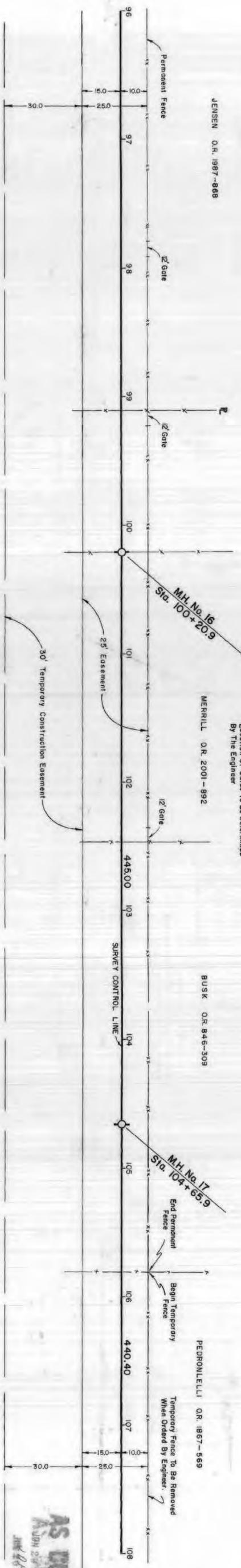
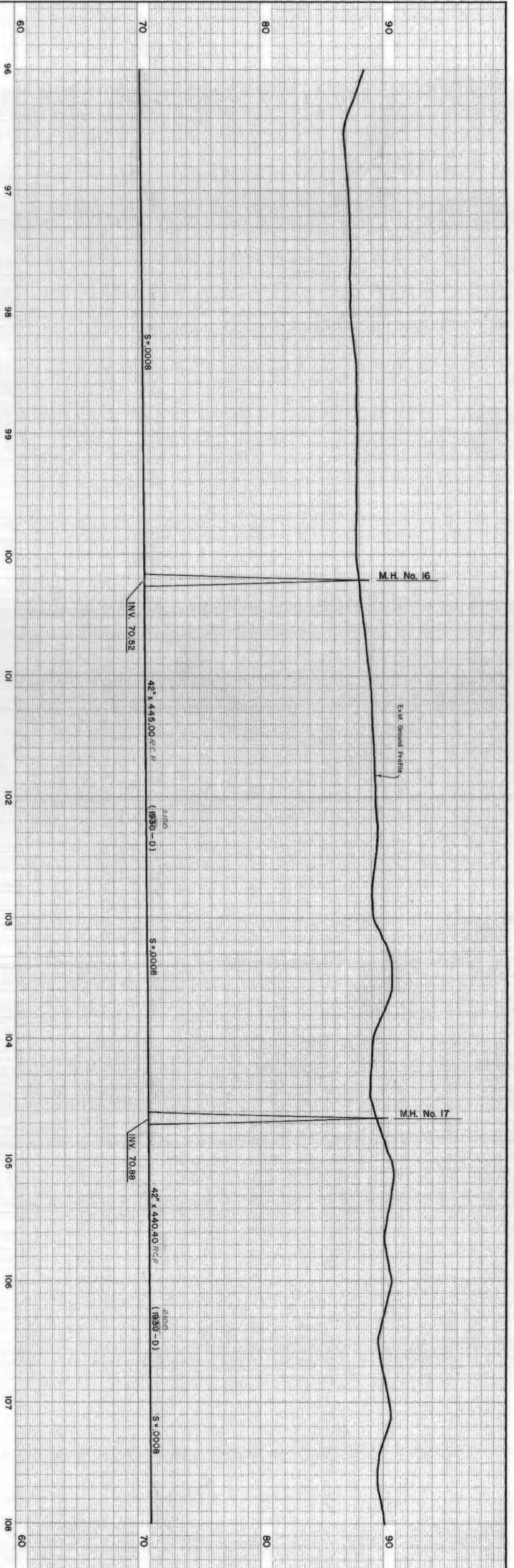
M.H. No. 12
 Sta. 80+86.85 100 L.L.
 See Detail 'D' 46

24" (1700-D) Pipe Stub S=0008
 Plug Outer End With Approved Plug
 And Inner End With 8" Brick And
 Mortar Bulkhead Flush With The
 End Of The Pipe.

ASBUILTY
 JUN 20 1965
 J.M.

PLAN
 SCALE LONGITUDINAL: 1" = 40'
 SCALE TRANSVERSE: 1" = 20'

CITY OF SANTA ROSA	
ROBLES	
INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 72+00 TO STA. 84+00	
Scale As Shown	SHEET No. 5
DATE December, 1965	OF 52 SHEETS
DRAWN H.S.P.	ROBERT VAN GELDEREN CITY ENGINEER
CHK. M.E.S.	FILE No. 65-146

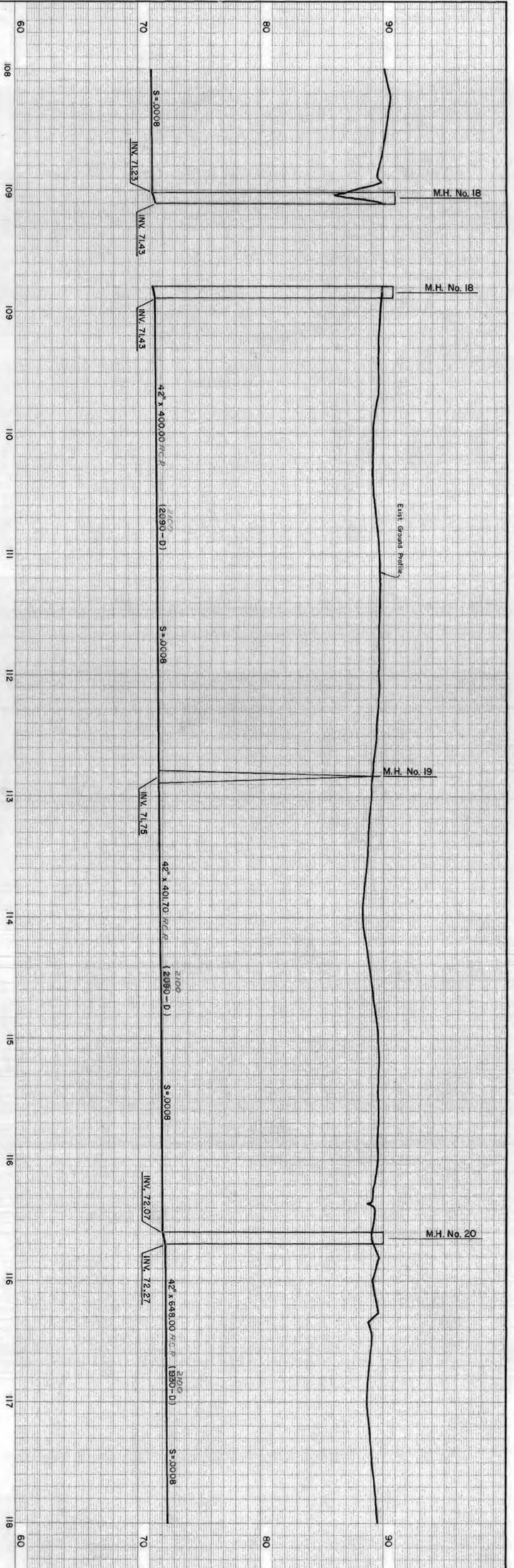


Note: Install Permanent Type W.M. Fence. Location Of Gates To Be Determined By The Engineer

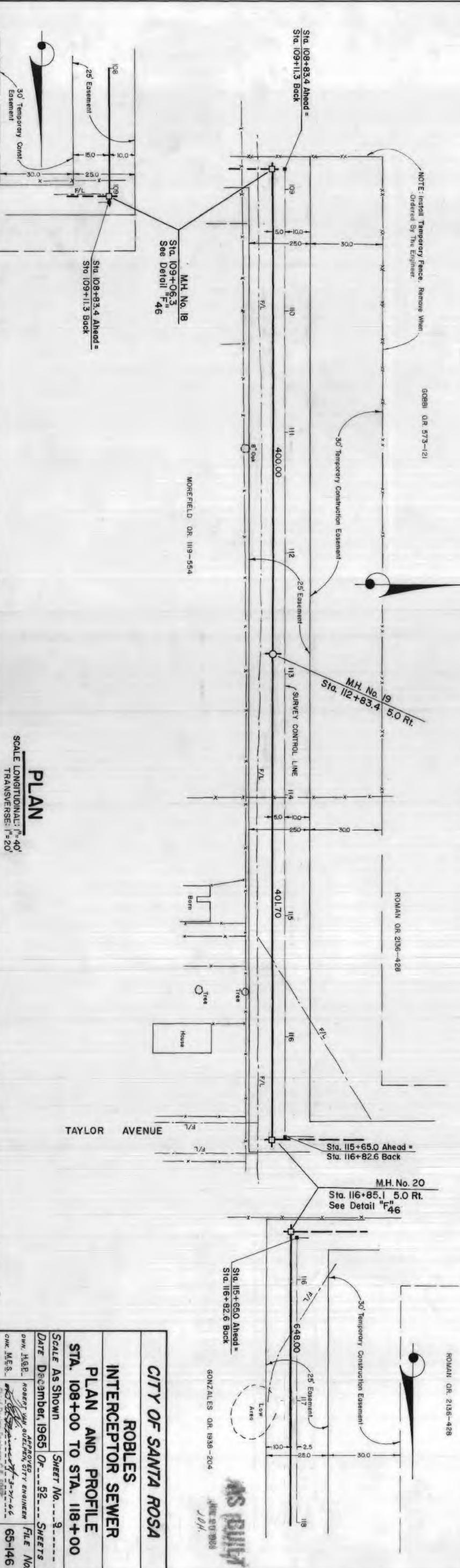


PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE STA. 96+00 TO STA. 108+00	
SCALE As Shown	SHEET No. 8
DATE December, 1965	OF 32 SHEETS
DWN. H.S.P. ROBERT VAN GELDEREN, CITY ENGINEER	FILE No. 65-146
CHK. M.E.S.	

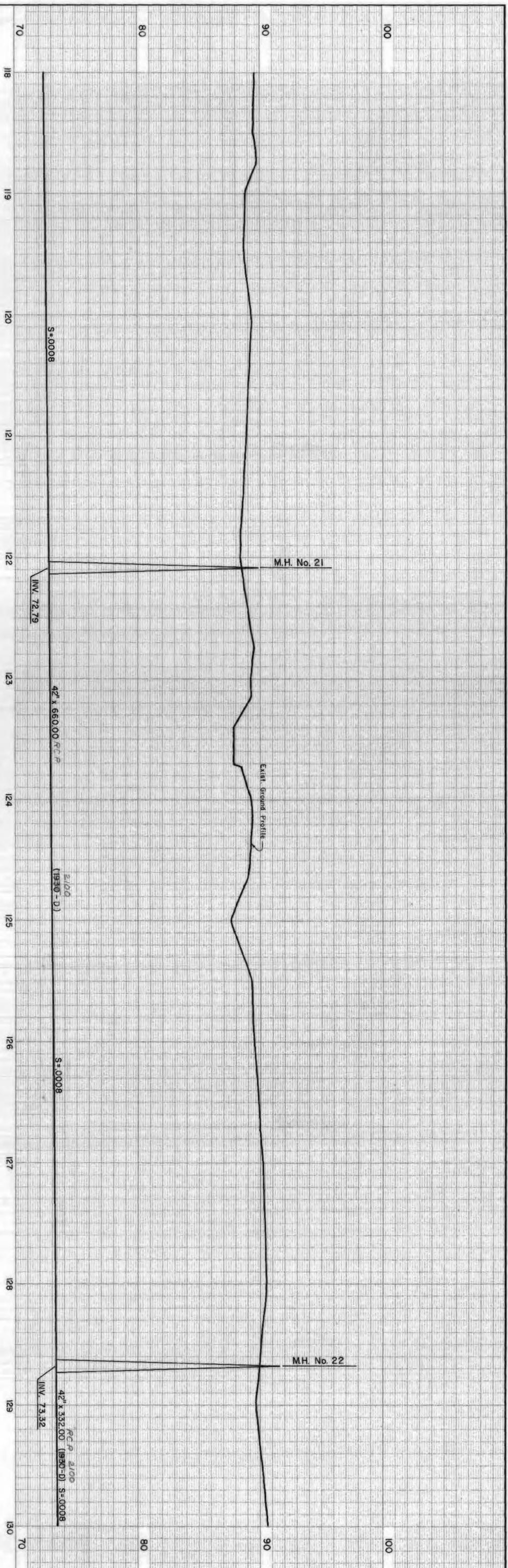


PROFILE
 SCALE HORIZONTAL: 1" = 40'
 SCALE VERTICAL: 1" = 4'

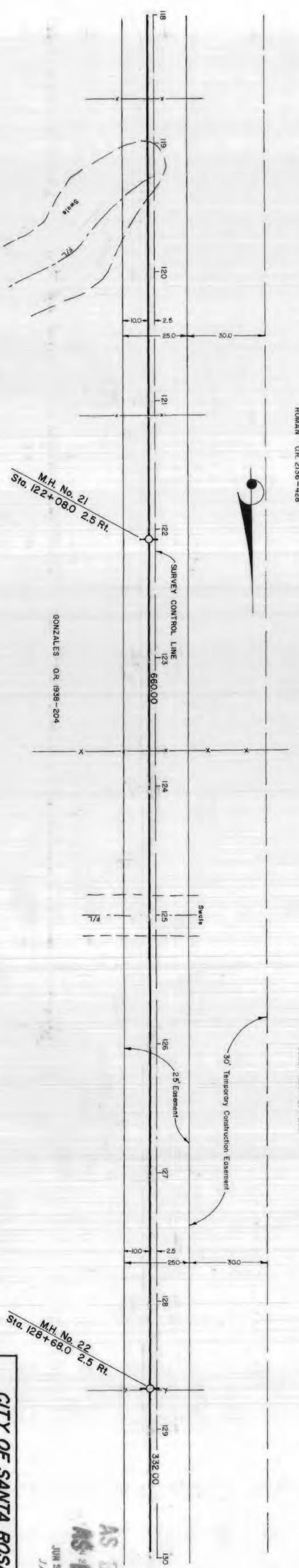


PLAN
 SCALE LONGITUDINAL: 1" = 40'
 SCALE TRANSVERSE: 1" = 20'

CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 108+00 TO STA. 118+00	
SCALE AS SHOWN	SHEET NO. 9
DATE December, 1965	OF 32 SHEETS
DRN. H.S.P.	ROBERT VAN SUTER, CIVIL ENGINEER
CHK. M.E.S.	Chief Design Engineer C.E. 5077
FILE NO. 65-146	



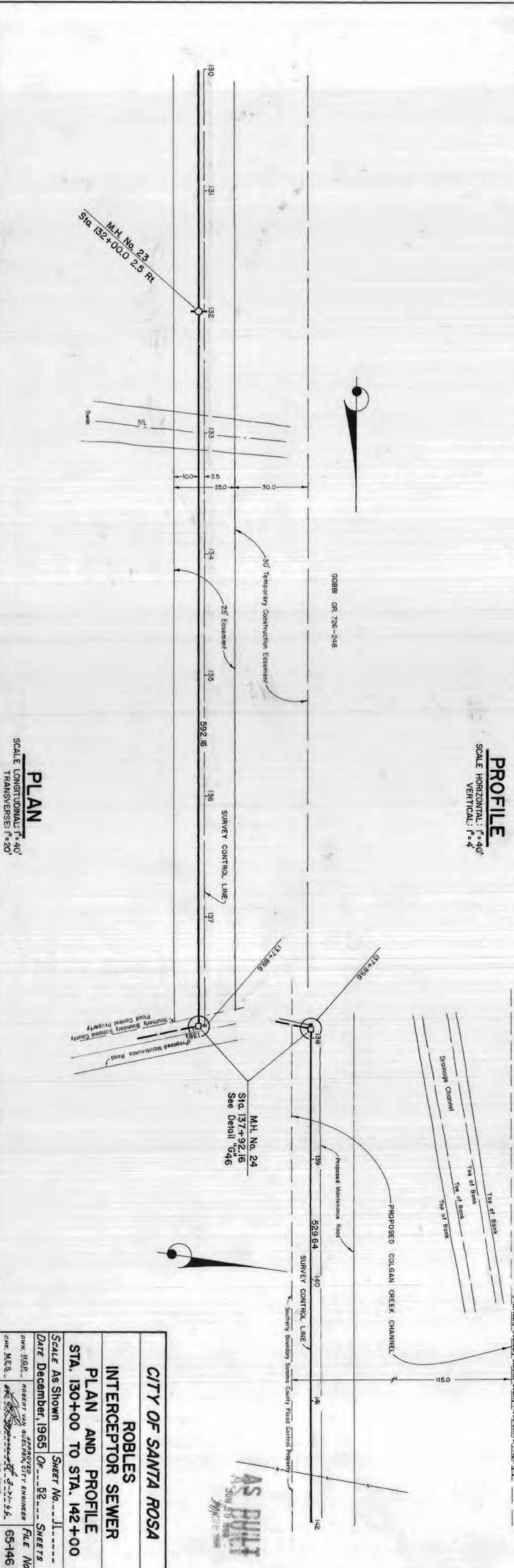
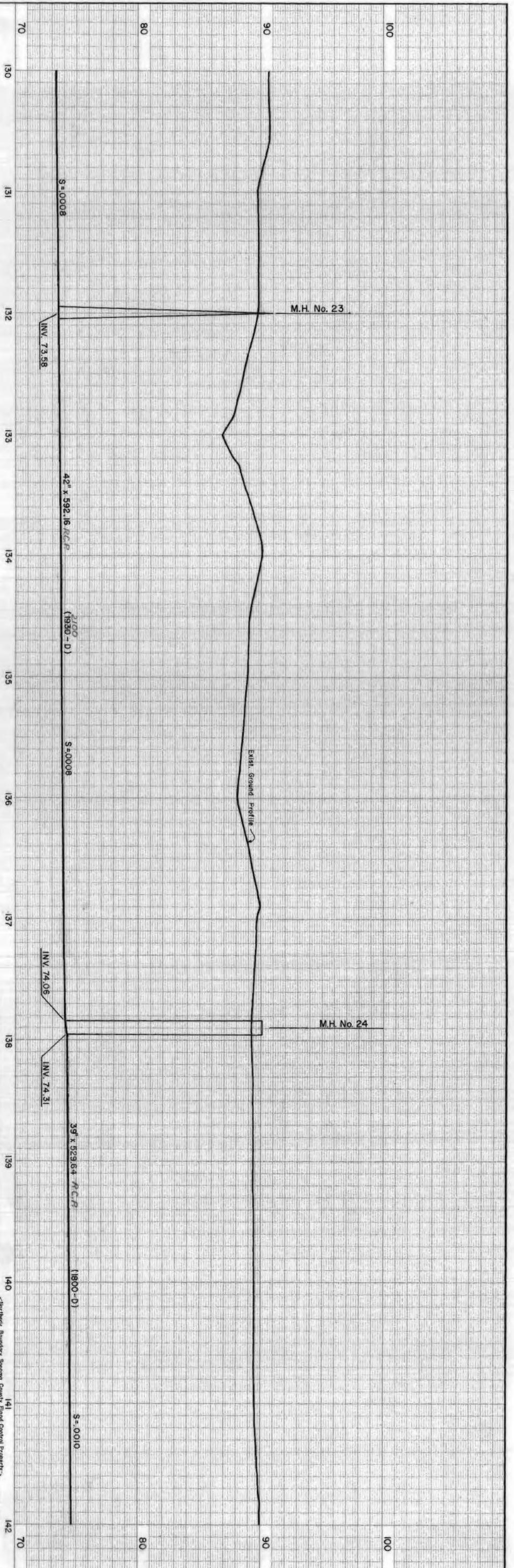
PROFILE
 SCALE HORIZONTAL: 1"=40'
 SCALE VERTICAL: 1"=4'

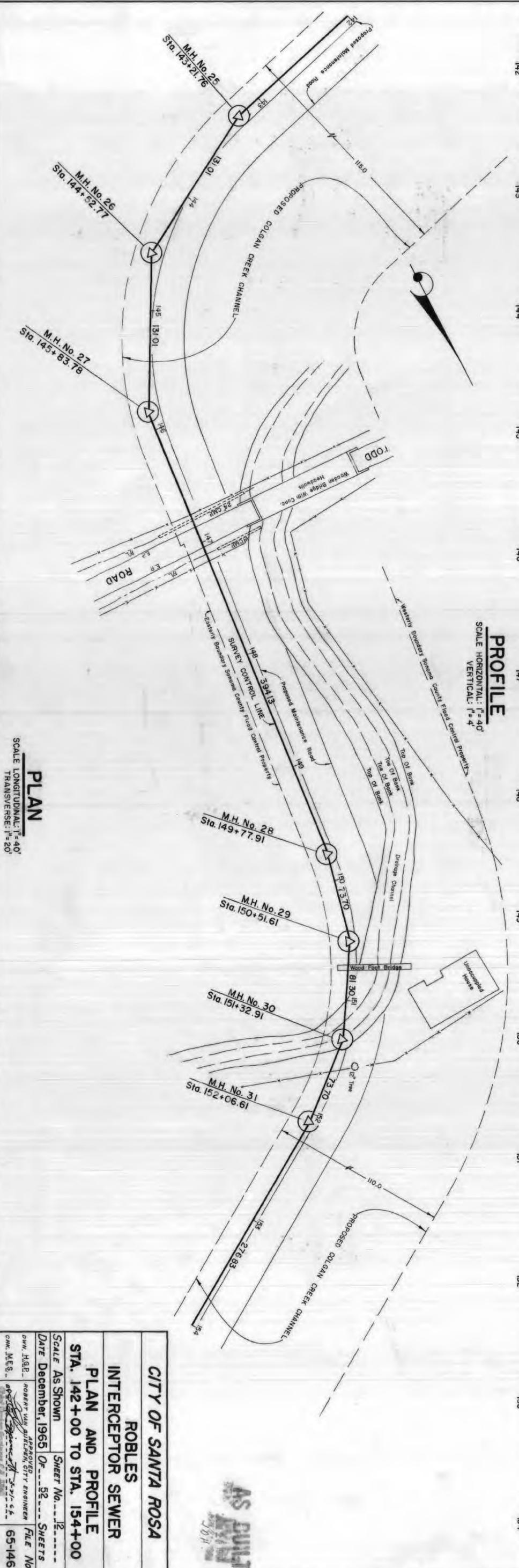
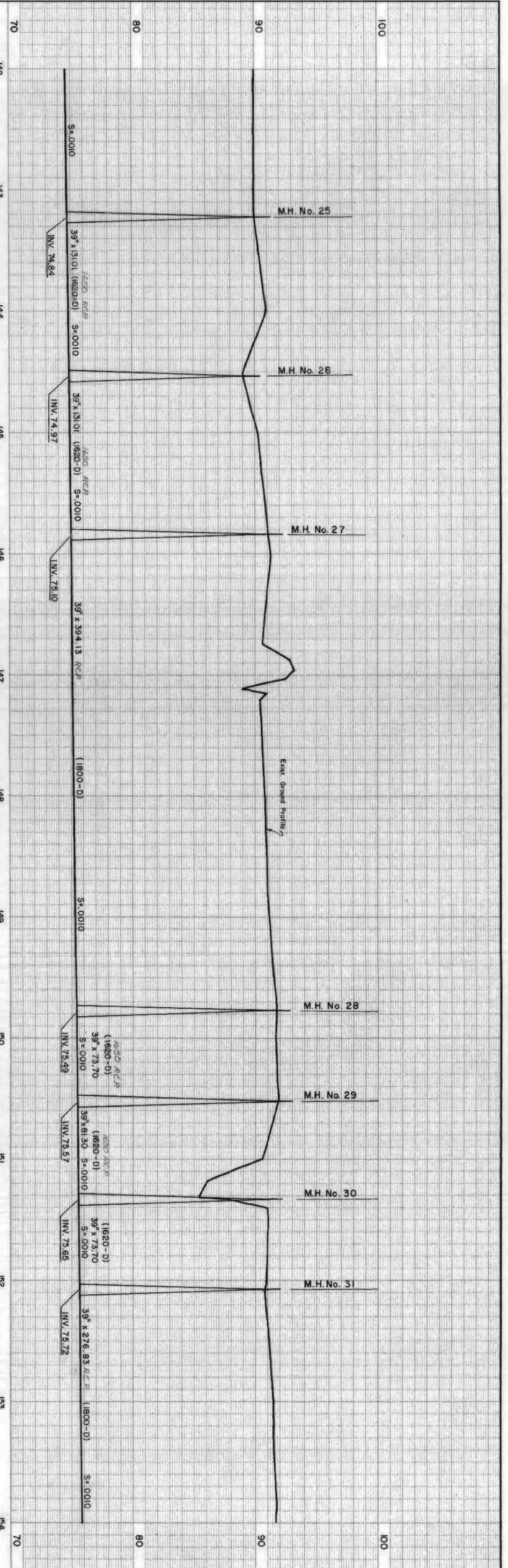


PLAN
 SCALE LONGITUDINAL: 1"=40'
 SCALE TRANSVERSE: 1"=20'

CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 118+00 TO STA. 130+00	
SCALE As Shown	SHEET No. 10
DATE December, 1965	OF 52 SHEETS
PKM. H.G.R. ROBERT VAN GILLEN, CIVIL ENGINEER C.H.K. M.E.S. Chief Design Engineer, C.E. 6007	
FILE No. 65-146	

AS BUILT
MS-BUILT
 JUN 20 1968
 J.D.H.

