.Stantec Consulting Services Inc
111 East Victoria Street
Santa Barbara, CA 93101

May 7, 2019
File: 2064181800

Attention: Mr. Kyle Jordan
County of Santa Barbara Planning and Development
Long Range Planning Division
123 East Anapamu Street
Santa Barbara, CA 93101-2058

Dear Mr. Jordan,

Reference: Santa Claus Lane Beach Access and Streetscape Improvement
Sewer Connection Study

Introduction and Purpose

The County of Santa Barbara is planning improvements to Santa Claus Lane. One element of the improvements is a public restroom facility.

The objective of this study is to determine the feasibility of connecting the proposed public restroom to a Carpinteria Sanitary District (CSD) gravity sewer in the vicinity; to determine a reasonable installation for a sand trap/interceptor for an outdoor shower and to develop a conceptual plan for Carpinteria Sanitary District annexation purposes.

This analysis is based on the following:

1. County of Santa Barbara Santa Claus Lane Streetscape Improvement Plans (65% Complete);
2. Carpinteria Sanitary District Lateral Sewer and Building Sewer Construction Specifications dated June 2002;
3. As-Built Santa Claus Lane Sanitary Sewer Plans (CSD-74-2-3A); and
4. As-Built Padro Lane Sewer Project Plans (CSD-80-5-5A).

Existing Sanitary Sewer Facilities

The Carpinteria Sanitary District has two (2) gravity sewer mains in the vicinity of the proposed restroom. There is an 8-inch VCP sewer located northwesterly of the restroom site in Padaro Lane and an 8-inch VCP sewer located southeasterly in Santa Claus Lane. The CSD sewer information is included in Attachment A.

The Padaro Lane sewer is approximately 920 feet northwest of the proposed restroom location. Based on the record drawings for the sewer, the terminal manhole is approximately 5-feet deep. For the following reason we do not believe the Padaro Lane sewer is a viable option to extend to the public restroom:

Reference: **Santa Claus Lane Beach Access and Streetscape Improvement Sewer Connection Study**

1. The sewer would have to be extended under the Union Pacific Railroad (UPRR). UPRR would require a license agreement, related fees and would need to meet UPRR's design requirements.

2. UPRR's design requirements require the pipeline to be in a steel casing pipe and for the top of the casing pipe to be a minimum of 5'-6" below the base of the rail. Since the existing sewer is only 5-feet deep this clearance under the rail does not appear to be feasible. There are also several fiber optic cables in the UPRR right of way that would probably conflict with a proposed gravity sewer. The crossing would have to be bored and jacked under the UPRR right of way and would be a significant cost impact.

The 8-inch VCP sewer in Santa Claus Lane is approximately 640 feet southeast of the proposed restroom location. Based on the record drawings for the sewer, the terminal manhole is approximately 6.4-feet deep. We measured the manhole depth to be 6.38-feet deep.

Extending the sewer from the existing terminal manhole to the proposed restroom site is approximately 640 feet. Using a minimum design slope of 0.0040 ft/ft for an 8-inch sewer, the pipeline would rise approximately 2.56 feet. Two manholes would be required, one at approximately the mid-point and one at the end of the sewer main. Adding a 0.1' drop through the mid-point manhole would increase the rise in the pipeline to 2.66 feet from the existing manhole location. The topography of Santa Claus Lane generally rises from the existing manhole location to the restroom site, so adequate groundcover over the pipeline would be maintained. The design elevation of Santa Claus Lane near the existing sewer manhole is approximately 15.14. The design elevation of Santa Claus Lane near the proposed restroom location is approximately 17.09.

Proposed Restroom Sewer Connection

The County's improvement plans include a proposed restroom and outdoor shower for beach visitors to rinse off. Please be advised that the District has advised that they do not allow exterior showers, such as proposed, to be connected to the public sewer system. The primary reason is to avoid sand and silt entering the sewer system.

Since the proposed restroom is a non-residential application a 6-inch lateral may be required in accordance with Paragraph 5.02 of CSD's Construction Specifications. The lateral connection would be per CSD's Plate 106 – Sewer Service Lateral. Considering the relatively modest sewage generation, the District may consider a 4-inch lateral connection. A public shower connection, if approved, would require a sand interceptor.

Sand interceptors are commercially available in a variety of sizes and configurations. Cut sheets for a sampling of the typical sand interceptors is included in Attachment B. Typically, the smaller the device the more frequent maintenance is required. For this application, a larger concrete vault type of sand trap is recommended, as illustrated on the Jensen Precast cut sheet in the Attachment B. Note that during final design of any vault type of structure, the buoyancy of the structure should be evaluated for the potential of flotation.

A conceptual plan of a sewer line extension from the existing terminal manhole to the restroom site is included in Attachment C.

Reference: **Santa Claus Lane Beach Access and Streetscape Improvement Sewer Connection Study**

Sewer Facility Specifications

All sewer facility construction will need to conform to CSD's Construction Specifications. We have included the District's Construction Specifications as Attachment D for your information and use. In accordance with the County's request we are providing the following specifications for the construction of the sewer facilities:

Sewer Pipe:

PVC pipe with nominal pipe sizes between 4 inches and 15 inches shall conform to the requirements of ASTM D3034 "Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings. Pipe sizes 4" to 15" shall have a dimension ratio of SDR 35 and stiffness of 46 psi at 5% deflection. The bell shall consist of integral wall section with a locked-in solid cross section elastomeric gasket which meets the requirements of ASTM F477. The joint shall be water-tight and meet the requirements of ASTM D3212.

Other options are specified in CSD's Section 10.00 Pipe Materials.

Precast Concrete Sewer Manholes:

Precast concrete manhole units shall conform to ASTM C478. Concrete shall have a minimum compressive strength of 4000 psi at 28 days. Pipe to manhole connections shall be installed with a positive watertight seal. Attention is directed to CSD Plate 101 – Standard Manhole. The manhole interior must be coated with a 100% solids epoxy or polyurethane protective coating approved by the District.

Conclusion

Based on the information presented, it is feasible to extend the Carpinteria Sanitary District 8-inch diameter gravity sewer in Santa Claus Lane to the proposed restroom facility. We trust the information provided herein is what is required. If you have questions or require additional information, please contact the undersigned.

Regards,

Stantec Consulting Services Inc.

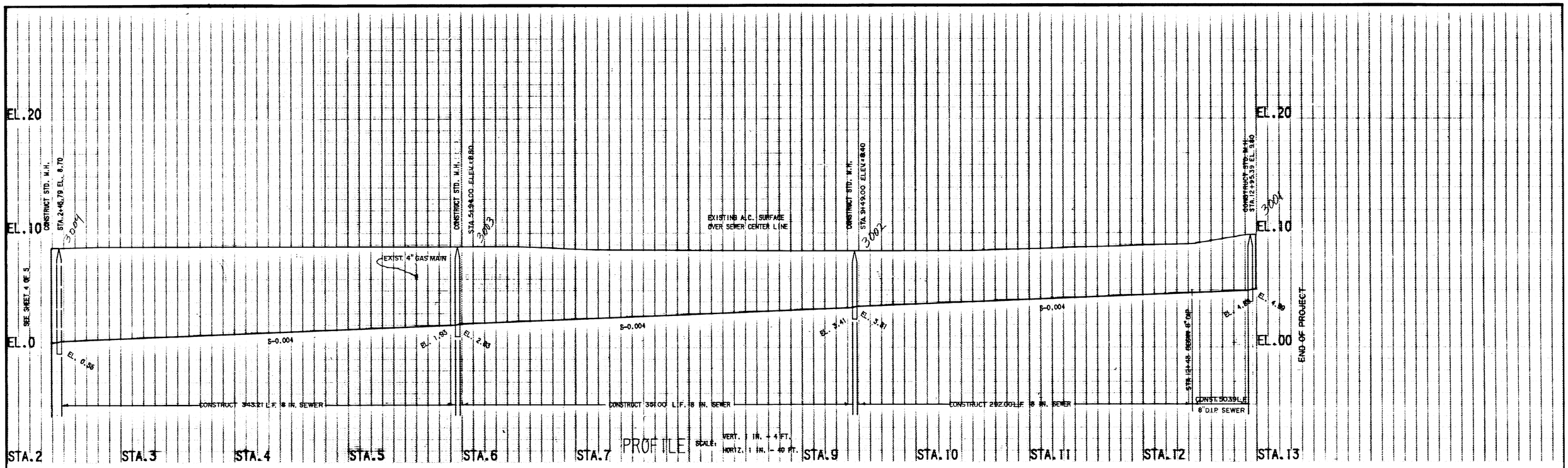
David Rundle RCE 48,540
Principal Engineer
Phone: 805 308 9164
Fax: 805 966 9801
david.rundle@stantec.com

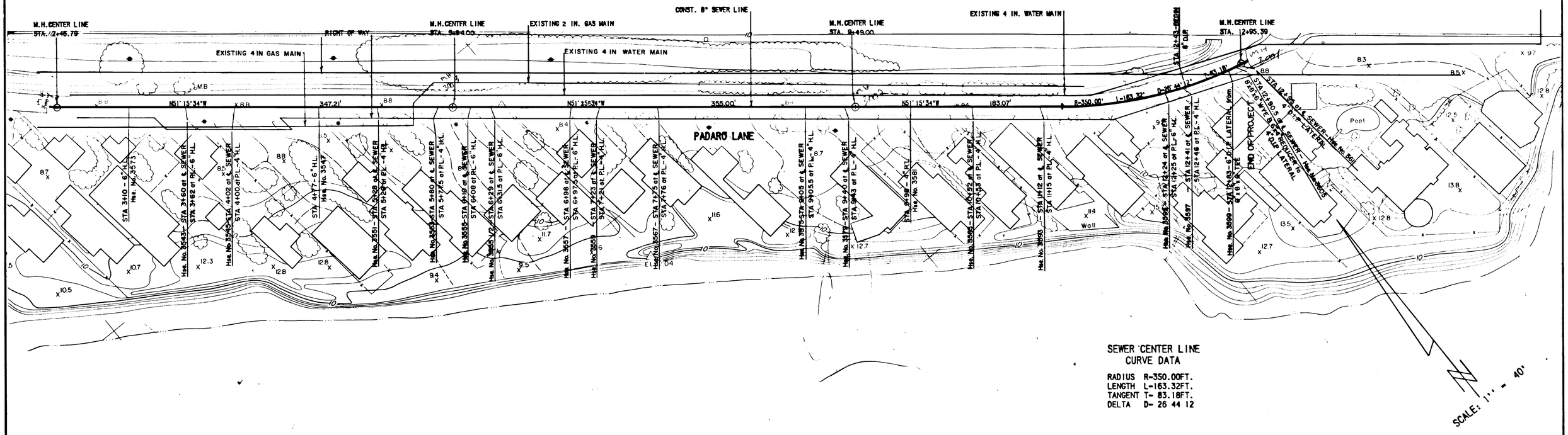
Attachment: Attachments A-D

V:\2064\active\2064181800\engineering\sewer\20190501_sewer_feasibility.docx

ATTACHMENT A

Scale: 1:2,400





SEWER CENTER LINE
CURVE DATA

RADIUS R=350.00FT.
LENGTH L=163.32FT.
TANGENT T= 83.18FT.
DELTA D= 26 44 12

SCALE: 1" = 40'

PLAN

AS-BUILT CONTROL POINTS

STA	2+46.79	3982.000	7684.000	M.H.
STA	5+94.00	3764.718	7954.820	M.H.
STA	9+49.00	3542.542	8231.738	M.H.
STA	11+32.07	3428.001	8374.501	B.C.
STA	12+95.39	3358.650	8520.737	M.H. & E.C.

CONTROL POINT

STA.	2+46.79	3982.000	7684.000	M.H.
STA.	5+96.79	3762.972	7956.996	M.H.
STA.	9+46.76	3543.944	8229.991	M.H.
STA.	11+32.07	3428.001	8374.501	B.C.
STA:	12+95.39	3358.650	8520.737	M.H. & E.C.

AS-BUILT

APRIL 1980

REVISIONS:	
AS-BUILT	4-7-80

APPROVED BY:
REGISTERED CIVIL ENGINEER NO. 17053
DATE: 3/19/79

U.S.C. & G.S. BRASS CAP MON A-29 1920
BENCH MARK ELEVATION = 13.123

GHORMLEY ENGINEERING
363 MOBIL AVE.,
CAMARILLO, CALIFORNIA 93010

SCALE: 1 IN. = 40 FT.
DATE:

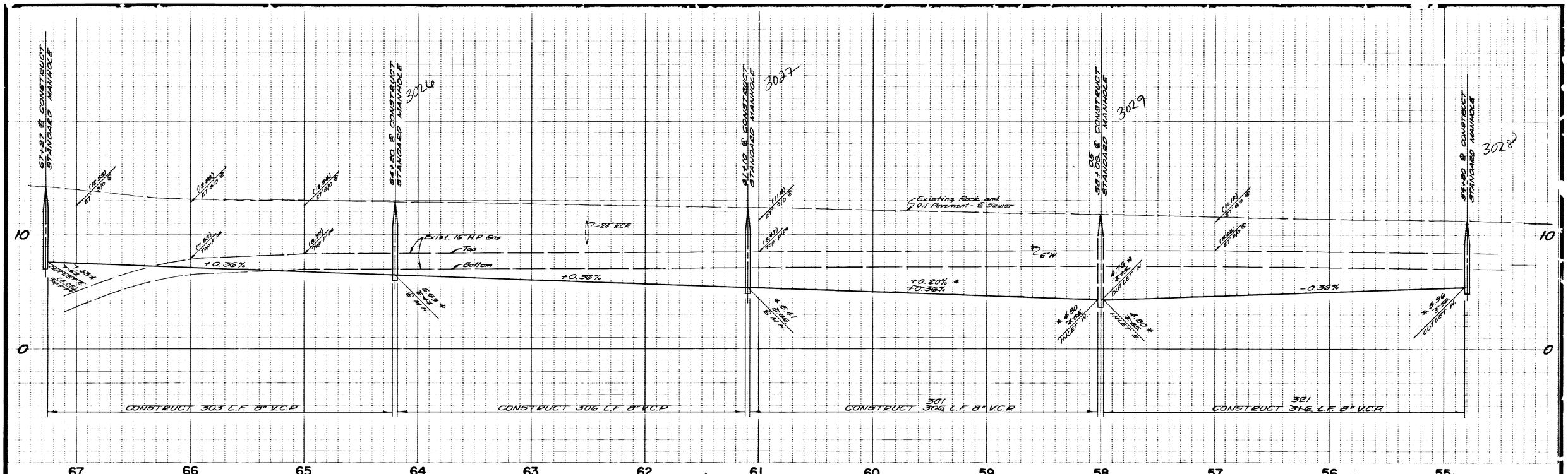
CARPINTERIA SANITARY DISTRICT
PADARO LANE
SEWER PROJECT

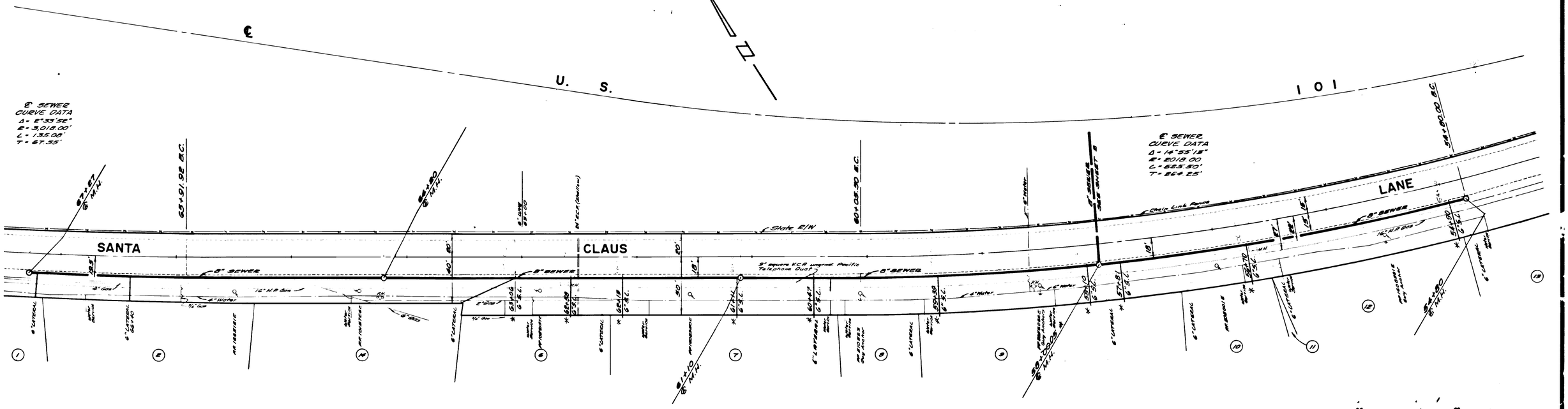
SHT. 5 OF 5 SHEETS
FILE NO.

W.O. 627-19 | FOR: | F. B.

CSD-80-5-5A

ATTACHMENT A





REVISIONS: *"AS BUILT" 6-10-77	APPROVED BY: DATE: 10-7-74 REGISTERED CIVIL ENGINEER NO. 13814	BENNER and GHORMLEY CIVIL ENGINEERS SANTA PAULA, CALIFORNIA INDIO, CALIFORNIA	CARPINTERIA SANITARY DISTRICT CASH CONTRACT NO. 210 SANITARY SEWER Santa Claus Lane and across U.S. 101 to North Via Real
	APPROVED BY: DATE:	SCALE: HORZ. 1"=40' VERT. 1"=4' DATE SEPT. 1974	W.O. 74-114 FOR: F.B.

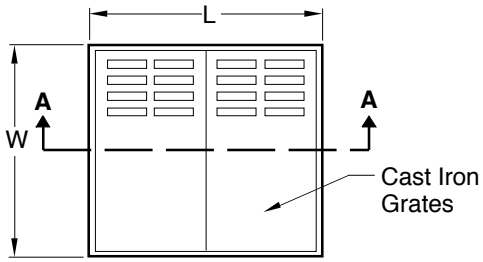
3 OF 3 SHEETS FILE NO.-

CSD-74-2-3A

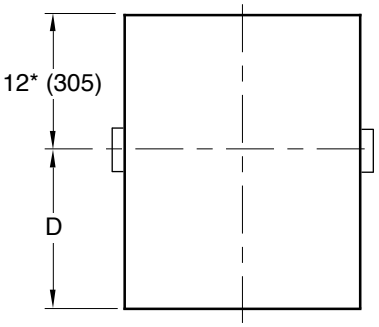
SMITH® JAY R. SMITH MFG. CO.®
MEMBER OF MORRIS GROUP INTERNATIONAL
POST OFFICE BOX 3237
MONTGOMERY, ALABAMA 36109-0237 (USA)
TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com
CUSTOMER DRIVEN SINCE 1926
MEMBER OF:

LOCATION

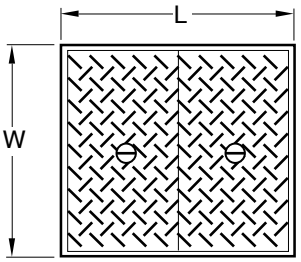
SAND INTERCEPTOR



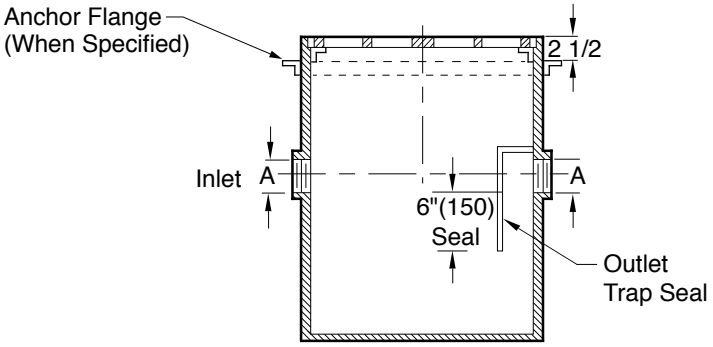
TOP VIEW



FRONT VIEW



TOP VIEW
- SHD OPTION
(Note: Tread Pattern May Vary)



SECTION "A-A"

Fig. No.	Flow G.P.M. (Max)	A (Pipe Size)	L	W	D	Capacity (Static) Gals	No. of 12 x 24 Grates
8811-20	20	04 (100)	24 5/8 (631)	24 5/8 (631)	26 (660)	60	2
8811-50	50	04 (100)	48 5/8 (1235)	24 5/8 (631)	26 (660)	120	4
8811-150	150	04 (100)	48 5/8 (1235)	49 (1245)	38 (965)	360	8
8811-250	250	06 (150)	72 5/8 (1844)	49 (1245)	39 (990)	540	12
8811-350	350	06 (150)	96 5/8 (2454)	49 (1245)	45 (1143)	855	16
8811-500	500	06 (150)	120 5/8 (3063)	49 (1245)	51 (1295)	1200	20

REGULARLY FURNISHED:
Fabricated Steel Catch Basin, Gray Duco Coated Inside and Outside, Threaded Inlet and Outlet (with Outlet Trap Seal) and Cast Iron Grates.

*12"(305) Regularly furnished - Specify dimension if lower is required. For higher dimension, specify extension (-E) as required.

VARIATIONS:
- ☐ *Extension -E (Specify Height eg: -E24 for 24"(610) Ext. (Ext. Height shall be measured from top of body)
- ☐ NO-HUB Adaptor (2) Req'd (Specify Fig. 2646Y)
- ☐ Solid Heavy Duty Diamond Plate Cover -SHD
- ☐ Vandal Proof Screws -U
- ☐ Secured Grate
- ☐ Anchor Flange -F

OPTIONAL MATERIALS:
- ☐ Ductile Iron Grates -M (8811 Series)
- ☐ ••Ductile Iron Slotted Grate (Load Class H20)

NOTE: It is the responsibility of the installer to check all parts (internal and external) to verify they are in their proper operating order and location.

•• **NOTE:** When specifying H20 Ductile Iron Slotted Grates, additional supports are furnished under each grate.

NOTE: Dimensions shown in parentheses are in millimeters.

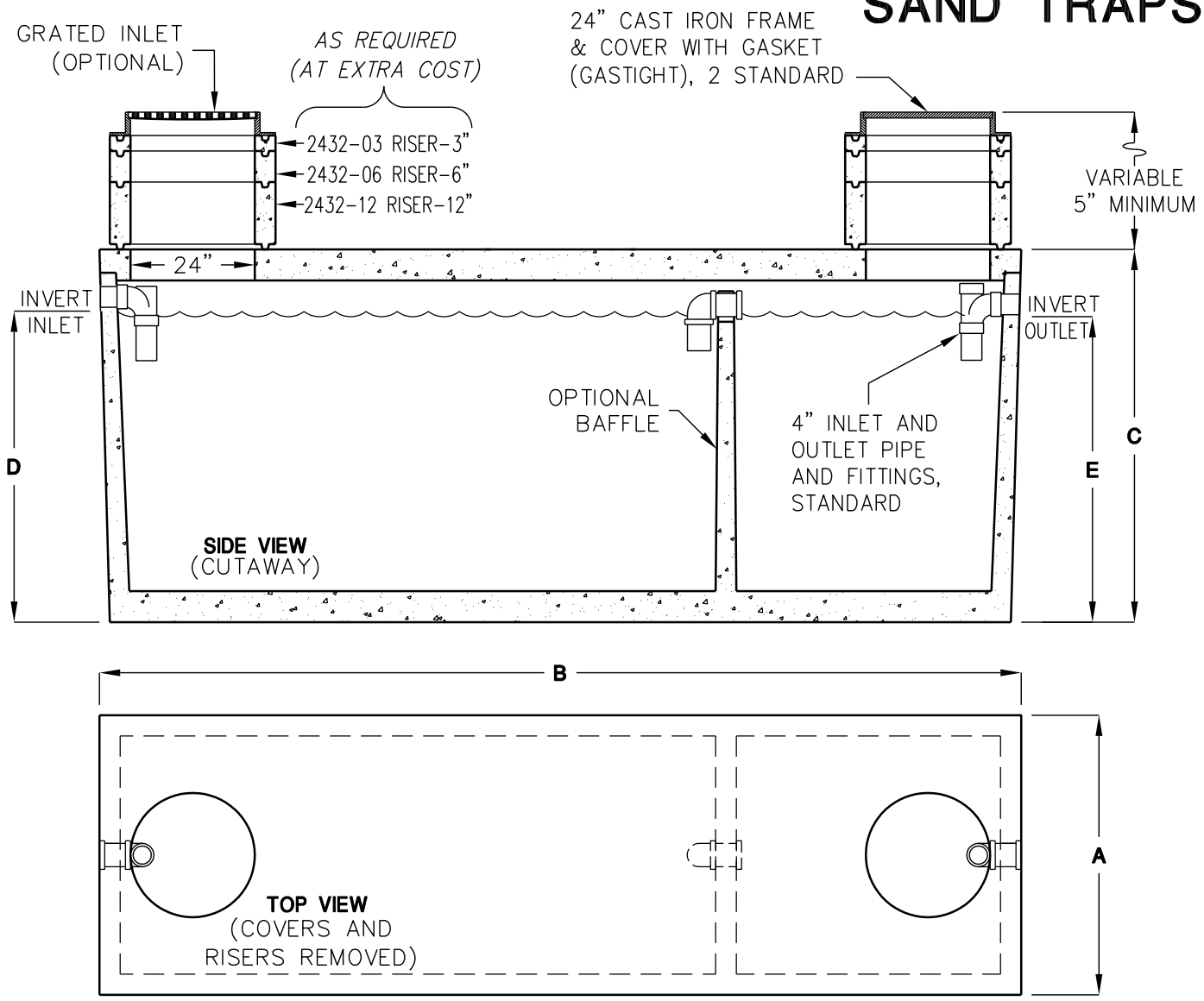
REV.	DATE	DESCRIPTION	BY	CKD. BY
P	5-18-16	Rev. Reg. Furn., Callout	TBW	CL
N	2-12-16	Revised Table	TBW	TWK
M	12-8-14	Rev. Table, Var., Drawing	TBW	TWK
L	3-21-14	Revised Table	TBW	AM

WEIGHT POUNDS | VOLUME CUBIC FEET | FIGURE NUMBER **8811**

FIGURE NUMBER: 8811
DRAWN BY: WAS
CHECKED BY: BS
APPROVED BY: CR
DATE: 7-9-87
SCALE: NONE
SIZE: A
DRAWING NUMBER: S8811
P

ATTACHMENT B

SAND TRAPS



MODEL NUMBER	LIQUID CAPACITY GALLONS	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D	DIMENSION E	MINIMUM EXCAVATION WIDTH	MINIMUM EXCAVATION LENGTH
JP-750EE-TP	750	4'-0"	8'-1"	6'-0"	5'-0"	4'-9"	5'-0"	9'-1"
JP-1000EE-TP	1000	5'-1"	8'-2"	6'-0"	5'-0"	4'-9"	6'-1"	9'-2"
JP-1200EE-TP	1200	5'-9"	8'-6"	6'-0"	5'-0"	4'-9"	6'-9"	9'-6"
JP-1500EE-TP	1500	5'-7"	10'-8"	6'-0"	5'-0"	4'-9"	6'-7"	11'-8"
JP-2000EE-TP	2000	4'-11"	15'-11"	6'-0"	5'-0"	4'-9"	5'-11"	16'-11"
JZ-2500EE-TP	2500	5'-9"	16'-10"	6'-0"	5'-0"	4'-9"	6'-9"	17'-10"
JZ-3000EE-TP	3000	5'-9"	16'-10"	6'-9"	5'-9"	5'-6"	6'-9"	17'-10"
JZ-4000EE-TP	4000	7'-8"	16'-7"	6'-9"	5'-6"	5'-3"	8'-8"	17'-7"
JZ-5000EE-TP	5000	7'-8"	16'-7"	7'-11"	6'-9"	6'-6"	8'-8"	17'-7"

BOX DESIGN LOAD: H-20 TRAFFIC

FOR COMPLETE DESIGN
AND PRODUCT INFORMATION
CONTACT JENSEN PRECAST.

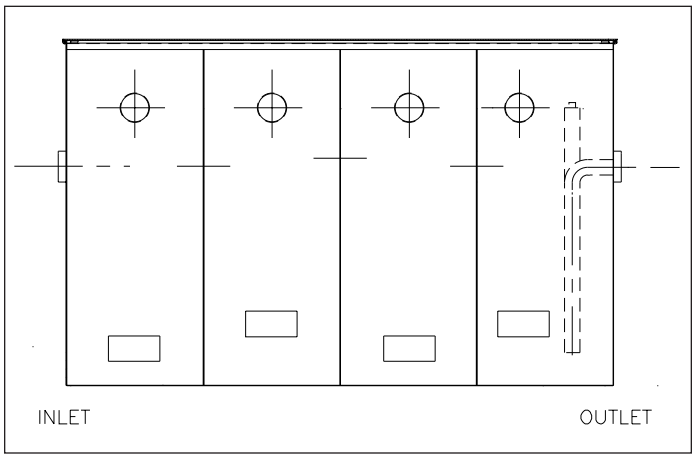
9/23/02
SANDTRAPS.dwg

JENSEN PRECAST®

Z1187 SAND and SEDIMENT INTERCEPTOR Operation and Maintenance Instructions

SIZING

The sizing of this interceptor is generally based upon the expected amount of solids and waste to be retained. Secondly, sizing will determine the frequency for which cleaning shall be required. Larger units will handle greater volumes of solids between cleaning, and therefore larger flow rates. All units are made with a standard 4" [102 mm] pipe size inlet and outlet and are capable of handling drainage volumes standard to 4" [102 mm] pipe.



