



WEST COUNTY
WASTEWATER DISTRICT

STANDARD DETAILS

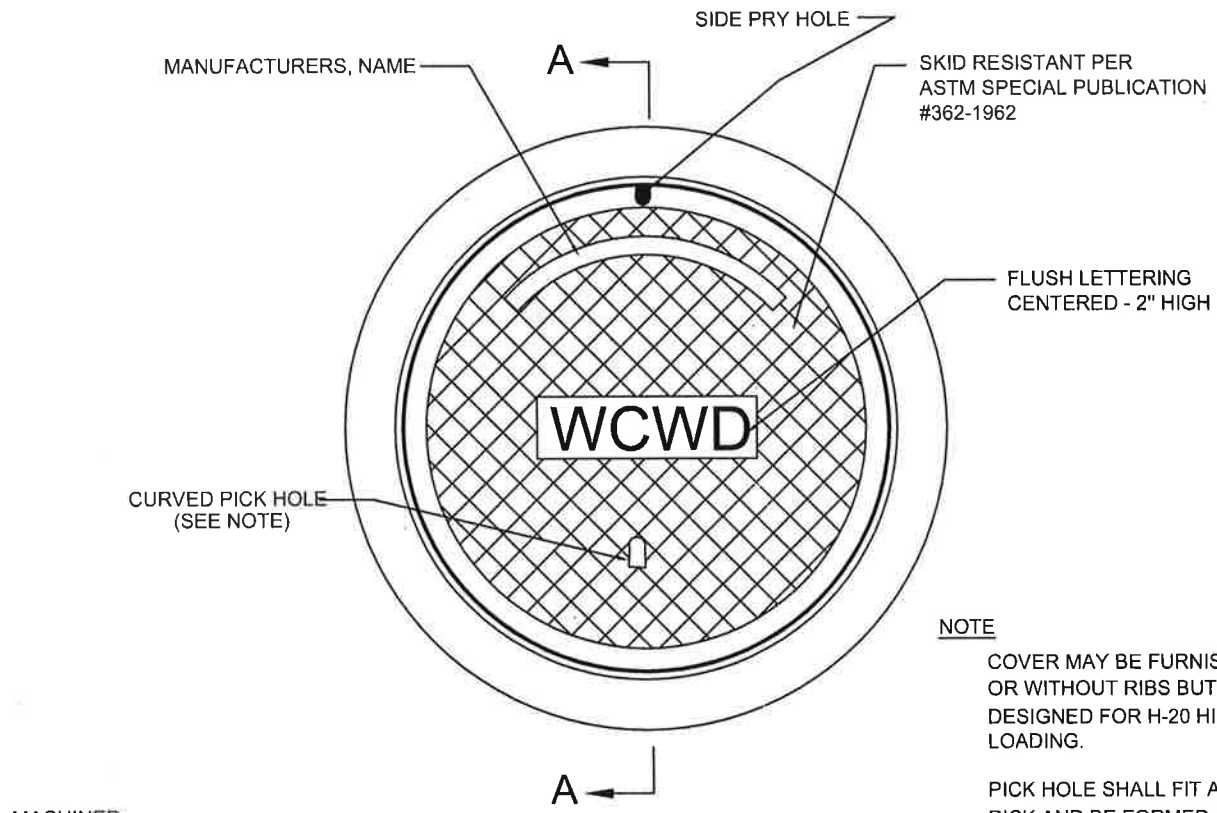
2910 HILLTOP DRIVE, RICHMOND, CA 94806

PHONE NO. (510) 222-6700
FAX NO. (510) 222-3277

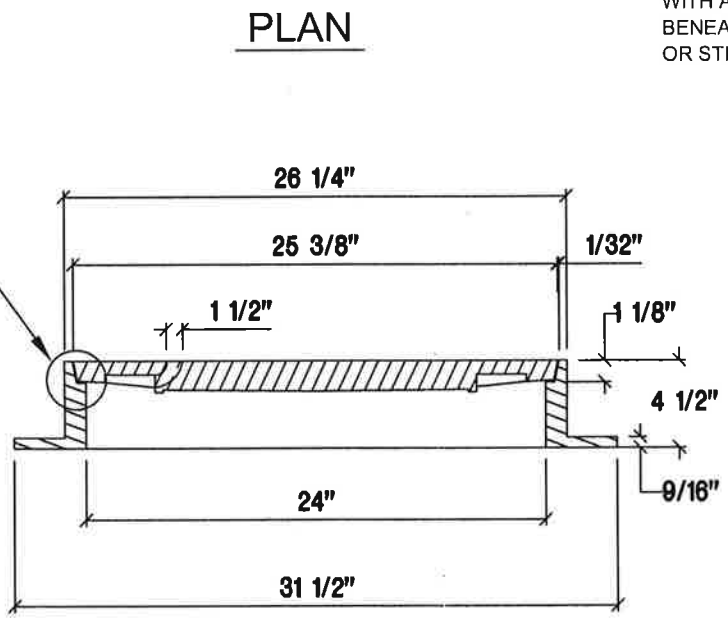
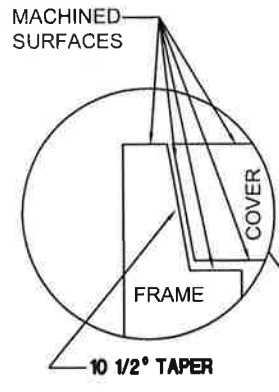
WEST COUNTY WASTEWATER DISTRICT (WCWD) STANDARD DETAILS

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NOTE
 COVER MAY BE FURNISHED WITH OR WITHOUT RIBS BUT MUST BE DESIGNED FOR H-20 HIGHWAY LOADING.
 PICK HOLE SHALL FIT A STANDARD PICK AND BE FORMED OR PROVIDED WITH A CUP OR CHANNEL SECTION BENEATH HOLE SUCH THAT BARS OR STICKS CANNOT FALL THROUGH.



SECTION A-A

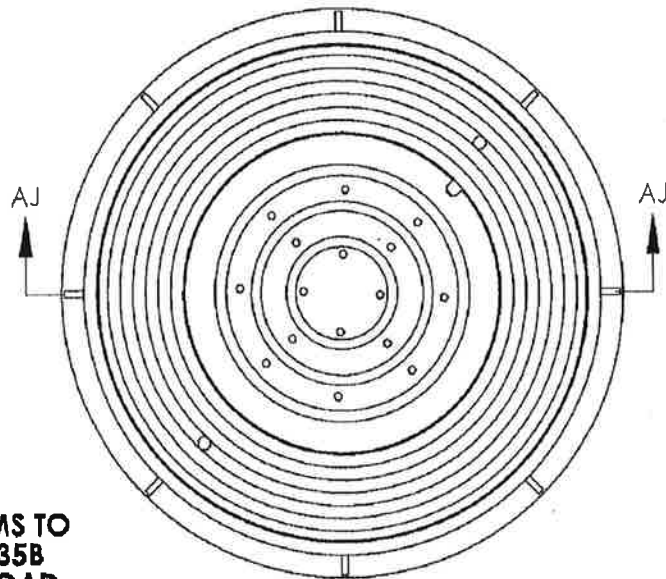
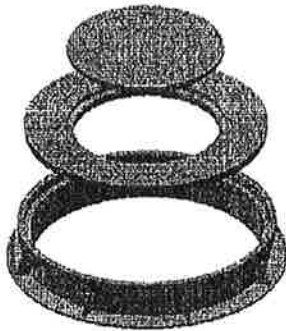
Approved 
 KENNETH R. COOK, PE
 DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

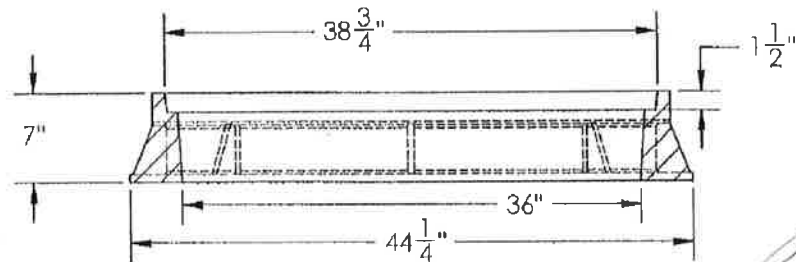
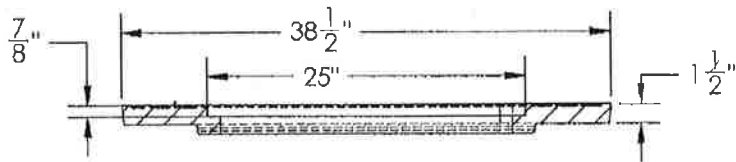
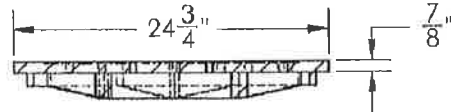
DRAWN BY: A. KATARIA
 DATE: JULY, 2012