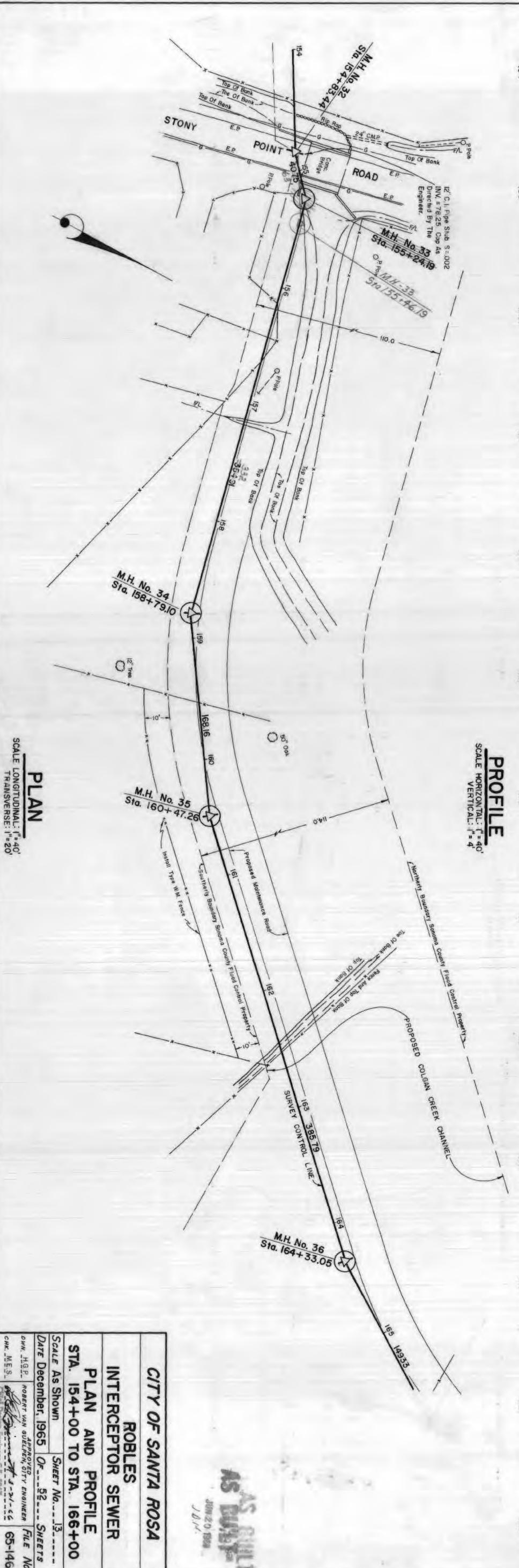
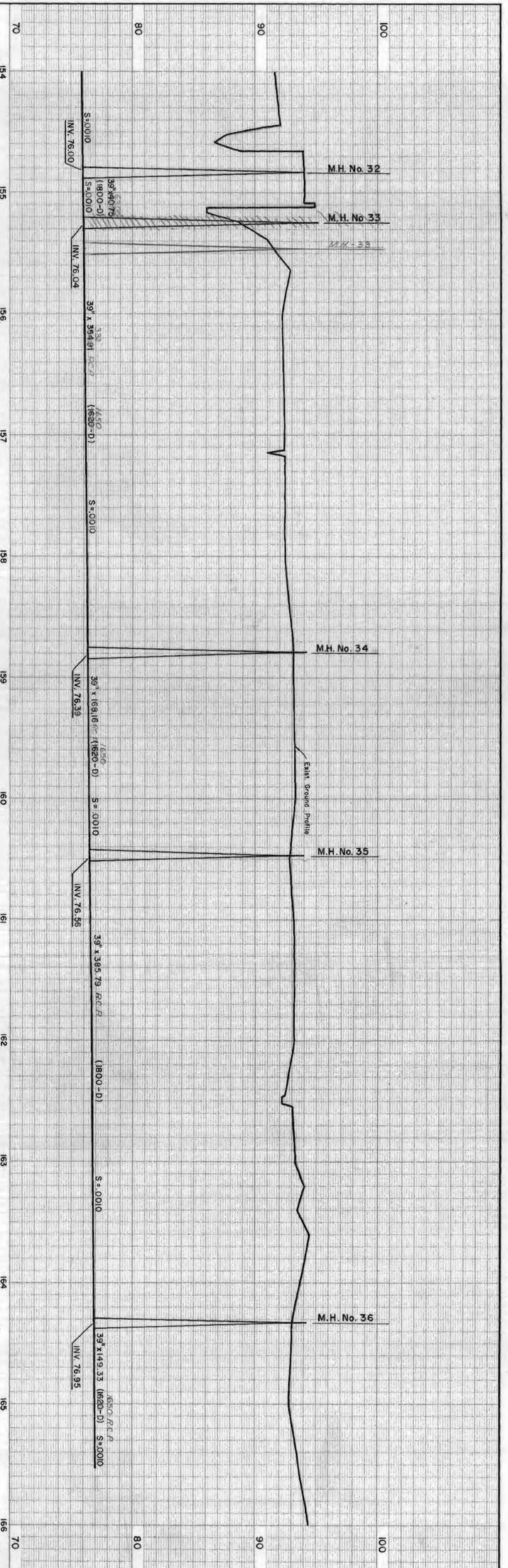


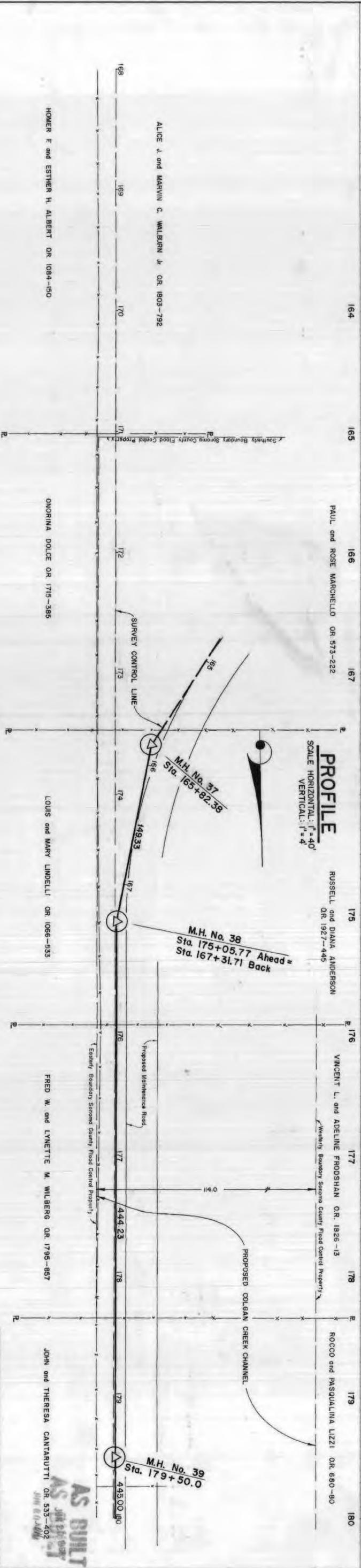
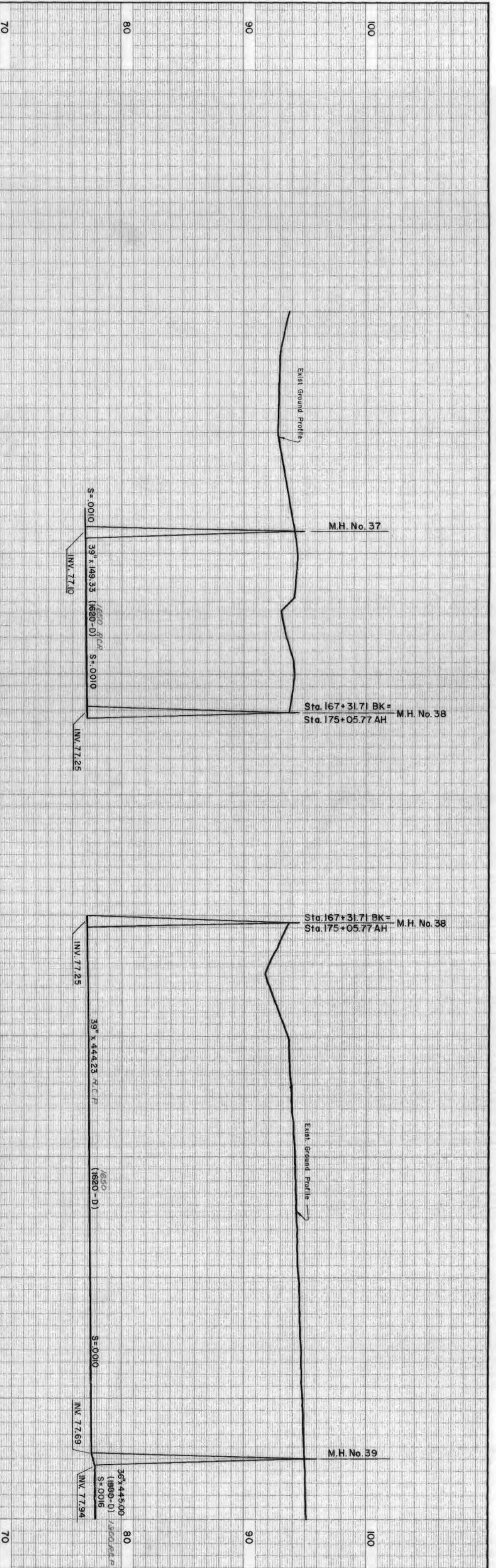


CITY OF SANTA ROSA
ROBLES INTERCEPTOR SEWER
PLAN AND PROFILE
STA. 142+00 TO STA. 154+00

Scale As Shown
 DATE December, 1965
 SHEET No. 52 OF 52 SHEETS
 FILE No. 65-146

OWN. H.S.B.
 ROBERT VAN ALSTEDEN, CITY ENGINEER
 CHK. M.E.S.





PROFILE
 SCALE HORIZONTAL: 1" = 40'
 SCALE VERTICAL: 1" = 4'

PLAN

SCALE LONGITUDINAL: 1" = 40'
 SCALE TRANSVERSE: 1" = 20'

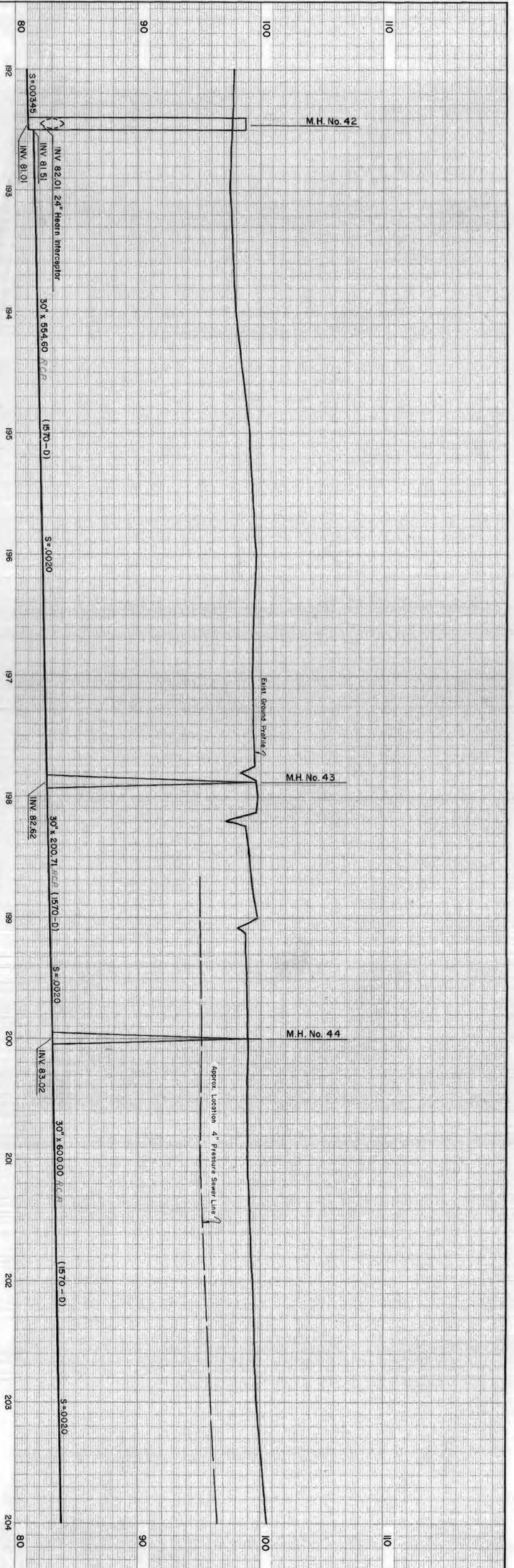
CITY OF SANTA ROSA

ROBLES INTERCEPTOR SEWER

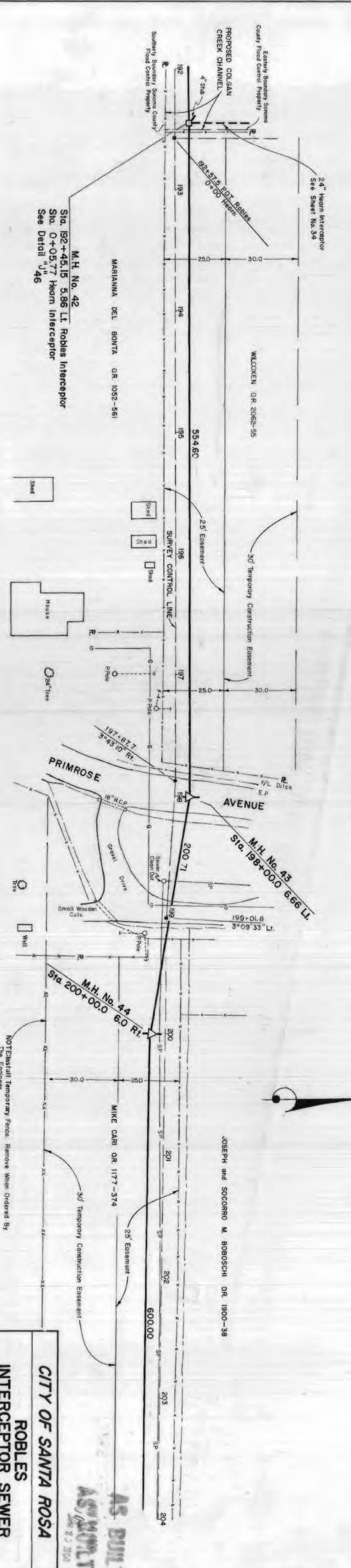
PLAN AND PROFILE
 STA. 166+00 TO STA. 180+00

SCALE AS SHOWN	SHEET NO. 14
DATE December, 1965	OF 52 SHEETS
DATE December, 1965	OF 52 SHEETS
FILE NO. 65-146	

AS BUILT
 JOHN and THERESA CANTARUTTI OR 533-402



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 SCALE VERTICAL: 1" = 4'

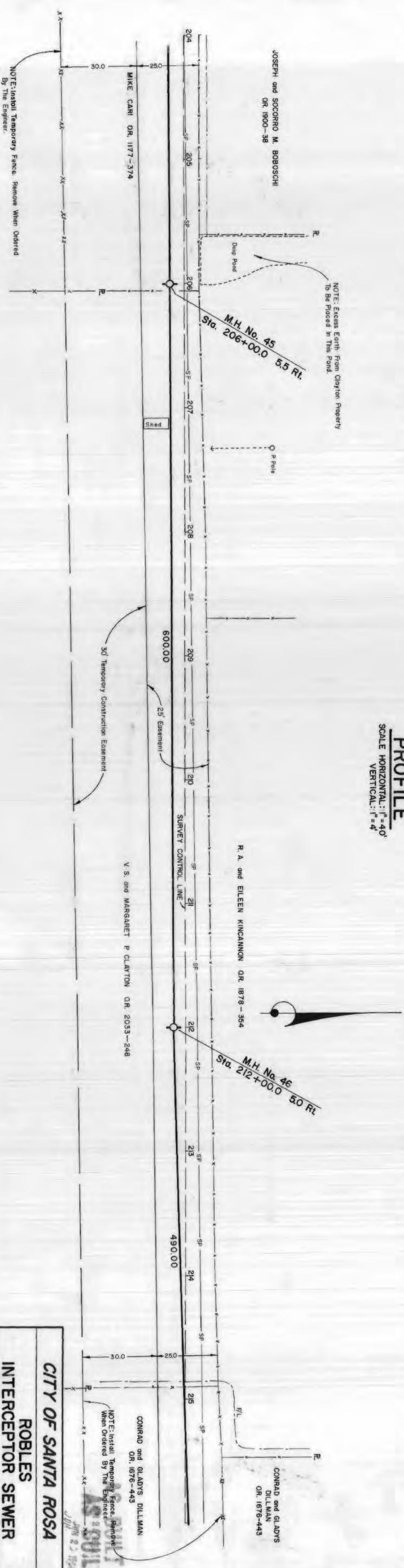
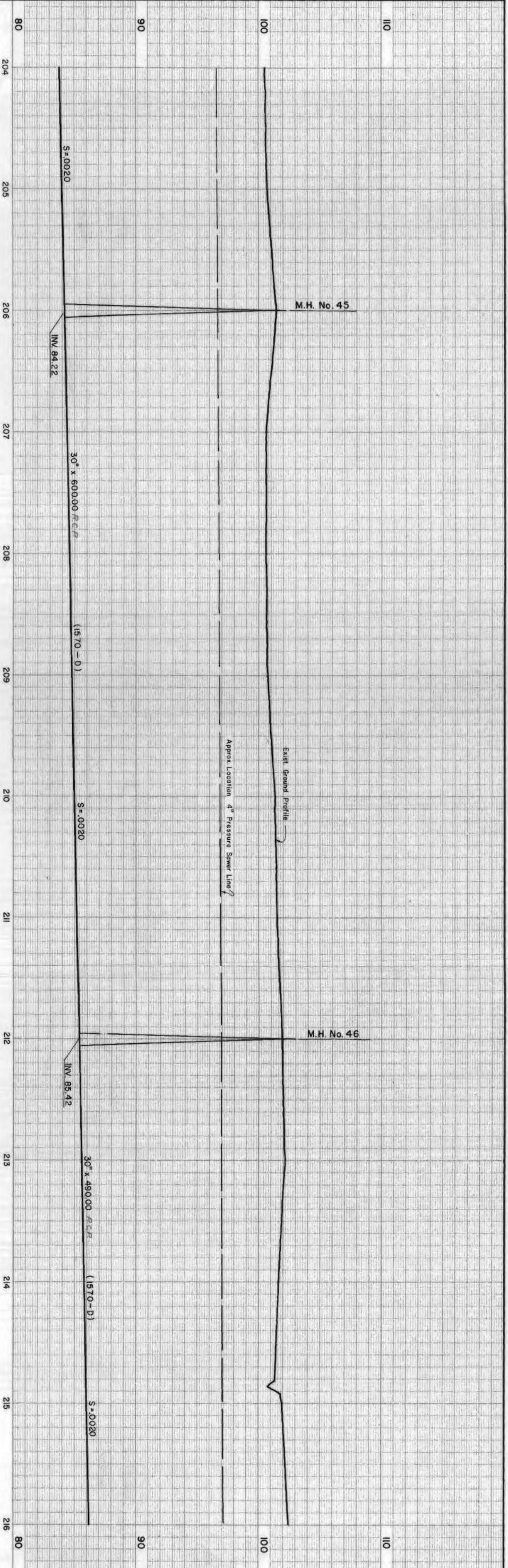


PLAN
 SCALE LONGITUDINAL: 1" = 40'
 SCALE TRANSVERSE: 1" = 20'

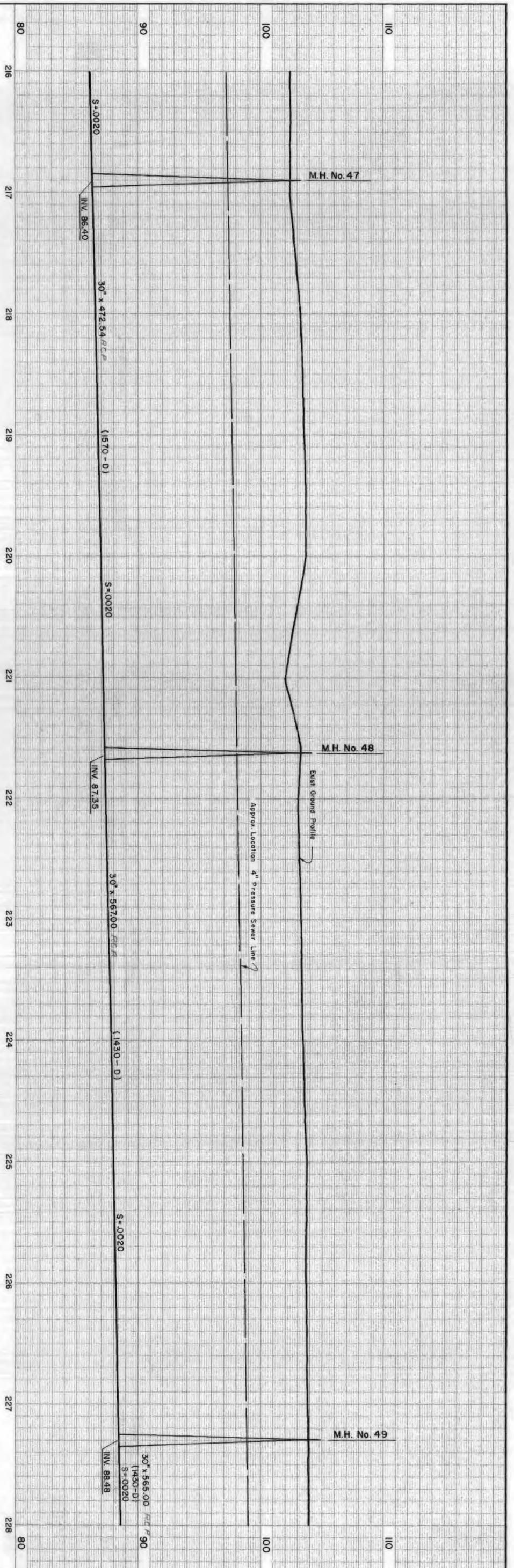
CITY OF SANTA ROSA
ROBLES INTERCEPTOR SEWER
PLAN AND PROFILE
STA. 192+00 TO STA. 204+00

SCALE As Shown	SHEET No. 16
DATE December, 1965	OF 32 SHEETS
OWN: H.G.P. ROBERT VAN GULDER, CIVIL ENGINEER	FILE No. 65-146
CHK: M.E.S.	

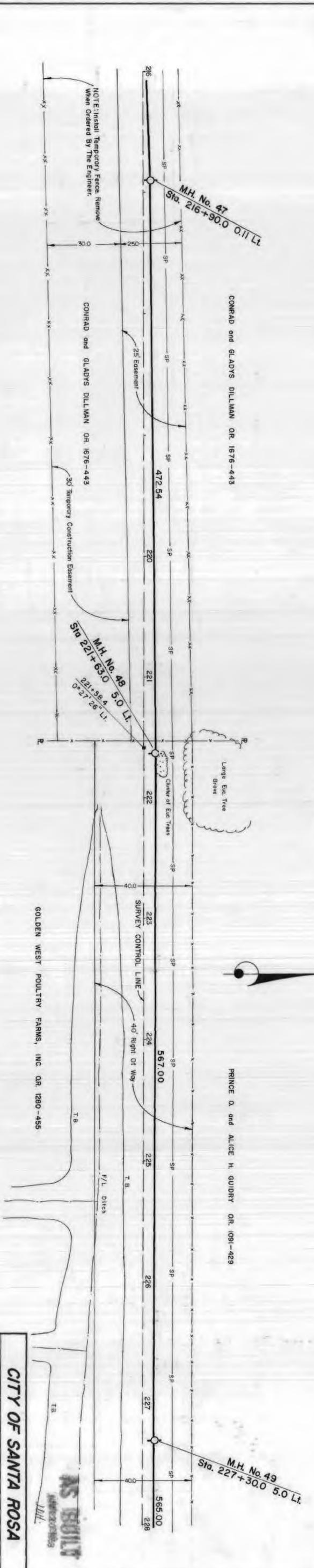
AS BUILT
AS SHOWN
 JAN 23 1966



CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 204+00 TO STA. 216+00	
SCALE AS SHOWN	SHEET NO. 17
DATE December, 1965	OF 52 SHEETS
DRN. HGP.	ROBERT VAN GULFEN, CITY ENGINEER
CHK. M.E.S.	3-27-65
FILE NO.	65-146



PROFILE
 SCALE HORIZONTAL: 1"=40'
 VERTICAL: 1"=4'



CITY OF SANTA ROSA
ROBLES
INTERCEPTOR SEWER

PLAN AND PROFILE
 STA. 216+00 TO STA. 228+00

SCALE AS SHOWN	SHEET NO. 52	FILE NO. 65-146
DATE December, 1965	OF 52 SHEETS	
DRN. H.G.P.	ROBERT VAN GIELEN, CIVIL ENGINEER	
CHK. M.E.S.		

PLAN
 SCALE LONGITUDINAL: 1"=40'
 TRANSVERSE: 1"=20'

M.H. No. 47
 Sta. 216+90.0 0.11 Lt.

M.H. No. 48
 Sta 221+63.0 5.0 Lt.
 221+58.4
 0'27.26 Lt.

M.H. No. 49
 Sta. 227+30.0 5.0 Lt.

NOTE: Install Temporary Face Removal
 When Ordered By The Engineer.

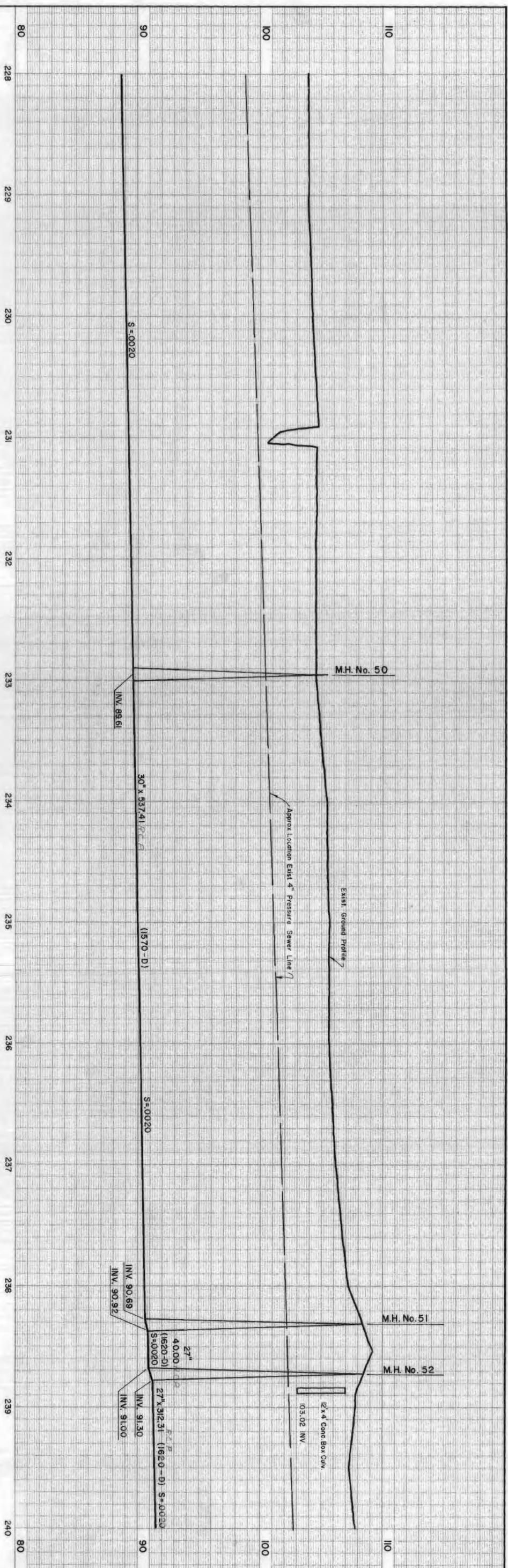
CONRAD and GLADYS DILLMAN OR. 1676-443
 25' Easement

CONRAD and GLADYS DILLMAN OR. 1676-443
 30' Temporary Construction Easement

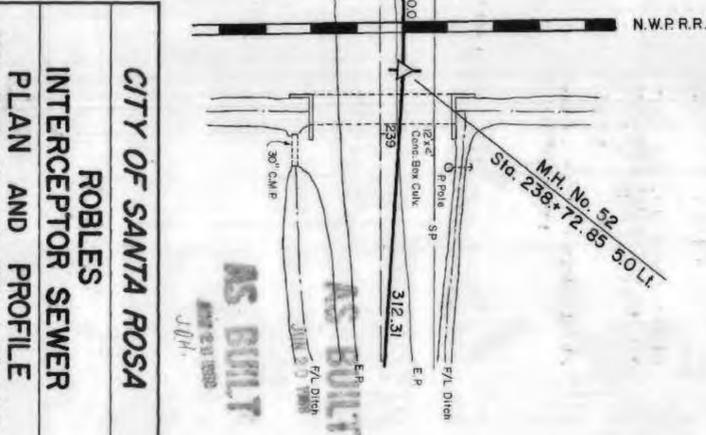
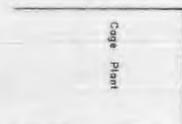
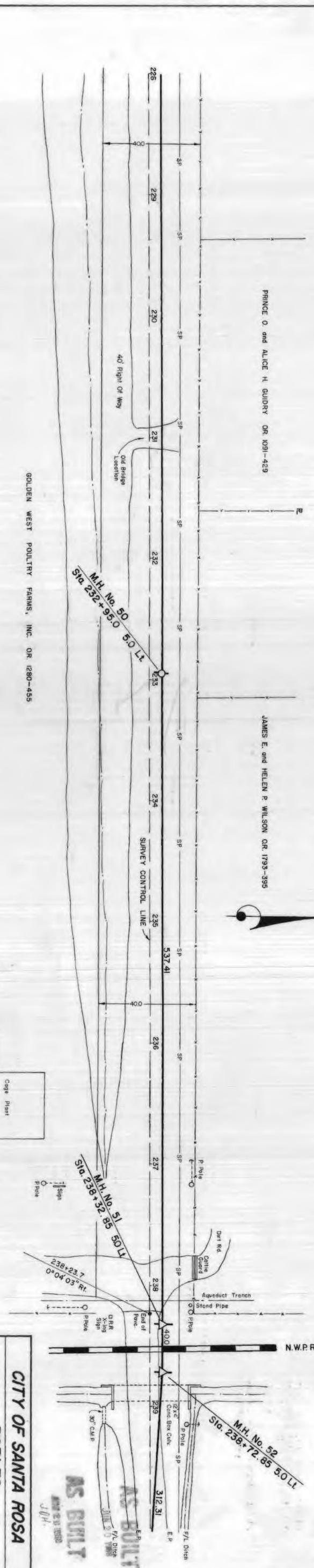
GOLDEN WEST POULTRY FARMS, INC. OR. 1280-455

PRINCE O. and ALICE H. GUIDRY OR. 1091-429

AS BUILT
 12/1/65



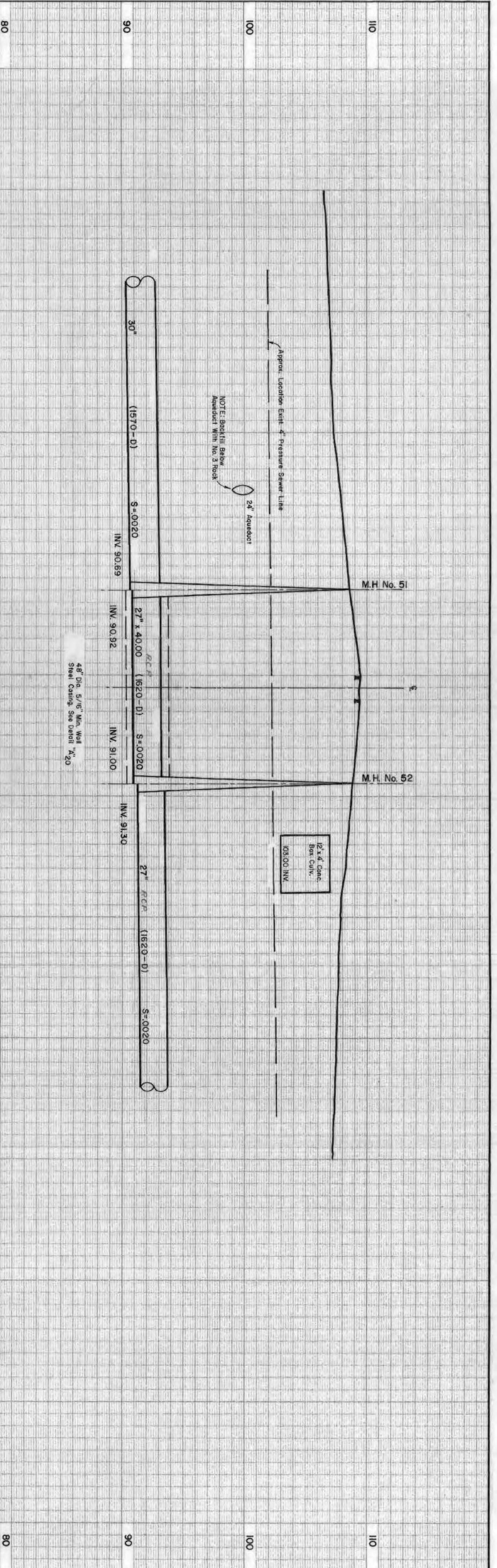
PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'



NOTE: See Sheet No. 20 For Details
 Of Railroad Undercrossing.