DESIGN

The Zurn Z1187 Sand and Sediment Interceptor is designed to separate and retain sand, gravel, and similar materials, in addition to any oil, grease, gas, or diesel fuel-laden waste material. This is accomplished through the principle of gravity and flotation separation. The separator's eight chambers, with varying passage elevations, trap virtually all materials which separate from water under gravity conditions. Larger and heavier materials are retained in the first compartment, while smaller and lighter materials are trapped in other compartments. Oil, grease, and similar materials will be retained at the surface of some or all eight compartments. Any gaseous fumes will be collected between the top of the water and the bottom of the cover and vented through the four individual 2" [51 mm] threaded vent connections.

OPERATION

The wastewater flows from the inlet piping into and through the separator, and is regulated upward and downward through openings in the stationary baffles that divide the separator into eight compartments, assisting in the separation and collection of solids and oil particles, then exits the interceptor to the sanitary drain system.

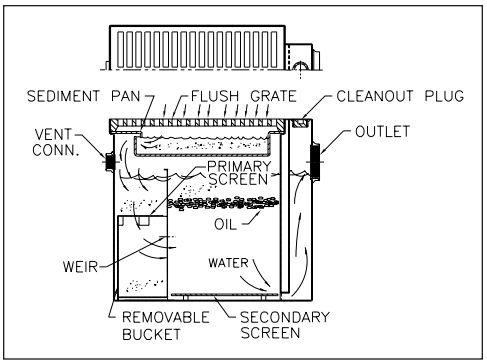
MAINTENANCE

Cleaning should be done on a regular basis, either before or after baffle openings are clogged. Remove the covers and skim off any oil or grease accumulation, then, using a mechanical pumping system, pump out all eight compartments of water and accumulated solids. Make sure that all vents are free of debris to allow gases and odors to exit from the unit. Make certain cover gasket is intact and clean. Apply a light coating of oil on the cover gasket, which helps prevent the cover gasket from adhering to cover and aids in maintaining a complete seal. The covers should then be placed back on the unit and secured. Efficiency of operation is directly related to the level of maintenance.

Z1189 OIL and SEDIMENT INTERCEPTOR Operation and Maintenance Instructions

SIZING

The sizing of this interceptor is generally based upon the expected amount of sediment and solid waste to be retained. Secondly, sizing will determine the frequency for which cleaning shall be required. Larger units will handle greater volumes of waste between cleanings. All units are made with a standard pipe size outlet and are capable of handling drainage volumes standard to their respective pipe size.



DESIGN

The Zurn Z1189 Oil and Sediment Interceptor for garage and industrial floor drainage applications is designed to retain mud, sand, sediment, greasy sludge, or any other solids entering a floor drain, in addition to any oil/grease laden waste material. This is accomplished through the principle of gravity and flotation separation. The sediment pan retains greasy sludge and solids. The removable bucket/weir will also retain solids and act to stop water turbulence so oil and grease can separate from the water, and be retained in the main separation chamber.

OPERATION

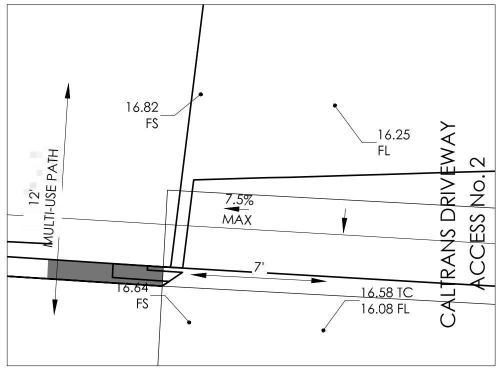
The wastewater flows through the grate into the sediment pan, then down into the removable bucket, exiting through the weir at back of the bucket into the main separating chamber, down through the secondary screen, into the cleanout chamber, then exits the interceptor to the sanitary drain system.

MAINTENANCE

Cleaning should be done on a regular basis, either before or after sediment pan passageway becomes blocked. Remove the grate, sediment pan and bucket, and clean out all debris. Skim oil/grease from top of water or pump contents out. After cleaning, all materials should be disposed of properly. Efficiency of operation is directly related to the level of maintenance. Cleaning should be done regularly to avoid oil/sludge from passing through the unit.

65% PLANS

ATTACHMENT C



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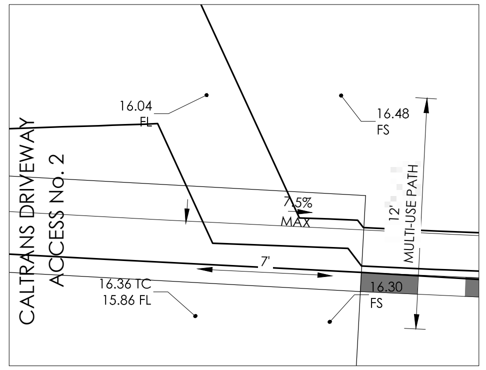

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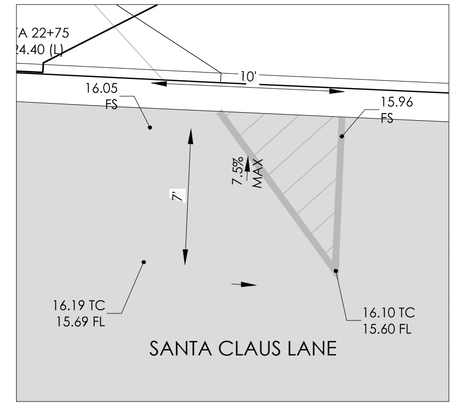

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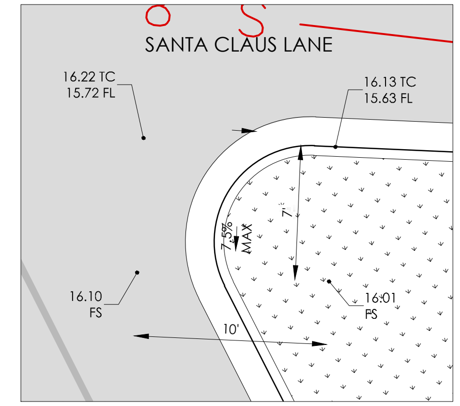


CURB RAMP "L"

SCALE: 1" = 5'

SEWER FEASIBILITY STUDY CONCEPT PLAN

Stantec

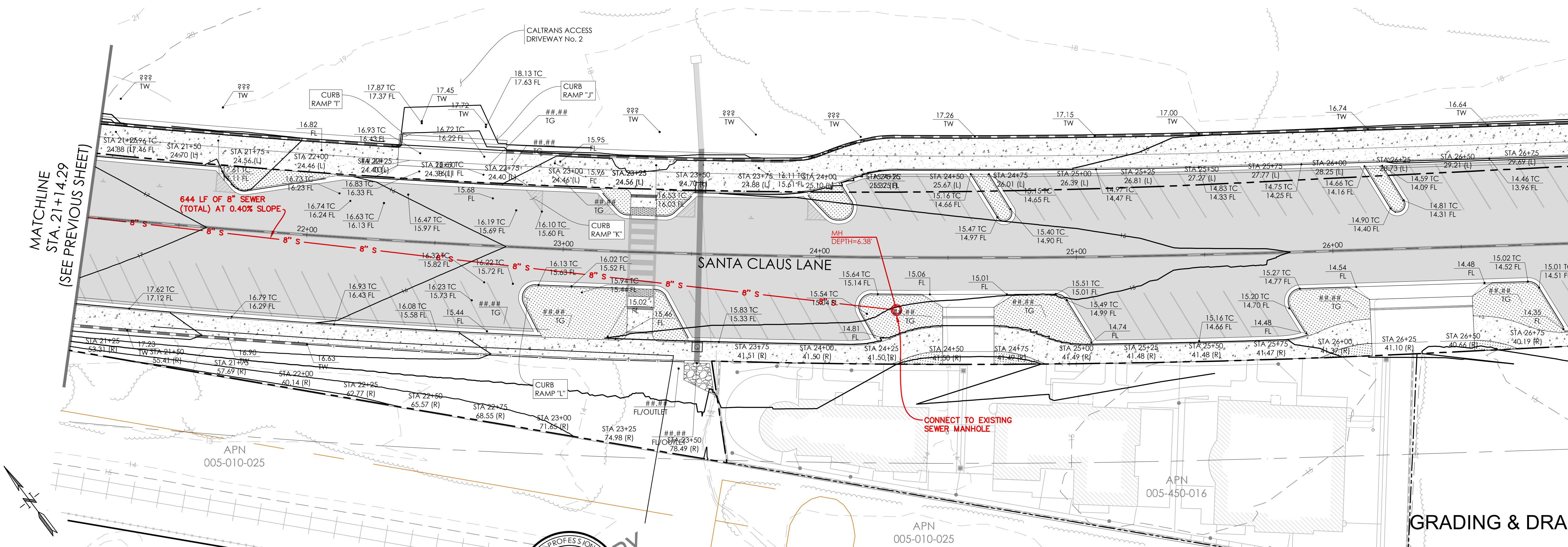
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

STANTEC CONSULTING SERVICES, INC.

05/07/2019

ABBREVIATIONS AND SYMBOLS

- CO SEWER CLEANOUT
- MH SEWER MANHOLE
- S SEWER
- SI SAND INTERCEPTOR
- MH ○ 4' DIAMETER SEWER MANHOLE
- CO ○ SEWER CLEANOUT



GRADING & DRAINAGE

D-3

CONSTRUCTION STARTED:		PROJECT ENGINEER:	
CONSTRUCTION COMPLETED:			
RECORD DRAWING APPROVED BY:			DATE

REGISTERED PROFESSIONAL ENGINEER — Leroy Cadena — No. C55372 — Exp. 12/31/16 — CIVIL — STATE OF CALIFORNIA

PRELIMINARY

COUNTY OF SANTA BARBARA
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

DESIGN BY:	CHECKED BY:	SCALE:	PROJECT NO.
Leroy Cadena	Leroy Cadena	1" = 20'	720783
DRAWN BY: J.Devera/J.Hernandez	CONTRACTIBILITY REVIEW BY: Chris Doolittle		

SANTA CLAUS LANE STREETSCAPE IMPROVEMENTS PROJECT

SHEET NO. 39 OF 55

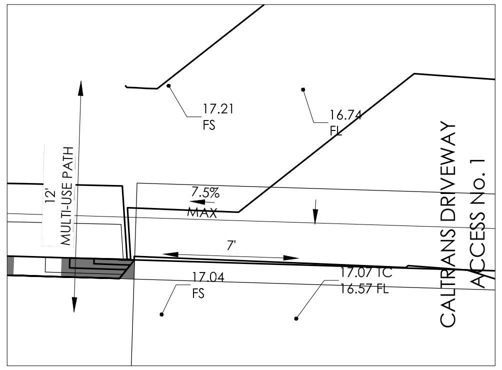
FILE NO. *

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES — 20 0 10 20 40 — 1 INCH = 20 FEET

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

65% PLANS



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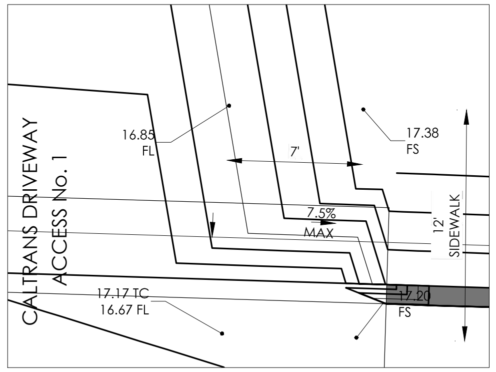

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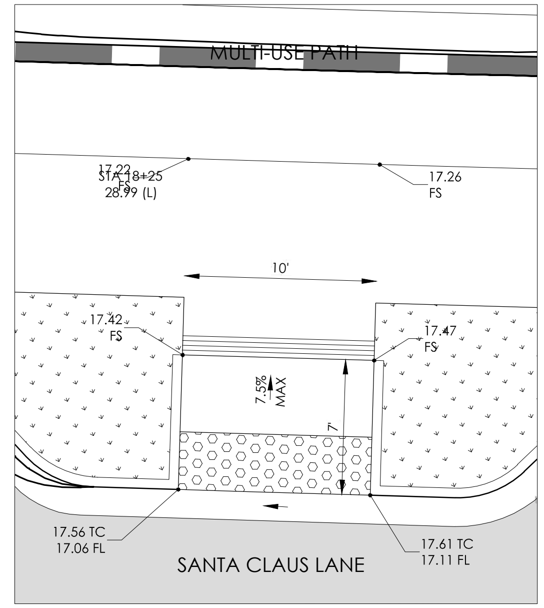

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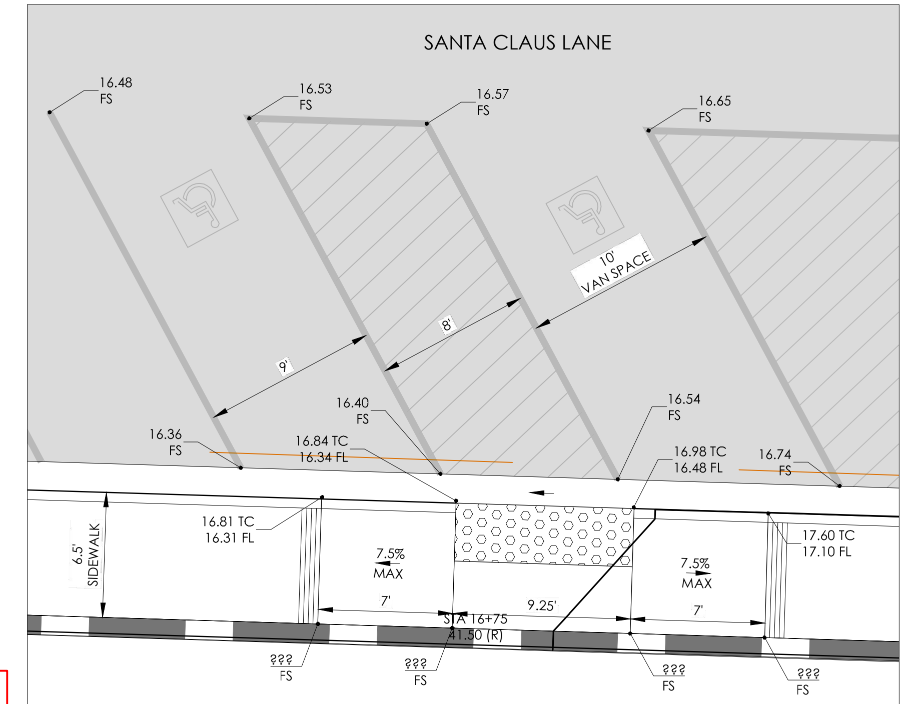