MANHOLE FRAME AND COVER

DETAIL A-7



**NOTE: GREY IRON CONFORMS TO
ASTM A-48, CLASS 35B
MEETS H-20 WHEEL LOAD**



SECTION AJ-AJ

Approved

Kenneth R. Cook
**KENNETH R. COOK, PE
DISTRICT ENGINEER**

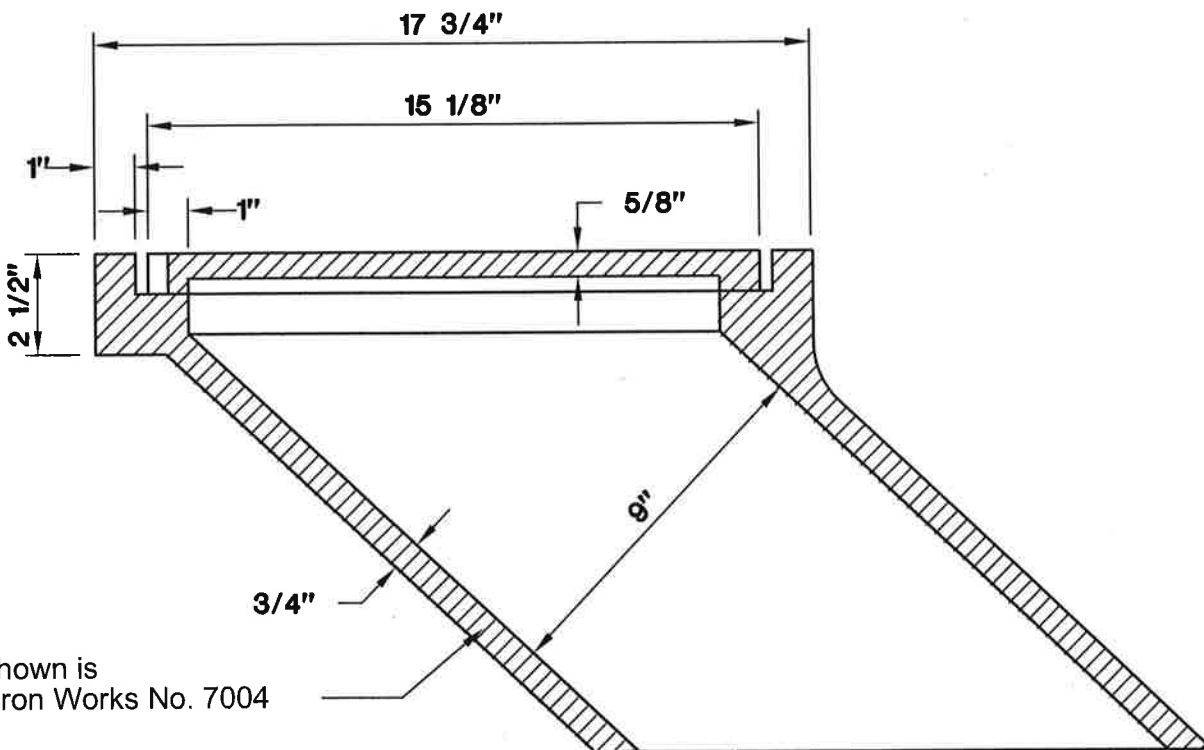
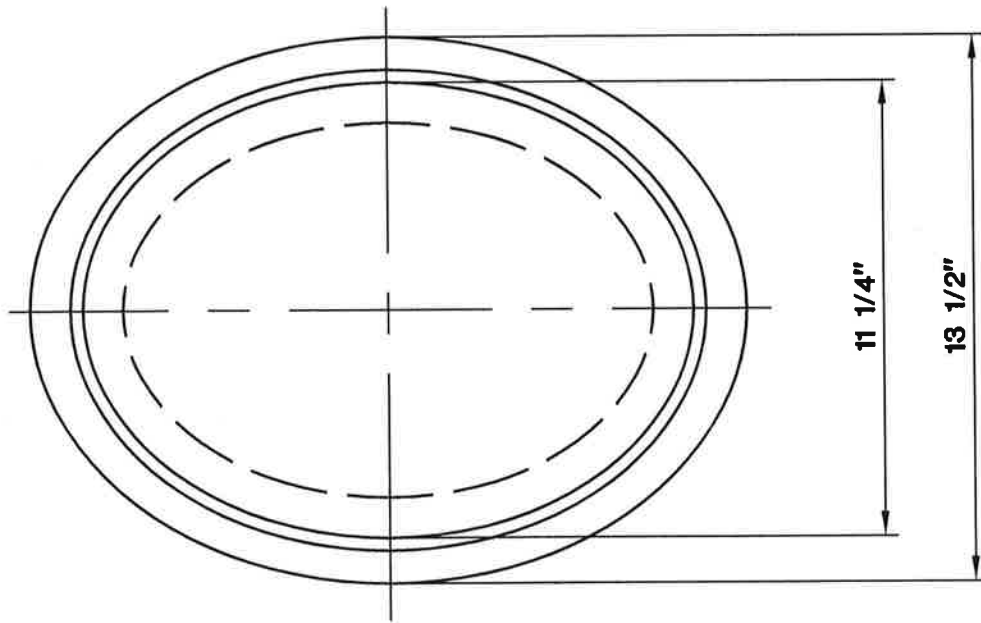
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM

DATE: DECEMBER, 2012

**FRAME AND COVER
STANDARD TRUNK MANHOLE**

DETAIL A-8



Pattern shown is
Phoenix Iron Works No. 7004

NOTES:

1. Riser frame and cover to be of cast iron ASTM designation A-48, CI 30.
2. There shall be no deviation from this detail without approval from District Engineer.

Approved


KENNETH R. COOK, PE
DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

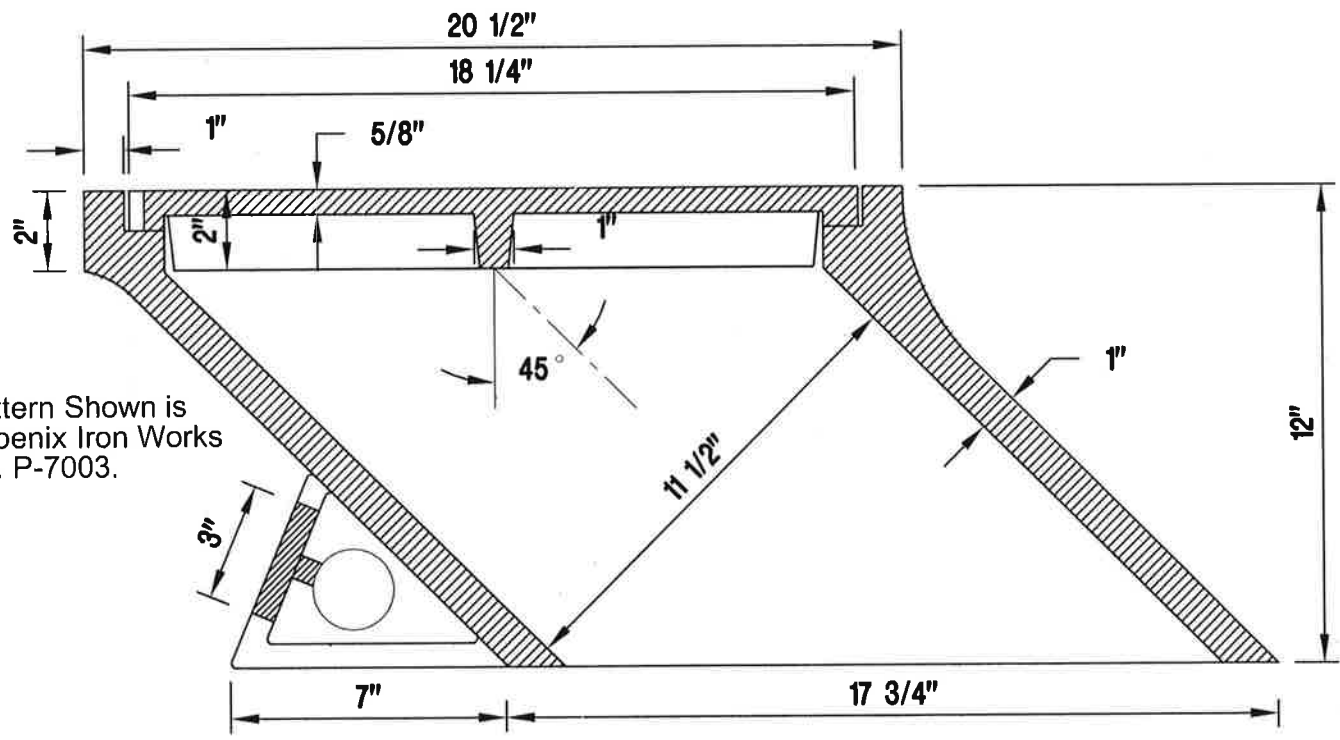
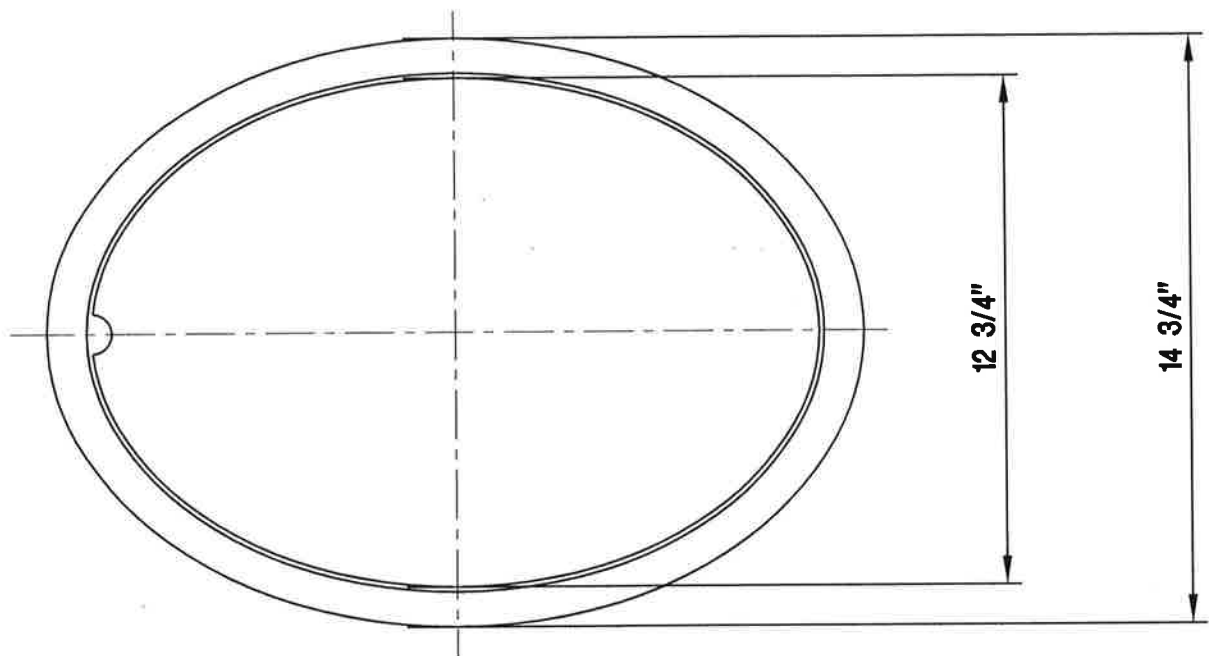
DRAWN BY: A. Kataria

DATE: JULY, 2012

6" RISER FRAME & COVER

STANDARD


DETAIL NO. B-1



Pattern Shown is
Phoenix Iron Works
No. P-7003.

NOTE

1. Riser frame and cover to be of cast iron ASTM designation A-48, CI 30.
2. There shall be no deviation from this detail without approval from District Engineer.