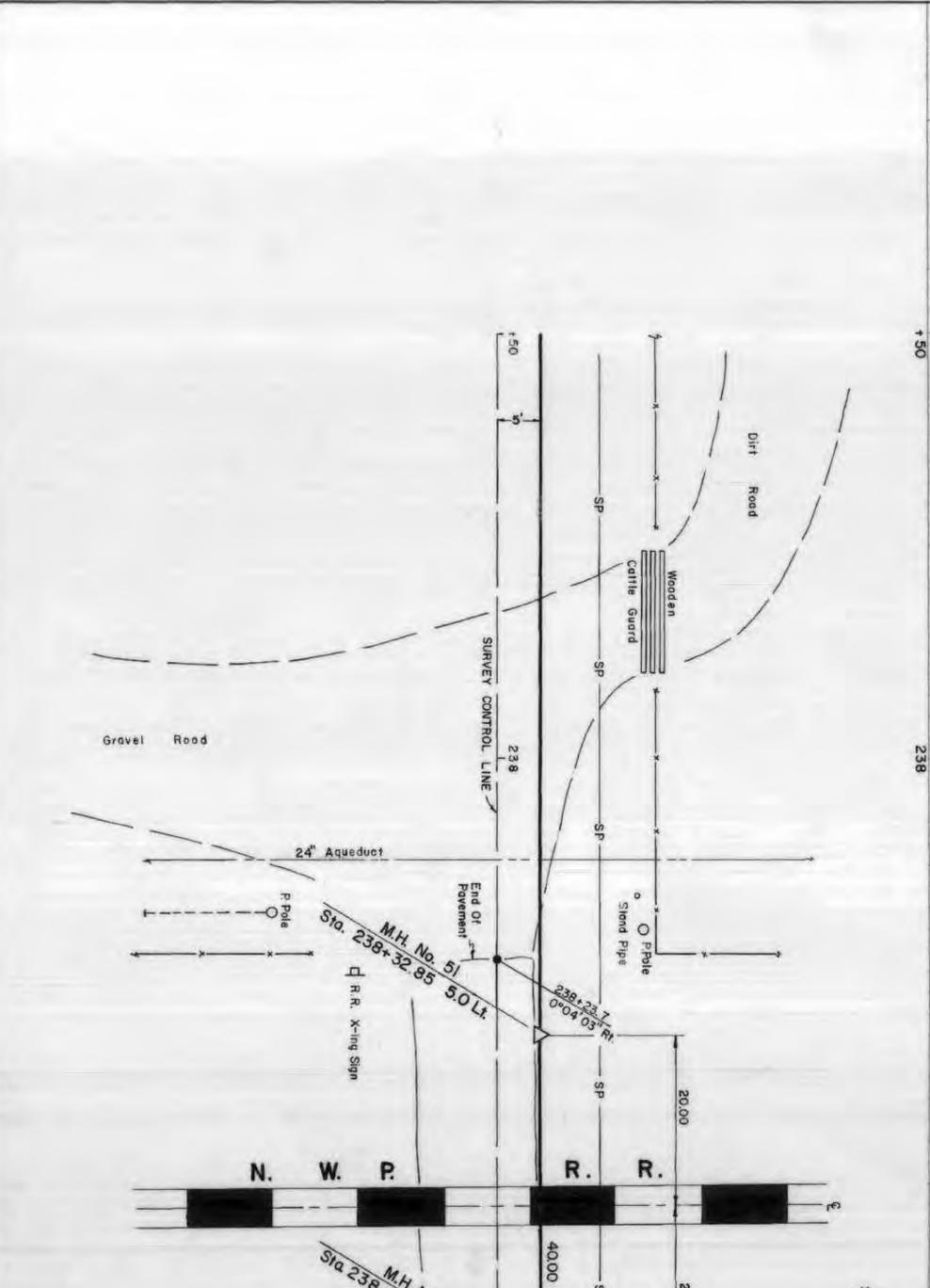
PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 228+00 TO STA. 240+00	
SCALE As Shown	SHEET No. 19
DATE December, 1965	OF 52 SHEETS
P.W. H.S.P. ROBERT W. HANCOCK, CIVIL ENGINEER C.W. M.E.S. <i>[Signature]</i>	
FILE No. 65-146	



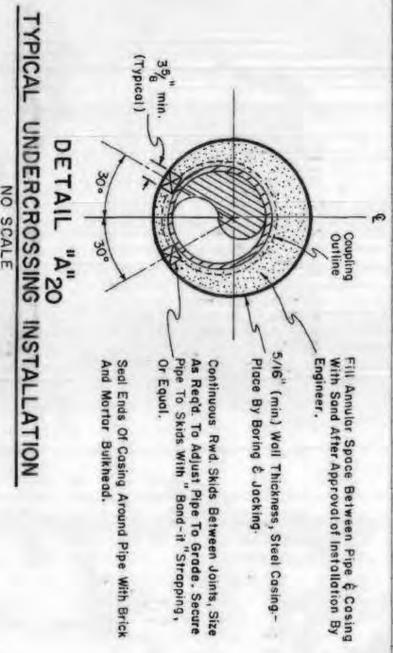
PROFILE

SCALE HORIZONTAL: 1" = 10'
VERTICAL: 1" = 4'



PLAN

SCALE: 1" = 10'

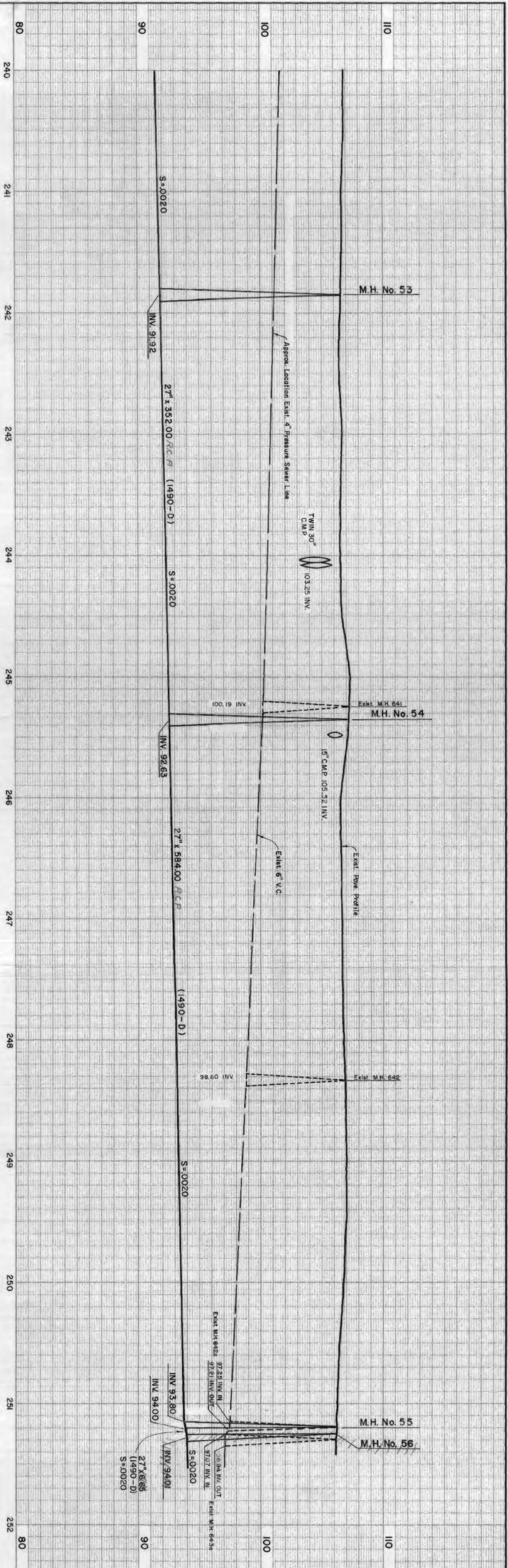


DETAIL 'A'
TYPICAL UNDERCROSSING INSTALLATION
NO SCALE

NOTE: All Construction Within Limits of The R.R. P/W Shall Conform To The Requirements of The N.W.P.R.R. Co.

CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE RAILROAD UNDERCROSSING	
SCALE As Shown	SHEET No. 20
DATE December, 1965	OF 32 SHEETS
DRN. H.S.P.	ROBERT VAN BUREN, CITY ENGINEER
CHK. M.E.S.	5-27-66
FILE No.	65-146

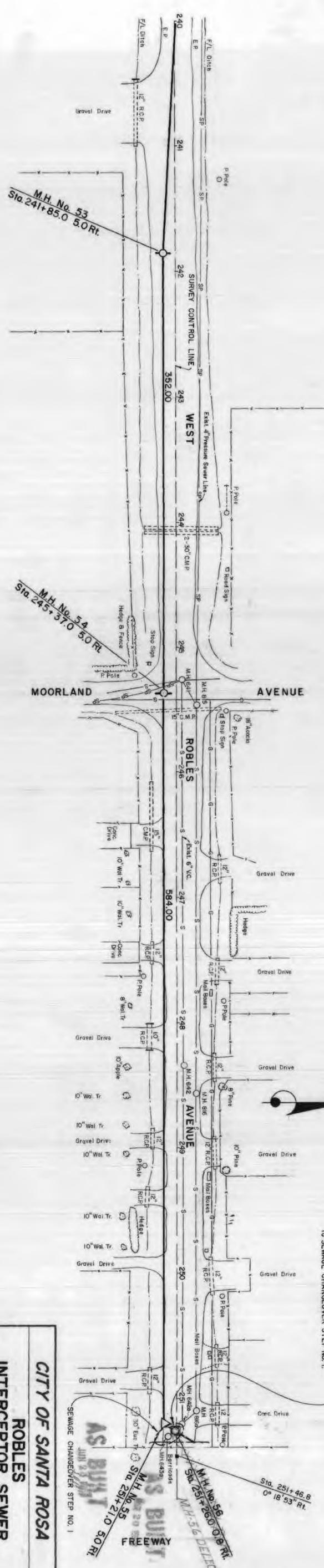
AS BUILT
JUN 20 1966
J.D.H.



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'

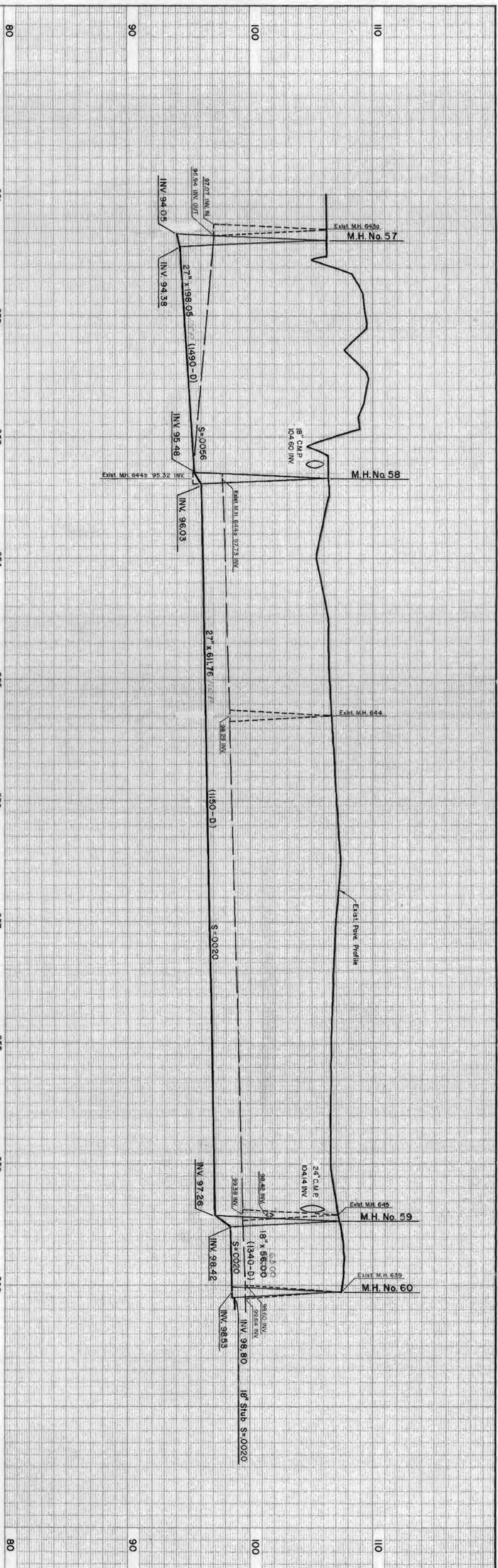
NOTE: Use 12" Brick And Mortar Walls For The Lower Section Of The M.H. Shaft Up To 6' Over The Existing Pipe, Leaving All Pipes Intact. (Similar To Detail "A-2")
 Complete M.H. To Grade Using Standard Construction (Detail "A-3")
 Channel Work Within The M.H. Shall Conform To SEWAGE CHANGEOVER STEP NO. 1.

NOTE: See Sheet No. 23 For Details Of Freeway Undercrossing



PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

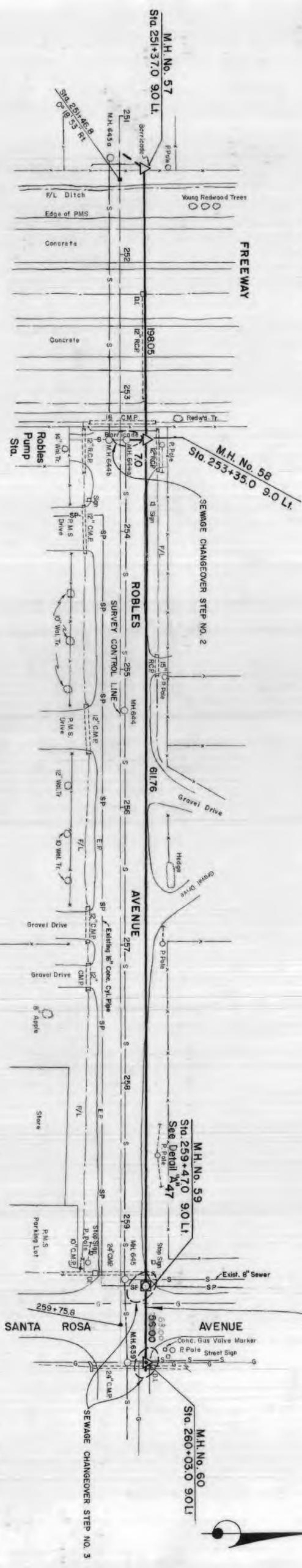
CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 240+00 TO STA. 251+00	
Scale As Shown	SHEET NO. 21
DATE December 1965	OF 52 SHEETS
DESIGNED BY H.G.P.	CHECKED BY R.M.S.
DRAWN BY ROBERT W. STEIN	FILE NO. 65-146
ENGR. M.E.S.	



NOTE: See Sheet No. 23 For Details Of Freeway Under Crossing.

PROFILE
 SCALE HORIZONTAL: 1"=40'
 VERTICAL: 1"=4'

NOTE: Bore And Jack S. R. Ave Undercrossing See Detail 'B' 47

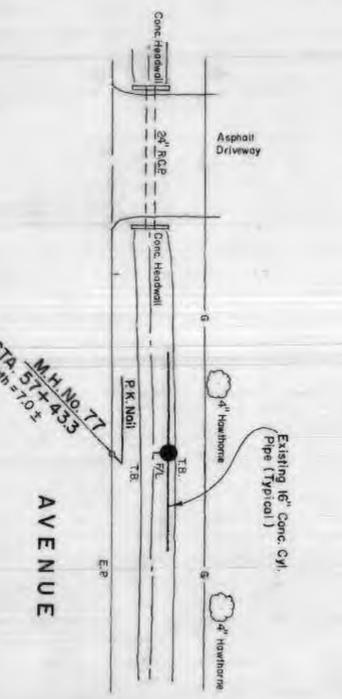
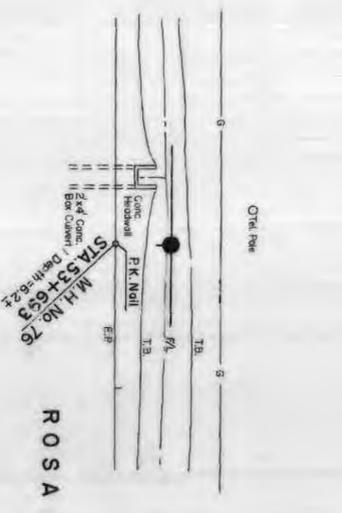
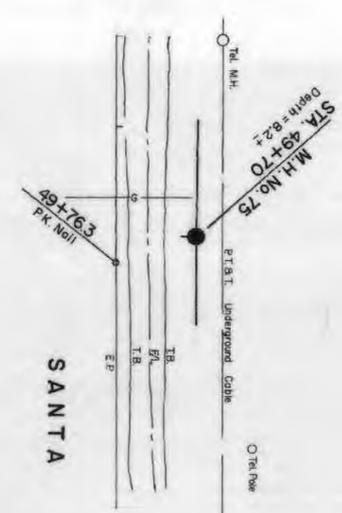
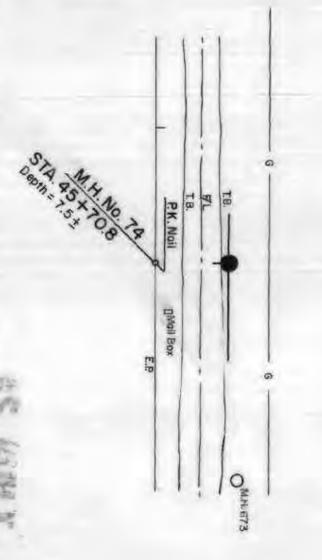
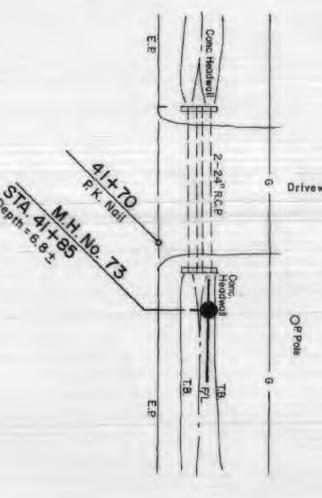
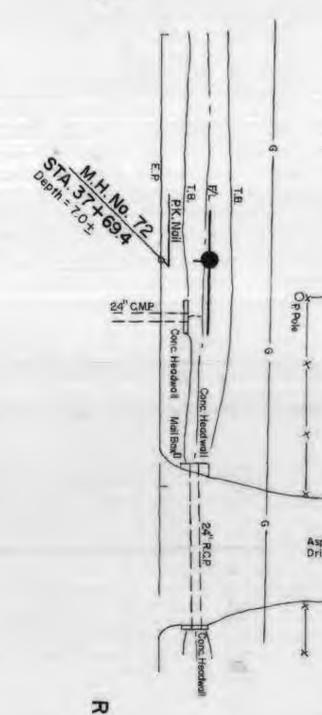
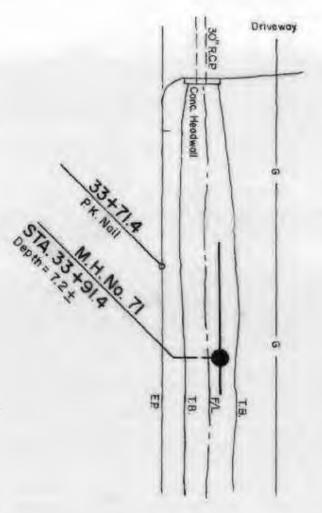
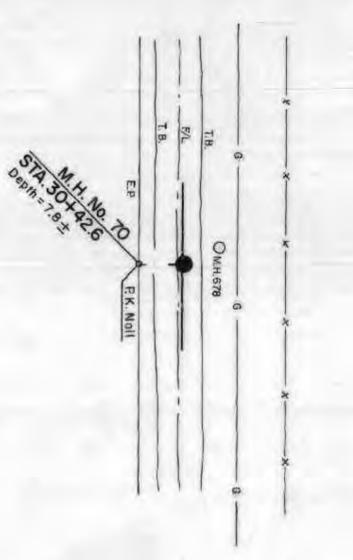
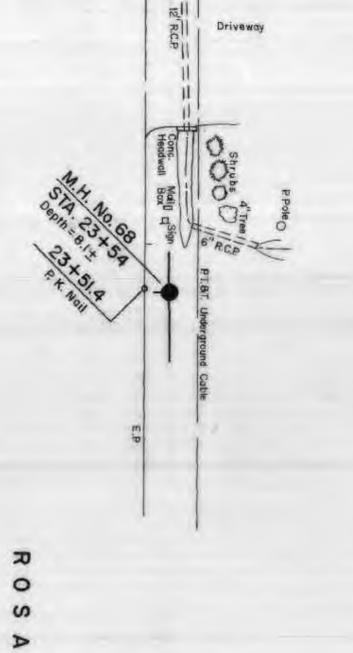
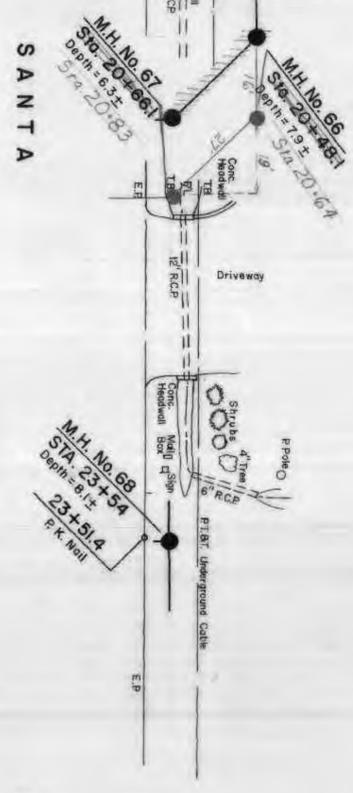
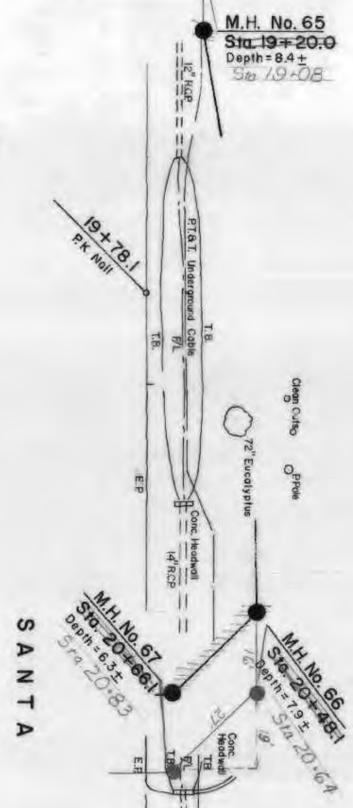
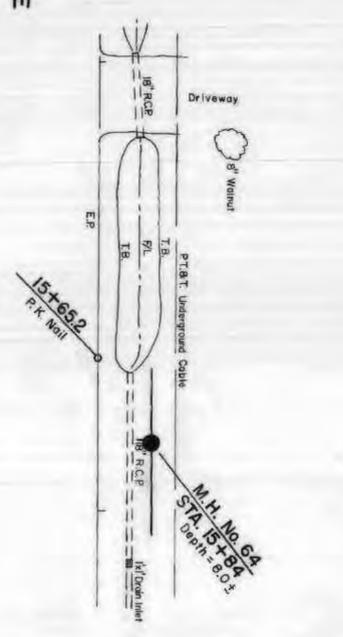
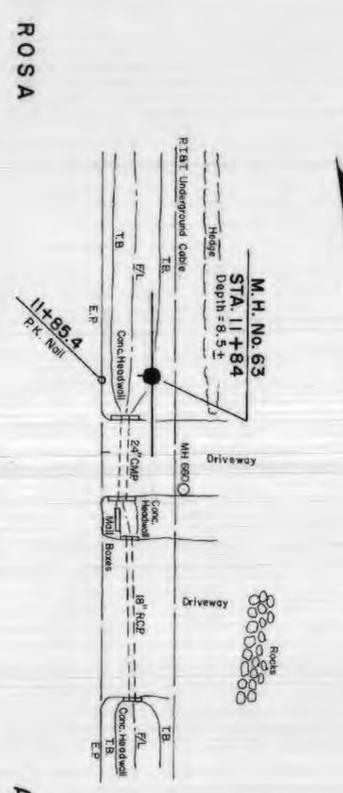
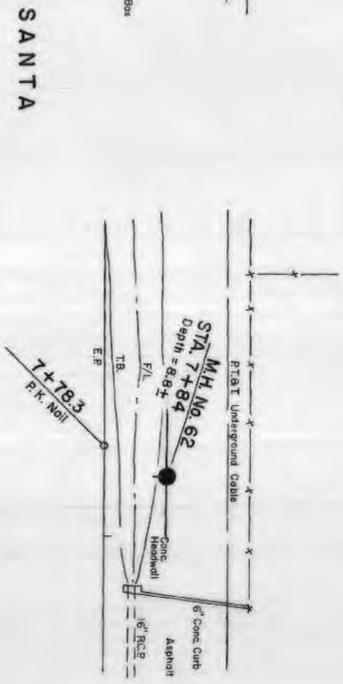
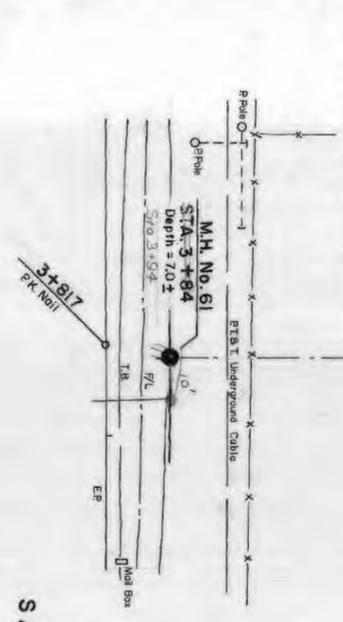


PLAN
 SCALE LONGITUDINAL: 1"=40'
 TRANSVERSE: 1"=20'

CITY OF SANTA ROSA	
ROBLES INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 251+00 TO STA. 260+00	
SCALE As Shown	SHEET No. 22
DATE December, 1965	OF 52 SHEETS
G.W. H.G.P. ROBERT VAN GULCKEN CIVIL ENGINEER 65-146	



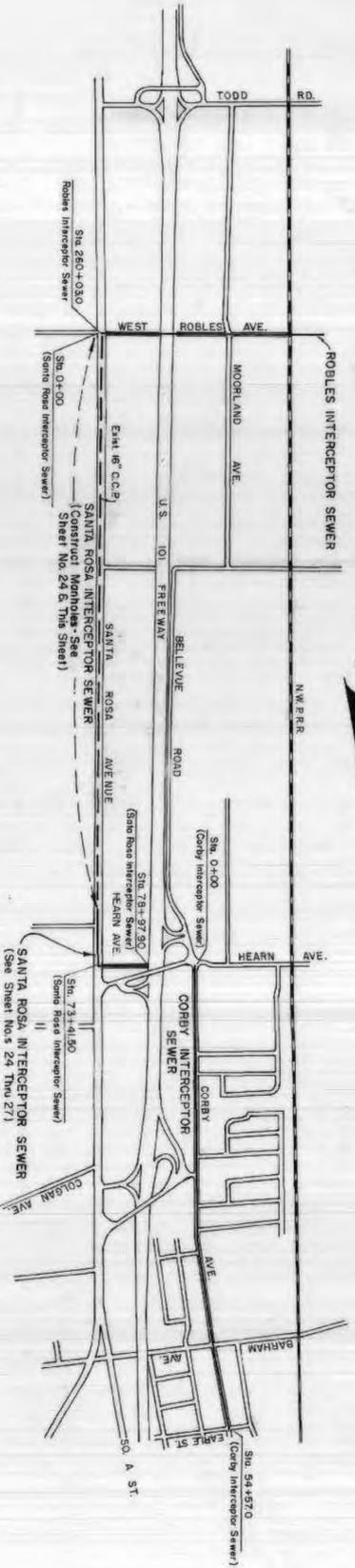
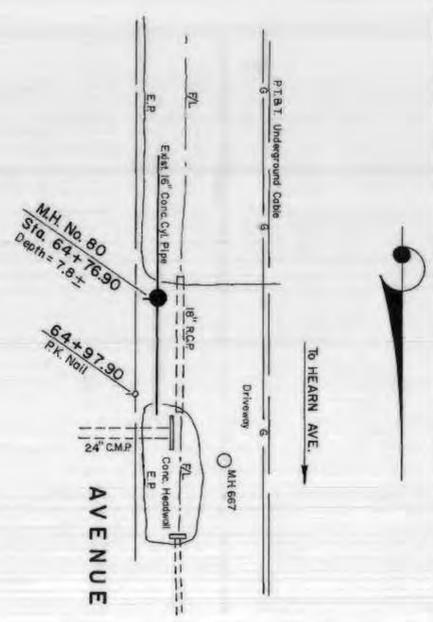
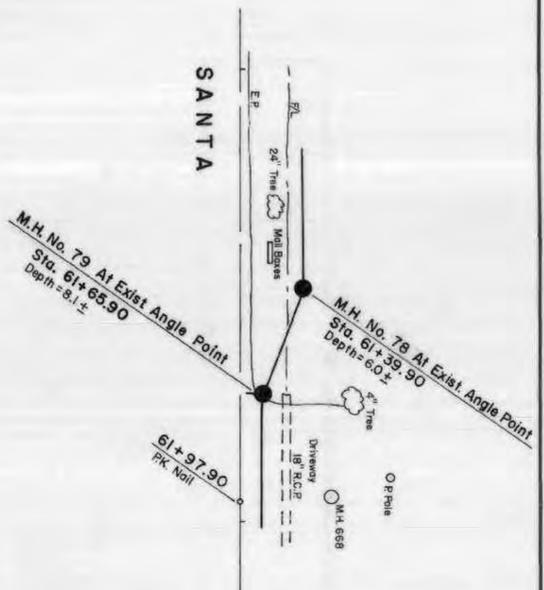
384' To West Robles Ave.