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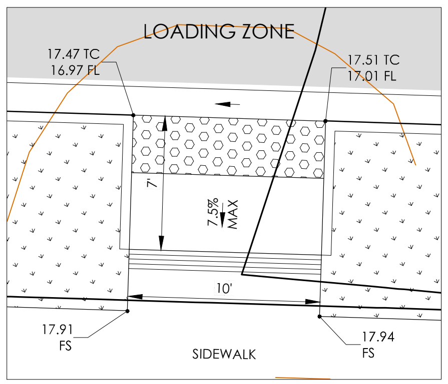

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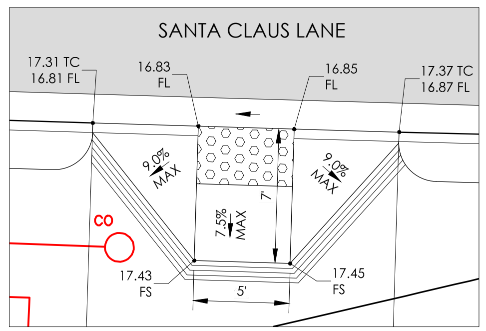


CURB RAMP "H"
SCALE: 1" = 5'

SEWER FEASIBILITY STUDY
CONCEPT PLAN

Stantec

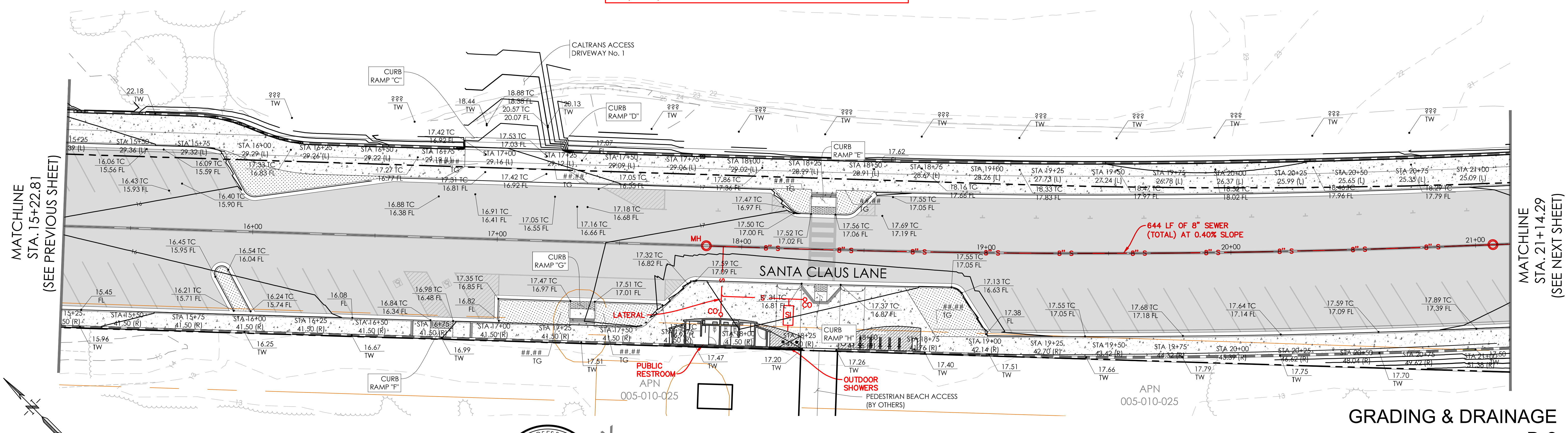
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

STANTEC CONSULTING SERVICES, INC.
05/07/2019

ABBREVIATIONS AND SYMBOLS

CO SEWER CLEANOUT
MH SEWER MANHOLE
S SEWER
SI SAND INTERCEPTOR
MH 4' DIAMETER SEWER MANHOLE
CO SEWER CLEANOUT

ATTACHMENT C



GRADING & DRAINAGE
D-2

CONSTRUCTION STARTED:		PROJECT ENGINEER:	COUNTY OF SANTA BARBARA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION	DESIGN BY: Leroy Cadena	CHECKED BY: Leroy Cadena	SCALE: 1" = 20'	PROJECT NO. 720783	SANTA CLAUS LANE STREETSCAPE IMPROVEMENTS PROJECT	SHEET NO. 38 OF 55
CONSTRUCTION COMPLETED:				DRAWN BY: J.Devera/J.Hernandez	CONTRACTIBILITY REVIEW BY: Chris Doolittle				FILE NO. *
RECORD DRAWING APPROVED BY:		DATE							

REGISTERED PROFESSIONAL ENGINEER Leroy Cadena No. C55372 Exp. 12/31/16 CIVIL STATE OF CALIFORNIA

PRELIMINARY

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

20 0 10 20 40 1 INCH = 20 FEET

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

APPENDIX D

CARPINTERIA SANITARY DISTRICT
5300 Sixth Street
Carpinteria, CA 93013
Phone: (805) 684-7214
FAX: (805) 684-7213

LATERAL SEWER AND BUILDING SEWER

CONSTRUCTION SPECIFICATIONS

RESIDENTIAL AND NON-RESIDENTIAL

June 2002

ADMINISTRATIVE CHANGE TO
LATERAL AND BUILDING SEWER CONSTRUCTION SPECIFICATIONS

Current Standard

9.05 Property Line Cleanout
The cleanout designated as the property line cleanout (junction of the sewer lateral and the building sewer) shall be constructed of the same material as the sewer lateral. This structure is an integral part of the public sewer system.

Temporary Revised Standard

9.05a Property Line Cleanout
The cleanout designated as the property line cleanout (junction of the sewer lateral and the building sewer) shall be constructed in the same size as the sewer lateral and with District approved pipe materials listed in Section 10.00 PIPE MATERIALS with the exception of Schedule 40 ABS. Schedule 40 ABS is not approved for District facilities. This structure is an integral part of the public sewer system.

Ordered and approved by:

Craig M. Murray, P.E.
General Manager

February 22, 2006
Date

LATERAL AND BUILDING SEWER CONSTRUCTION SPECIFICATIONS

1.00 GENERAL REQUIREMENTS

The following are requirements of lateral and building sewer construction within the jurisdiction of the Carpinteria Sanitary District (District). The District has jurisdiction of sewage conveyance facilities from the point of connection of a structure (building clean out at 18" from the structure) to the point of connection to the sewer main. The City of Carpinteria Building Department does not have jurisdiction over the District relative to sewer clean out, building and lateral sewer construction requirements, inspection and approvals.

The District's requirements supersede all other requirements, unless approval is obtained in writing from the District's General Manager. Lateral and building sewer construction shall be performed as per the requirements of the Carpinteria Sanitary District Ordinance No. 2 (as amended), the latest edition of the Uniform Plumbing Code (UPC), the latest edition of the Standard Specifications for Public Works Construction (SSPWC) "Green Book", and all applicable safety requirements. Copies of District Ordinances and other referenced materials are available at the District administrative office upon request.

Property owners shall be required to finance, install and maintain, at their expense, the required building sewer, cleanouts, backwater structures necessary to connect to the District's sewer collection facilities (lateral and sewer main) in order to serve their property.

2.00 PLANS AND PERMITS

Prior to issuance of a District connection sewer permit, applicant shall submit for the District's review and files, a complete set of site and floor plans with the City of Carpinteria or the County of Santa Barbara, approval stamp clearly shown. Plumbing plans shall be included when applicable. In addition, prior to uncovering, connecting to, opening into, using, altering or disturbing any public sewer or appurtenance, a District Sewer Connection Permit shall be obtained for all sewer system work performed within the District boundaries and jurisdiction of the Carpinteria Sanitary District.

2.01 Site Plan.
The site plans must show the proposed 4" and/or 6" connection, building floor elevations, and rim elevation of the nearest upstream manhole from the proposed connection.

2.02 Sampling Vault.
A sampling manhole, when required, shall be shown on the plans and be constructed and installed at the property line per District Standard Drawing Plate Nos. 109 and 112. Copies are available upon request at the District office.

2.03 Sampling Well.
A sampling well in lieu of a standard building sewer cleanout, when required, shall be shown on the plans and constructed and installed per District Standard Drawing

Plate 114. Copies are available upon request at the District office.

2.04 Grease Trap/Interceptor.
A grease trap or interceptor, when required, shall be sized in accordance with the Uniform Plumbing Code with a minimum capacity of 1.) grease trap-40 pounds 2.) interceptor- seven hundred fifty (750) gallons and shall be shown on the plans and constructed per District Standard Drawings Plate No. 117. Copies are available upon request at the District office.

2.05 Review and Acceptance.
The applicant shall submit a copy of City or County approved site and floor plans. Upon review and acceptance by the District, the applicant shall obtain a sewer connection permit from the District and pay all applicable fees, post all required bonds and provide, if necessary, all pertinent easements.

2.06 Posting.
District permits must be posted on site and made available to the District Inspector during all phases of construction and for final District Inspection sign-off.

2.07 Excavation in Roadways.
A City of Carpinteria or a Santa Barbara County permit must be obtained to excavate in City or County roads. Underground Service Alert (USA) shall be contacted prior to excavation in a roadway. USA will notify all pertinent utility companies to locate all existing buried utilities in the intended excavation area. A contact telephone number is available upon request.

2.08 Other Permits.
Property owners must obtain all other permits required by law.

2.09 Permit Extensions.
District permits are valid for a period of 360 days. An additional fee will be required for extension of permits.

3.00 INSPECTION REQUIREMENTS

3.01 Notification.
Prior to any construction on a sewer system project, it is required that the contractor notify the District's Inspector. A minimum of 48-hours advance notice is required.

3.02 Layout Drawing.
Prior to any construction, installation, or inspection of a sewer system project, the owner, contractor or plumber shall submit to the District Inspector, an accurate and legible 8 1/2"x 11" layout drawing (Plate No. 116) showing the proposed lateral and/or building sewer installation and connection for the District's review and records. Drawing shall include location and degrees of bends, devises, elevations, depths, sampling manholes, clean out locations, dimensions etc. The installation of the sewer shall be constructed in accordance with the layout drawing submitted. All changes shall be pre-approved by the District's Inspector, in writing, and shall be reflected on the final layout drawing submitted by the contractor or plumber prior

to approval of the sewerline.

3.03 Inspection.
All work relative to sewer installation shall be subject to rigid inspection, testing and CCTV inspection, when required, by the District's representative prior to backfill.

3.04 Final Inspection.
A final inspection shall be made of the newly constructed and installed sewer facilities to assure compliance with the District's Standards and the approved plans submitted.

During the final inspection the District's Inspector will verify that all exposed sewer facilities such as clean outs have been properly installed and protected with the proper concrete boxes.

3.05 Abandoned Connections.
Sewers to be abandoned must be capped off at the property line and verified by the District Inspector.

4.00 SEPARATE SEWERS

Separate lots shall not be permitted to join in the use of the same lateral or building sewer, and every commercial building or industrial facility shall be separately connected to a public sewer if such sewer is available. However, one or more buildings located on property belonging to the same owner may be served with the same lateral or building sewer during the period of said ownership. The District shall render a single bill to the property owner, or applicant of record which shall include the sewer service charge for the entire property. Upon subsequent subdivision and/or sale of the portion of a lot, that portion not directly connected to a public sewer shall be separately connected with the public sewer. It shall be unlawful for the owner to continue the use of or to maintain such indirect connection.

5.00 PIPE SIZE AND GRADE

5.01 Single Residential Sewer Size and Grade.
A four-inch (4") minimum lateral and building sewer shall be installed for each single family residential (SFR) unit, with a minimum grade of 1/4"per foot (approximately 2%) from the main sewerline to the building connection clean out.

5.02 Non-Residential (Commercial/Industrial) Sewer Size and Grade.
A six-inch (6") minimum lateral and building sewer shall be installed on a minimum grade of 1/8" per foot (approximately 1%) for multiple family dwellings, churches, commercial, industrial, school buildings, etc., from the main sewerline to the building sewer cleanout.

5.03 Multiple Residential Sewer Size and Grade.
When more than one residential building sewer is to be connected to a single sewer, a 6"sewer will be required, constructed and extended beyond the point of connection from the furthest (upstream) building and shall terminate with a 6"cleanout. Each building, to be connected, shall then intersect the 6"sewer line

with a separate 4" building sewer and a cleanout located from the foundation wall drain as per the latest edition of the UPC. Waivers to this requirement shall be determined by the District on a case by case basis. All requests for waivers shall be In submitted in writing to the District General Manager.

6.00 OLD BUILDING SEWERS

Old building sewers may be used in connection with new buildings only when they are found, upon examination and test by the District General Manager or District representative, to meet all requirements of the District. The examination and testing fee shall be determined by the District General Manager or a District representative and shall be paid by the applicant.

7.00 DEPTH

Depth of service laterals shall be at sufficient depth to provide adequate coverage and service to the lowest point and the farthest point to be served on each lot. At no place shall the depth of a service lateral be less than 5 feet at the property line, nor less than 2 feet below grade surface at any point on private property unless otherwise approved by the District General Manager.

8.00 BENDS

Building sewers shall be designed and constructed to provide the most direct routing so as to eliminate bends. An additional cleanout shall be provided in a building sewer line for each aggregate horizontal change of direction exceeding one hundred and thirty-five (135) degrees. All bends greater than 45° shall have a cleanout and shall not exceed more than one per 40 linear feet.

9.00 CLEANOUTS

9.01 Locations.

Cleanouts shall be installed at:

- the junction of the sewer lateral and the building sewer (generally located at the property line or sewer easement line)
- at straight run intervals of not more than 100 feet
- at the junction of the building sewer and building waste drain
- at all vertical and horizontal alignment breaks of 45° or greater
- for each aggregate horizontal change of direction exceeding 135°.

Cleanouts at the junction of the building sewer and building waste drain shall be placed from the foundation wall drain at a distance required by the latest edition of the UPC.

9.02 Fitting Requirements.

Cleanout shall consist of a wye and 1/8 bend and a riser pipe extended just below grade and sealed with a threaded plug or cap which can be easily removed through the cleanout access cover.