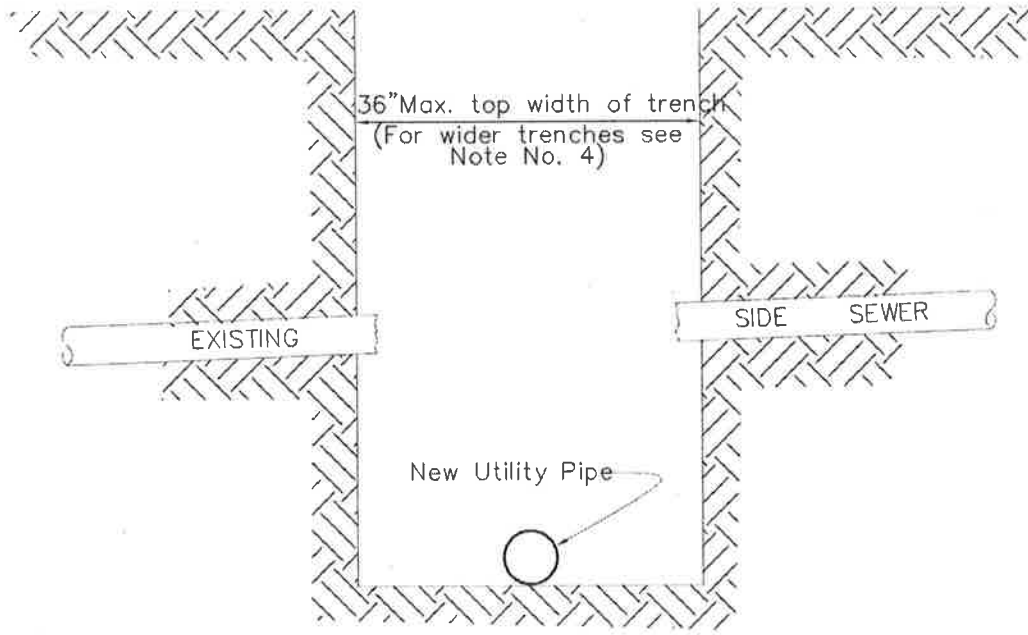
Approved: 
KENNETH R. COOK, PE
DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: A. Kataria
DATE: JULY, 2012

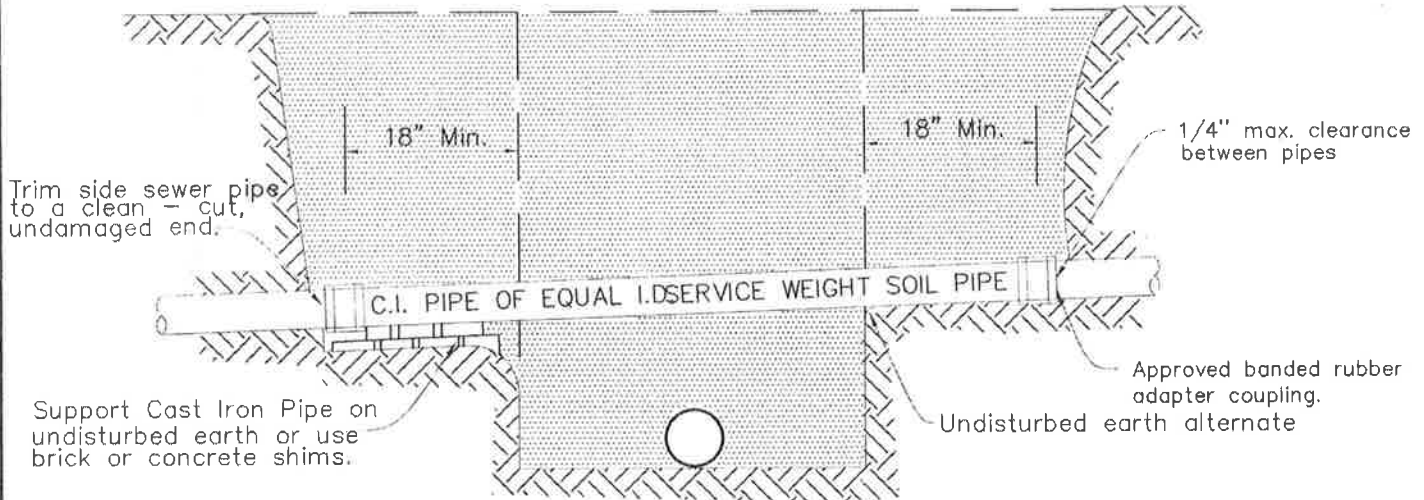
8" RISER FRAME AND COVER

STANDARD
DETAIL NO. B-2



BREAK

Backfill material to be Class II Aggregate Base, untreated rock base, or select fines as required.



REPAIR

NOTE

1. Repair method for breaks occasioned by new utility construction.
2. Alteration of sewer grades will be permitted only after permission has been given by the District Engineer.
3. After 1959 standard adopted by East Bay Conference on Sewer Practice.
4. Repair of side sewers for trench widths greater than 36" shall be as directed by the District Engineer.
5. Use adjustable stainless steel shear ring.

Approved: 
KENNETH R. COOK, PE
DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM

DATE: October, 2012

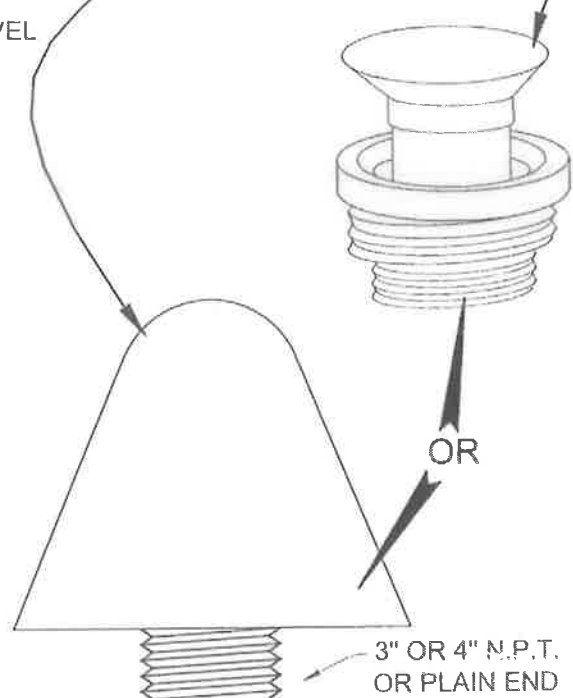
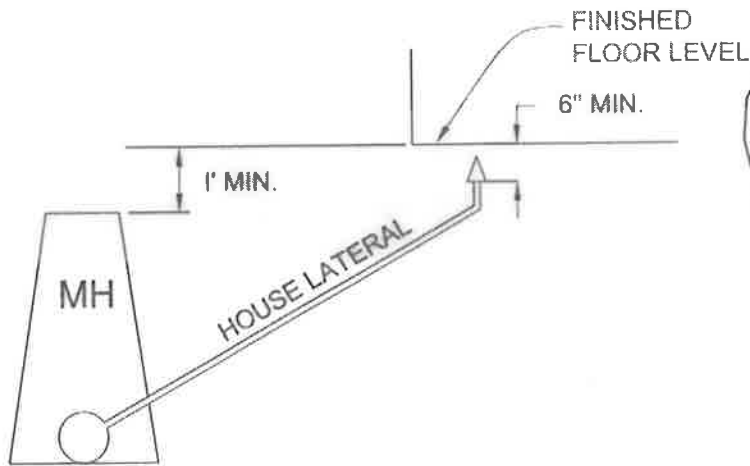
SIDE SEWER REPAIR

STANDARD
DETAIL NO. G-1

SEWER CLEANOUT & BACKFLOW PREVENTER REQUIRED FOR ALL CONSTRUCTION

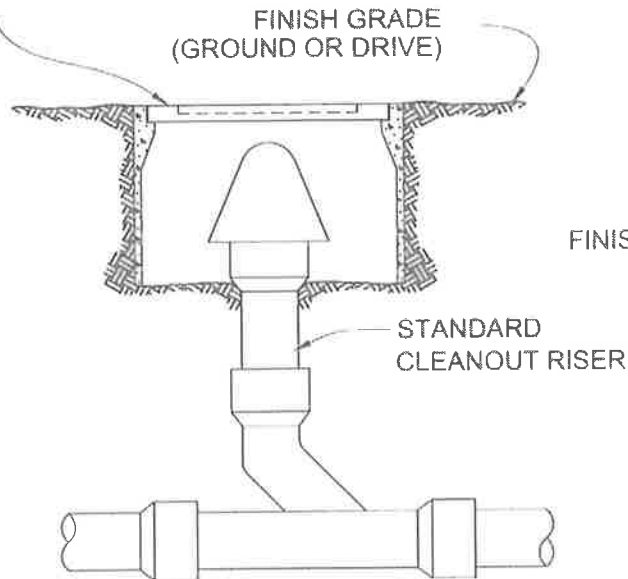
SEWER POPPER BY
JONES STEPHENS CORP.

MUSHROOM BACKWATER
OVERFLOW DEVICE

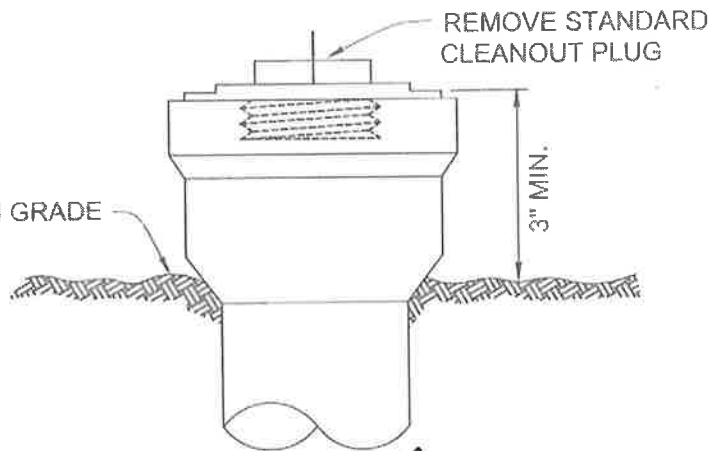


APPROVED CONCRETE VALUE BOX WITH
COVER SIMILAR TO ATTACHED DRAWING
QUICKSET W-17 WITH M TYPE COVER.