GENERAL NOTE: M.H. Depths Shown Are Scaled From The Existing "As-Built" Drawings And Represent The Depth From The Invert Of The Pipe To The 5.0' Existing Ground.
See SEWAGE CHANGEOVER STEP NO. 5 For Scheduling Of Required M.H. Construction.
See Sheet No. 25 For Location Map.

AS BUILT
JULY 20 1969

CITY OF SANTA ROSA	
SANTA ROSA INTERCEPTOR SEWER	
MANHOLE LOCATIONS SANTA ROSA AVENUE-I	
SCALE 1" = 20'	SHEET NO. 24
DATE December, 1965	OF 52 SHEETS
DWN. H.G.P. ROBERT VAN DERBEEK, CIVIL ENGINEER	FILE NO. 65-146
CHK. M.E.S.	

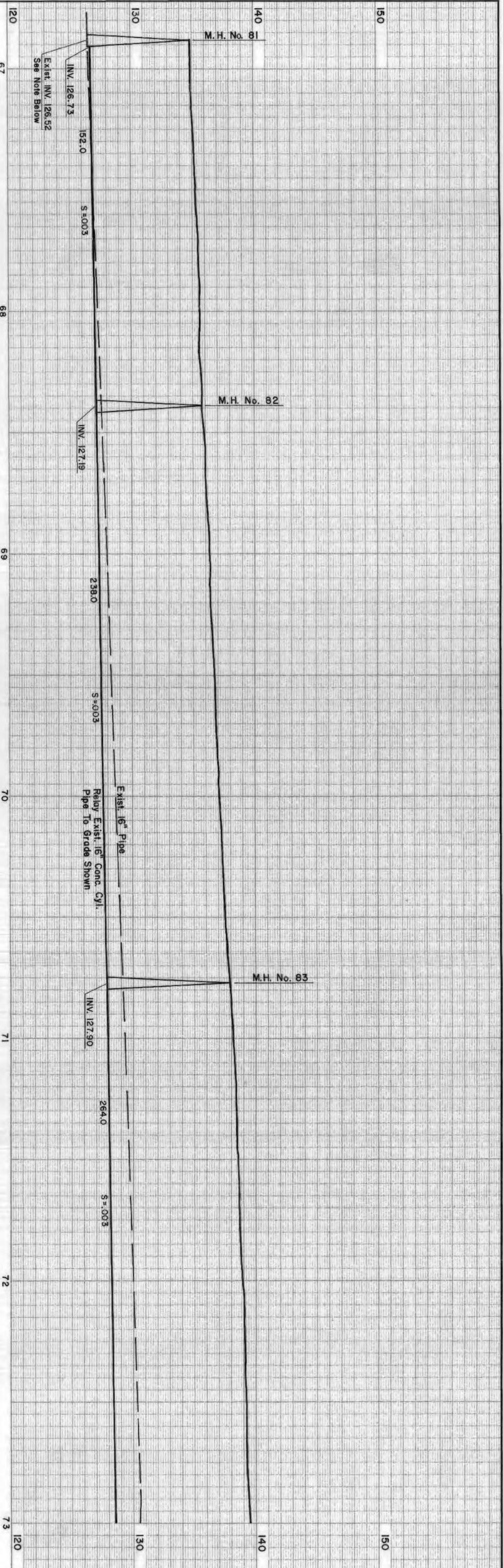


LOCATION MAP
NO SCALE

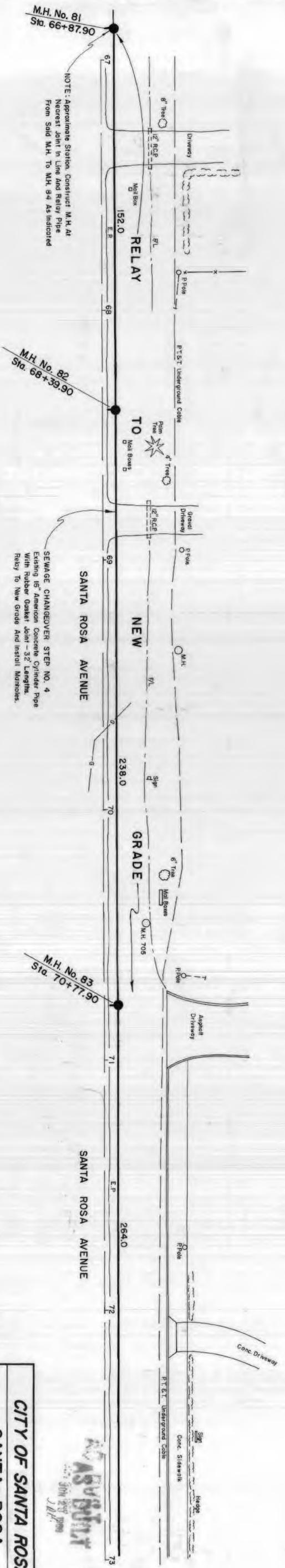
GENERAL NOTE: See SEWAGE CHANGEOVER STEP NO. 5 For Scheduling of Required M.H. Construction.

CITY OF SANTA ROSA	
SANTA ROSA INTERCEPTOR SEWER	
MANHOLE LOCATIONS SANTA ROSA AVENUE-II	
SCALE 1" = 20'	SHEET No. 25
DATE December, 1965	OF 52 SHEETS
DRAWN H.G.P.	ROBERT VAN GELDEREN, CIVIL ENGINEER
CHK. M.E.S.	FILE No. 65-146

AS BUILT
JOHN D. 1998
AS BUILT
JULY 29 1966



PROFILE
 SCALE HORIZONTAL: 1" = 20'
 VERTICAL: 1" = 4'



NOTE: Approximate Station. Construct M.H. At Nearest Joint in Line and Relay Pipe From Said M.H. To M.H. 84 As Indicated

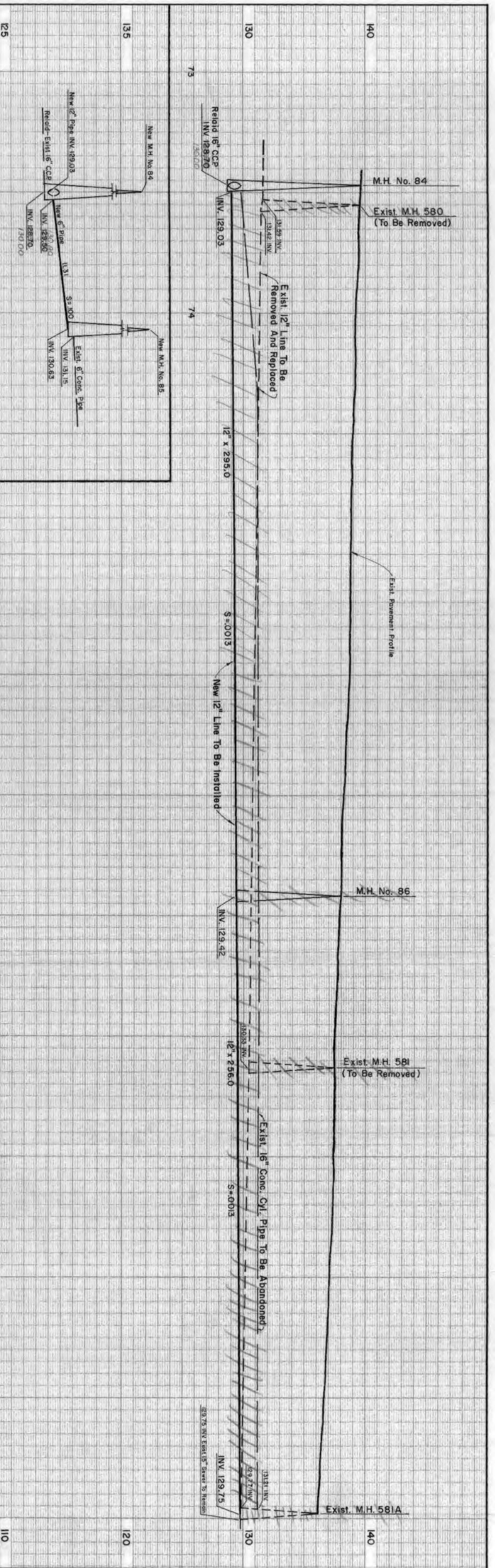
SEWAGE CHANGEOVER STEP NO. 4 Existing 16" American Concrete Cylinder Pipe With Rubber Gasket Joint - 32' Lengths. Relay To New Grade And Install Manholes.

PLAN
 SCALE: 1" = 20'

CITY OF SANTA ROSA
SANTA ROSA
INTERCEPTOR SEWER

PLAN AND PROFILE
 STA. 67+00 TO STA. 73+00

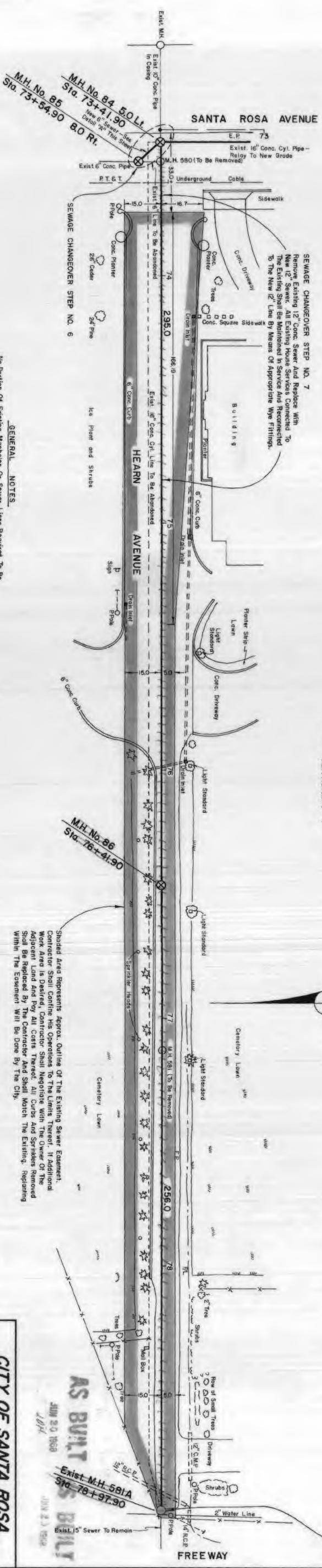
SCALE	1" = 20'	SHEET No.	26	SHEETS	26
DATE	December, 1965	OF	26		
DRW. H.G.E.	ROBERT VAN BUILESON, CITY ENGINEER	FILE No.	65-146		
CHK. M.E.S.					



PROFILE OF HEARN AVE. & SANTA ROSA AVE. INTERSECTION
NO SCALE

PROFILE
SCALE HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'

NOTE: Remove Existing 12" Line From M.H. 581A And Replace With New 12" Pipe To Grade Shown. Reshape Channel To The Satisfaction Of The Engineer. Remove The Existing 16" Conc. Cyl. Pipe From M.H. 581A And Plug Opening To The Satisfaction Of The Engineer.



GENERAL NOTES.
No Portion Of Existing Manholes Or Sewer Lines Required To Be Abandoned Or Removed Under This Contract Shall Be Reused On The Job, Unless Otherwise Specified. Any Such Materials Shall Be Removed From The Job Site And Will Become The Property Of The Contractor. Existing Cast Iron Manhole Covers And Rings Shall Be Delivered To The City Corporation Yard At Donahue And Dexter Streets.

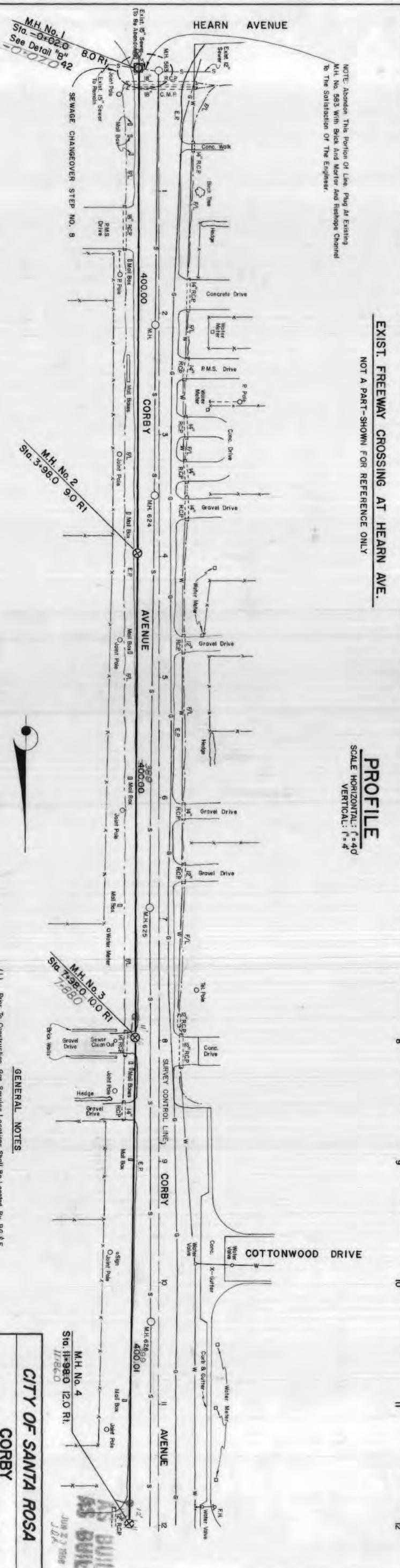
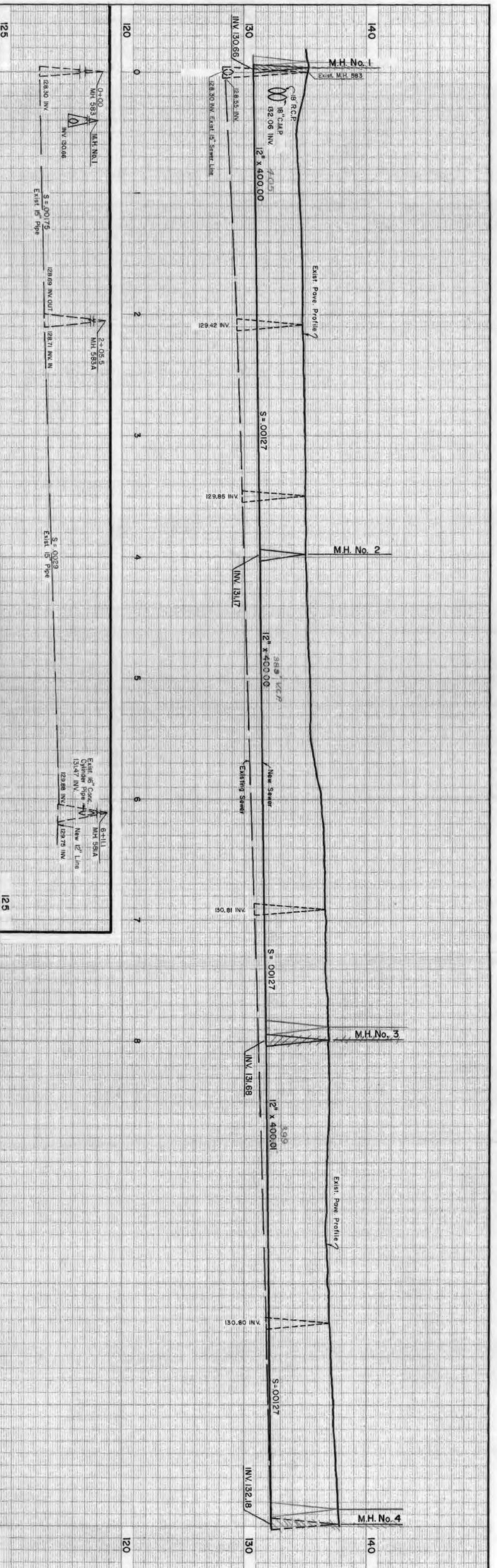
Shaded Area Represents Approx. Outline Of The Existing Sewer Easement. Contractor Shall Confine His Operations To The Limits Thereof. If Additional Work Area Is Desired, Contractor Shall Negotiate With The Owner Of The Adjacent Land And Pay All Costs Thereof. All Cuts And Sprinklers Removed Shall Be Replaced By The Contractor And Shall Match The Existing. Replanting Within The Easement Will Be Done By The City.

PLAN
SCALE: 1" = 20'

CITY OF SANTA ROSA
SANTA ROSA
INTERCEPTOR SEWER
PLAN AND PROFILE
STA. 73+00 TO STA. 79+00

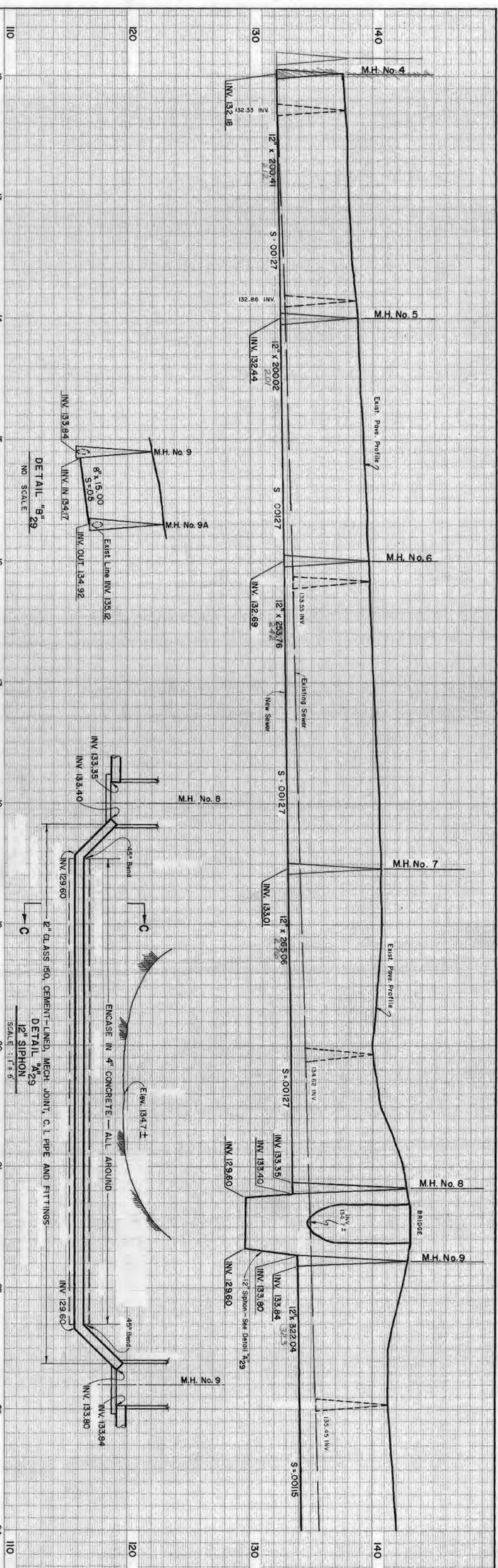
SCALE 1" = 20'
DATE December, 1965 OF 52 SHEETS
DWG. HGR. ROBERT VAN GULDFANK, CIVIL ENGINEER
CHK. M.E.S. [Signature]
FILE NO. 65-146

AS BUILT
JUN 20 1968
JUN 23 1968



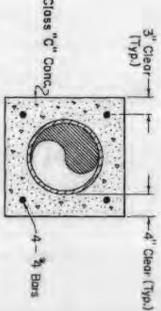
- GENERAL NOTES**
- (1) Prior to Construction, Gas Service Locations Shall Be Located By P.G. & E. Forces Or By The Contractor.
 - (2) Where The New Sewer Passes Beneath Existing Sewers, Reconstruct Existing As Per Detail B-49

CITY OF SANTA ROSA	
CORBY INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. -0+02 TO STA. 12+00	
Scale As Shown	SHEET No. 28
DATE December, 1965	OF 52 SHEETS
OWN. H.G.P. ROBERT W. GIERSON, CITY ENGINEER	FILE No. 65-146
CHK. M.E.S. [Signature]	



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 SCALE VERTICAL: 1" = 4'

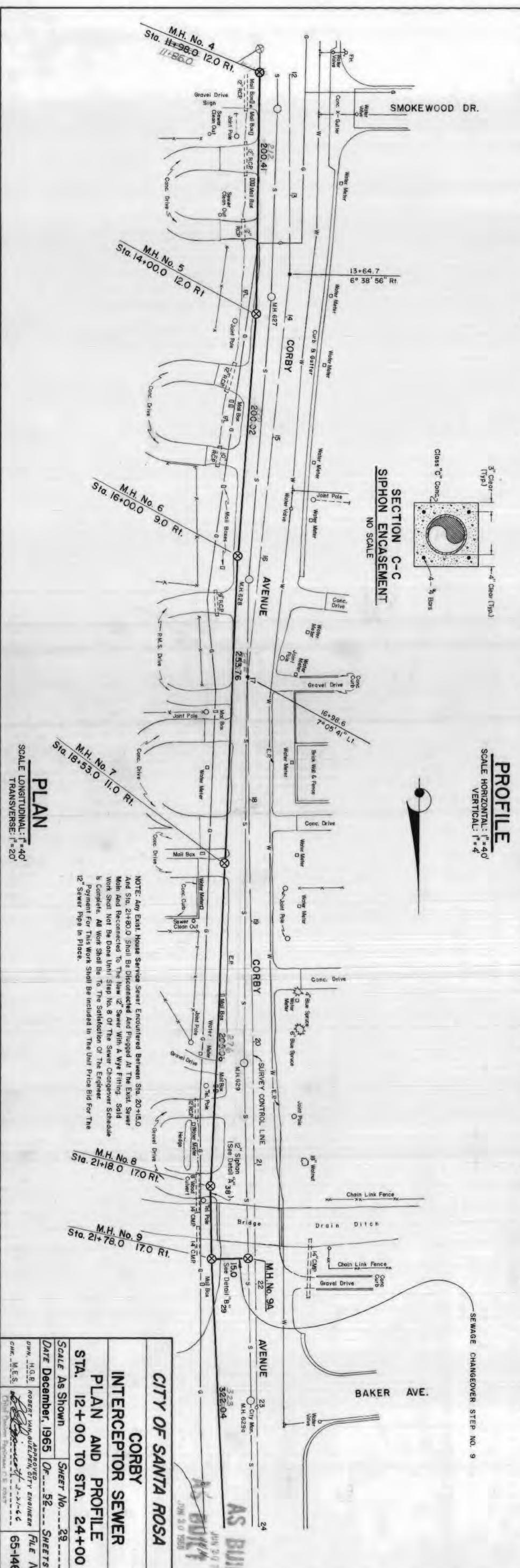
**SECTION C-C
 SIPHON ENCASUREMENT**
 NO SCALE



**DETAIL "A"
 12\"/>**

**DETAIL "B"
 12\"/>**

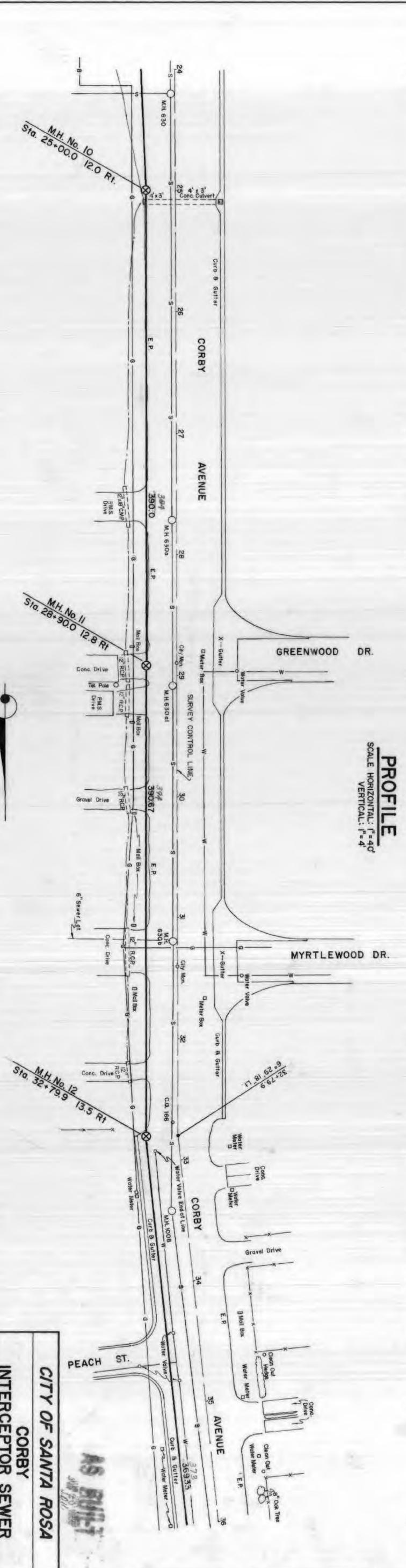
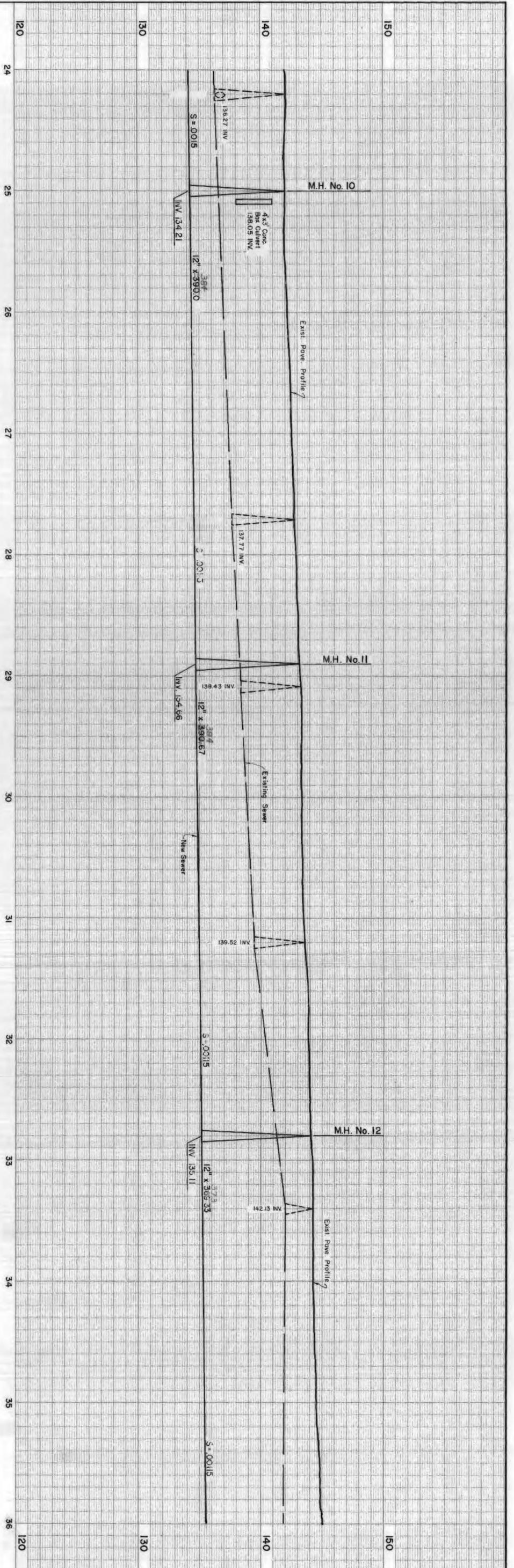
**DETAIL "C"
 12\"/>**