9.03 Hubless (Plain End) Pipe Couplings.
The coupling to connect two pieces of hubless or plain end pipe consists of an elastomeric sleeve with two 300 Series stainless steel clamps, one at each end. Clamps must be tightened to 60-inch lbs. Torque. Testing is required before backfilling or concealing the joint. Pipe bedding and backfill shall conform to District requirements.

9.04 Protective Concrete Box.
Cleanouts shall be protected with a concrete cleanout box. The cleanout box lid shall be cast iron with "sewer" indicated on the lid. Drawing Plate No. 110.

9.05 Property Line Cleanout.
The cleanout designated as the property line cleanout (junction of the sewer lateral and the building sewer) shall be constructed of the same material as the sewer lateral. This structure is an integral part of the public sewer system.

In conjunction with installing a new property line clean out structure the sewer lateral will be CCTV inspected by the District to ensure lateral condition to the point of connection to the sewer main. Applicable fees shall apply.

10.00 PIPE MATERIALS

10.01 General.
All pipe materials shall be approved by the District. Approved manufacturers for materials can be obtained from the District.

10.01 Approved Pipe Materials and Joint Types.
Acceptable sewer pipe material for lateral and building sewers shall be:

RIGID PIPE

Pipes fabricated of vitrified clay shall and cast iron shall be considered rigid pipe and shall conform to the requirement for rigid pipe as set for the District Standard Specifications. Pipe and fittings shall be marked with the following information: manufacturer's name, nominal pipe diameter, material, ASTM or AWWA designation.

- **Vitrified Clay Pipe (VCP).** All VCP pipe and fittings shall conform to the requirements of ASTM Designation C 700 and C 301 as it applies to extra strength unglazed vitrified clay pipe.

  Joint shall be plain end or bell and spigot joints. Resilient gasket material conforming to the requirements of ASTM Designation C 425 shall be used for bell and spigot joints. Elastomeric coupling fittings used to join plain end shall be Type "D" joints (synthetic rubber couplings with corrosion-resistant shear ring for plain end clay pipe).

- **Cast Iron Pipe (CIP).** All CIP pipe and fittings shall conform to the latest requirements of CISPI Standard 301, ASTM A 888 or ASTM A 74 . Pipe

and fitting shall be marked with the collective trademark of the Cast Iron Pipe Institute or receive approval from the District. Joints for hubless pipe and fittings shall the shielded type conforming to the manufacturer's installation instructions, the latest requirements of CISPI Standard 310 and local code requirements. Hubless couplings gaskets shall conform to the latest requirements of ASTM Standard C 564. Joints for bell and spigot pipe shall be installed with compression gaskets conforming to the latest requirements of ASTM C 564.

FLEXIBLE PIPE

Pipes fabricated of ABS, PVC, or HDPE shall be considered to be flexible pipe and shall conform to the requirements for flexible pipe. Pipe and fitting shall be marked with the following information: manufacturer's name, nominal pipe diameter, material, ASTM or AWWA designation.

- **Polyvinyl Chloride (PVC).** All PVC pipe and fittings shall be unplasticized Polyvinyl Chloride manufactured for sewer applications and shall meet the pipe wall thickness requirements for an SDR 35 pipe in accordance with ASTM D 3034. Schedule 40 extra strength pipe may be substituted. The pipe shall be furnished in 10, 20 or 40 foot lengths with integral wall belled ends and elastomeric gasket joints. Documentary evidence will be considered sufficient when the pipe manufacturer furnishes a certificate indicating accordance with the provisions of all ASTM specifications.

  Each pipe joint shall be installed with an elastomeric gasket providing a watertight seal and allowing for contraction and expansion. The bell shall consist of a integral wall section stiffened with two PVC retainer rings which securely lock the solid cross section rubber ring into position. All PVC pipe and fittings for underground gravity sewers shall be installed in accordance with the requirements of ASTM Standard D-2321-72, Recommended Practice for Installation of Flexible Thermoplastic Sewer Pipe.

  Deflections in the pipeline after installation shall not exceed five percent (5%) of the internal pipe diameter. If any section of the pipeline exceeds the maximum allowable deflection, the contractor shall reconstruct the pipeline. The deflection of the pipe shall be measured by the contractor in the presence of the Engineer, and the method of measuring the deflection shall be approved by the District Engineer.

  No solvent cemented joints will be permitted in the construction of public sewers. Elastomeric couplings shall be used to join plain ends. The elastomeric sleeve shall consist of two 300 Series stainless steel clamps, one at each end. Clamps must be tightened to 60-inch lbs. torque. Testing shall be performed before backfilling or concealing the joint. Bed and backfill as per District specifications.

- **High Density Polyethylene (HDPE)**- HDPE solid wall pipe and liner for use in gravity flow sanitary sewers and shall comply with ASTM D 3350 or ASTM

F 714. High density polyethylene pipe (HDPE) and fittings shall be made from virgin resins exhibiting a cell classification of PE 345444C as defined in ASTM D3350 with an established hydrostatic design basis of 1600 psi for water at 73.4 F. The material shall conform to ASTM D3350 Type III, Grade PE 34. The resin shall be listed by the PPI (Plastic Pipe Institute) in its pipe grade registry Technical Report (TR) 4, "Listing of Plastic Pipe Compounds."

HDPE pipe and fittings shall be available in ductile iron sizes (DIPS) and steel pipe sizes (IPS). The interior of the pipe may be a co-extruded integral layer whose color is an off-white that is engineered for maximum visibility by black and white or color video equipment. Pipe and fittings material shall be fatigue (surge) tolerant to at least 3,000,000 cycles of stresses at 50% over-pressurization above WPR.

The wall thickness shall follow the Dimension Ratio (DR) system prescribed in ASTM F714. Laying lengths are 40 foot standard. The HDPE pipe shall be joined by heat fusion or butt fusion method by a manufacturer's trained and certified technician. Other methods of joining such as flanges or other mechanical joint systems proven for HDPE pipes shall be approved by the Engineer.

The net pressure capability shall be the working pressure rating (WPR) at 73.4 F as follows:

DR	WPR (psi)	WPR + Surge (psi)	Hydro test (psi)	Nominal Burst (psi)
32.5	50.8	76.2	76.2	203.2
26	64.0	96.0	96.0	256.0
21	80.0	120.0	120.0	320.0
17	100.0	150.0	150.0	400.0
15.5	110.3	165.5	165.5	441.4
13.5	128.0	192.0	192.0	512.0
11.8	160.0	240.0	240.0	640.0
9.0	200.0	300.0	300.0	800.0
7.0	266.7	400.0	400.0	1066.7

HDPE pipe and fittings shall be marked as prescribed by ASTM F714. Pipe markings will include nominal size, OD base (ie:12"ductile iron pipe sizing, DIPS), dimension ratio, pressure class, WPR, ASTM F714, manufacturers name, manufacturer's production code including day, month, year extruded, and manufacturer's plant and extrusion line.

- **Acrylonitrile-Butadiene-Styrene (ABS)**- All ABS pipe and fittings shall

conform to all requirements of ASTM D 2680. ABS pipe shall be used for Building Sewers only. ABS pipe will not be allowed when pipe larger than four-inches is required. ABS pipe shall have a wall thickness conforming to an SDR 35 rating or Schedule 40 extra strength in accordance with ASTM D 2751.

- **Asbestos cement and orangeberg pipe are not acceptable.**

10.02 Material Conditions.
All materials shall be new and undamaged, unless otherwise approved by the Inspector.

10.03 Material Similarity.
The same manufacturer and type of material of each item shall be used throughout the work.

10.04 Material Standards.
Where reference is made to an American National Standards Institute (ANSI), American Society of Testing Materials (ASTM), or American Water Works Association (AWWA) designation, it shall be the latest revision at the time of construction, except as noted on the plans or special provisions.

10.05 Sewer Repair or Replacement Material.
Same pipe materials shall be used when replacing or repairing sections on existing sewers except in the case of existing orangeberg pipe.

A repair or partial replacement of existing orangeberg pipe is not acceptable. The accepted method is the complete removal and replacement with a District approved pipe material.

11.00 BEDDING AND BACKFILL

Standard specifications and details regarding pipe bedding and backfill shall apply. In addition, the following requirements apply to the installation of any flexible sewer pipe, such as PVC or ABS:

11.01 Backfill in Building Sewer Pipe Zone.
For building sewers, the pipe zone is defined as extending from 4 inches below the pipe to 12 inches above the pipe.

11.02 Approved Backfill Material.
Approved import material such as wash plaster sand, gravel, crushed aggregate or native free-draining granular material having a sand equivalent of not less than 20 will be required. (Yellow sand is not a District approved material.)

11.03 Placement of Backfill Material.
Backfill material shall be placed and compacted in the trench simultaneously on each side of the pipe for the full width of the trench before the balance of the backfill is placed over the pipe. All material within the pipe zone shall be thoroughly

compacted to a relative compaction of 90 percent by tamping or by other means approved by the District. Backfill material shall be "shoveled sliced" or "walked in" beneath the pipe barrel where voids exist before the bedding material is raised to the level of the springline of the pipe. The backfill shall be placed in horizontal layers of such depths as are considered proper for the type of compaction equipment being used in relation to the backfill material being placed.

11.04 Special Precautions for Sewer Pipe Near Buildings.
Special precautions must be taken for any sewer construction near existing or proposed building sites, whether in a fill area or not. The load distribution line (angle of repose) will commence at, and extend downward at, a 45° angle from the bottom outside edge of the foundation.

11.05 Lateral Sewer Encasement.
If the lateral sewer pipe is below the 45° line, it shall require a special design or cradle and be noted on the plans. Also, all backfill below the 45° line shall be in accordance with the recommendation of a soils engineer.

11.06 Protection to Existing Building During Construction.
Special methods must be used by a contractor to insure protection to existing building while construction is underway. The locations of such buildings must be precisely shown on the plans. However, the construction methods used will be the contractor's prerogative, unless indicated otherwise on the plans.

12.00 UTILITY, CONDUIT, OR PIPELINE SEPARATION

Utility, conduit, or pipelines crossing or running parallel to lateral and building sewers must be separated vertically and/or horizontally by a minimum of 12" from the outside of the edge of the pipe.

13.00 INSPECTION AND TESTING

The following procedures shall be followed for inspection and testing of laterals and building sewers:

13.01 Responsibility.
The equipment, material and labor necessary for inspection or test shall be furnished by party which has requested the inspection and testing.

13.02 Pipe and Fitting Inspection.
All installed pipe and fittings shall be inspected by the District Inspector prior to any backfill. Failure to request or obtain this inspection will require complete re-excavation and reconstruction of the work.

13.03 Testing.
The entire installation of all pipes and fittings shall be tested with water or air.

13.04 Water Test.
The water test shall be applied to the sewer system in its entirety. All openings in

the sewer piping system shall be tightly closed except the highest opening, which will include piping for a ten (10) foot head of water. The system shall be filled with water to the point of overflow. The water shall be kept in the system for at least fifteen (15) minutes before inspection starts.

13.05 Water Test Safety.
Safe access to the water test piping system shall consist of a platform or ladder, and shall be provided by the party which has requested the inspection and test.

13.06 Low Pressure Air Test.
After a trench has been backfilled and compacted, and before connection of the building sewer to a lateral or main sewer is made, it may be tested with air in accordance with the District's requirements. This test will be witnessed by the District Inspector. Said requirements are as follows:

Test Procedure

- If required by District Inspector, the pipe to be tested shall be cleaned by hydrojet or other means approved by the Inspector.
- Plug all pipe outlets with suitable test plugs. Brace each plug securely.
- If the pipe to be tested is submerged in groundwater, the contractor is to determine the hydrostatic pressure at pipe level due to groundwater submergence. All gauge pressures in the test should be increased by this amount.
- Add air slowly to the portion of the pipe installation under test until the internal air pressure is raised to 4.0 psig.
- After an internal pressure of 4.0 psig is obtained, allow at least two minutes for air temperature to stabilize, adding only the amount of air required to maintain pressure.
- When pressure decreases to 3.5 psig, start stopwatch. Determine the time in seconds that is required for the internal air pressure to reach 2.5 psig.

Minimum Permissible Air Pressure Holding Times

Minimum holding times, in seconds, for pressure to drop from 3 ½ to 2 ½ psig:

Pipe Footage	4-inch pipe	6-inch pipe
25	30	30
50	30	30
75	30	30

100	30	40
125	30	50
150	30	59
200	35	79
250	44	99

Longer runs and/or larger pipe sizes will be calculated on site.

13.07 Air Test Safety.
The air test may be dangerous and it is extremely important that the various plugs be installed and braced in such a way as to prevent blowouts. It should be realized that sudden expulsion of a poorly installed plug, or of a plug that is partially deflated before the pipe pressure is released, can be dangerous. As a safety precaution, pressurizing equipment should include a regulator set at, perhaps, 10 psig to avoid over pressuring and damaging an otherwise acceptable line. No one shall be allowed in the manholes during testing.

14.00 GREASE INTERCEPTORS AND GREASE TRAPS

Grease, oil and sand interceptors and grease traps shall be provided as specified in the Uniform Plumbing Code, latest edition, and additionally, when in the opinion of the District, they are necessary. The minimum capacity of the interceptors shall be seven hundred fifty (750) gallons constructed per District standards. The type and capacity of the interceptors and grease traps shall be approved by the District prior to installation. Further information is available upon request from the District Inspector or at the District Administration office.

15.00 FINAL INSPECTION

A final inspection shall be made to verify proper installation of required cleanouts, cleanout boxes, plugs, backwater overflow devices (if required) and any other construction necessary for approval.

16.00 DEFINITIONS

16.01 Building Sewer.
That portion of any sewer beginning at the plumbing or drainage outlet of any building or industrial facility and terminating at the property line cleanout structure.

16.02 City.
City of Carpinteria

16.03 County.
County of Santa Barbara

16.04 Plumbing System.
All plumbing fixtures and traps, or soil, waste, special waste and vent pipes, and all

sanitary sewer pipes within a building and extending to the building sewer connection approximately two (2) feet outside the building wall.

16.05 Private Sewer.
A sewer serving an independent sewage disposal system not connected with a public sewer and which accommodates one or more buildings or industries.

16.06 Public Sewer.
A sewer lying within a public way or easement and which is controlled by or under the jurisdiction of the District.

16.07 Sanitary Sewer.
A sewer which carries sewage and to which storm, surface and ground waters are not intentionally admitted.

16.08 Sewer Lateral.
That portion of any sewer beginning at the property line cleanout structure and terminating at the connection to the public sewer main or public sewer easement.

16.09 Property Line Cleanout.
Standard cleanout structure placed between the terminus of the building sewer and the beginning of the sewer lateral.