FINISH GRADE
(GROUND OR DRIVE)



FINISH GRADE



APPROVED:

Paul D. Winnicki
PAUL D. WINNICKI
DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

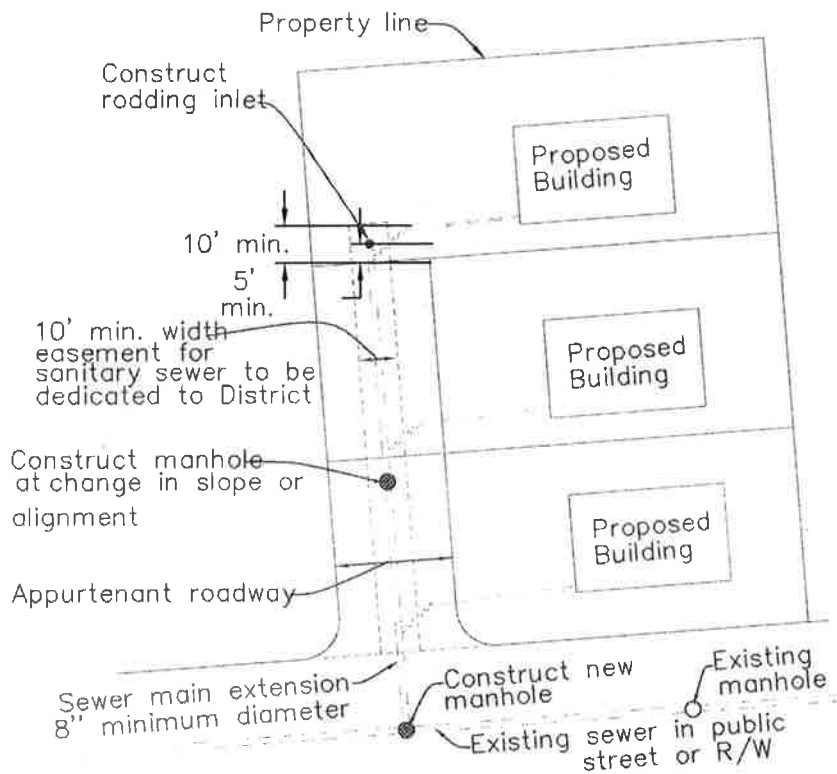
DRAWN BY: M. Allendorfer

DATE: March 26, 2002

BACKWATER OVERFLOW DEVICE

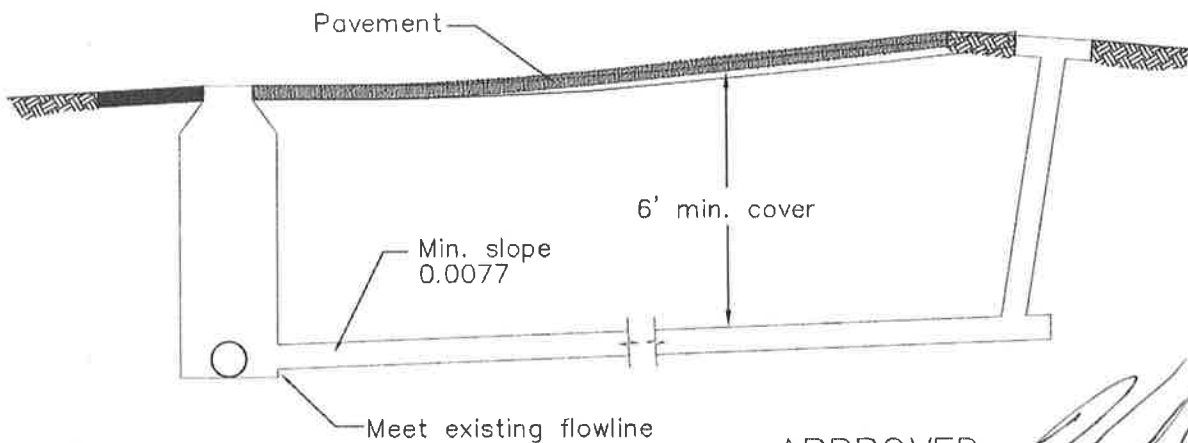
STANDARD

DETAIL No. G-2D



1. All manholes, rodding inlets, and pipe construction must conform to District specifications.
2. All sewer main extensions must be designed by a Registered Civil Engineer, and a plan, profile, and cost estimate submitted to the District for approval.
3. Fee will be charged in accordance with current District fee schedule.
4. No water, gas, or other utilities will be permitted in the same trench with the sewer.
5. Subdivisions consisting of five or more parcels must be approved by the Sanitary Board prior to the issuance of a permit for the construction of sewer mains.
6. Easements for sanitary sewer main extensions must be dedicated to the District prior to issuance of permit.

**PLAN OF TYPICAL
SEWER MAIN EXTENSION**



SEC A-A

APPROVED:

Kenneth R. Cook
KENNETH R. COOK, PE
DISTRICT ENGINEER

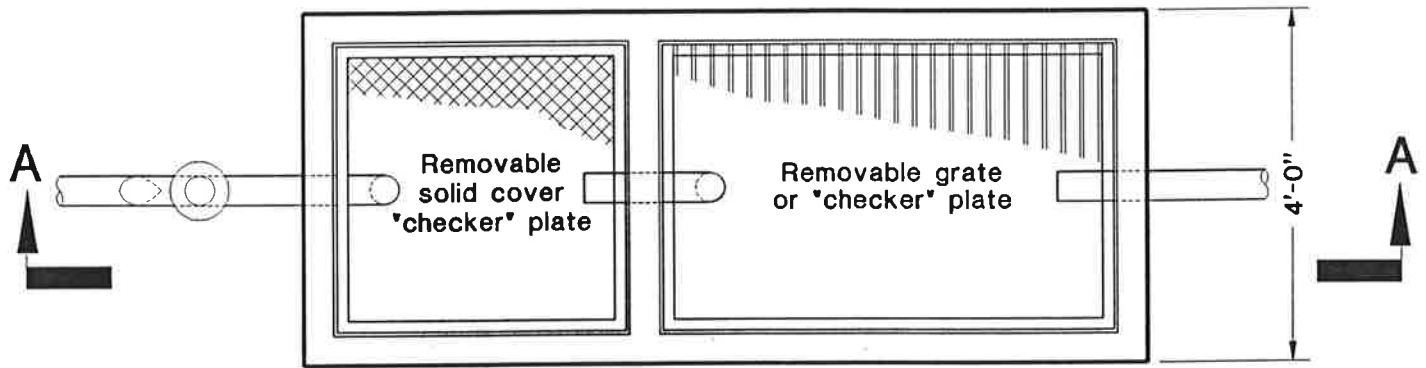
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: AJ/MM

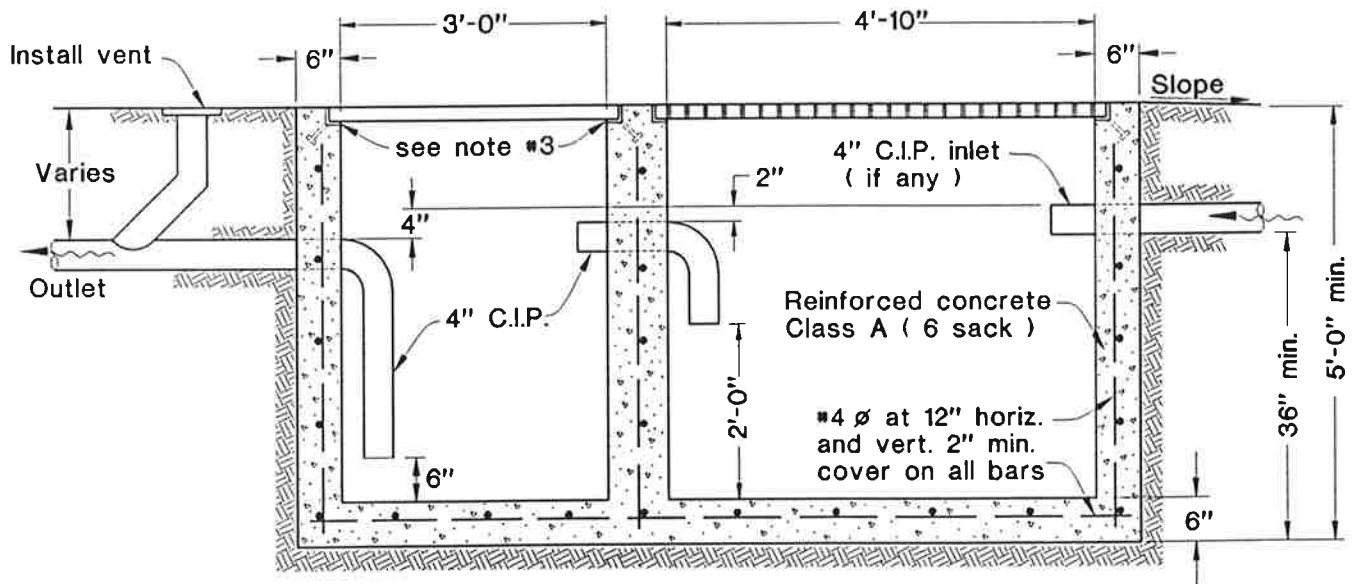
DATE: OCTOBER, 2012

**SEWER REQUIREMENTS
IN
MINOR SUBDIVISIONS**

G-3



PLAN



SECTION A-A

NOTES

1. No surface or roof drainage will be permitted to enter sump.
2. Cover plate or gratings shall be designed to sustain anticipated wheel loadings.
3. Plate seats shall be provided when directed by the District Engineer.
4. Waste discharge shall conform to provisions of West Contra Costa Sanitary District Ordinances.

Approved: *Paul D. Winnicki*
 Paul D. Winnicki
 District Engineer

WEST CONTRA COSTA SANITARY DISTRICT

DRAWN BY: JOJO BUMATAY

DATE: MARCH 1990

OIL SEPARATOR

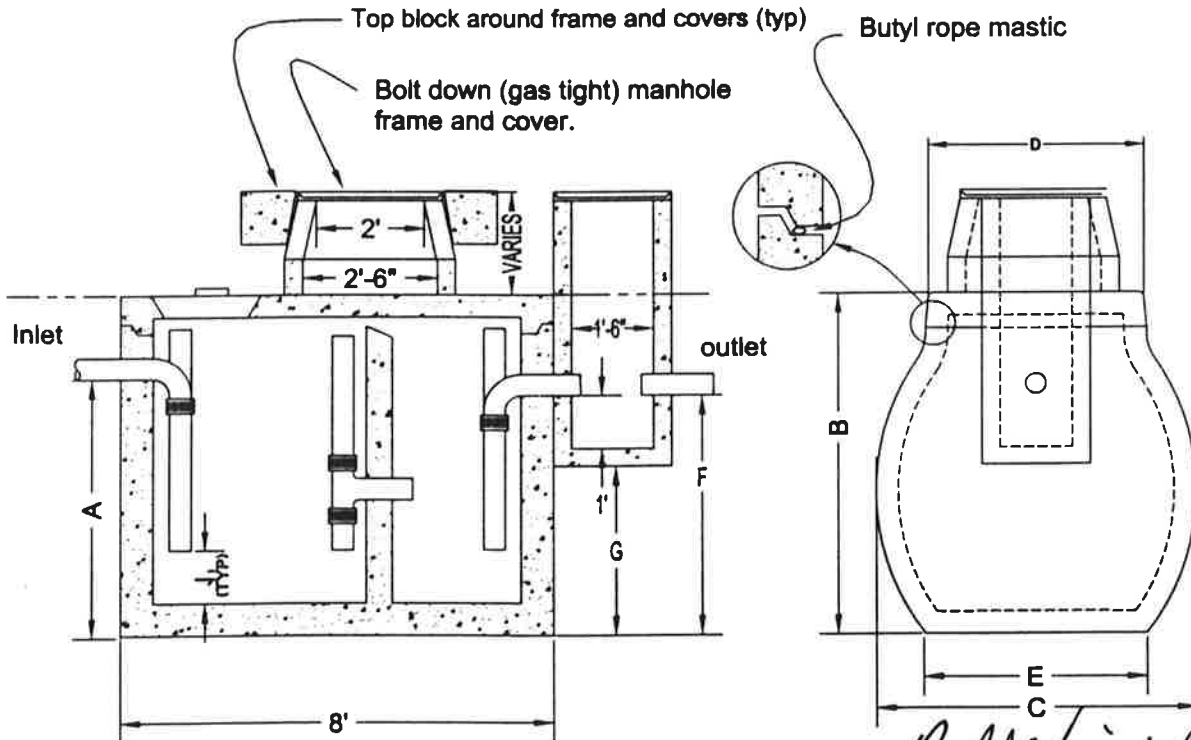
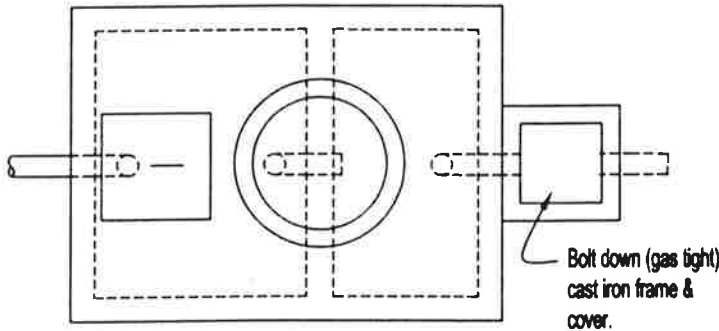
STANDARD