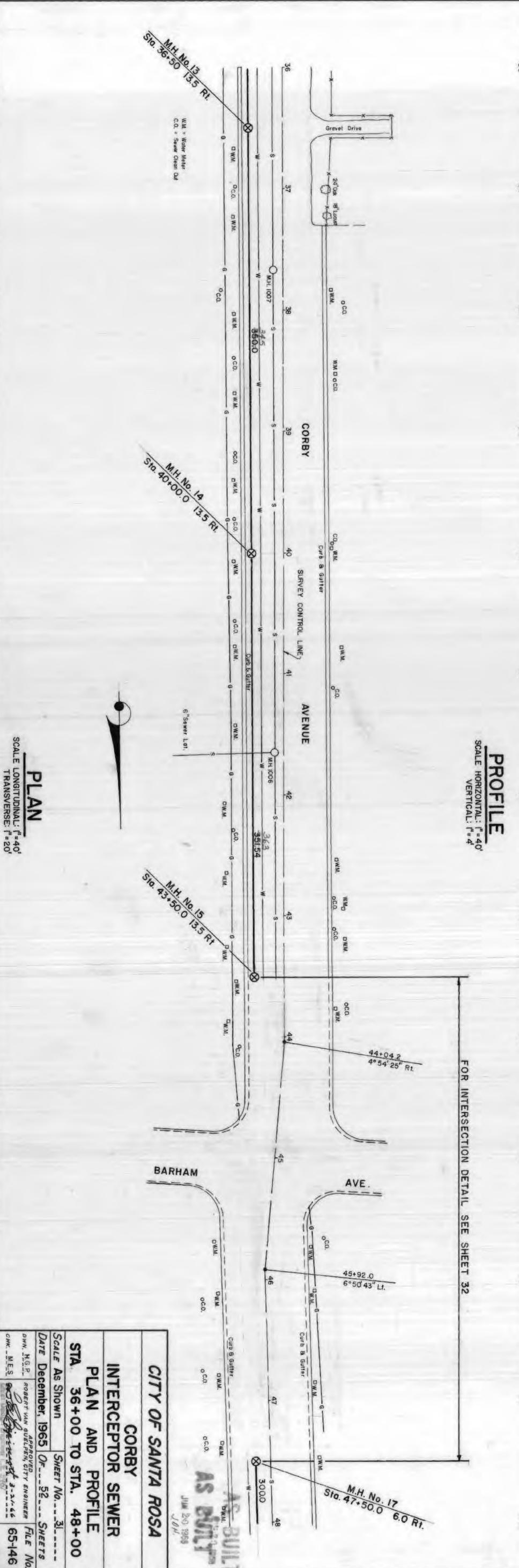
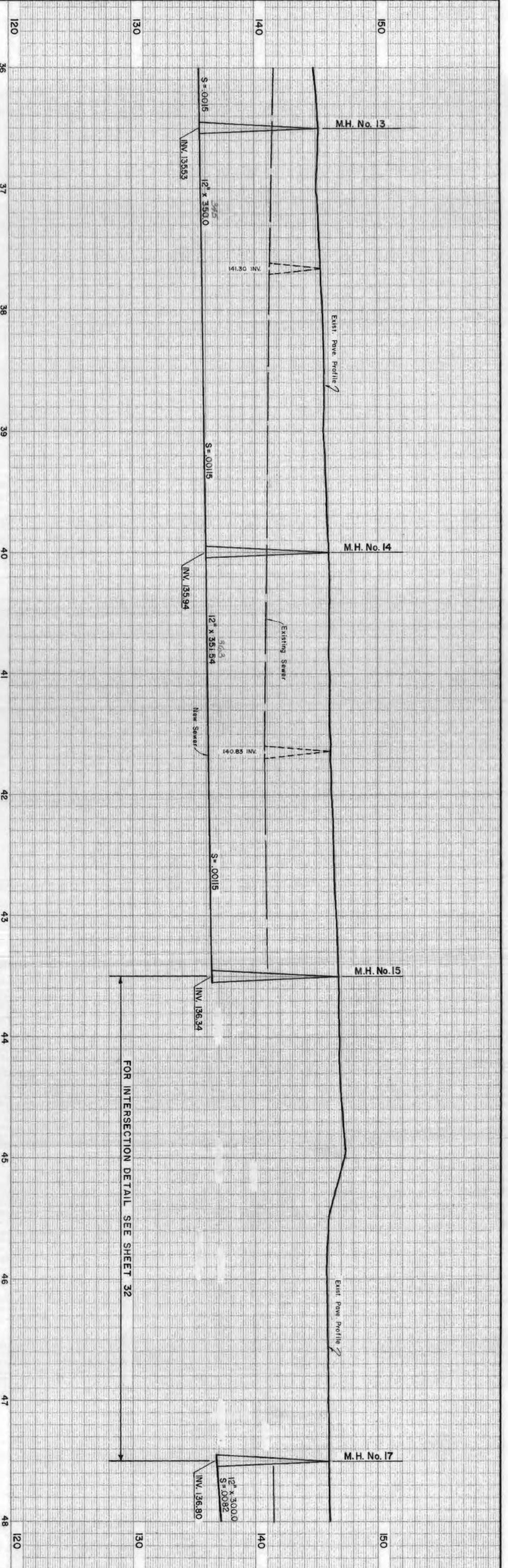
PLAN
 SCALE LONGITUDINAL: 1" = 40'
 SCALE TRANSVERSE: 1" = 20'

NOTE: Any Exist. House Service Sewer Encountered Between Sta. 20+15.0 And Sta. 21+80.0 Shall Be Disconnected And Plugged At The Exist. Sewer Main And Reconnected To The New 12" Sewer With A Wye Fitting. Said Work Shall Not Be Done Until Step No. 8 Of The Sewer Changeover Schedule Is Complete. All Work Shall Be To The Satisfaction Of The Engineer. Payment For This Work Shall Be Included In The Unit Price Bid For The 12" Sewer Pipe In Place.

CITY OF SANTA ROSA	
CORBY INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 12+00 TO STA. 24+00	
SCALE AS SHOWN	SHEET No. 29
DATE December, 1965	Of 52 SHEETS
DRAWN: H.G.B.	ROBERT VAN ALLEN
CHK: M.E.S.	REGISTERED CIVIL ENGINEER
FILE No. 65-146	



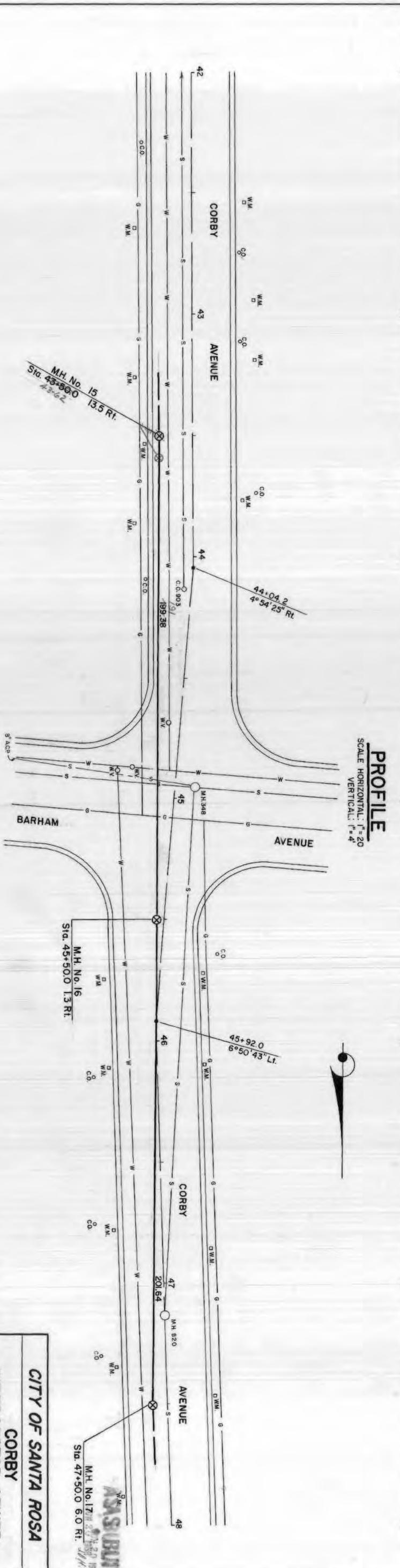
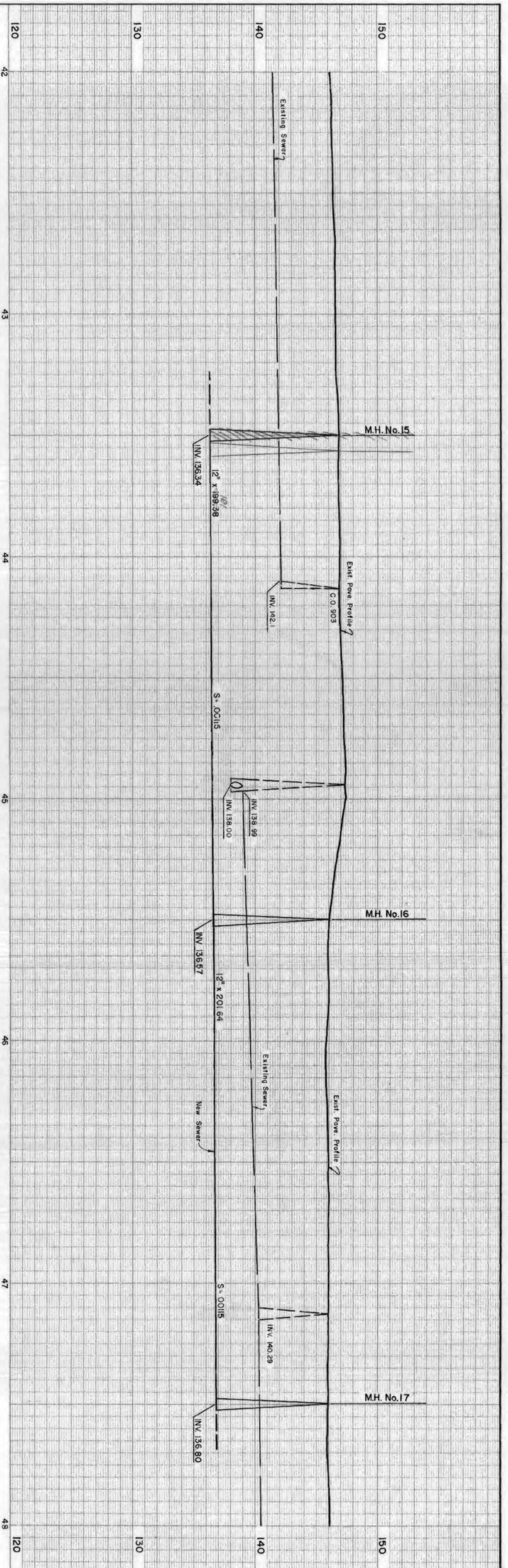
CITY OF SANTA ROSA	
CORBY INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 24+00 TO STA. 36+00	
SCALE As Shown	SHEET No. 30
DATE December, 1965	Of 52 SHEETS
DRW. H.G.P.	ROBERT VAN GELDEREN, CITY ENGINEER
CHK. M.E.S.	3-21-66
FILE No.	65-146



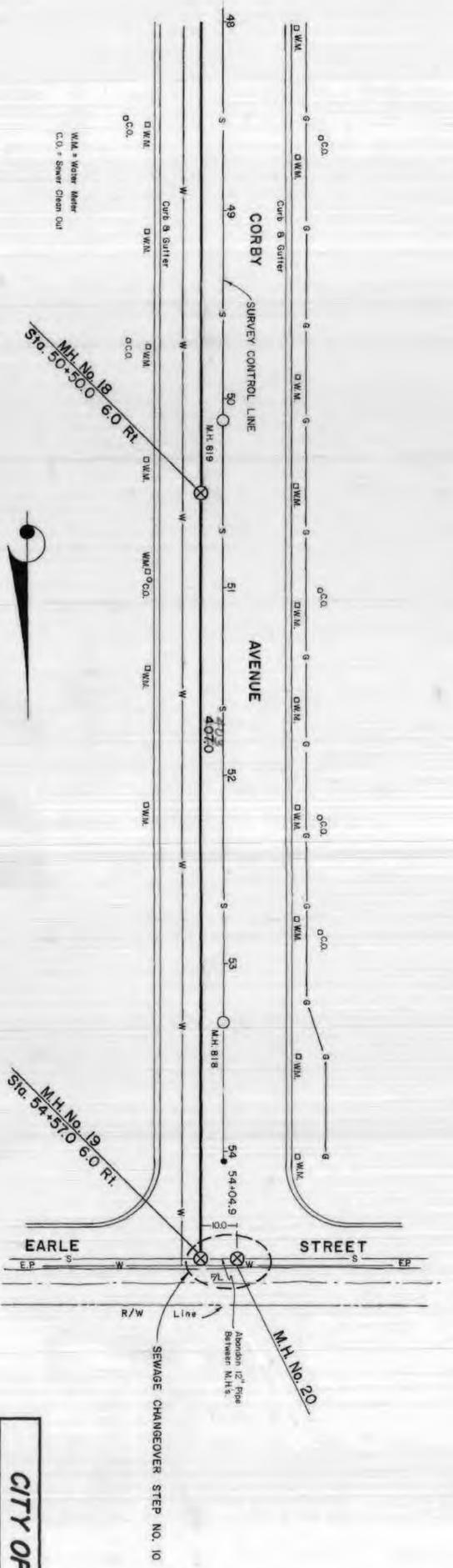
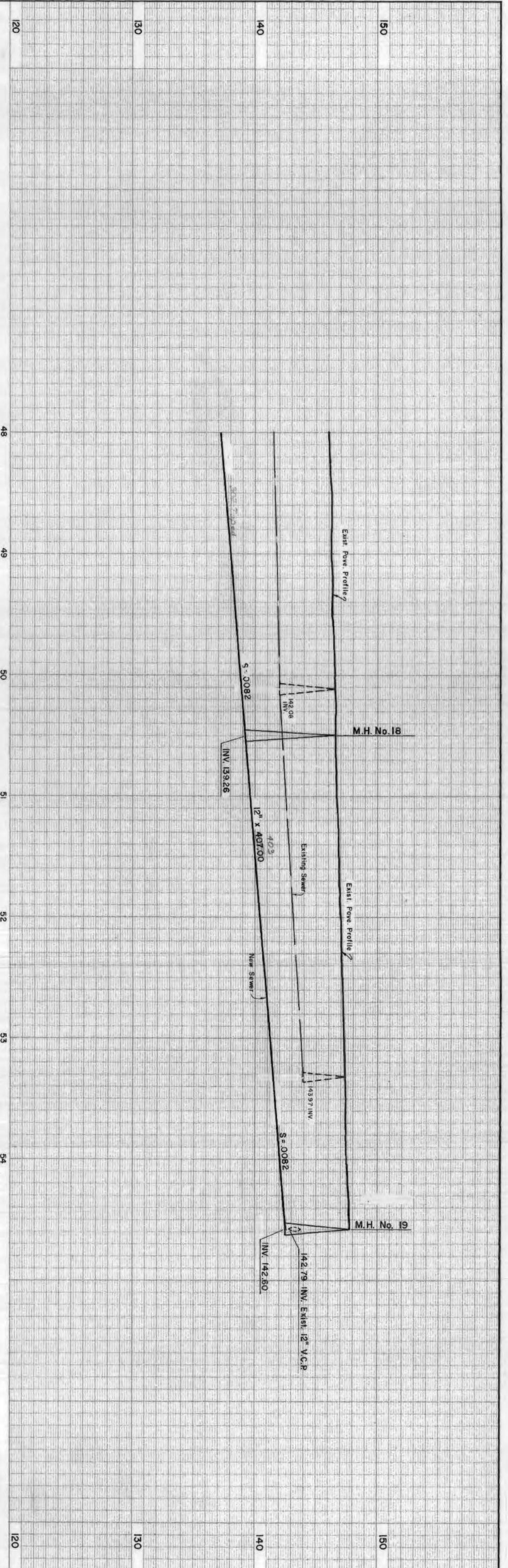
FOR INTERSECTION DETAIL SEE SHEET 32

FOR INTERSECTION DETAIL SEE SHEET 32



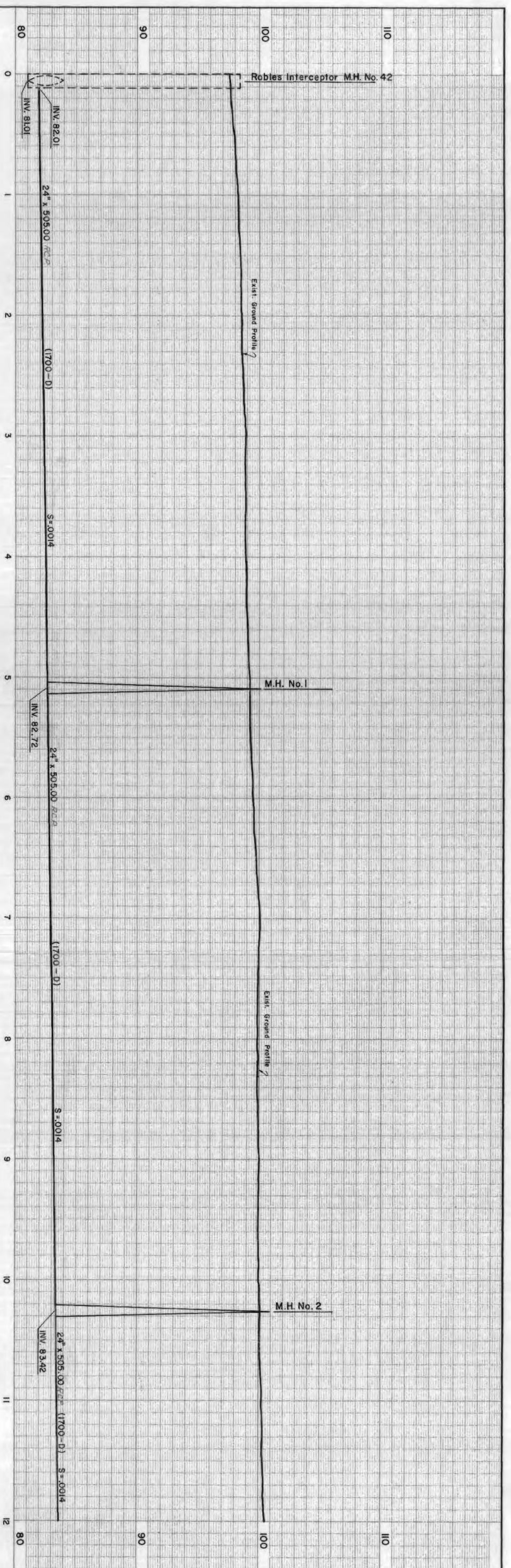


CITY OF SANTA ROSA	
CORBY INTERCEPT SEWER	
PLAN AND PROFILE	
STA. 43+50 TO STA. 47+50	
SCALE AS SHOWN	SHEET NO. 32
DATE DECEMBER, 1965	OF 52 SHEETS
P.W. H.G.P.	ROBERT VAN ADELPHEN CITY ENGINEER
C.M. W.E.S.	FILE NO. 65-146

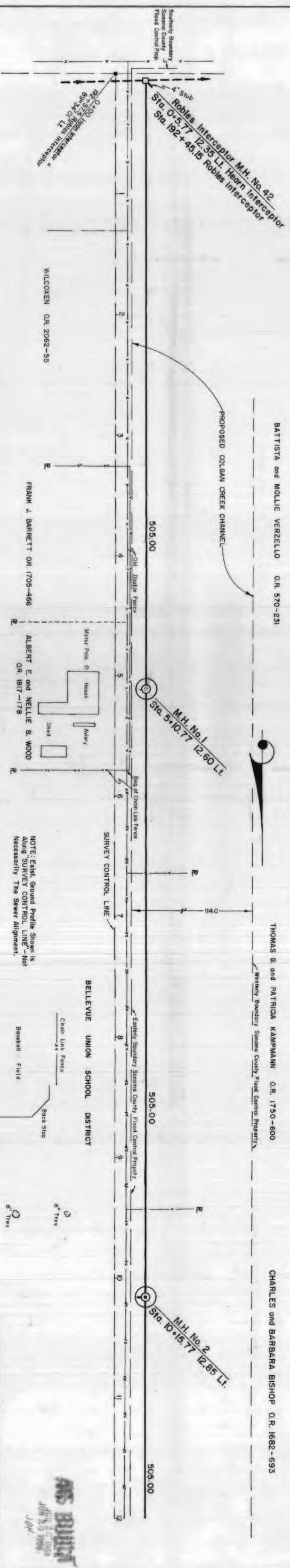


AS BUILT
 IN BUILT

CITY OF SANTA ROSA	
CORBY INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 48+00 TO STA. 54+57	
SCALE AS SHOWN	SHEET NO. 33
DATE December, 1965	OF 52 SHEETS
DRN. H.G.B.	DESIGNED BY
CHK. M.E.S.	ENGINEER
FILE NO. 65-146	



PROFILE
 SCALE HORIZONTAL: 1"=40'
 VERTICAL: 1"=4'

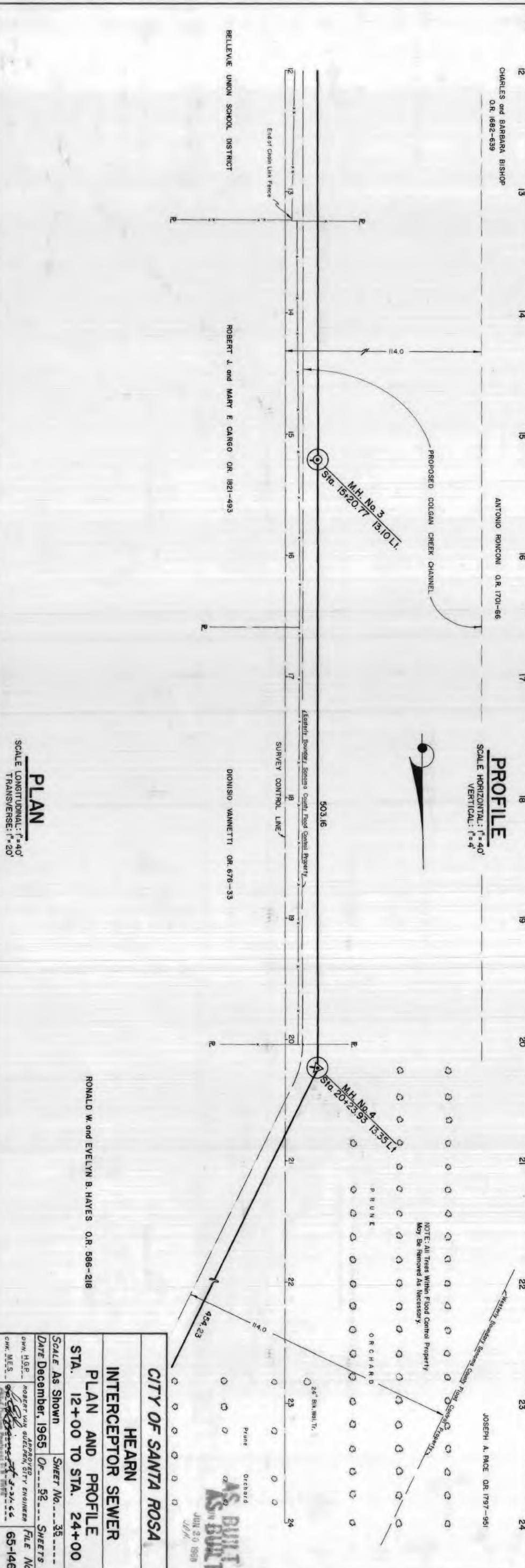
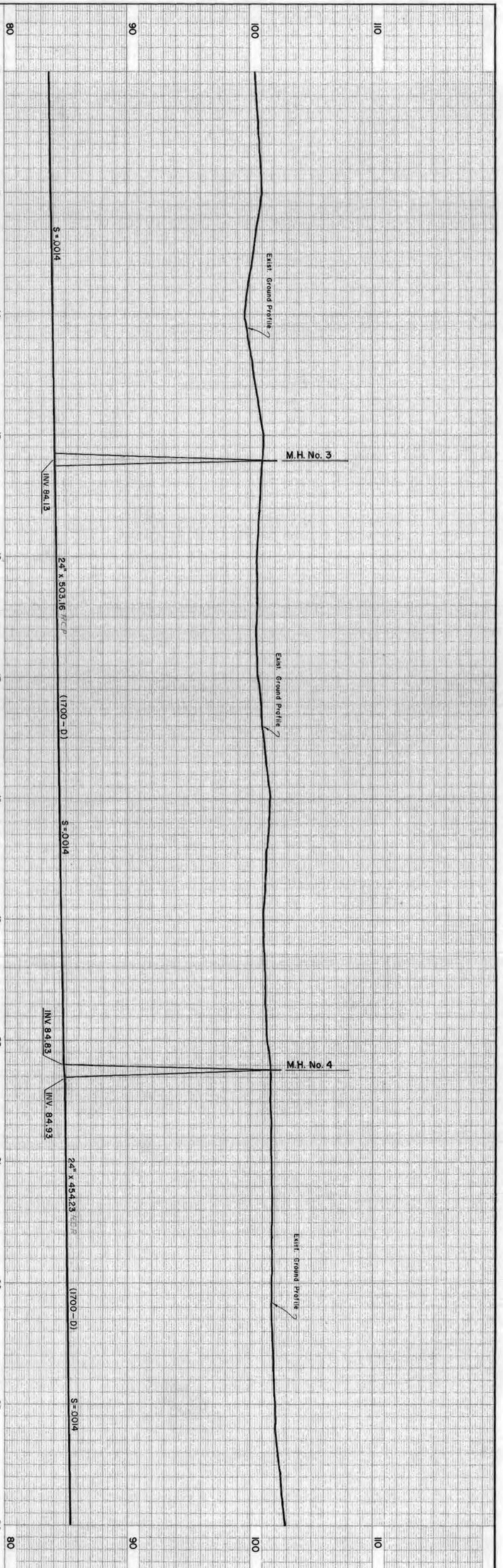


NOTE: Exist. Ground Profile Shown is Along SURVEY CONTROL LINE - Not Necessarily The Sewer Alignment.