17.00 ABBREVIATIONS

17.01	ABAN	Abandon
17.02	ABS	Acrylonitrile-butadiene-styrene
17.03	APN	Assessors Parcel Number
17.04	CCTV	Closed Circuit Television
17.05	CIP	Cast Iron Pipe
17.06	C/O	Cleanout
17.07	CONN	Connection
17.08	CV	Check valve
17.09	ESMT	Easement
17.10	EXC	Excavation
17.11	FDN	Foundation
17.12	HDPE	High Density Polyethylene
17.13	HC	House Connection
17.14	ID	Inside Diameter
17.15	INSP	Inspection
17.16	MH	Manhole
17.17	P/L	Property Line
17.18	PVC	Polyvinyl Chloride
17.19	R/W	Right of Way
17.20	SDR	Standard thermoplastic pipe Dimension Ratio
17.21	SS	Sanitary Sewer
17.22	STA	Station
17.23	SW	Sidewalk

17.24	TYP	Typical
17.25	USA	Underground Service Alert
17.26	VCP	Vitrified Clay Pipe

APPENDIX 1: STANDARD DRAWINGS

Plate 104	Standard Pipe Bedding Details
Plate 106	Sewer Service Lateral
Plate 108	Wye Connections to Existing Sewer Mains
Plate 110	Standard Lateral Cleanout Detail
Plate 116	Building & Lateral Sewer Required "As Constructed" Layout Drawing Example

APPENDIX 2: APPLICABLE DISTRICT FEES AND CHARGES

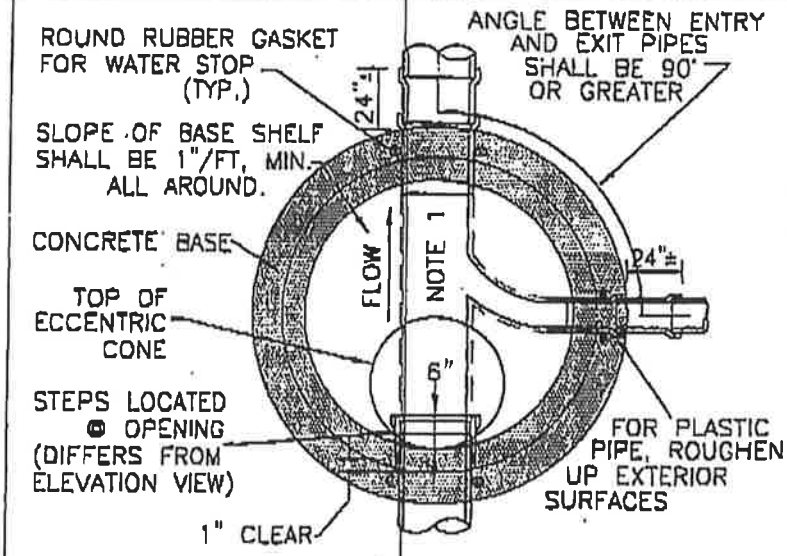
Most recent Board approved version.

CARPINTERIA SANITARY DISTRICT
5300 Sixth Street
Carpinteria, CA 93013

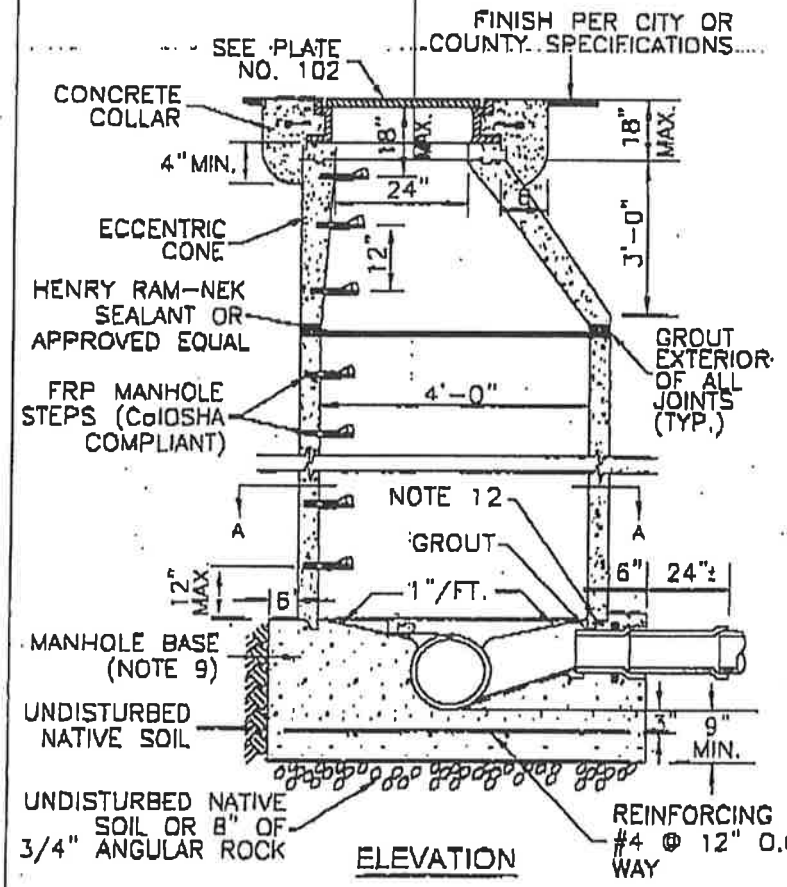
Phone: (805) 684-7214
FAX: (805) 684-7213

APPENDIX 1

STANDARD DRAWINGS



SECTION A-A

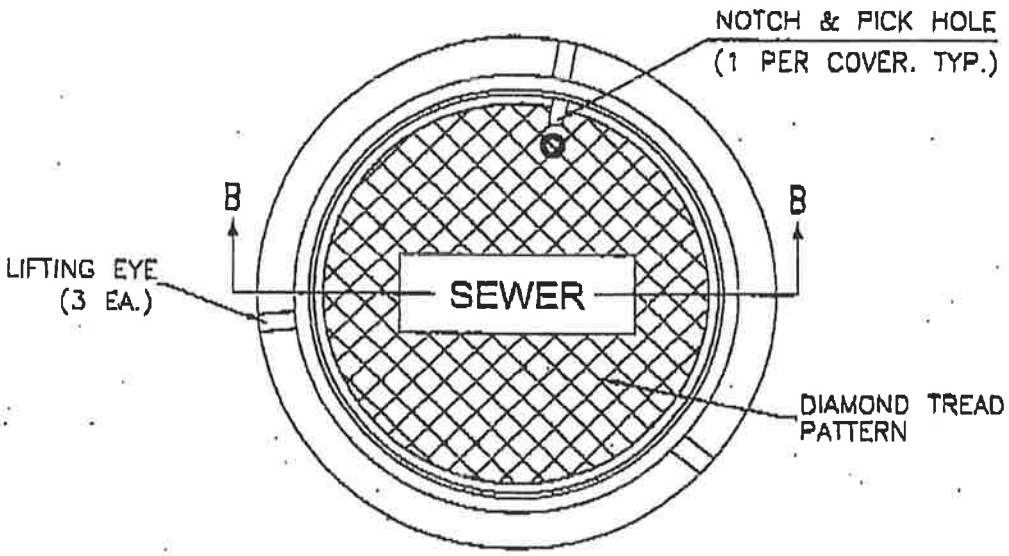


ELEVATION

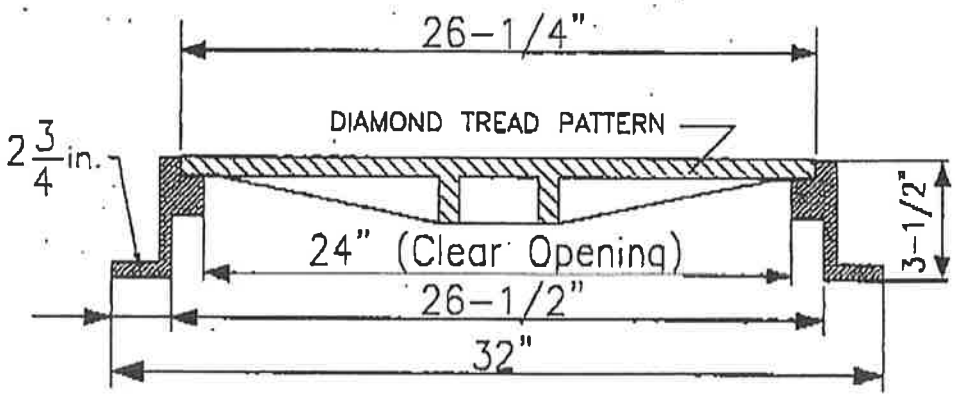
NOTES:

1. PROVIDE A MIN. DROP OF 0.10' ACROSS MANHOLE BETWEEN INLET(S) AND OUTLET.
2. CONCRETE SHALL BE CLASS A.
3. ALL JOINTS SHALL BE MADE WATER TIGHT WITH "HENRY RAM-NEK" OR APPROVED EQUAL.
4. LAY PIPE THROUGH MANHOLE WHEN POSSIBLE.
5. TOP OF PIPE TO BE REMOVED WITHIN MANHOLE. TRIM TO NEAT LINE AND FINISH OFF WITH GROUT TO LEAVE A SMOOTH FINISH.
6. PROVIDE TWO JOINTS AT ALL ENTRY POINTS TO MANHOLES.
7. REINFORCED CONCRETE MANHOLE SECTIONS SHALL BE PRECAST AND SHALL CONFORM TO ASTM C-478.
8. CHIPPED OR BROKEN RINGS AND CONES SHALL NOT BE USED FOR MANHOLES.
9. PRECAST MANHOLE WITH BASES MAY BE PERMITTED WITH APPROVAL FROM DISTRICT MANAGER.
10. MANHOLE INTERIOR SHALL BE COATED WITH 100% SOLIDS EPOXY OR POLYURETHANE PROTECTIVE COATING APPROVED BY DISTRICT.
11. CONTRACTOR SHALL TAKE EVERY PRECAUTION TO TO ASSURE THAT CONCRETE USED FOR CAST-IN-PLACE PORTIONS ARE POURED AND CURED PER MANUFACTURER'S RECOMMENDATIONS.
12. FORM 360° SEAT FOR LOWER RING SECTION IN BASE AT TIME OF POUR.
13. WHERE GROUNDWATER EXISTS, USE 3/4" ANGULAR ROCK UNDER BASE.

CARPINTERIA SANITARY DISTRICT			STANDARD MANHOLE	
APPROVED:	REVISIONS	BY | DATE	NO SCALE	PLATE 101
General Manager Date				SHEET 1 OF 1



PLAN (TOP VIEW)



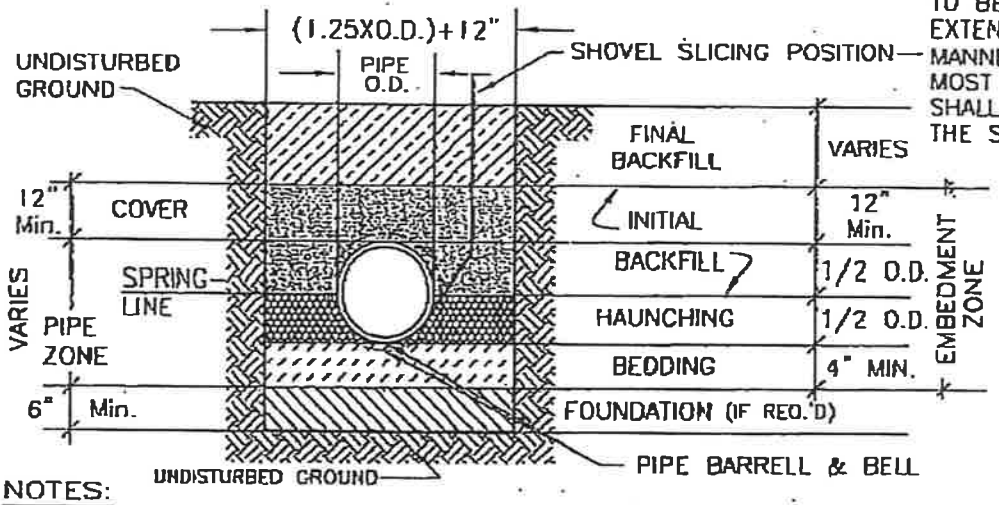
SECTION B-B

NOTES:

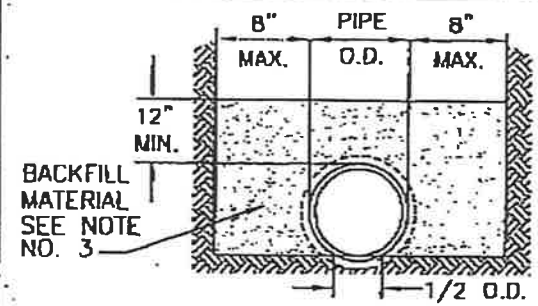
1. FRAME AND COVER MATERIAL SHALL CONFORM TO A.S.T.M. A48, CLASS 30. MANHOLE FRAME COVER SHALL BE ALHAMBRA A-1254, OR APPROVED EQUAL, TRAFFIC-RATED AND MARKED "SEWER". NO BOLTS OR BLIND LIFT LIFT POCKETS ALLOWED.
2. FOR MANHOLES IN UNPAVED AREAS, CONCRETE COLLAR SHALL RISE ABOVE TOP OF GRADE A MINIMUM OF 18" AND SLOPE 2:1 TO GRADE LEVEL.

CARPINTERIA SANITARY DISTRICT				STANDARD MANHOLE DETAIL	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 102
General Manager Date					SHEET 1 OF 1

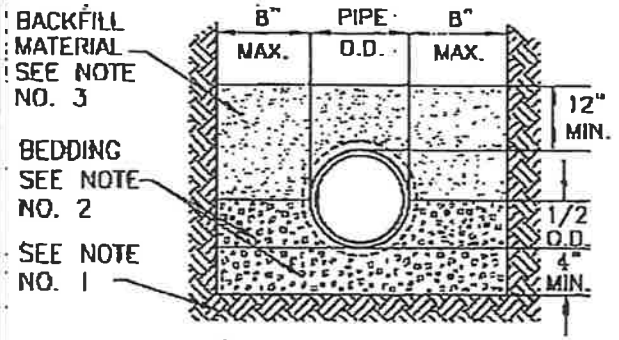
PIPE ZONE CONSTRUCTION



TO BE DONE IN THE HAUNCHING AREA ONLY; TOOL SHALL NOT EXTEND ABOVE SPRINGLINE; SLICING SHALL BE DONE IN A MANNER TO CONSOLIDATE THE BEDDING WHERE IT IS NEEDED MOST (TO ELIMINATE VOIDS BENEATH PIPE; SHOVEL SLICING SHALL BE DONE BEFORE THE BEDDING IS BROUGHT UP TO THE SPRINGLINE.