DETAIL No. G-4

Capacity In Gallons	A	B	C	D	E	F	G
750	3' 10"	4' 11"	5' 4"	3' 1"	3' 6"	3' 8"	2' 5"
1000	4' 4"	5' 3"	5' 11"	4' 3"	4' 11"	4' 2"	2' 11"
1250	5' 0"	5' 11"	5' 11"	4' 3"	3' 11"	4' 10"	3' 7"
1500	5' 0"	5' 11"	6' 11"	5' 3"	4' 11"	4' 10"	3' 7"

NOTES:

1. Details on this sheet depict a precast concrete tank as manufactured by M.C. Nottingham Co.
2. It is not the intent of this standard drawing to either specify or recommend the Nottingham product, but only to present an example of minimum acceptable design.
3. Manufacturer's details and specifications for all grease interceptor installations shall be submitted for approval by the District Engineer.
4. The grease interceptor shall be installed outside the building.
5. Grease interceptor shall be located in such a manner as to preclude the entrance of surface runoff water



APPROVED

Paul W. Wierich
DISTRICT ENGINEER

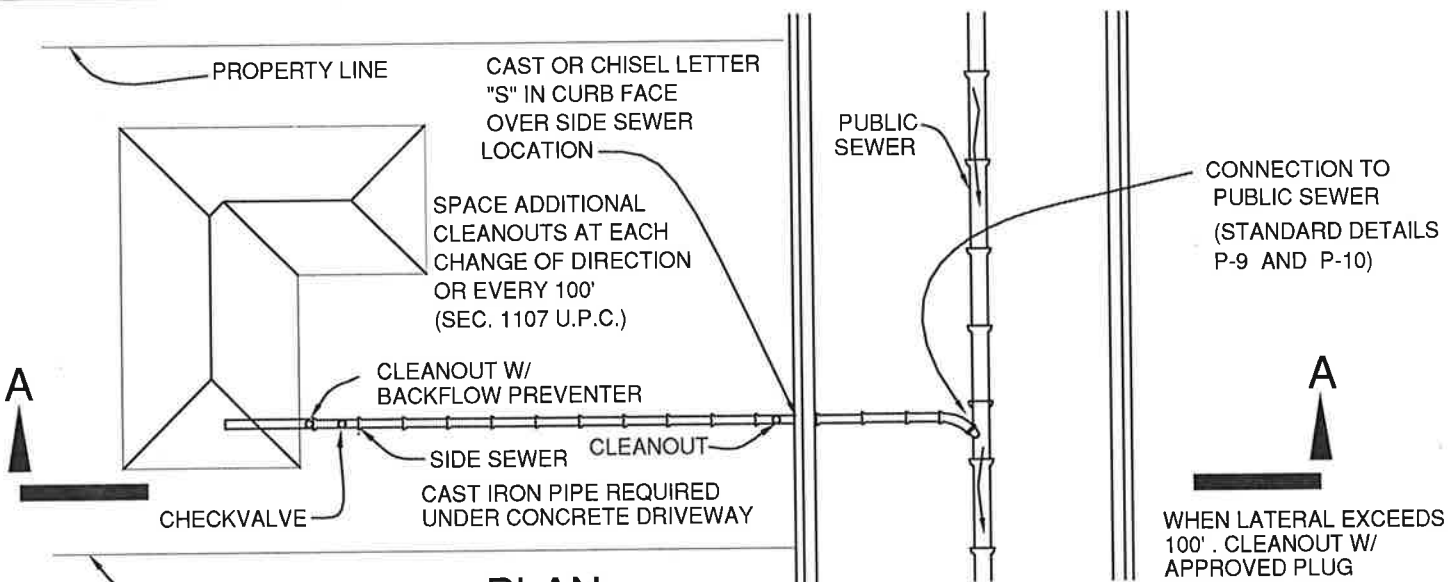
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: M. Allendorfer

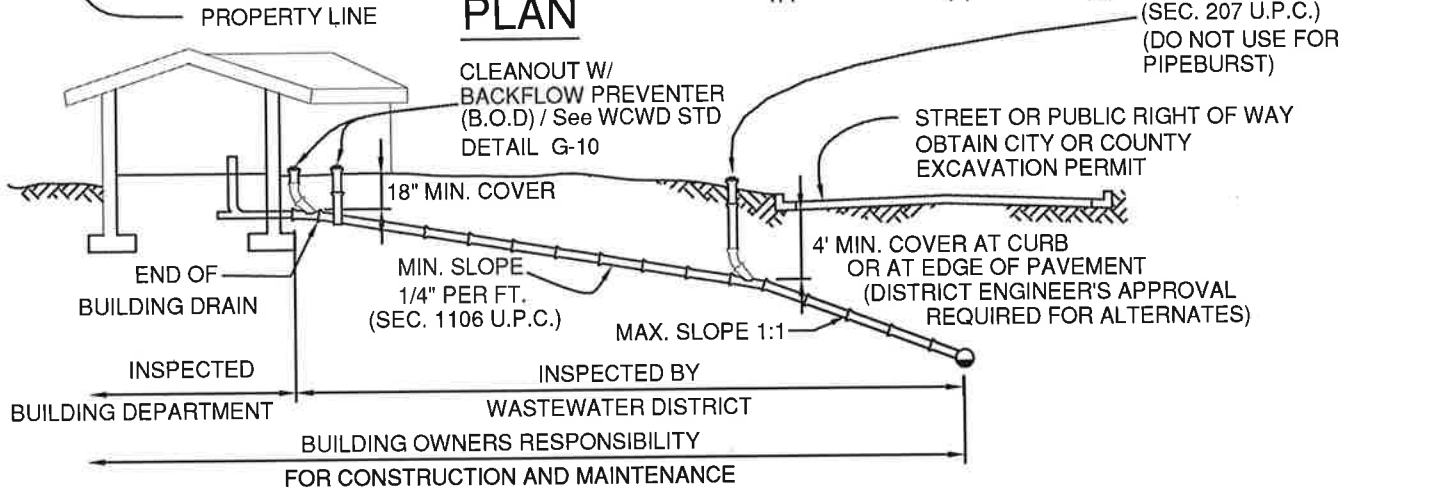
GREASE INTERCEPTOR

G-4A

DATE: 9/14/99



PLAN



SECTION A-A

SIZING TABLE

USE	MIN. DIAM.
ONE SINGLE-FAMILY DWELLING	4 IN.
TWO OR MORE SINGLE-FAMILY DWELLINGS	6 IN.
MULTIPLE DWELLINGS AND TRAILER COURTS (LESS THAN SIX UNITS)	4 IN.
MULTIPLE DWELLINGS AND TRAILER COURTS (SIX OR MORE UNITS)	6 IN.
COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL BUILDINGS	6 IN.
COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL BUILDINGS (gpd > 118,000gpd)	8 IN.

FOR FURTHER PIPE SIZING CONSIDERATIONS SEE SEC. 1105 I.A.P.M.O. UNIFORM PLUMBING CODE

CONNECTION TO SEWER MAIN

SIDE SEWER DIAMETER	SEWER MAIN DIAMETER		
	6 IN.	8 IN.	10 IN. OR LARGER
4 IN.	WYE	WYE	AS DETERMINED
6 IN.	WYE	WYE	AS DETERMINED

NOTES

1. APPROVED MATERIALS ARE C-900-DR 14 PVC, VITRIFIED CLAY PIPE AND CAST IRON PIPE AND JOINTS, IN ACCORDANCE WITH THE I.A.P.M.O. UNIFORM PLUMBING CODE.
2. ALL BUILDINGS ON SLOPE MUST HAVE BACKFLOW PROTECTION DEVICE INSTALLED.
3. COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL BUILDINGS SHALL HAVE AN OIL SEPARATOR OR GREASE TRAP AS DIRECTED (SEE STANDARD DETAIL G-4)
4. LOW AIR PRESSURE TESTS WILL BE REQUIRED ON ALL NEW PIPELINE INSTALLATIONS. PIPE BURST - SIDE SEWERS WILL BE INSPECTED VIA CLOSED CIRCUIT VIDEO.

Approved By:

(Signature)
KENNETH R. COOK, PE
 ENGINEERING SERVICES MANAGER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: M. MCNEIL

DATE: Sept, 2015

SIDE SEWERS

STANDARD
 DETAIL **G-5**

**TRAILER SEWAGE
DISPOSAL STATION**

Position trailer drain outlet to be over pad while draining. Place drain hose securely in drain opening while holding cover open with foot. Effectively flush pad after each use.