PLAN
 SCALE LONGITUDINAL: 1"=40'
 TRANSVERSE: 1"=20'

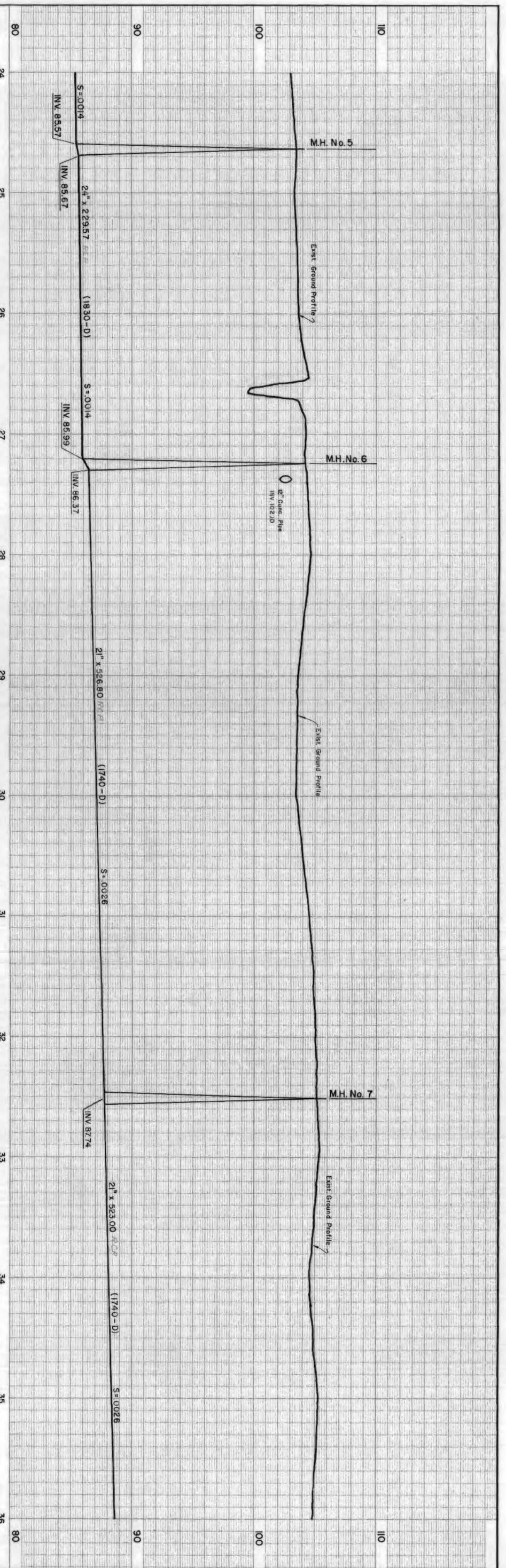
CITY OF SANTA ROSA	
HEARN INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 0+00 TO STA. 12+00	
SCALE As Shown	SHEET No. 34
DATE December, 1965	OF 52 SHEETS
DIV. HGR.	APPROVED
CHK. MES	ROBERT VAN GELDEREN, CITY ENGINEER
	FILE No. 65-146

AS BUILT
 JAN 25 1966
 JPH

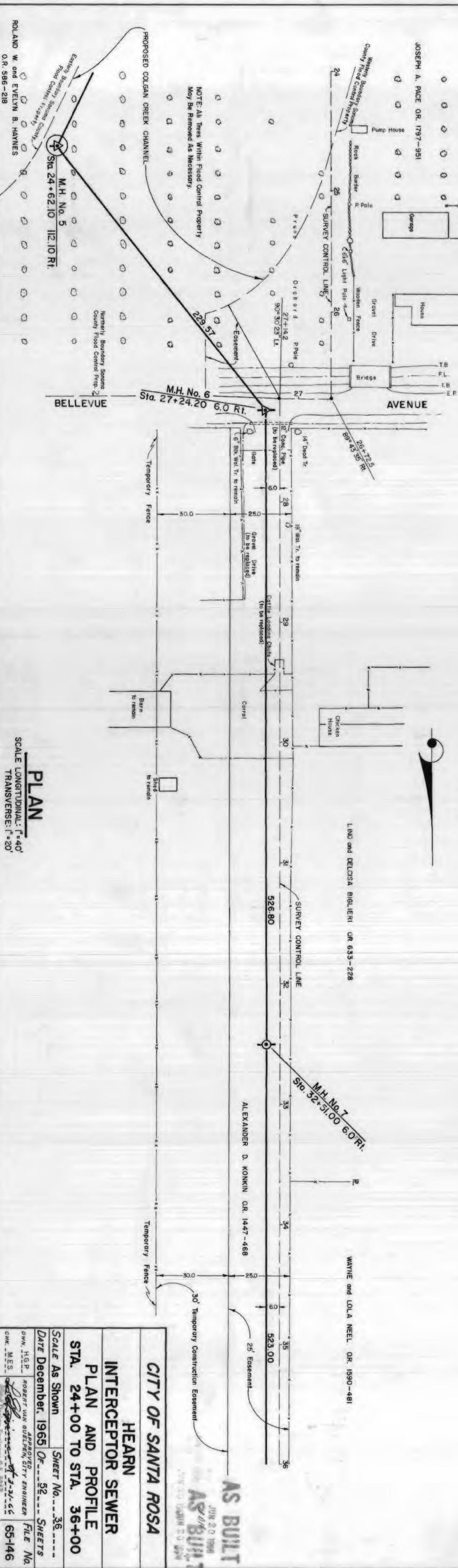


RONALD W. and EVELYN B. HAYES O.R. 586-218

CITY OF SANTA ROSA	
HEARN INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 12+00 TO STA. 24+00	
Scale As Shown	SHEET No. 35
DATE December, 1965	OF 52 SHEETS
OWN. H.G.P.	ROBERT VAN GELDEREN, CIVIL ENGINEER
CHK. M.E.S.	FILE No. 65-146



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'



NOTE: All Trees Within Flood Control Property May Be Removed As Necessary.

PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

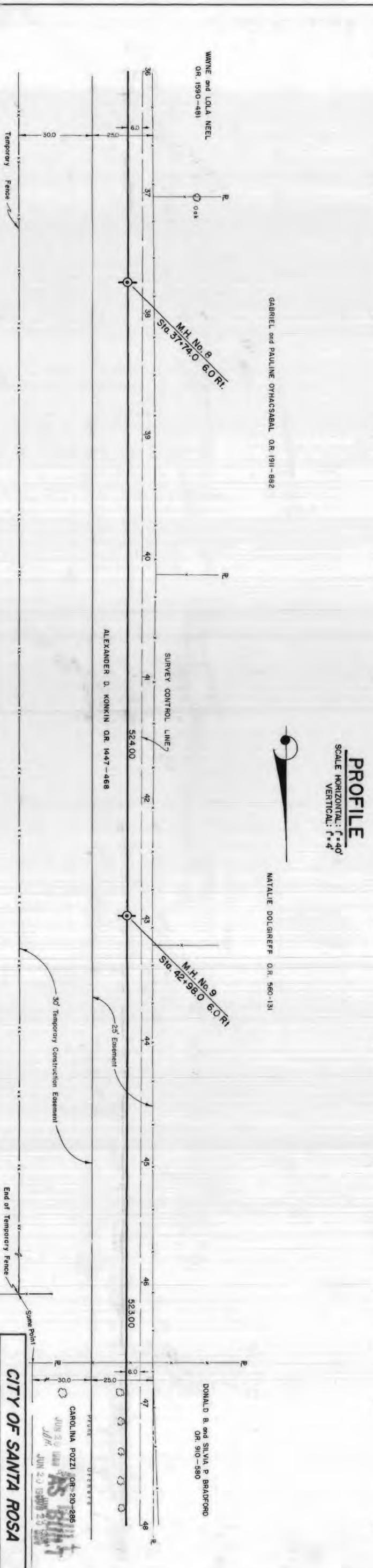
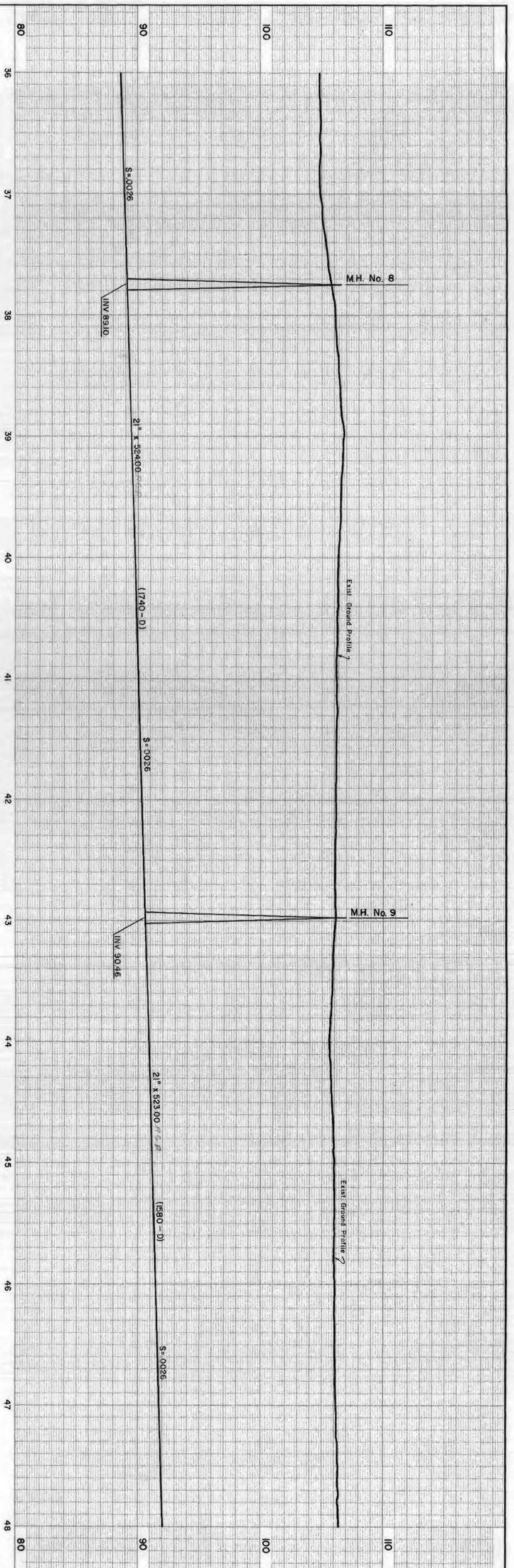
CITY OF SANTA ROSA
HEARN
INTERCEPTOR SEWER
PLAN AND PROFILE
STA. 24+00 TO STA. 36+00

SCALE As Shown
 DATE December, 1965
 SHEET No. 52
 SHEETS 52
 FILE No. 65-146

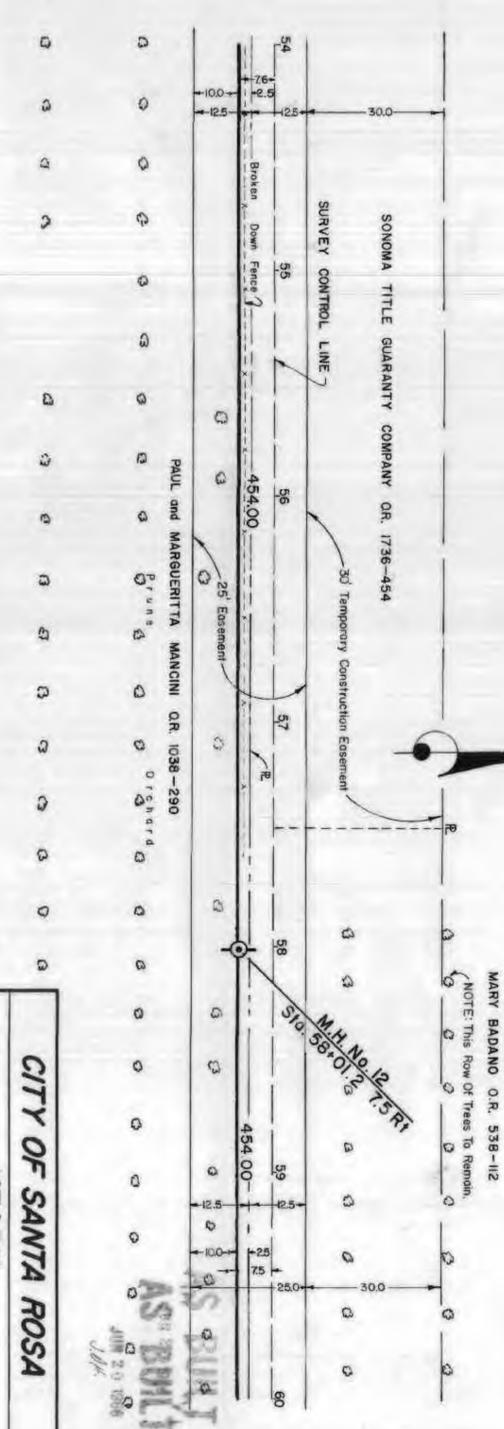
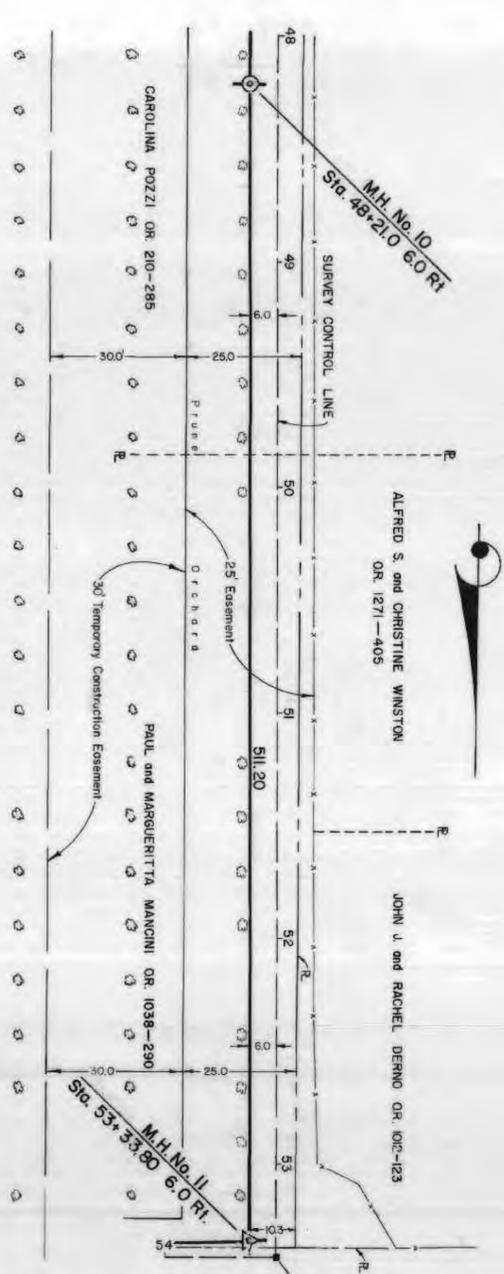
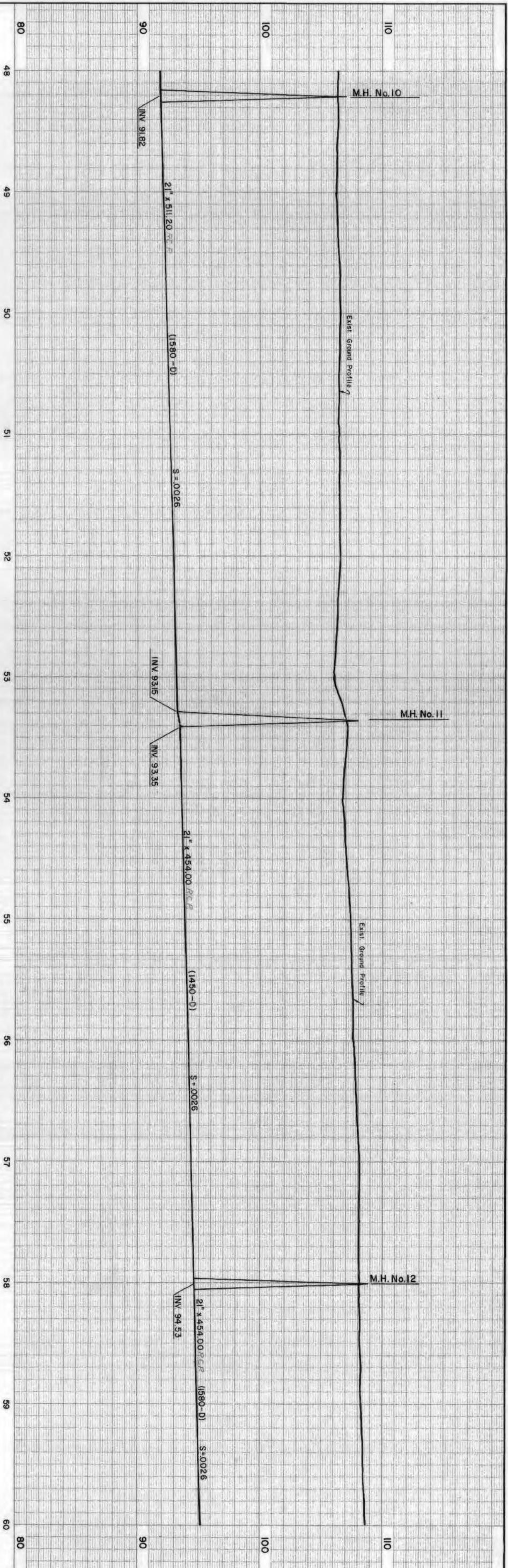
AS BUILT
 JULY 20 1966
 AS BUILT
 JULY 20 1966

ROLAND W. and EVELYN B. HAYNES
 O.R. 586-218

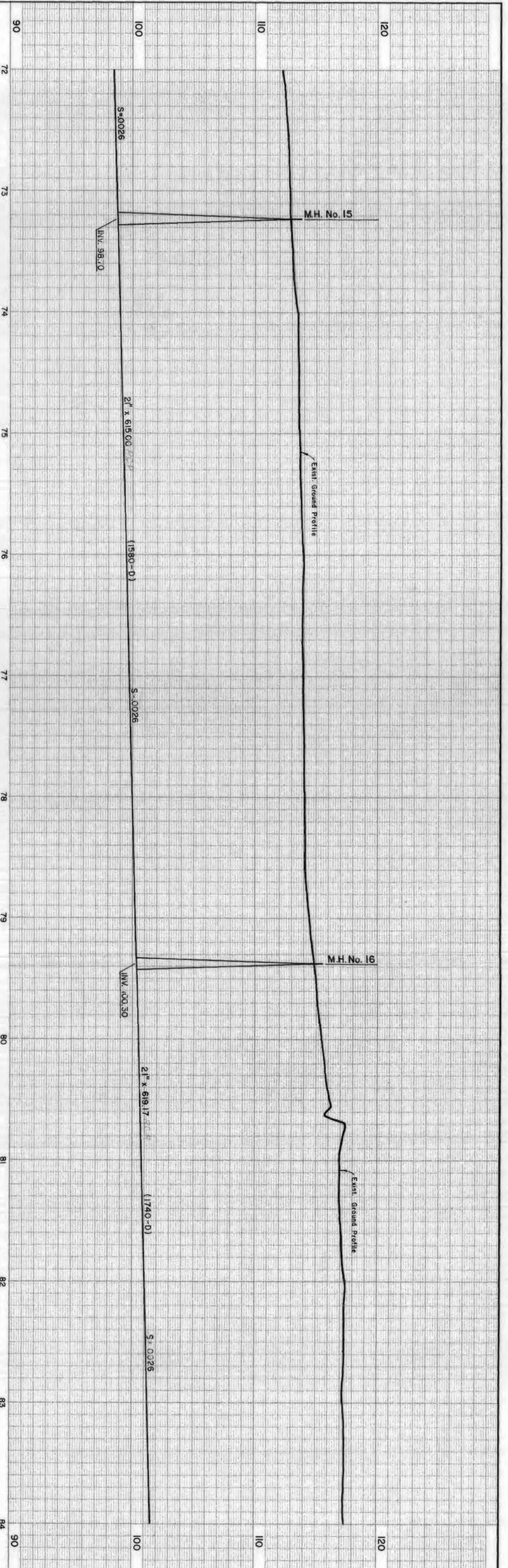
AS BUILT
 JULY 20 1966
 AS BUILT
 JULY 20 1966



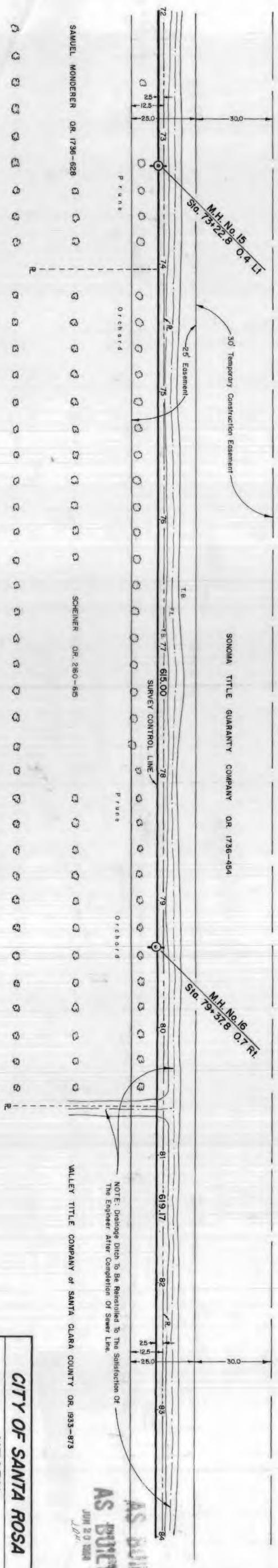
CITY OF SANTA ROSA	
HEARN	
INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 36+00 TO STA. 48+00	
Scale As Shown	SHEET No. 37
DATE December, 1965	OF 52 SHEETS
DRN. H.S.P.	ROBERT VAN ALLEN
CHK. M.E.S.	ROBERT VAN ALLEN
	FILE No. 65-146



CITY OF SANTA ROSA	
HEARN	
INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 48+00 TO STA. 60+00	
SCALE As Shown	SHEET No. 38
DATE December, 1965	OF 52 SHEETS
DWG. H.S.P. APPROVED CITY ENGINEER	
CHK. M.E.S. 3-21-66	
FILE No. 65-146	



PROFILE
 SCALE HORIZONTAL: 1" = 40'
 VERTICAL: 1" = 4'



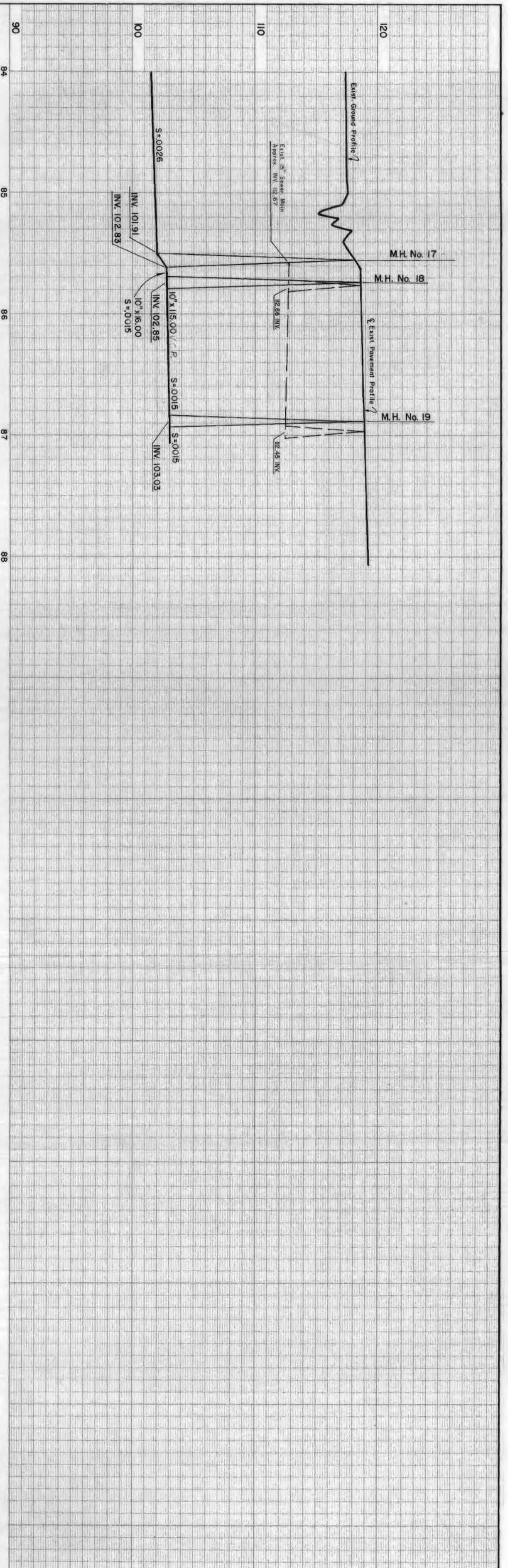
NOTE: Ditches to be Reinstated to the Satisfaction of the Engineer After Completion of Sewer Line.