NATIVE UNDISTURBED BEDDING
(FOR BUILDING SEWERS ONLY)



BEDDING ON UNDISTURBED FOUNDATION
(FOR BUILDING SEWERS, SEWER LATERALS & PUBLIC SEWER MAINS)

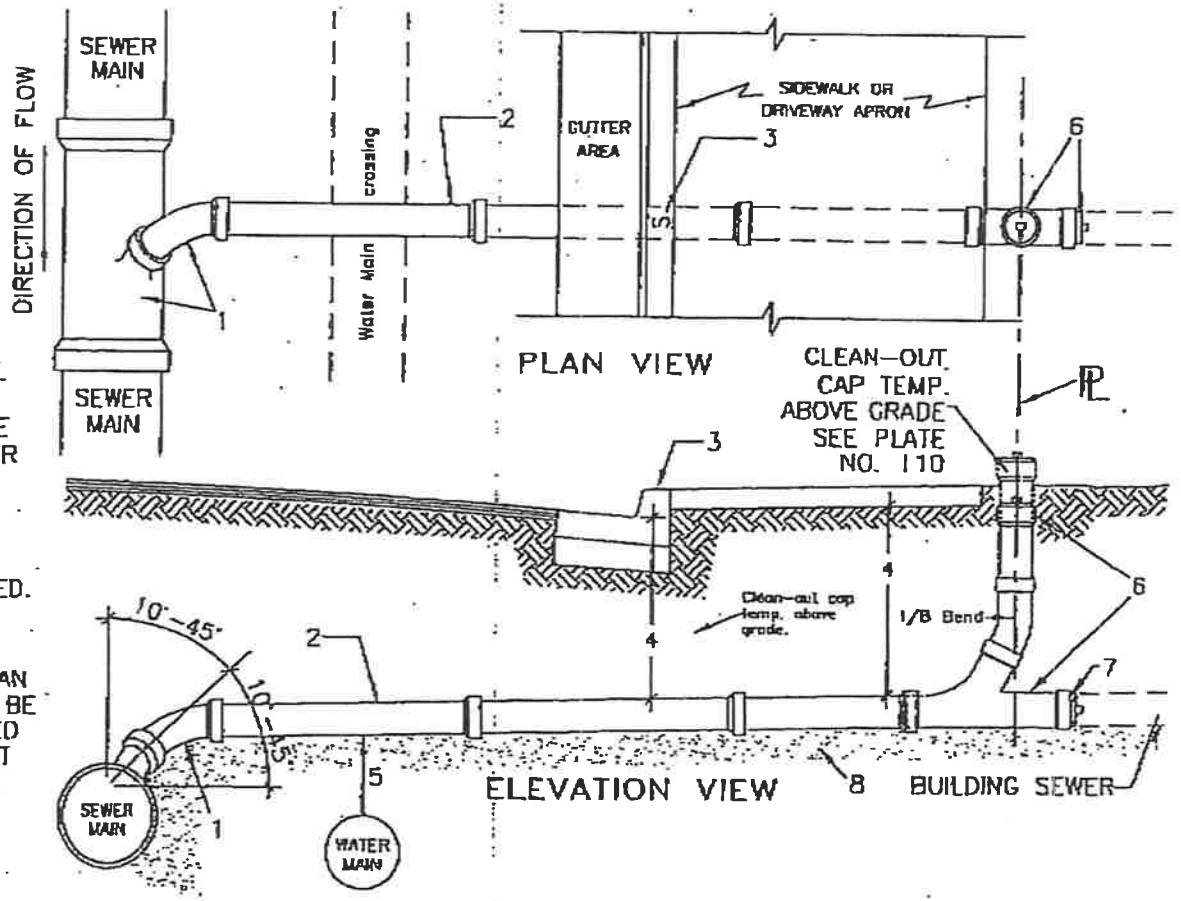
NOTES:

1. PREPARATION OF FOUNDATION IS REQUIRED WHEN TRENCH BOTTOM IS DISTURBED OR UNSTABLE. TRENCH BOTTOM SHALL BE OVER-EXCAVATED A MINIMUM OF 6" AND FILLED WITH 3/4" MIN./MAX. CRUSHED AGGREGATE ROCK. WHEN REQ.'D, CONTRACTOR SHALL FOLLOW RECOMMENDATION OF SOILS ENGINEER.
2. BEDDING SHALL BE 4" MIN. COMPACTED MATERIAL APPROVED BY DISTRICT OR 3/4" MIN./MAX. CRUSHED AGG. ROCK IN WET SOILS.
3. INITIAL BACKFILL SHALL BE A WHITE PIPE OR WASHED PLASTER SAND (S.E. > 20) & 90% MIN. COMPACTION. WHERE GROUNDWATER EXISTS, USE 3/4" MIN./MAX. CRUSHED AGGREGATE ROCK (NO PEA GRAVEL ALLOWED). BACKFILLING SHALL BE PLACED IN 8" LAYERS & COMPACTED.
5. CERT.'S ARE REQ.'D FOR ALL IMPORTED MATERIAL.
6. PROVIDE UNIFORM & CONTINUOUS SUPPORT OF PIPE BARRELL BETWEEN BELL OR COUPLING POINTS FOR ALL CLASSES OF PIPE ON BEDDINGS. NO PART OF THE LOAD SHALL BE SUPPORTED BY THE BELL OR COUPLINGS.
7. FINAL BACKFILL SHALL BE NATIVE, WELL-GRADED MATERIAL, COMPACTED, WHEN SOIL IS SUITABLE, OR PER CITY OR COUNTY SPECIFICATIONS.
8. CONTRACTOR SHALL AVOID OVER-COMPACTING TO CAUSE PIPE DEFLECTIONS OR DAMAGES TO SEWER PIPE.

CARPINTERIA SANITARY DISTRICT				STANDARD PIPE BEDDING DETAILS	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 104
	UPDATED	VM	8/07		SHEET 1 OF 1
General Manager Date					

NOTES:

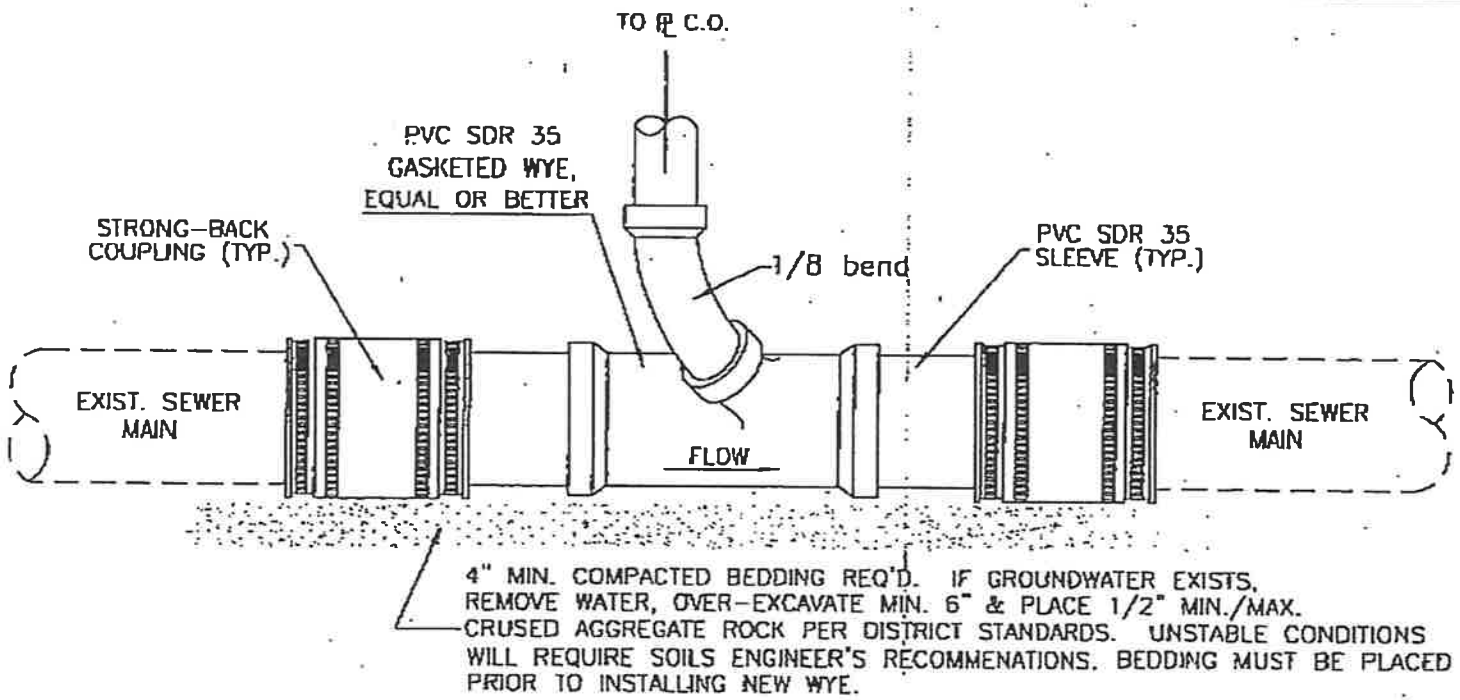
1. PVC SDR 35 GASKETED WYE & 1/8 BEND (EQUAL OR BETTER); BEND TO POINT DOWNSTREAM & ENTER SEWER MAIN AT AN ANGLE GREATER THAN 10°. REFER TO PLATE NO. 108 FOR CONNECTION DETAILS.
2. PIPE AND FITTINGS SHALL BE PVC SDR 35 GASKETED (OR BETTER). SINGLE UNITS REQUIRE 4" MIN. DIA. PIPE @ 2% GRADE; TWO OR MORE UNITS INCLUDING COMMERCIAL DEVELOPMENT REQUIRES 6" MIN. DIA. PIPE @ 1% GRADE. CONNECTION SHALL BEGIN AT SEWER MAIN AND PROCEED TOWARD LOT. ROUTE SHALL BE THE MOST DIRECT TO ELIMINATE BENDS. COUPLINGS SHALL BE APPROVED "STRONG-BACKS" OR PVC SDR 35 GASKETED FITTINGS. PIPE MATERIAL SHALL BE CUT USING ONLY APPROVED METHODS AND TOOLS; SNAP-CUTTERS SHALL ONLY BE USED ON CLAY PIPE. CHIPPING OR HAMMERING IS NOT ALLOWED. DAMAGED PIPE SHALL BE REMOVED AND REPLACED AT CONTRACTOR'S EXPENSE.
3. TOP OF CURB SHALL BE MARKED WITH AN "S" DIRECTLY OVER LATERAL. "S" SHALL BE STAMPED IN NEW CONCRETE OR CHISELED INTO EXISTING CONCRETE; "S" SHALL NOT BE LESS THAN 3"L X 2"W X 3/16"D.
4. DEPTH OF SEWER LATERAL SHALL NOT BE LESS THAN 2' ANYWHERE. DEPTHS LESS THAN 2' WILL REQUIRE D.I. PIPE OR CONCRETE ENCASEMENTS.



5. MAINTAIN 12" MIN. VERT. & HORIZ. SEPARATION FROM ALL OTHER UTILITIES. FOR WATERMAIN CROSSINGS, CONTACT CARPINTERIA VALLEY WATER DISTRICT @ (805) 684-2816 FOR INSPECTIONS.
6. INSTALL PROPERTY-LINE CLEAN-OUT PER DISTRICT STANDARDS; REFER TO PLATE NO. 110 FOR DETAILS.
7. WATER OR AIR TEST REQUIRED ON ALL NEWLY INSTALLED SEWER PIPE. INSTALL PLUGS WHERE REQUIRED. TRENCHLESS INSTALLATION REQUIRES NO TESTING.
8. FOR BEDDING & BACKFILL REQ.'S, REFER TO PLATE NO. 104.

SPECIAL NOTE: PROVIDE BACKWATER VALVES PER DISTRICT & PLUMBING CODE REQUIREMENTS.

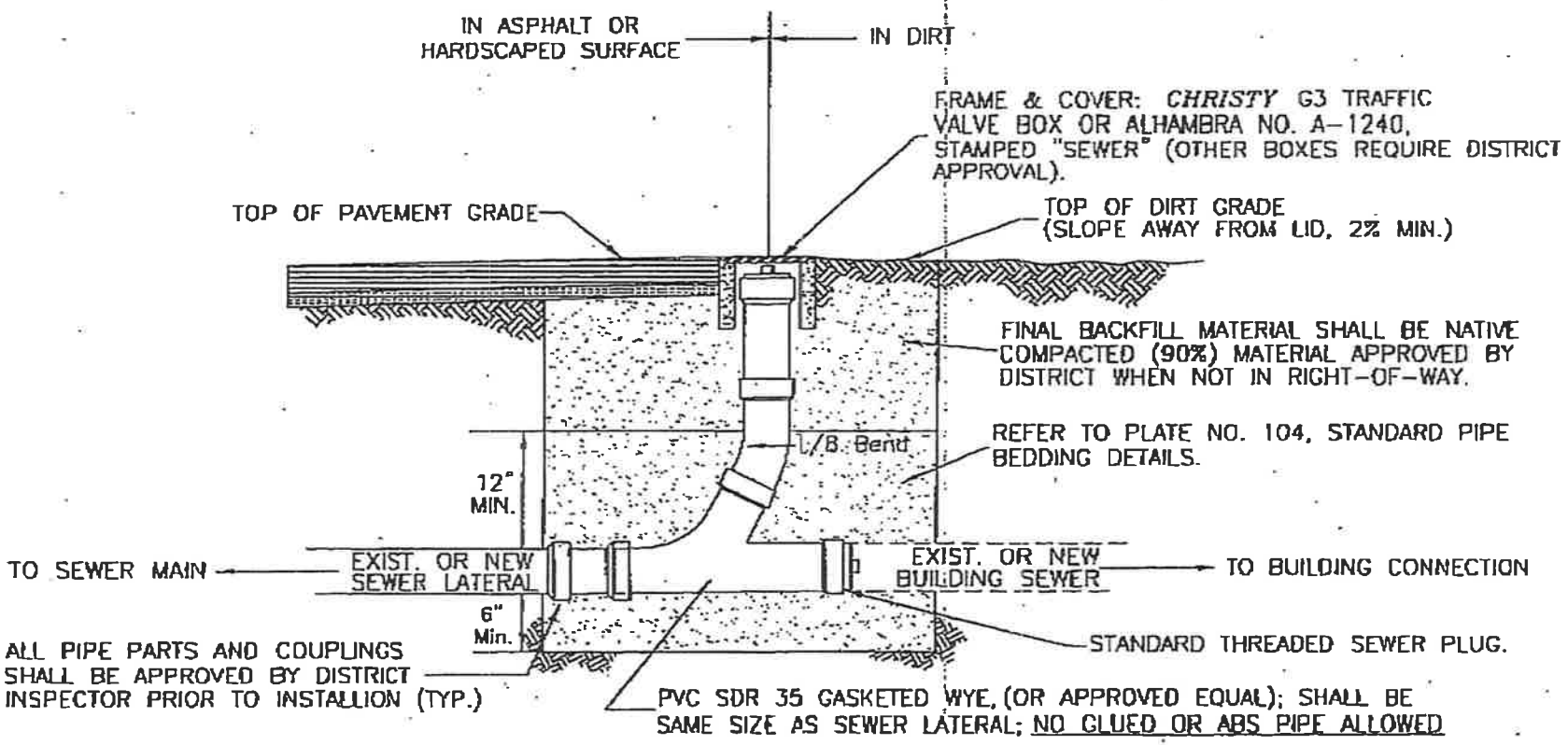
CARPINTERIA SANITARY DISTRICT				SEWER SERVICE LATERAL	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 106
	UPDATED	VM	8/07		SHEET 1 OF 1
General Manager Date					