Sign A

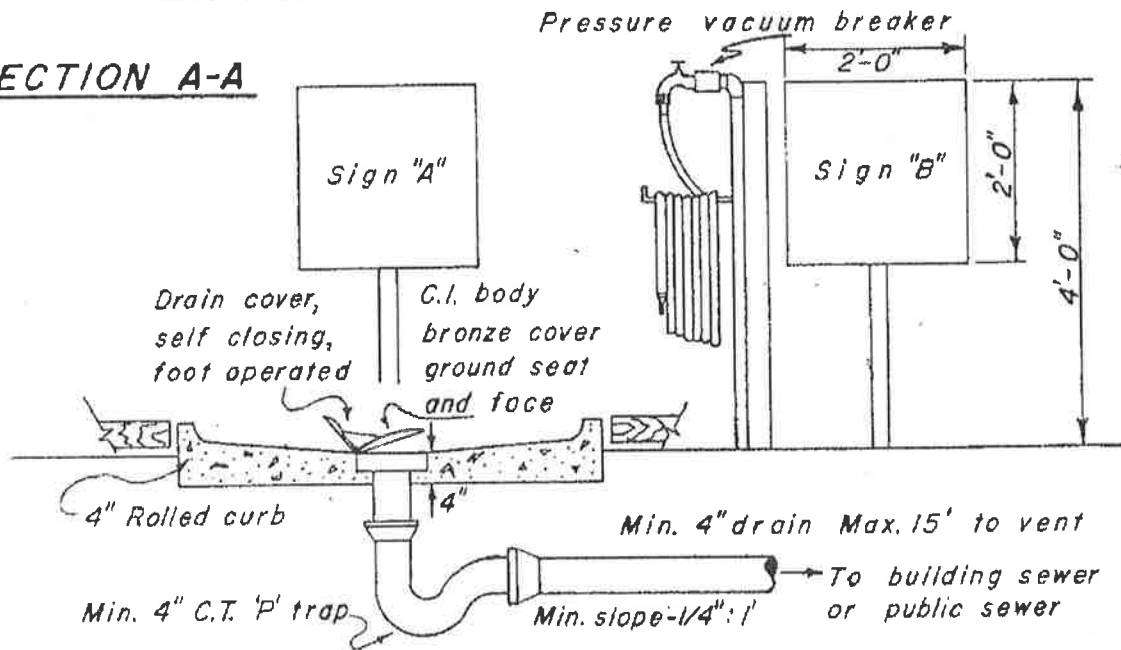
**DANGER
UNSAFE WATER**

Use This Hose To Flush
Pad And Trailer Tank

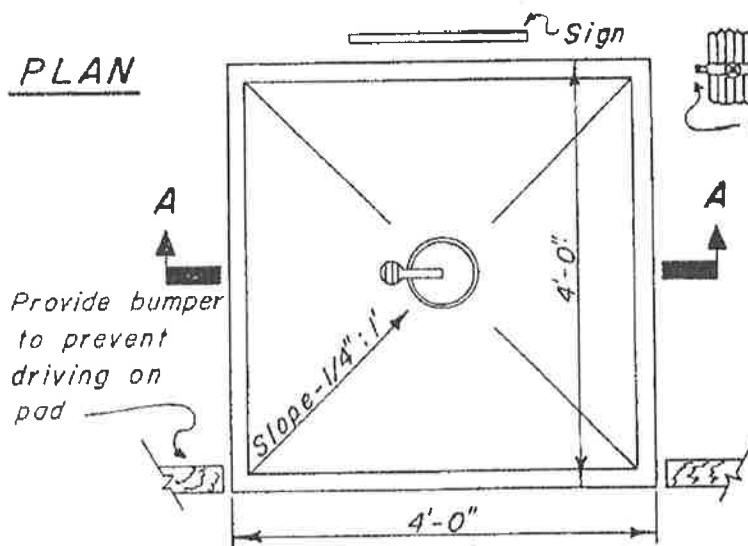
ONLY

Sign B

SECTION A-A



PLAN



NOTE

Installation must comply with sections 5570 thru 5582, Title 25 of the California Government Code.

Approved:

KENNETH R. COOK, PE
DISTRICT ENGINEER

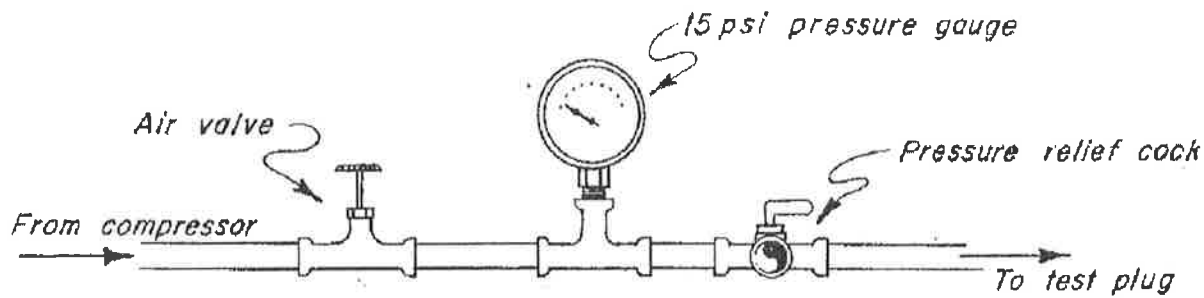
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM

DATE: SEPT, 2012

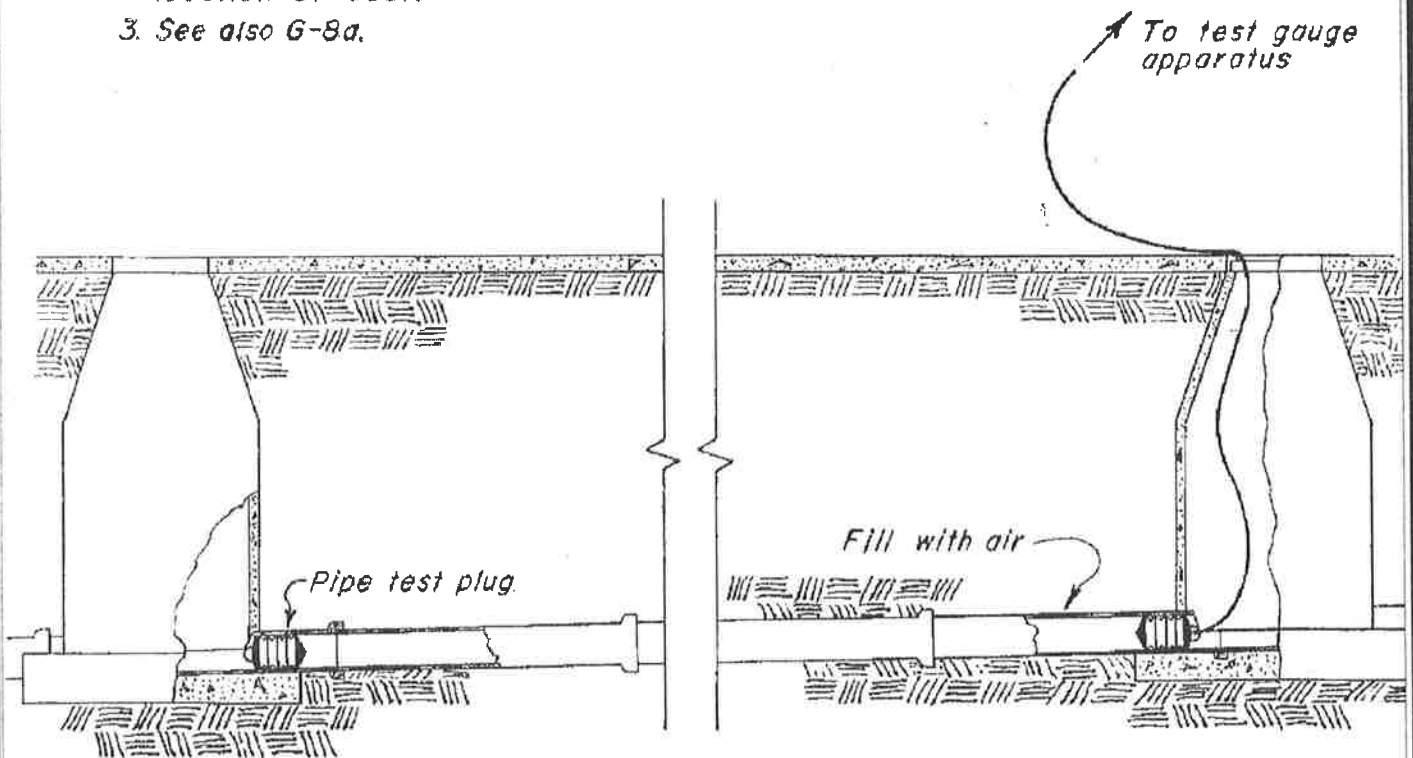
TRAILER SEWAGE
DISPOSAL STATION

G-6



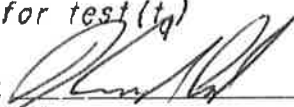
NOTES

1. Pipe test plugs must fit air tight.
2. To help locate leaks look for dust rising in backfill material or introduce a little ether into the line and search for location of odor.
3. See also G-8a.



NOTE: AIR TESTING IS NOT ACCEPTABLE FOR PLASTIC PIPE.

For test procedure and determination of time required for test (t_q) see G-8a.

Approved: 
 KENNETH R. COOK, PE
 DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: Marcus McNeil

DATE: September, 2012

AIR TESTING

STANDARD
 DETAIL **G-8**

DIAMETER OF PIPE INCHES	LENGTH OF LINE FEET	LENGTH OF TEST MINUTES
4	ALL	2
6	0 TO 300	2
6	300 TO 370	2 1/2
6	370 AND GREATER	3
8	0 TO 170	2
8	170 TO 210	2 1/2
8	210 TO 250	3
8	250 TO 290	3 1/2
8	290 AND GREATER	3 3/4
10	0 TO 110	2
10	110 TO 165	3

DIAMETER OF PIPE INCHES	LENGTH OF LINE FEET	LENGTH OF TEST MINUTES
10	165 TO 215	4
10	215 AND GREATER	4 3/4
12	0 TO 115	3
12	115 TO 155	4
12	155 TO 190	5
12	190 TO GREATER	6
15	0 TO 120	5
15	120 TO 165	7
15	165 AND GREATER	8
18	ALL	8 1/2
21	ALL	10

INITIAL AIR PRESSURE WITHIN THE LINE SHALL BE INCREASED TO FOUR POUNDS PER SQUARE INCH (4 PSI). AFTER AIR SUPPLY IS SECURELY TURNED OFF, OR DISCONNECTED, THERE SHALL BE A TWO (2) MINUTE STABILIZATION PERIOD BEFORE THE ACTUAL TEST BEGINS. MINIMUM AIR PRESSURE AT THE BEGINNING OF TEST PERIOD SHALL NOT BE LESS THAN 3.5 PSI. THE DURATION OF THE TEST PERIOD SHALL BE AS SPECIFIED IN THE TABLE ABOVE, WITH MAXIMUM AIR PRESSURE LOSS NOT TO EXCEED 1 PSI.