WALLEY TITLE COMPANY OF SANTA CLARA COUNTY OR. 1933-873

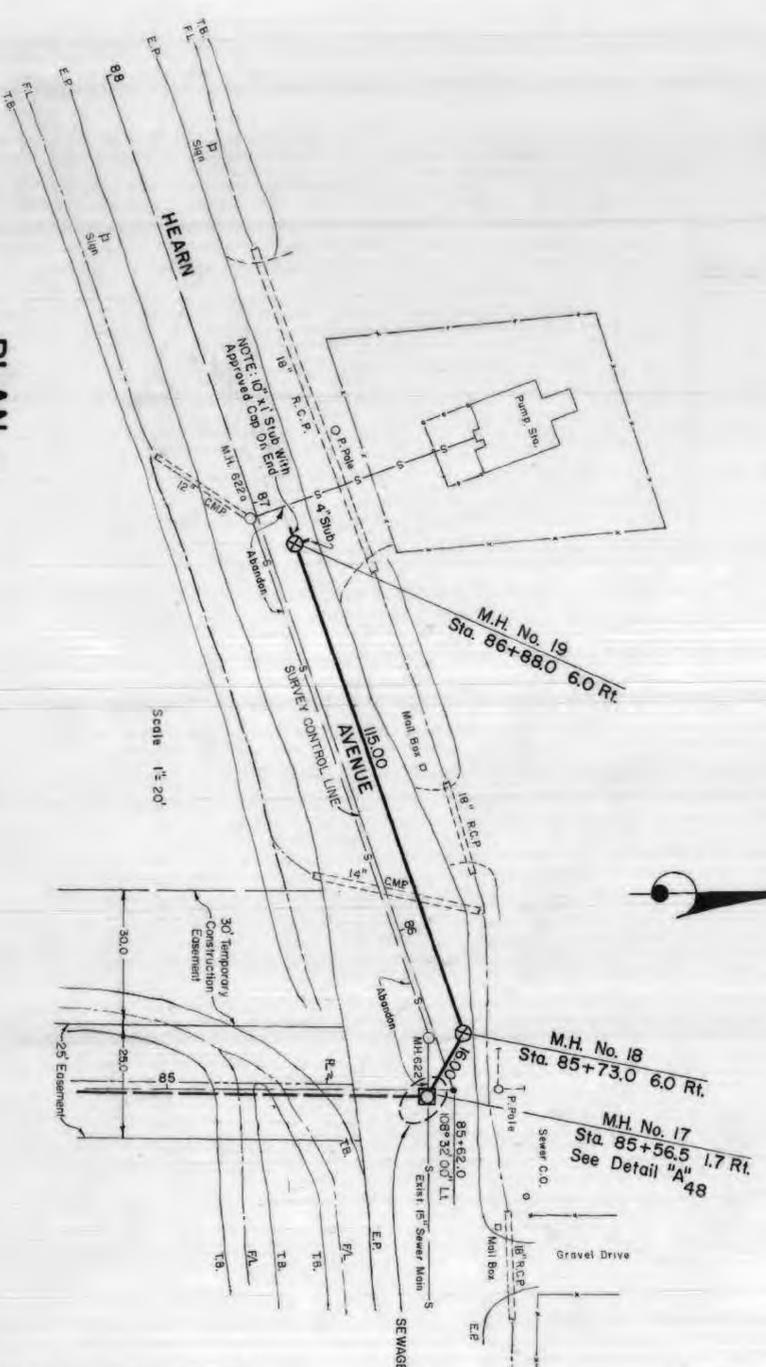
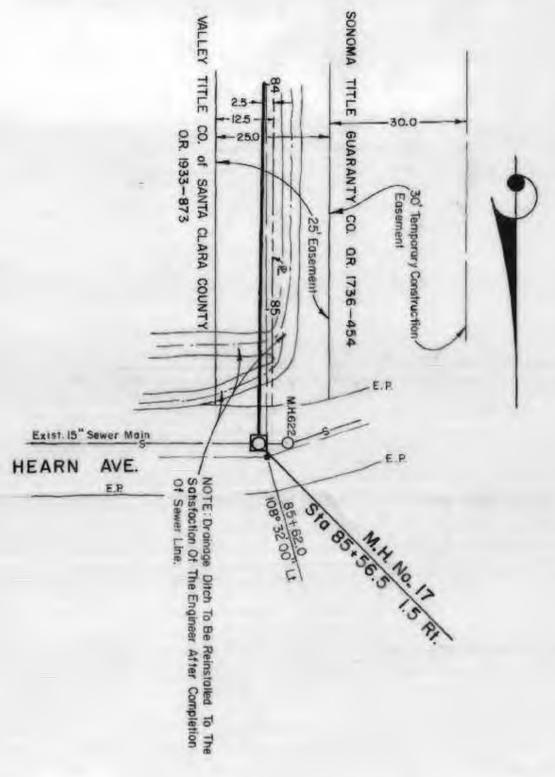
AS BUILT
 JUN 20 1966
AS BUILT

PLAN
 SCALE LONGITUDINAL: 1" = 40'
 TRANSVERSE: 1" = 20'

CITY OF SANTA ROSA	
HEARN	
INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 72+00 TO STA. 84+00	
SCALE As Shown	SHEET No. 40
DATE December, 1965	OF 32 SHEETS
DWG. H.G.P.	APPROVED BY CITY ENGINEER
CHEK. M.E.S.	FILE No. 65-146



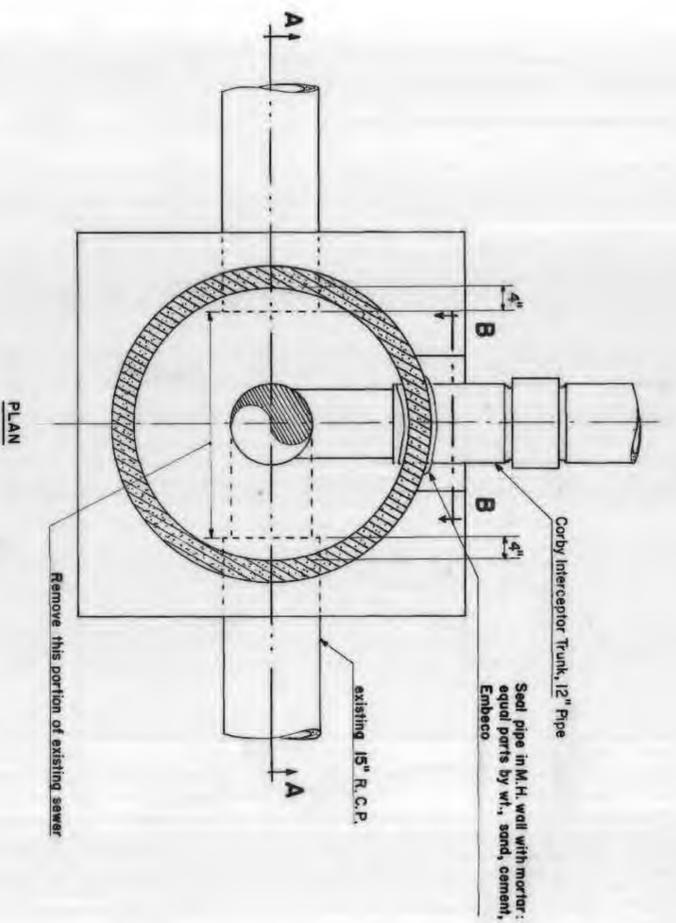
PROFILE
 SCALE HORIZONTAL: 1"=40'
 VERTICAL: 1"=4'



PLAN
 SCALE LONGITUDINAL: 1"=40'
 TRANSVERSE: 1"=20'

CITY OF SANTA ROSA	
HEARN INTERCEPTOR SEWER	
PLAN AND PROFILE	
STA. 84+00 TO STA. 88+00	
Scale As Shown	SHEET No. 41
DATE December, 1965	OF 52 SHEETS
DRAWN BY: H.G.P. ROBERT VAN GILLEN, CIVIL ENGINEER	
CHECKED BY: J. J. ...	
DATE December, 1965	FILE No. 65-146

AS BUILT

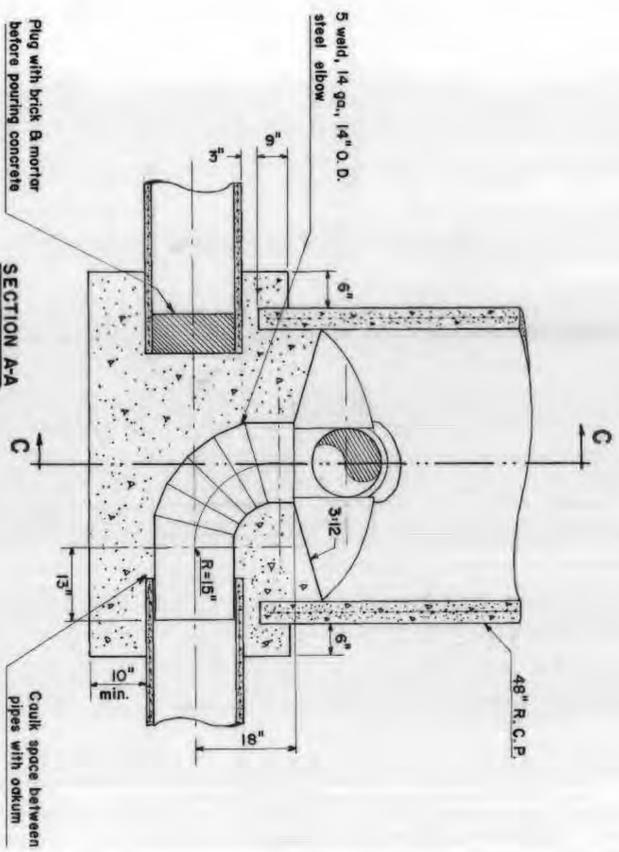


Seal pipe in M.H. wall with mortar: equal parts by wt., sand, cement, Embecco

Corby Interceptor Trunk, 12" Pipe

existing 15" R.C.P.

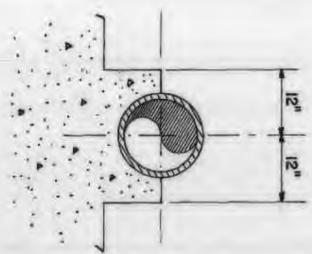
Remove this portion of existing sewer



SECTION A-A

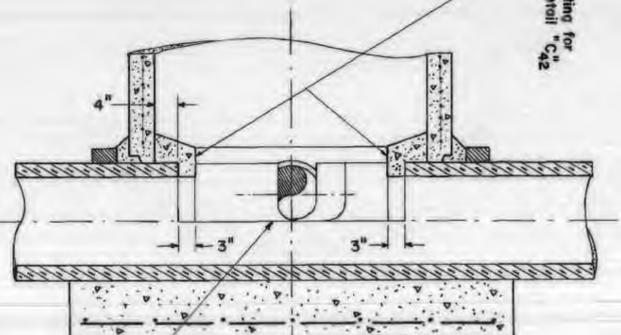
Plug with brick & mortar before pouring concrete

Caulk space between pipes with oakum



SECTION B-B

Protective mortar coating for exposed steel, see Detail "C₄₂"

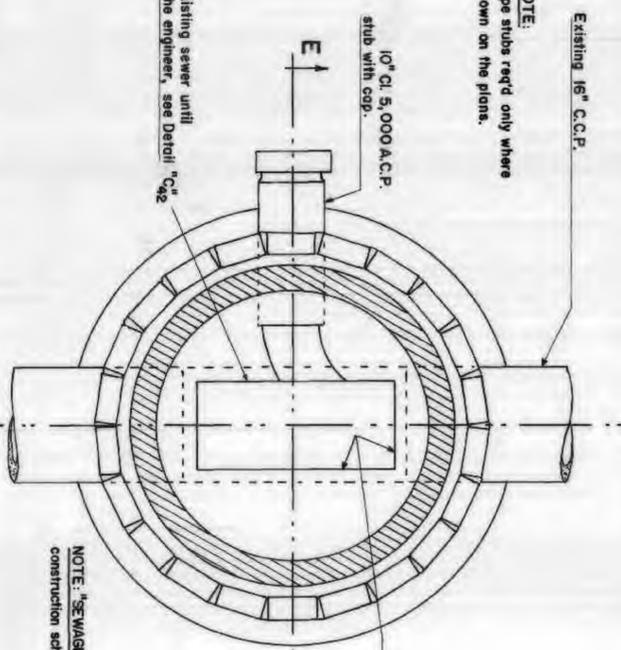


SECTION D-D

Existing 16" C.C.P. stub with cap. 10" CI 5,000 A.C.P. stub with cap.

NOTE: Pipe stubs req'd only where shown on the plans.

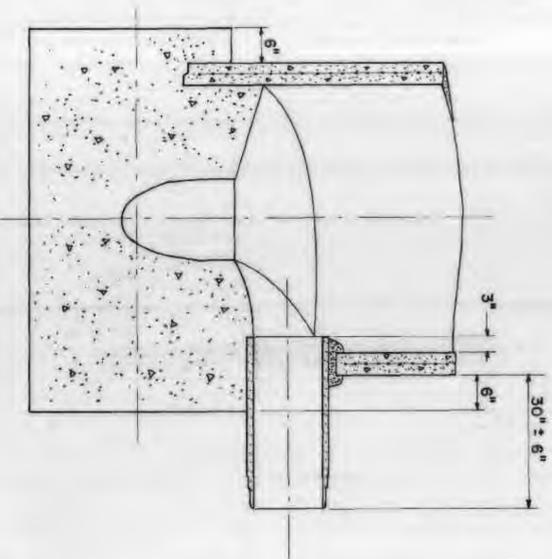
Delay opening existing sewer until so directed by the engineer, see Detail "C₄₂"



PLAN

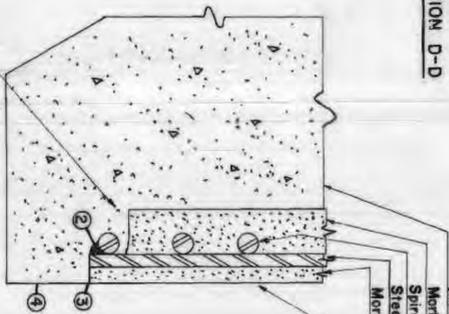
Exposed steel to be welded, see detail "C₄₂"

NOTE: "SEWAGE CHANGE-OVER-STEP NO. 5" shell control the construction schedule of this M.H.



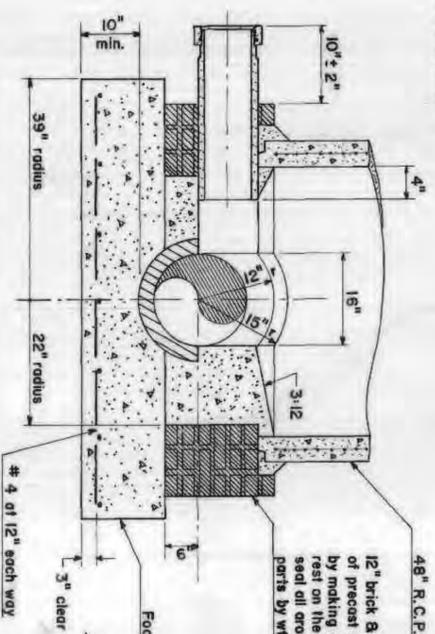
SECTION C-C

- 1 When permitted by the schedule, remove outer mortar coating in the area to be cut.
- 2 Tack weld spiral steel to steel cylinder of edge of opening.
- 3 Complete pipe opening within limits shown.
- 4 Place protective mortar coating over exposed steel by forming vertical side & end walls.



DETAIL "C₄₂"

NO SCALE



SECTION E-E

DETAIL "A"₄₂
TYPE VI M.H.

12" brick & mortar base ring. A section of precast 48" R.C.P. may be substituted by making opening in section so it will rest on the footing. If R.C.P. is used, seal oil around with mortar, using equal parts by wt. sand, cement & Embecco.

AS BUILT

DETAIL "B"₄₂
MANHOLE NO. 1
CORBY INTERCEPTOR

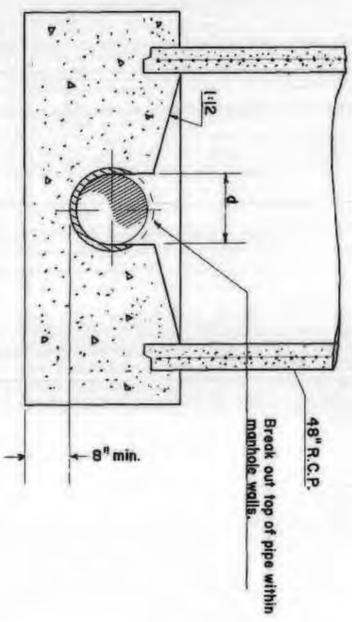
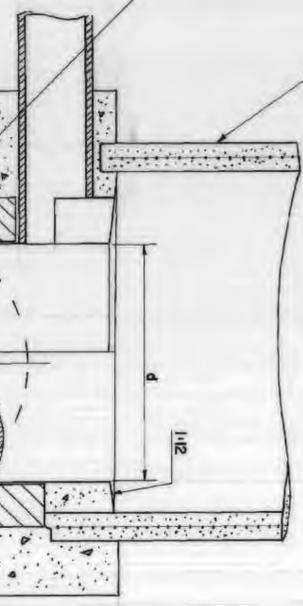
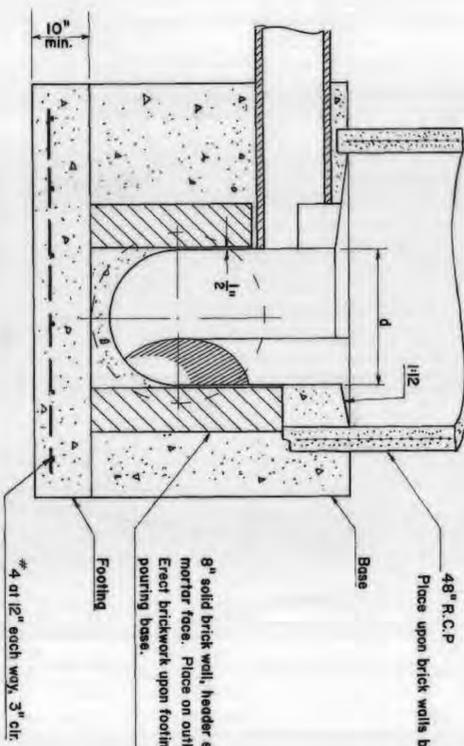
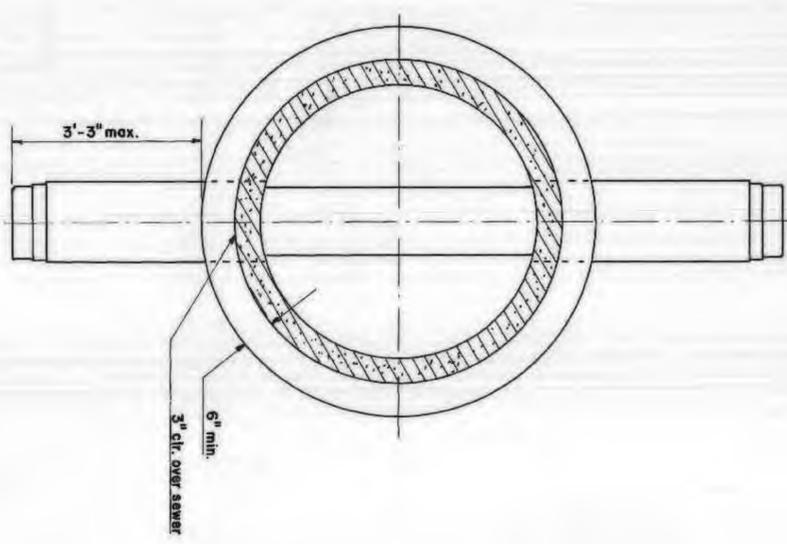
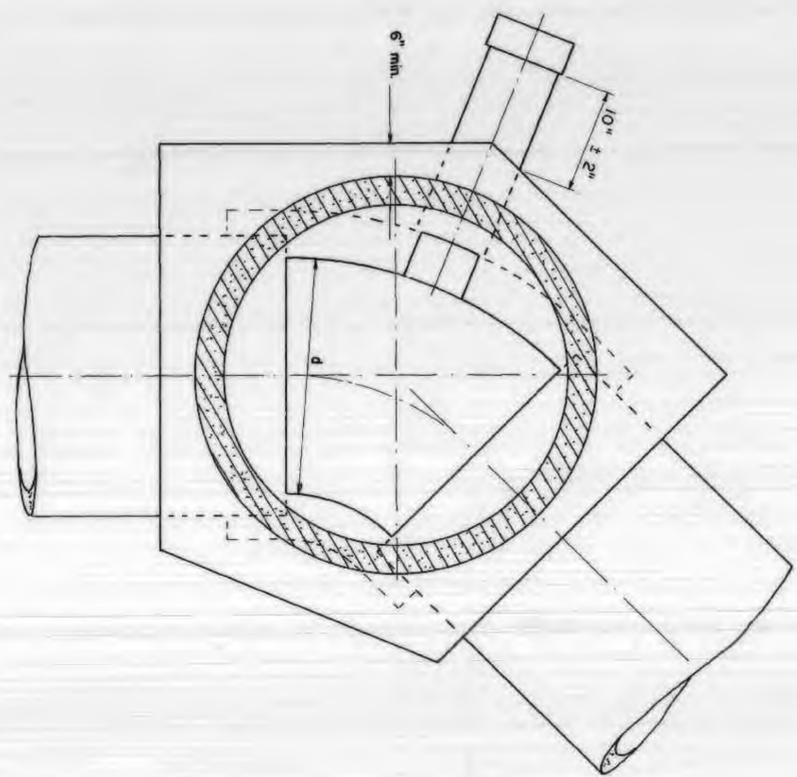
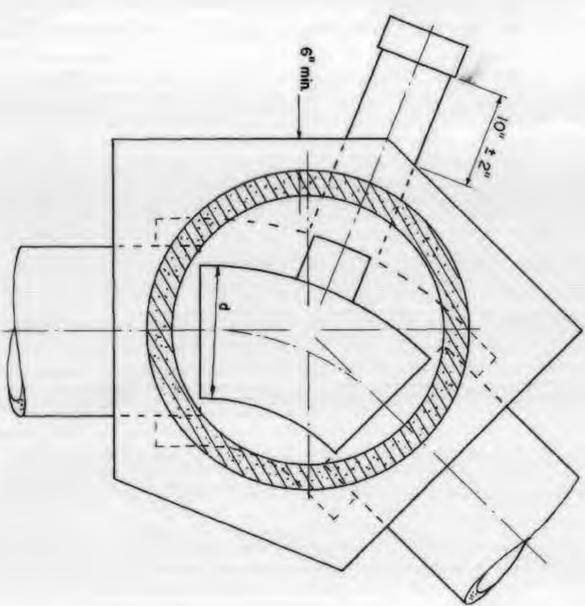
PAID FOR AS A TYPE VIII M.H.

GEN. NOTE: Standard taper and frame shall be used on all manholes. See Detail "A₄₃"

CITY OF SANTA ROSA
ROBLES, SANTA ROSA, CORBY, &
HEARN INTERCEPTOR SEWERS

MANHOLE DETAILS-I

Scale 3/8" = 1'-0"	SHEET No. 42
DATE December, 1965	OF 52 SHEETS
DRAWN D.S.	ROBERT VAN GUELDEN, CITY ENGINEER
CHECKED M.E.S.	BY [Signature]
FILE No.	65-146



DETAIL "A"⁴⁴
TYPE III MANHOLE

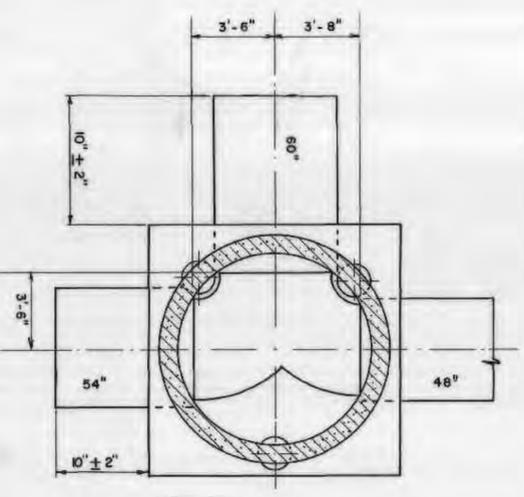
DETAIL "B"⁴⁴
TYPE IV MANHOLE

DETAIL "C"⁴⁴
TYPE VII MANHOLE

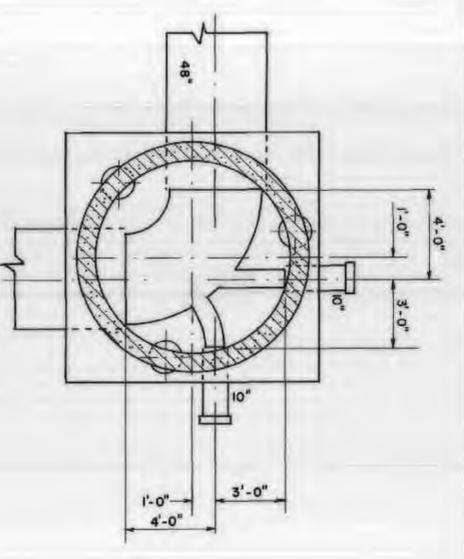
- GENERAL NOTES**
1. All studs shall be 10" in diam. unless otherwise noted.
 2. Pipe stub req'd only where shown on the plans. Place invert elev. at crown of trunk.
 3. For construction of taper section, from B cover, see Detail "A"⁴³.
 4. When constructing channels, make all changes of direction with smooth curves of max. practical radius. Maintain a "U" section conforming below the spring line, to the pipe at each end of the curve.
- Make changes in size and elev. gradually, tapering the channel to conform to the adjacent pipes.

ASSURANT
JUN 8 8 49 AM '65

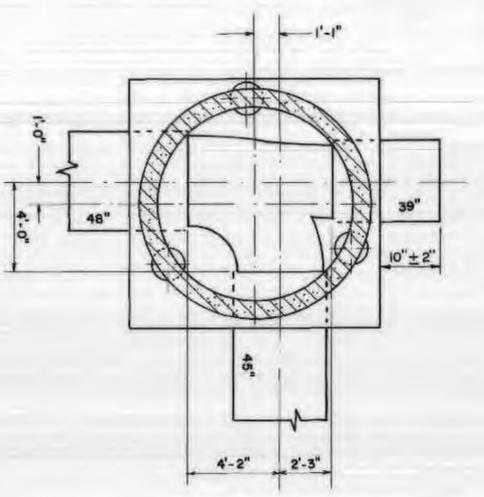
CITY OF SANTA ROSA	
ROBLES, SANTA ROSA, CORBY, & HEARN INTERCEPTOR SEWERS	
MANHOLE DETAILS-III	
SCALE 3/4" = 1'-0"	SHEET No. 44
DATE December, 1965	OF 32 SHEETS
DWG. HSB ROBERT VAN OUDENBROEK, CITY ENGINEER CHK. M.E.S.	
FILE No.	65-146



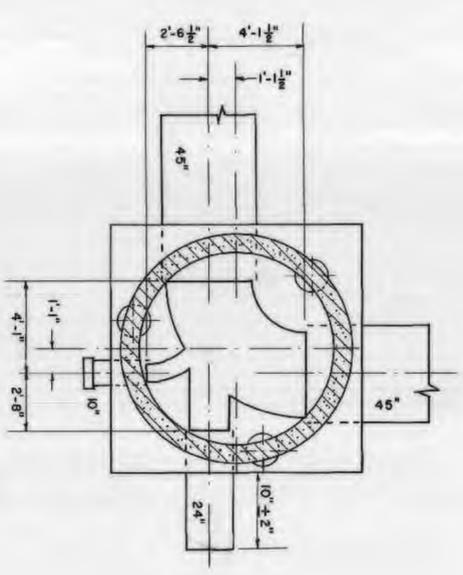
DETAIL "A"
46
M.H. NO. 1



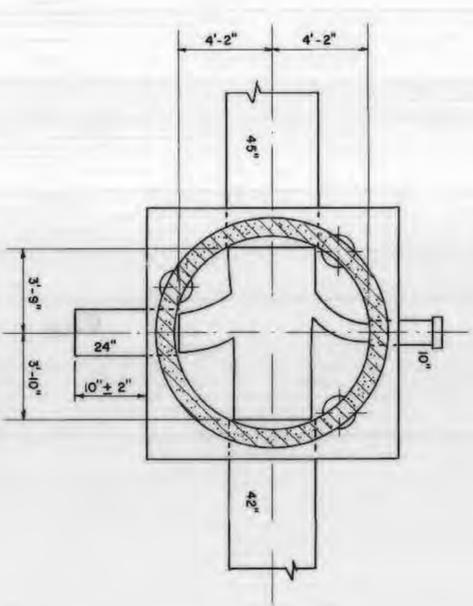
DETAIL "B"
46
M.H. NOS. 2 & 3
Note: Omit slides in M.H. No. 2



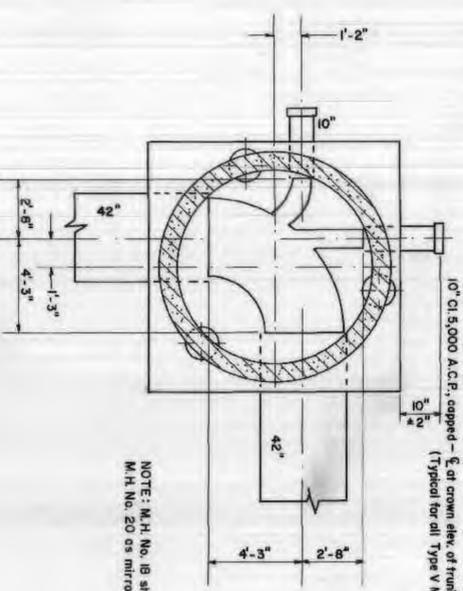
DETAIL "C"
46
M.H. NO. 7



DETAIL "D"
46
M.H. NO. 12



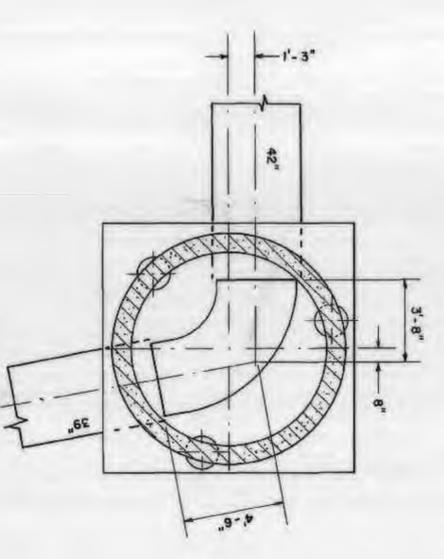
DETAIL "E"
46
M.H. NO. 15



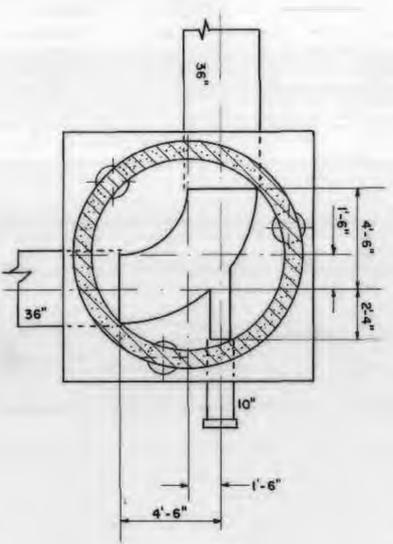
DETAIL "F"
46
M.H. NO. 18 & 20

10" CI 5,000 A.C.F., coped - 1/2" at crown elev. of trunk.
(Typical for all Type V M.H.'s)

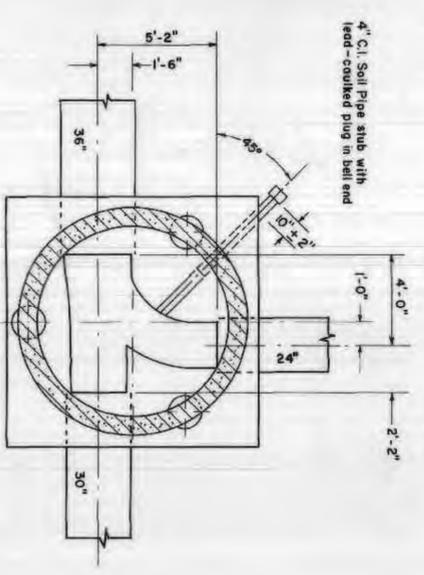
NOTE: M.H. No. 18 shown. Construct
M.H. No. 20 as mirror image.