NOTES:

1. CONTRACTOR SHALL REFER TO PLATE NO. 106 FOR LATERAL INSTALLATION REQUIREMENTS.
2. REMOVE SECTIONS OF EXISTING SEWER MAIN IN EXACT LENGTHS AS REQ'D. IF CUTS ARE IN PROXIMITY OF HUBBED/NO-HUB OR JOINTED ENDS, CONTRACTOR SHALL REMOVE ALL SECTIONS OF PIPE PER DISTRICT REQUIREMENTS & REPLACE WITH PVC SDR 35 PIPE. TOTAL NUMBER OF JOINTS SHALL BE KEPT AT A MIN.
3. WYE SHALL POINT TOWARD PROPERTY TIE-IN. INCLINATION SHALL BE GREATER THAN 10%.
4. REFER TO PLATE NO. 104 FOR BEDDING & BACKFILL REQUIREMENTS.
5. NO SADDLES, TEES, SANTEES, SOLVENT WELDS OR PIPE STUB-INS ALLOWED.
6. COUPLING CLAMPS SHALL LOCK PER MANUFACTURER'S SPECIFICATIONS.
7. ONLY SNAP-CUTTERS SHALL BE USED ON CLAY PIPE WHEN CUTTING SECTIONS.

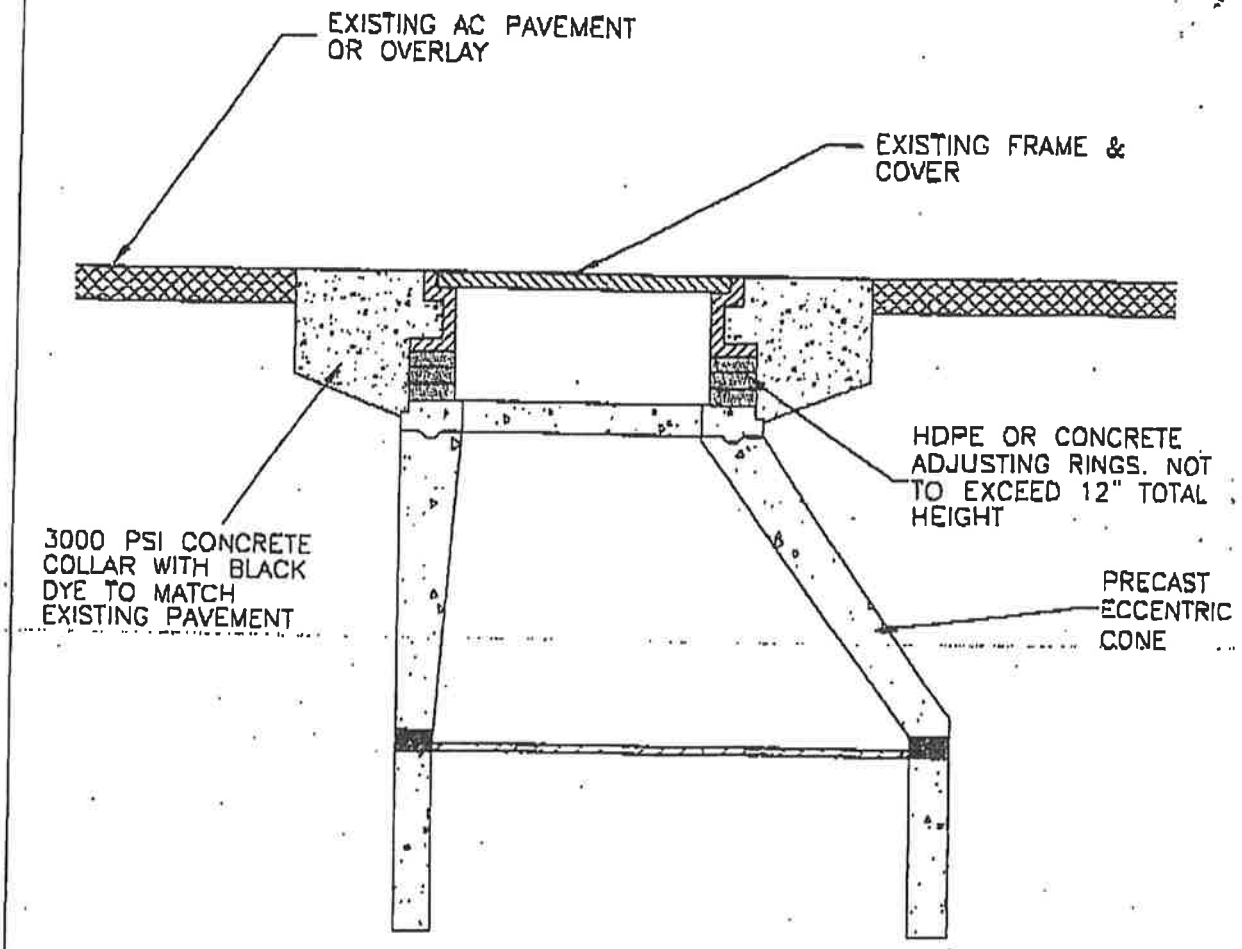
CARPINTERIA SANITARY DISTRICT				PUBLIC SEWER MAIN CONNECTION	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 108
	UPDATED	VM	8/07		SHEET 1 OF 1
General Manager Date					



NOTES:

1. CLEANOUT SHALL BE PVC SDR 35 GASKETED & SAME SIZE AS SEWER LATERAL. REFER TO NOTE NO. 6 ON PLATE NO. 106 FOR ADDITIONAL DETAILS.
2. FOR FINAL BACKFILL REQUIREMENTS, REFER TO CITY OF CARPINTERIA PERMITTING SPECIFICATIONS WHEN WORKING IN THE PUBLIC RIGHT-OF-WAY.
3. LOCATE CLEANOUT ON PROPERTY-LINE SO THAT IT IS ACCESSIBLE TO DISTRICT FOR MAINTENANCE ACTIVITIES.
4. CLEANOUT SHALL REMAIN VISIBLE AND ACCESSIBLE FOR DISTRICT STAFF.
5. LOCATION OF CLEANOUT SHALL BE APPROVED BY THE DISTRICT.
6. FOUNDATION AND BASES MUST BE PREPARED PRIOR TO INSTALLING CLEANOUT WYE AND FITTINGS.

CARPINTERIA SANITARY DISTRICT				STANDARD PROPERTY LINE CLEANOUT	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 110
	UPDATED	VM	8/07		
General Manager Date					SHEET 1 OF 1



NOTES:

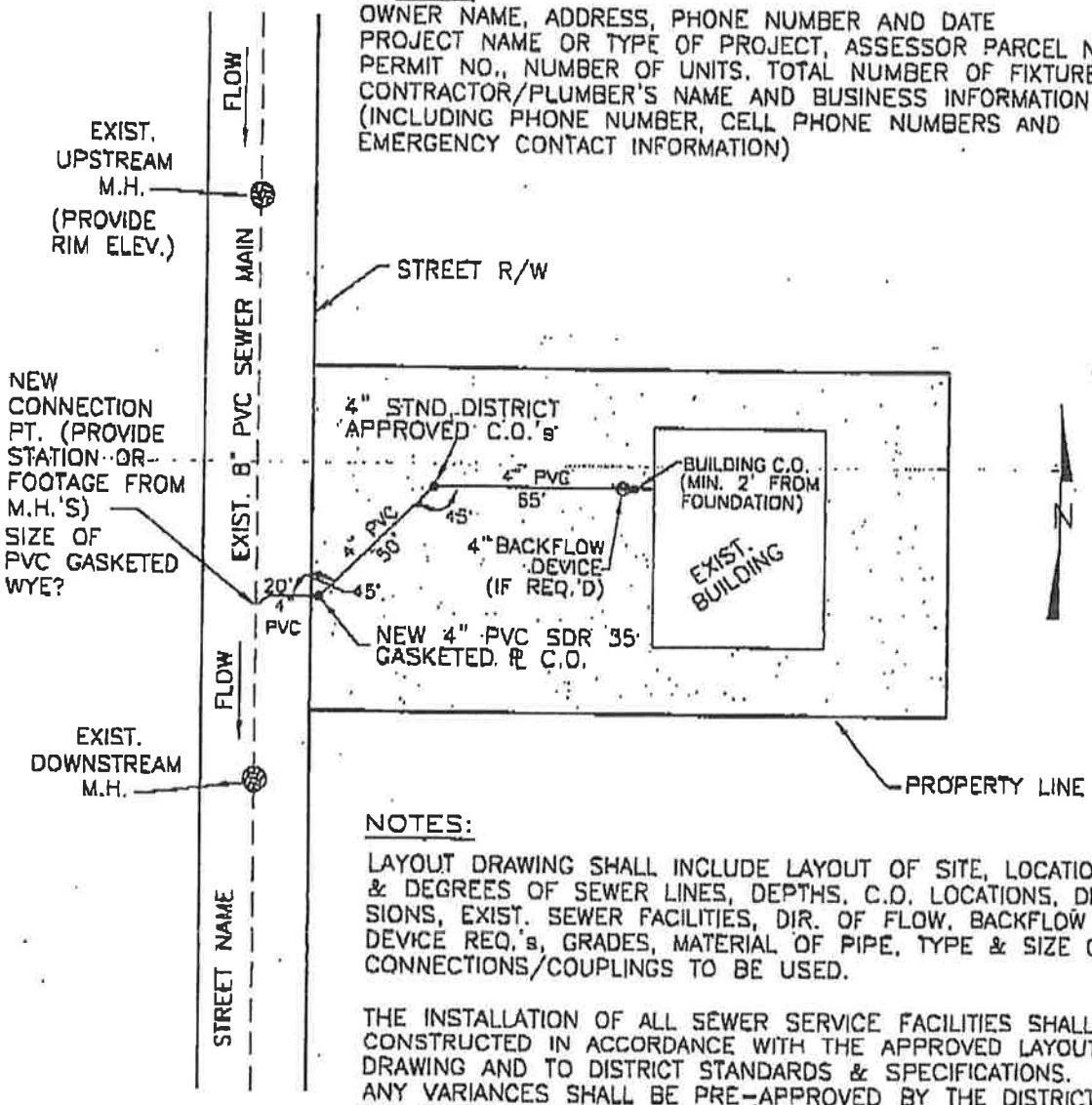
1. CONCRETE COLLAR SHALL BE A MINIMUM OF 8" THICK AND SHALL EXTEND NO LESS THAN 2" BELOW LOWEST POINT ON BASE ON MANHOLE.
2. PAVEMENT CUTS AT COLLAR PERIMETER SHALL BE VERTICAL AND CUT CLEAN TO A MINIMUM 5" DEPTH, OR PER CITY OR COUNTY REQUIREMENTS.
3. WHERE DEPTH OF NECK AND GRADE RINGS EXCEEDS 24" DEPTH, ADJUST MANHOLE TO GRADE BY INSERTING NEW MANHOLE BARREL SECTION BETWEEN CONE AND EXISTING BARREL.
4. ADJUSTING (GRADE) RINGS SHALL BE SET IN MORTAR AND GROUTED WITH NON-SHRINK GROUT INSIDE AND OUT PRIOR TO POURING CONCRETE COLLAR. IRON FRAME SHALL BE RESET IN MORTAR AS NECESSARY.
5. DISTRICT INSPECTOR SHALL BE CONTACTED AT (805) 84-7214, x13 PRIOR TO RAISING MANHOLES. A PERMIT IS REQUIRED FROM THE DISTRICT.

CARPINTERIA SANITARY DISTRICT				MANHOLE RAISING DETAIL	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 111
	UPDATED	VM	8/07		
General Manager Date					SHEET 1 OF 1

CARPINTERIA SANITARY DISTRICT

BUILDING & SEWER LATERAL LAYOUT DRAWING

PLEASE PROVIDE THE FOLLOWING INFORMATION ON THE LAYOUT DRAWING:
OWNER NAME, ADDRESS, PHONE NUMBER AND DATE
PROJECT NAME OR TYPE OF PROJECT, ASSESSOR PARCEL NUMBER
PERMIT NO., NUMBER OF UNITS, TOTAL NUMBER OF FIXTURE UNITS
CONTRACTOR/PLUMBER'S NAME AND BUSINESS INFORMATION (INCLUDING PHONE NUMBER, CELL PHONE NUMBERS AND EMERGENCY CONTACT INFORMATION)



NOTES:

LAYOUT DRAWING SHALL INCLUDE LAYOUT OF SITE, LOCATION & DEGREES OF SEWER LINES, DEPTHS, C.O. LOCATIONS, DIMENSIONS, EXIST. SEWER FACILITIES, DIR. OF FLOW, BACKFLOW DEVICE REQ.'s, GRADES, MATERIAL OF PIPE, TYPE & SIZE OF CONNECTIONS/COUPLINGS TO BE USED.

THE INSTALLATION OF ALL SEWER SERVICE FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED LAYOUT DRAWING AND TO DISTRICT STANDARDS & SPECIFICATIONS. ANY VARIANCES SHALL BE PRE-APPROVED BY THE DISTRICT INSPECTOR AND SHALL BE REFLECTED ON A FINAL LAYOUT DRAWING SUBMITTED BY THE CONTRACTOR OR PLUMBER PRIOR TO CONSTRUCTION.

A 24 HR NOTICE IS REQUIRED FOR INSPECTIONS.
CALL (805) 684-7214, ext. 13 TO SCHEDULE AN INSPECTION.

CARPINTERIA SANITARY DISTRICT				LAYOUT DRAWING EXAMPLE	
APPROVED:	REVISIONS	BY	DATE	NO SCALE	PLATE 116
General Manager Date					SHEET 1 OF 1