Approved 
 KENNETH R. COOK, PE
 DISTRICT ENGINEER

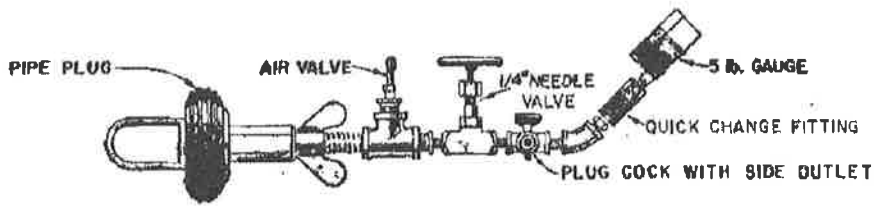
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: Ajay Kataria

DATE: September, 2012

AIR TEST TIME CHART

STANDARD
 DETAIL **G-8a**



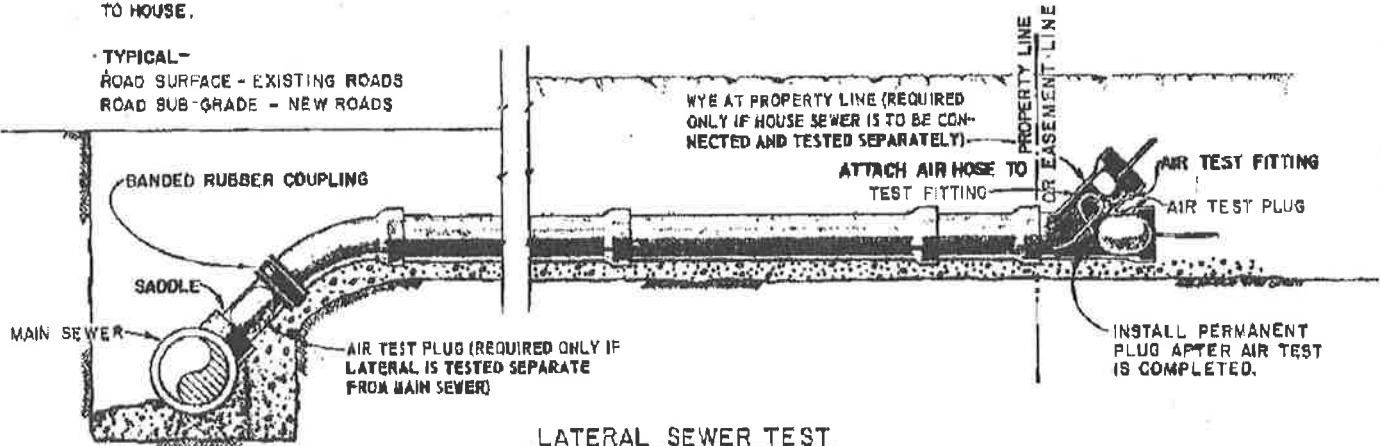
AIR TEST FITTING

FITTING SHOWN ABOVE CONSISTS OF THE MINIMUM HARDWARE REQUIRED AND SUGGESTS A RECOMMENDED CONFIGURATION ONLY.

LAY PIPE FROM SADDLE TO PROPERTY LINE, INSERTING AIR HOSE INSIDE AS IT IS BEING LAID TO THE WYE BRANCH AT PROPERTY LINE. INSTALL TEST EQUIPMENT AND PRESSURIZE LINE TO 4 P.S.I. IF TEST IS SATISFACTORY REMOVE PLUGS AND CONTINUE PIPE LAYING TO HOUSE.

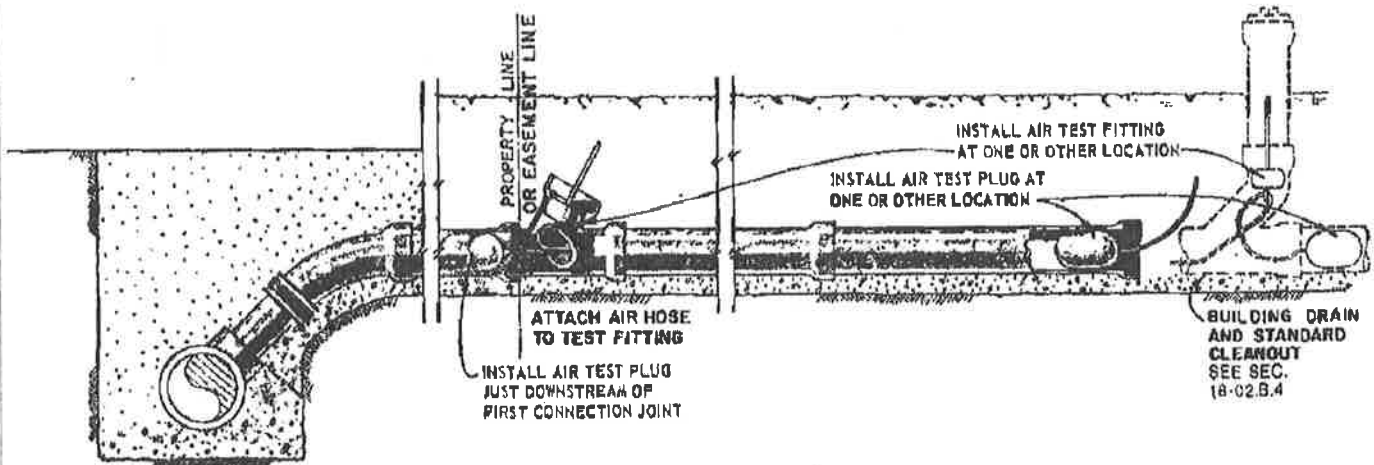
TYPICAL -

ROAD SURFACE - EXISTING ROADS
ROAD SUB-GRADE - NEW ROADS



LATERAL SEWER TEST

INSTALL TEST PLUGS AND TEST FITTINGS AS SHOWN AND PRESSURIZE LINE TO 4 P.S.I. AFTER APPROVAL, TEST EQUIPMENT MAY BE REMOVED AND HOUSE CONNECTION SHALL BE MADE.



HOUSE SEWER TEST

Approved: 
KENNETH R. COOK, PE
DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM

DATE: September, 2012

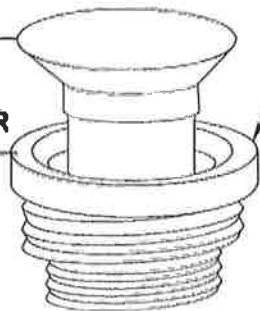
SIDE SEWER AIR TEST

STANDARD
DETAIL **G-8b**

SEWER CLEANOUT & BACKFLOW PREVENTER REQUIRED FOR ALL CONSTRUCTION

SEWER POPPER BY
JONES STEPHENS CORP.
OR
MUSHROOM BACKWATER
OVERFLOW DEVICE

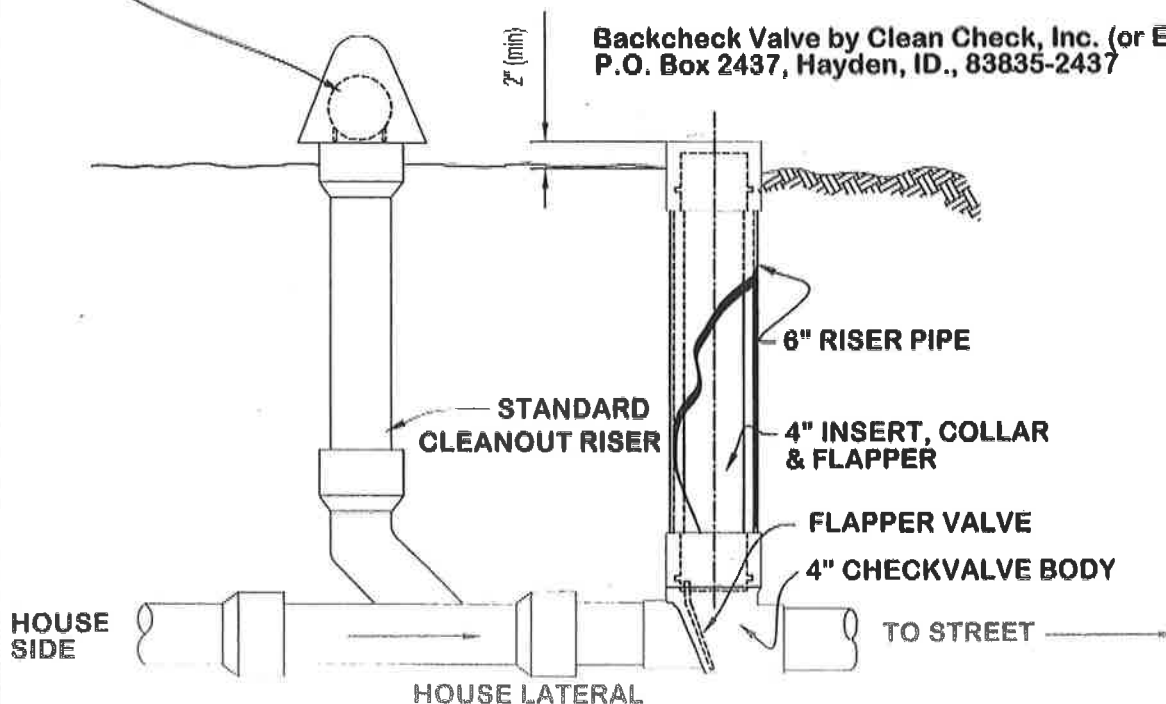
PROVIDE 6"
CLEARANCE
UNDER COVER



FOR LOCATIONS IN DRIVEWAY OR SIDEWALK, USE
CHRISTY B9XBOX (OR SIMILAR) W/ CONCRETE COVER

In accordance with District Ordinance 6-15-04, Section 17(b),
All property owners shall install, repair and maintain a
backwater overflow prevention device on any Building Sewer
or Sewer Lateral that is connected to, or intended for for
connection to, the WCWD's sewer system.