DETAIL "G"
46
M.H. NO. 24



DETAIL "H"
46
M.H. NO. 41



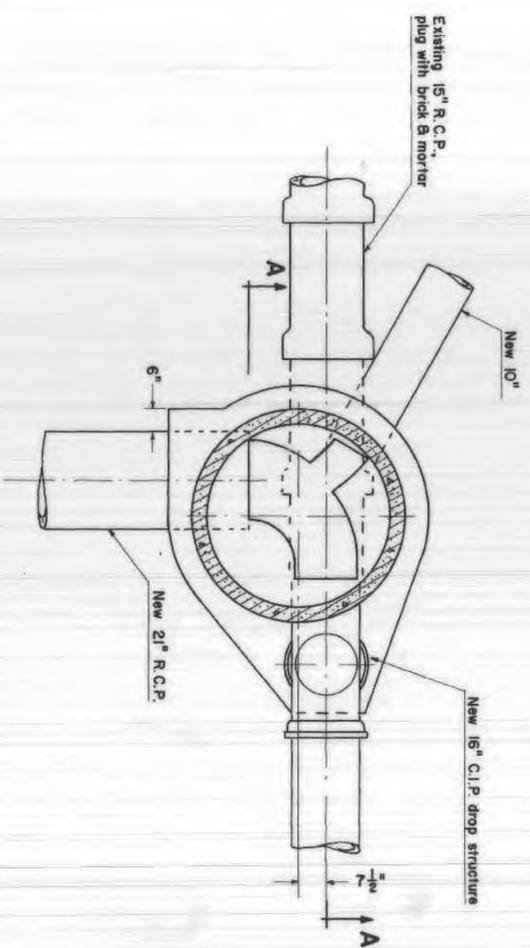
DETAIL "J"
46
M.H. NO. 42

4" CI Soil Pipe stub with
lead-coupled plug in bell end

GENERAL NOTE:
See Sheet No. 45 for typical construction details of Type V Manholes.

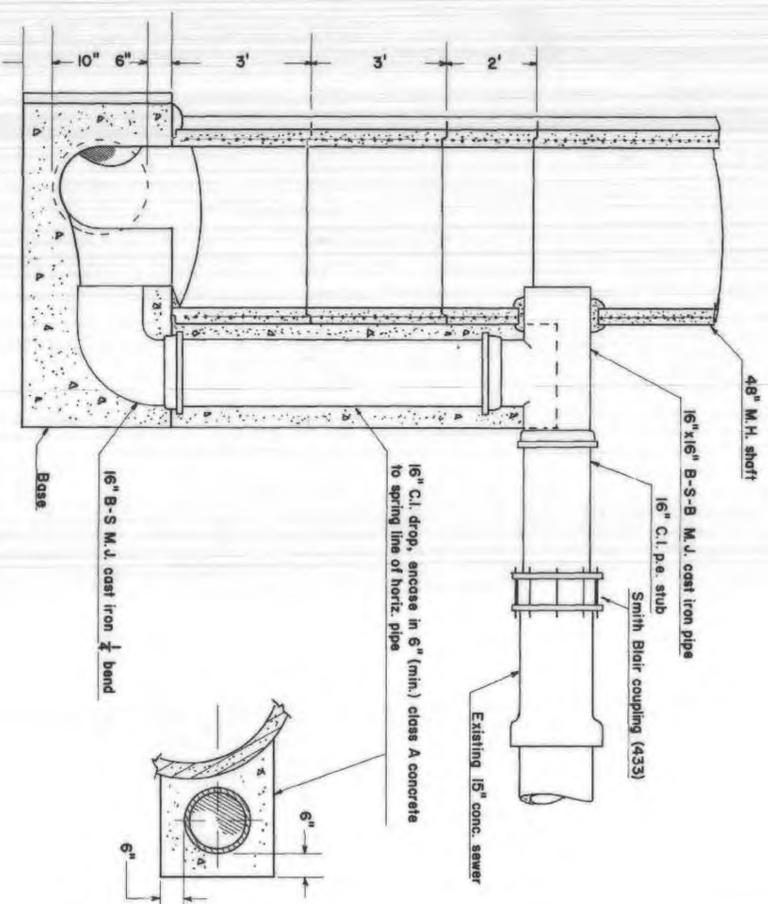
AS BUILT
JULY 20 1966

CITY OF SANTA ROSA	
ROBLES, SANTA ROSA, CORBY, & HEARN INTERCEPTOR SEWERS	
BASE LAYOUT	
TYPE V MANHOLES	
SCALE 1/4" = 1'-0"	SHEET No. 46
DATE December, 1965	DR. 52 SHEETS
DWN. D.G.	ROBERT VAN DERKAM, CIVIL ENGINEER
CHK. M.E.S.	BY
	FILE No. 65-146



DETAIL "A"
 M.H. NO. 17 (HEARN TRUNK)
 (PAID FOR AS A TYPE VIII M.H.)

- NOTE:**
- 1 Sewage Changerover Step No. 10 shall control the construction schedule of this M.H. See specs.
 - 2 See Detail "A₄₃" for construction of M.H. taper section, frame & cover.



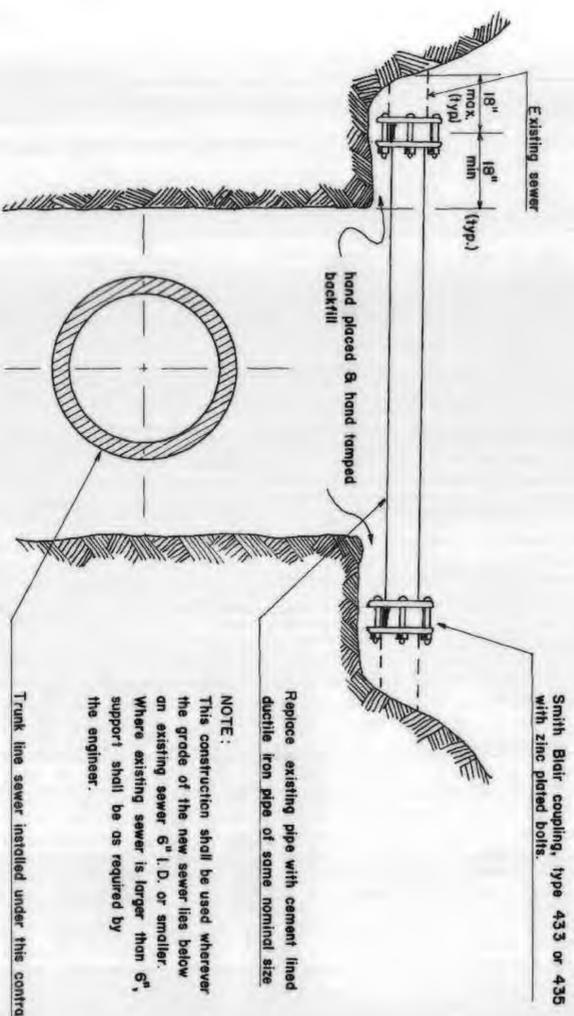
SECTION A-A

AS BUILT
 JUN 20 1968
 JUN 23 1969

CITY OF SANTA ROSA
ROBLES, SANTA ROSA, CORBY, &
HEARN INTERCEPTOR SEWERS

MANHOLE DETAILS-IV

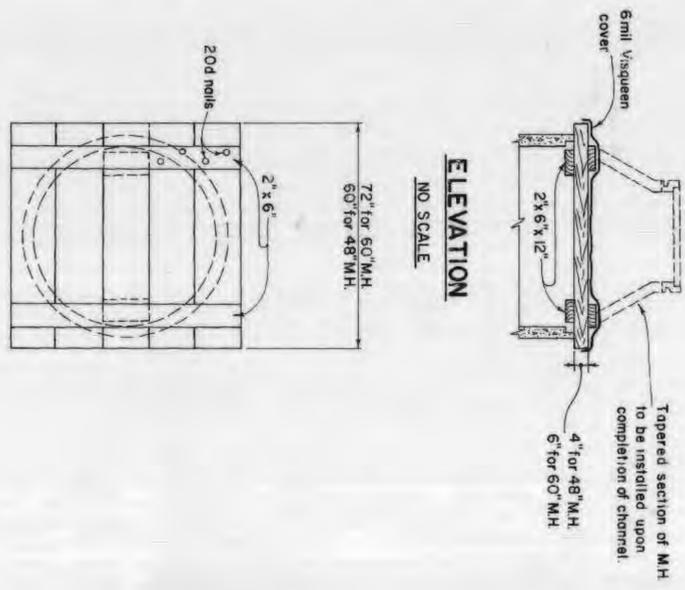
SCALE	$\frac{1}{2}'' = 1'-0''$	SHEET No.	48
DATE	December, 1965	OF	52 SHEETS
DRW. D.G.	ROBERT VAN GUELDEN, CITY ENGINEER	FILE No	65-146
CHK. M.E.S.			



DETAIL "B"
49

SEWER CROSSING RECONSTRUCTION

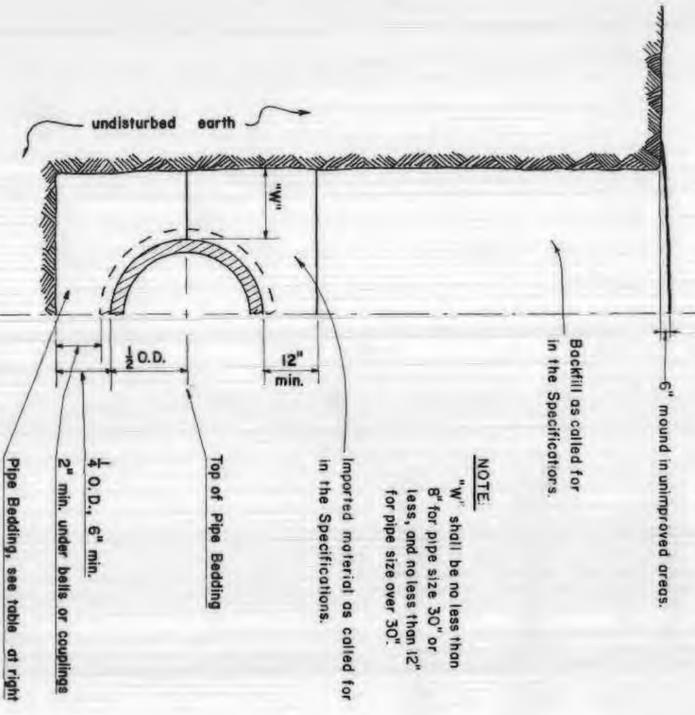
NO SCALE



DETAIL "C"
49

TEMP M.H. COVER

NO SCALE

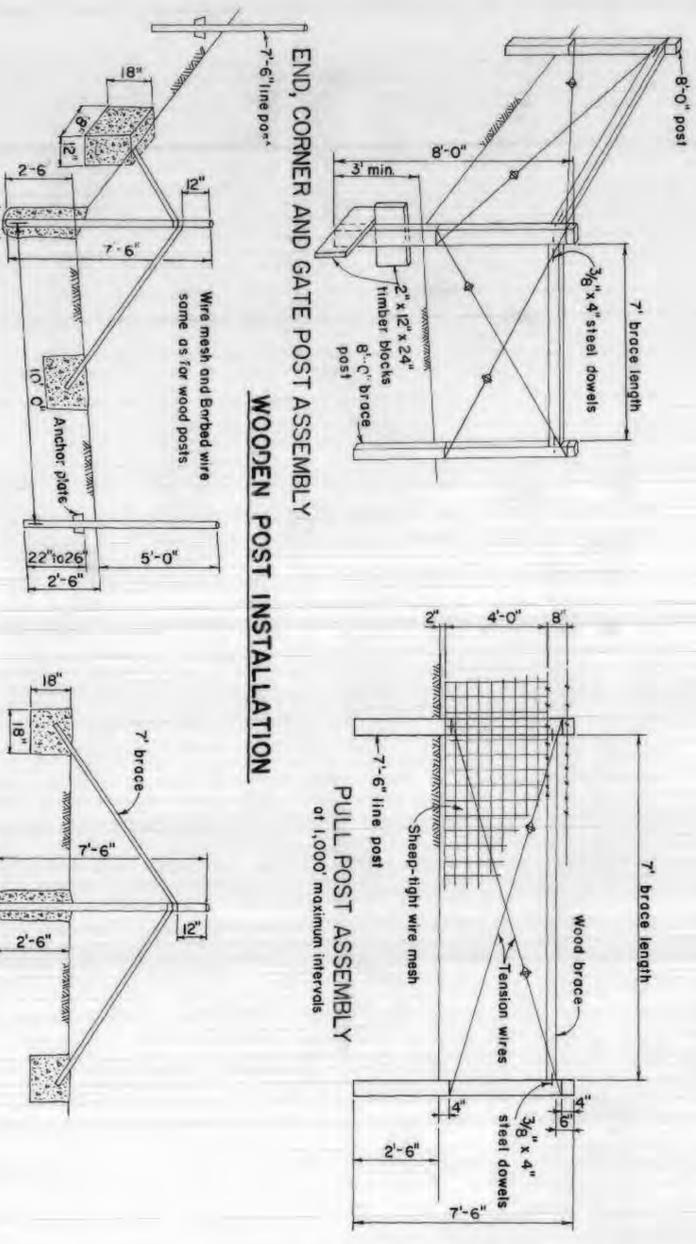


DETAIL "A"
49

BEDDING & BACKFILL

PIPE SIZE	"W"	BEDDING MATERIAL
30" or less	8"(min.) to 12"	No. 3 Rock Concrete
Over 30"	12"(min.) to 18"	No. 3 Rock Concrete

REQUIRED BEDDING



DETAIL "D"
49

METAL POST INSTALLATION

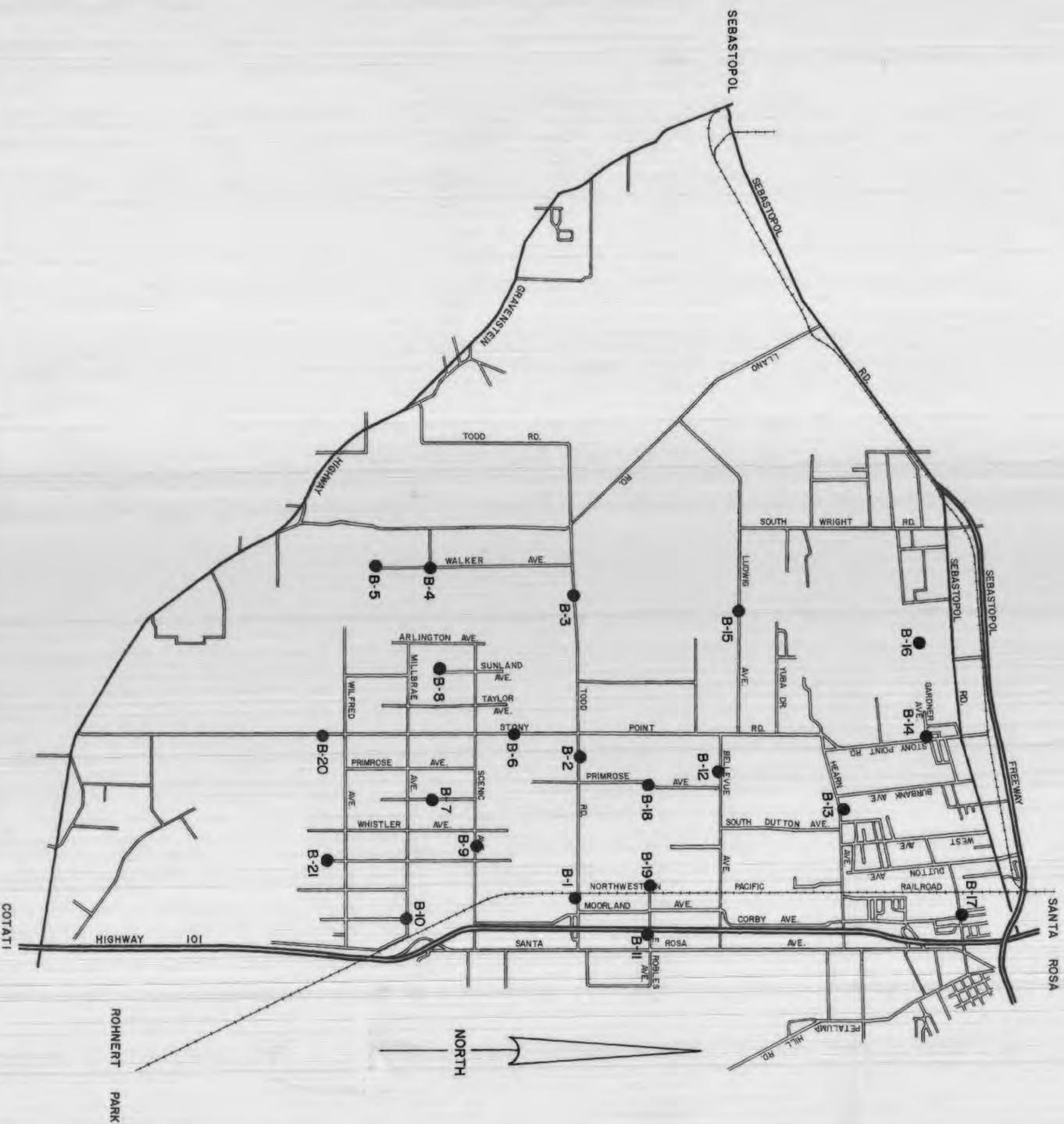
TYPE WM PROPERTY FENCE

AS BUILT
JULY 24 1959

CITY OF SANTA ROSA
ROBLES, SANTA ROSA, CORBY &
HEARN INTERCEPTOR SEWERS
CONSTRUCTION DETAILS

Scale As Shown
DATE December, 1965
DWG. HUN.
CHK. MES.
SHEET No. 49
Of 52 SHEETS
ROBERT VAN GELDEREN, CITY ENGINEER
FILE No. 65-146

SOUTHWEST SANTA ROSA INTERCEPTOR SEWER SYSTEM



LEGEND OF EARTH MATERIALS SIZE CLASSIFICATION

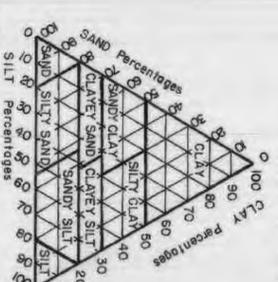


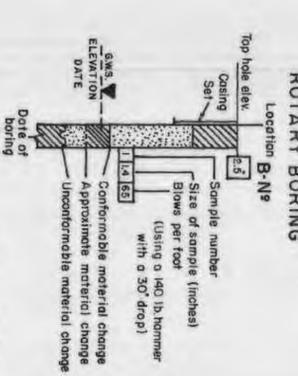
Diagram showing the basis of grain size distribution used in determination of class names. Size classification is based on the M.I.T. grade scale in field and laboratory classification unless stated otherwise.

Classification of earth materials shown on these sheets is based on field inspection and should not be construed to imply mechanical analysis unless so stated.

MATERIAL SYMBOLS		CONSISTENCY CLASSIFICATION	
According to the Standard Penetration Test		According to the Standard Penetration Test	
	Gravel	0-5	Granular
	Sand	6-10	Very loose
	Silt	11-20	Loose
	Clay	21-35	Semiconsolid
	Sandy clay or clayey sand	36-70	Compact
	Silty clay or clayey silt	70+	Dense
	Peat and/or organic matter		Very dense
	Fill material		Very hard

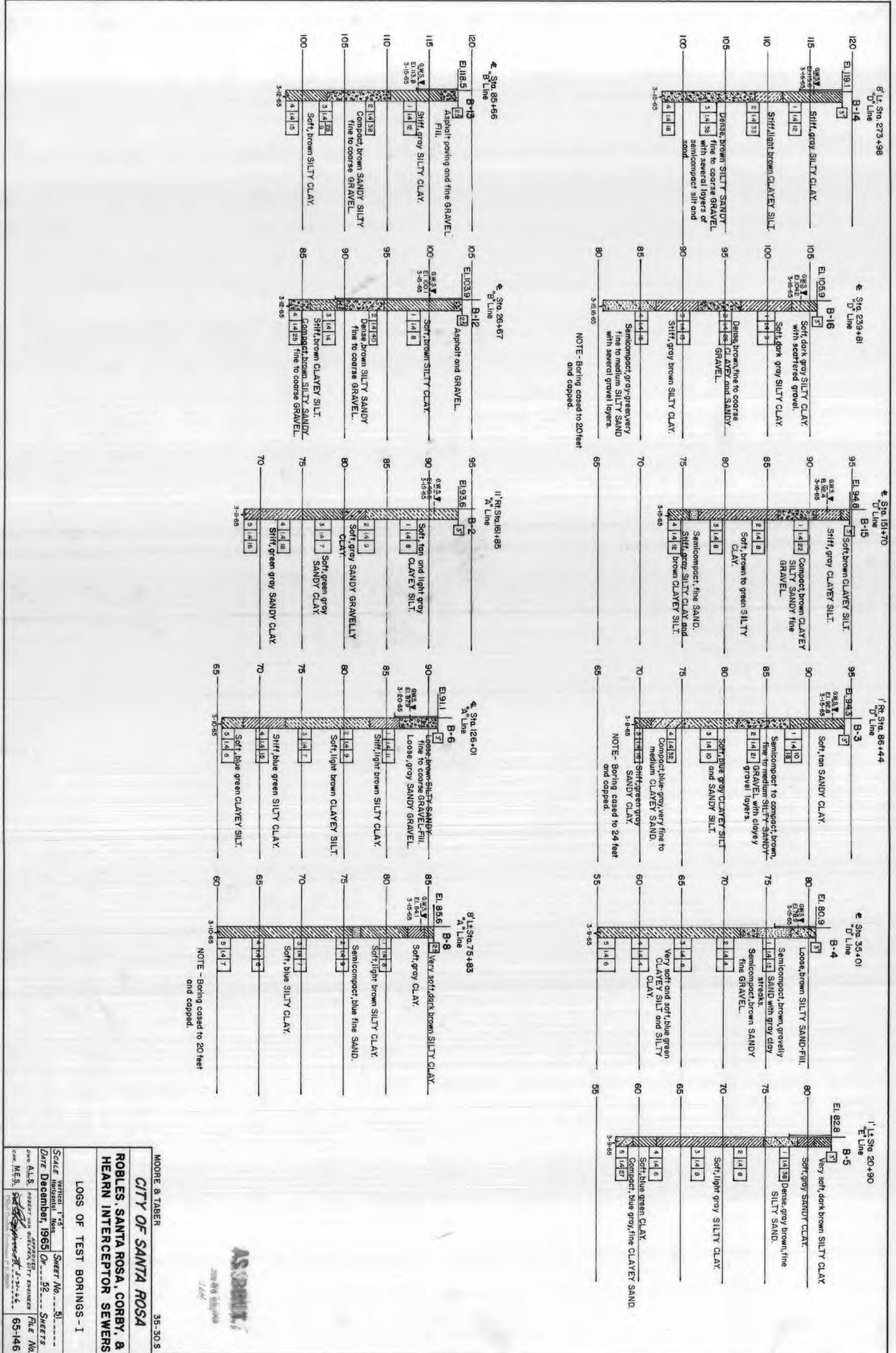
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Auger boring



AS BUILT
JUN 20 1968

MOORE & TABER		35-305
CITY OF SANTA ROSA		
ROBLES, SANTA ROSA, CORBY, & HEARN INTERCEPTOR SEWERS		
LOCATION OF TEST BORINGS		
LEGEND OF BORING OPERATIONS		
Scale As Shown	Sheet No. 50	
Date December, 1965	Of 92 Sheets	
D.W. A.L.S.	APPROVED	File No
ROBERT VAN GULLEN, CITY ENGINEER		65-146
C.H. MESS	Chief Design Engineer, C.E. 5987	



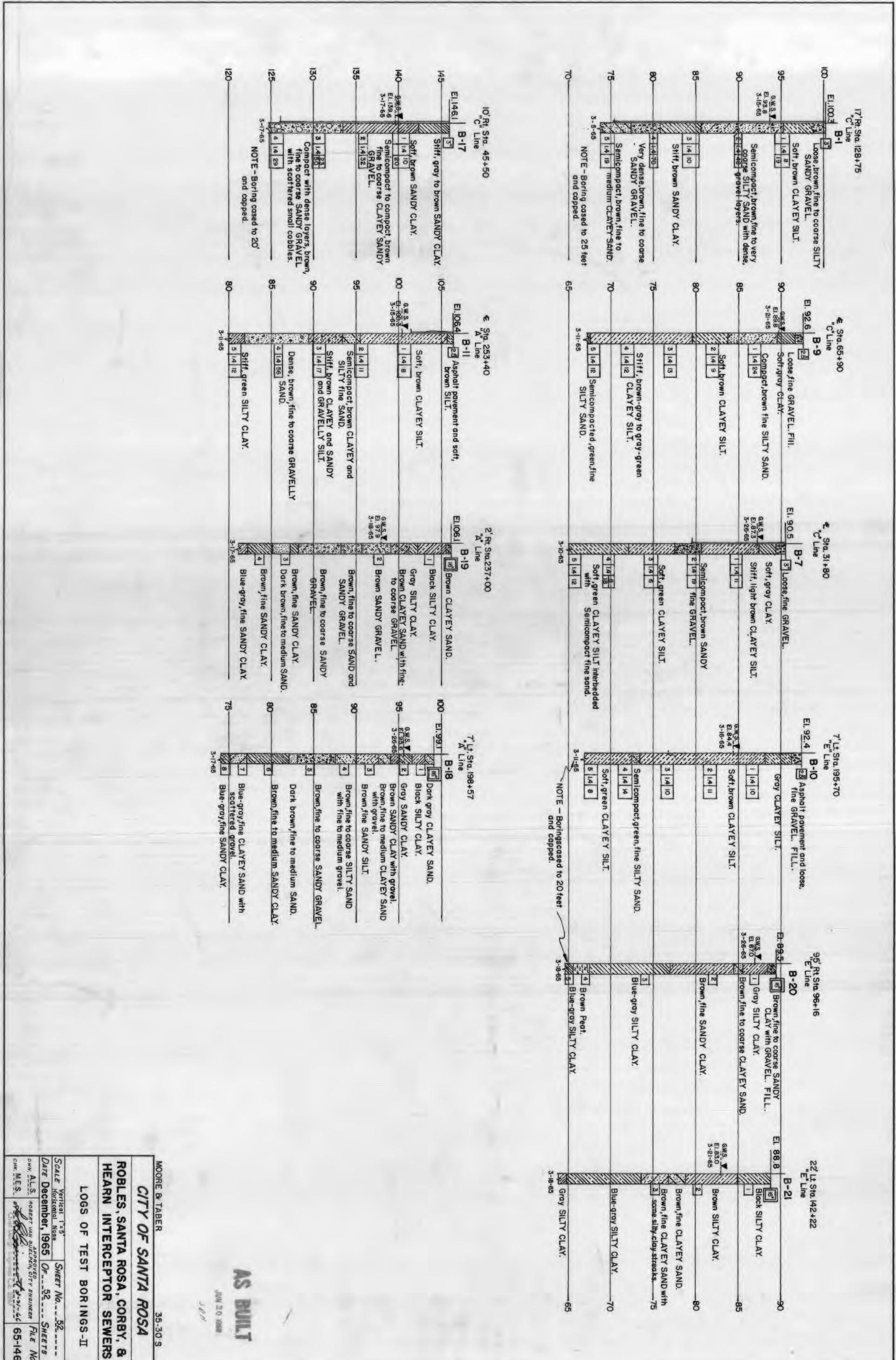
MOORE & TABER 36-30 S

CITY OF SANTA ROSA
ROBLES, SANTA ROSA, CORBY, & HEARN INTERCEPTOR SEWERS

LOGS OF TEST BORINGS - I

SCALE Vertical 1"=5'	Horizontal None	SHEET No. 51
DATE December, 1965	DR. OF 52	SHEETS
OWN. A.L.S. ROBERT W. QUIGLEY, CITY ENGINEER	APPROVED 3-21-66	FILE No. 65-146
CHK. M.E.S.		





AS BUILT

JUN 20 1966

MOORE & TABER 35-303 S
 CITY OF SANTA ROSA
 ROBLES, SANTA ROSA, CORBY, & HEARN INTERCEPTOR SEWERS
 LOGS OF TEST BORINGS-II

SCALE Vertical 1"=5'	SHEET No. 52
Horizontal None	OF 52 SHEETS
DATE December, 1965	FILE No. 65-146
DRW. A.L.S. ROBERT VAN DERKAM, CIVIL ENGINEER	
CHK. M.E.S.	

C – TEMPORARY CONSTRUCTION EASEMENTS

The City has obtained the following Temporary Construction Easements (TCEs). Contractor shall comply with all requirements of the TCE agreements.

1. APN 134-242-010 (Payne)
2. APN 134-242-011 (Frisella)
3. APN 134-243-025 (Stucker)
4. APN 134-243-009 (Rivas)
5. APN 134-243-011 (Woosley)