Backcheck Valve by Clean Check, Inc. (or Equal)
P.O. Box 2437, Hayden, ID., 83835-2437



APPROVED:

Paul D. Winnicki

PAUL D. WINNICKI
DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: M.W. Allendorfer

DATE: 8/05

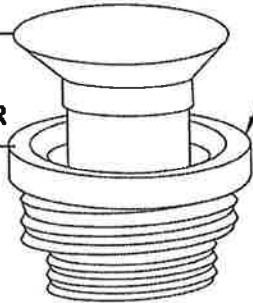
BACKWATER OVERFLOW DEVICE
AND BACKCHECK VALVE

G-10

SEWER CLEANOUT & BACKFLOW PREVENTER REQUIRED FOR ALL CONSTRUCTION

SEWER POPPER BY
JONES STEPHENS CORP.
OR
MUSHROOM BACKWATER
OVERFLOW DEVICE

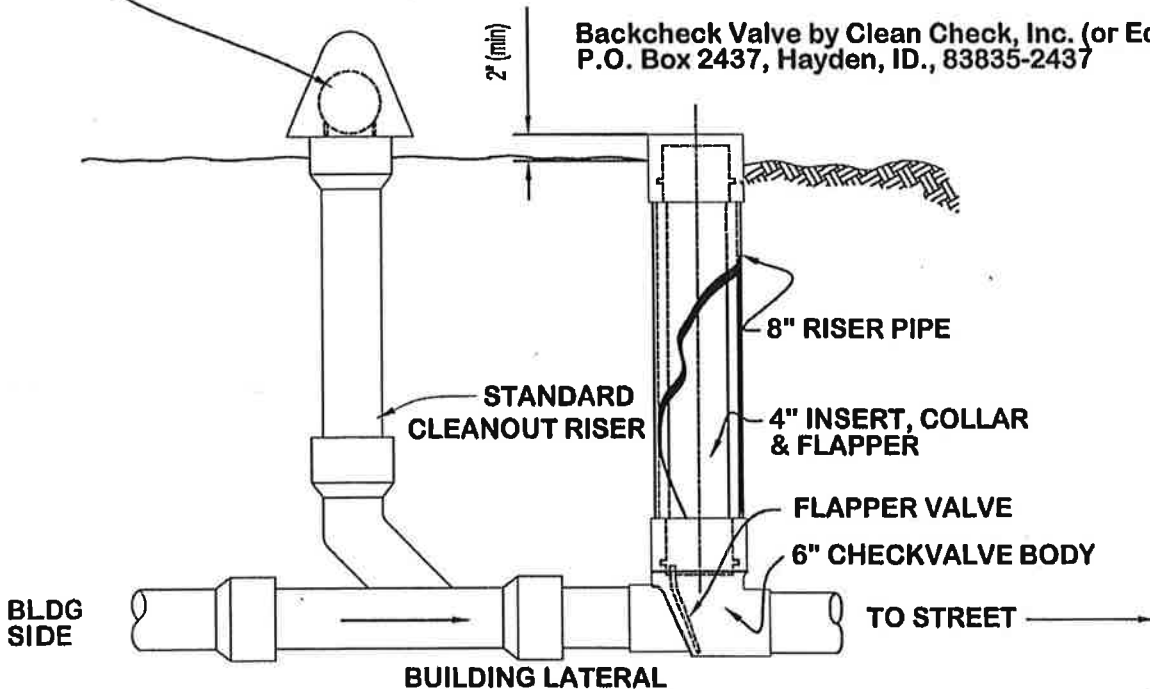
PROVIDE 6"
CLEARANCE
UNDER COVER



FOR LOCATIONS IN DRIVEWAY OR SIDEWALK, USE
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backwater overflow prevention device on any Building Sewer
or Sewer Lateral that is connected to, or intended for for
connection to, the WCWD's sewer system.

Backcheck Valve by Clean Check, Inc. (or Equal)
P.O. Box 2437, Hayden, ID., 83835-2437



APPROVED:

[Signature]
KEN R. COOK
ENGINEERING SERVICES MGR

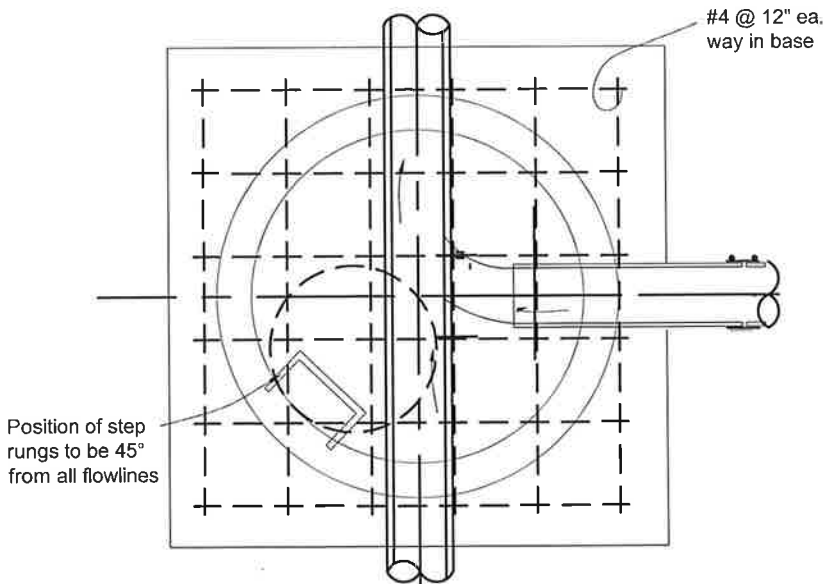
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: M. McNeil

DATE: 10/15

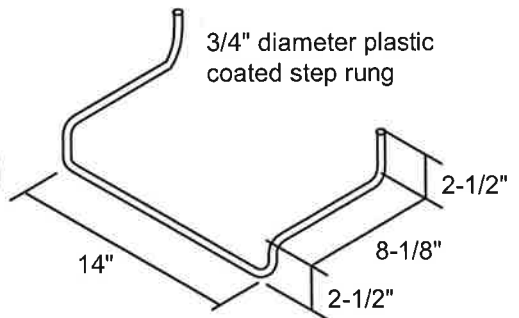
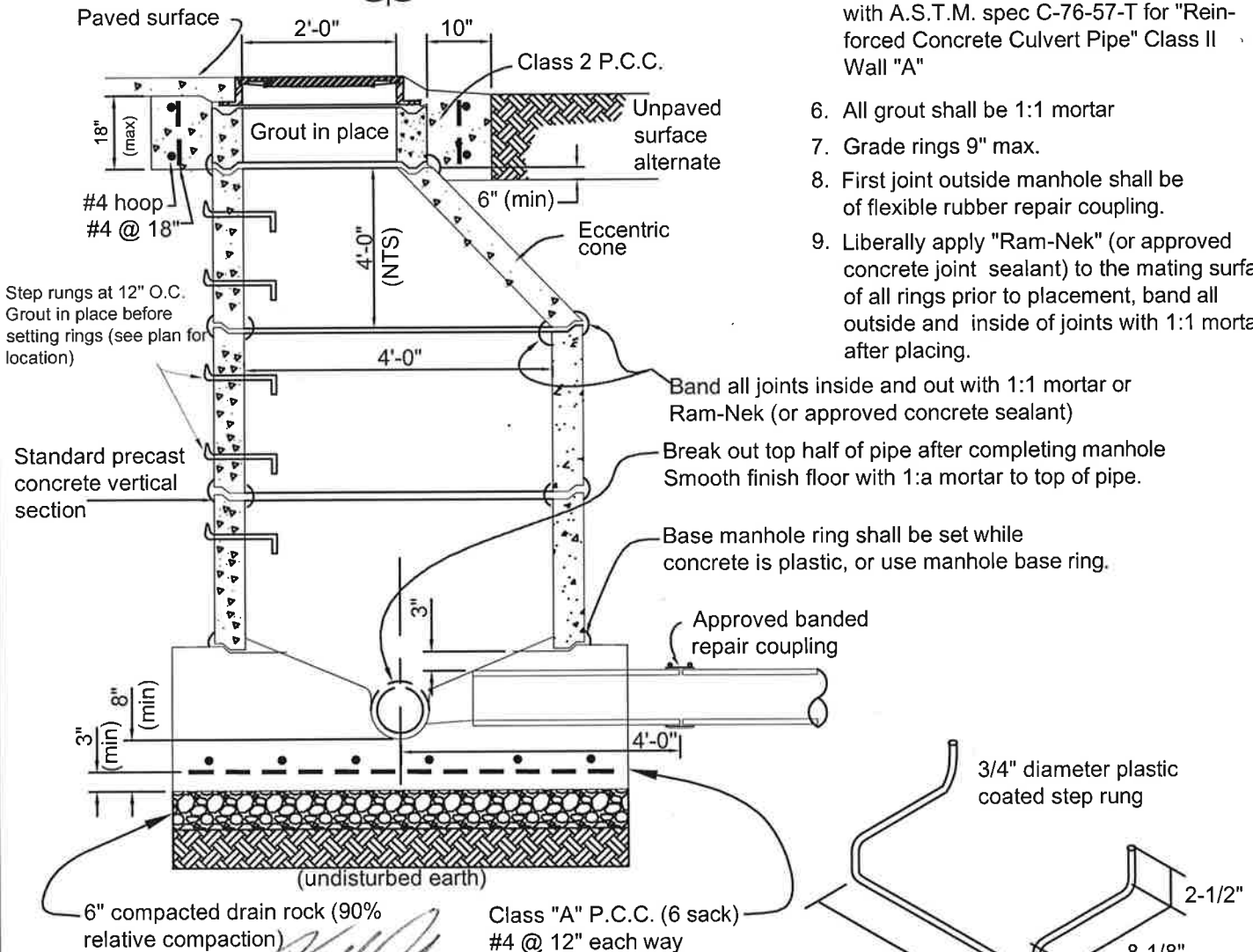
BACKWATER OVERFLOW DEVICE
AND BACKCHECK VALVE 6"

G-10C



NOTES:

1. Standard shows installation of vitrified clay pipe (VCP): consult the Engineering Service Manager for use of other approved materials.
2. Concrete classification is as specified in California Standard Specifications dated July, 1984 or later.
3. Manhole frame and cover shall be of cast iron, A.S.T.M. designation A-48, C.I. 30, with wording "SANITARY SEWER".
4. There shall be no deviation from these standard plans without the express permission of the Engineering Service Manager.
5. All reinforced concrete barrel and taper sections shall be manufactured to comply with A.S.T.M. spec C-76-57-T for "Reinforced Concrete Culvert Pipe" Class II Wall "A"
6. All grout shall be 1:1 mortar
7. Grade rings 9" max.
8. First joint outside manhole shall be of flexible rubber repair coupling.
9. Liberally apply "Ram-Nek" (or approved concrete joint sealant) to the mating surfaces of all rings prior to placement, band all outside and inside of joints with 1:1 mortar after placing.



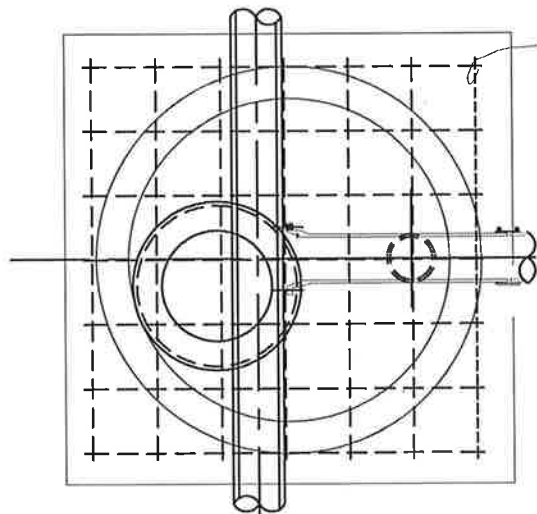
Approved 
 KENNETH R. COOK, PE
 ENGINEERING SERVICES MANAGER

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM
 DATE: JANUARY, 2016

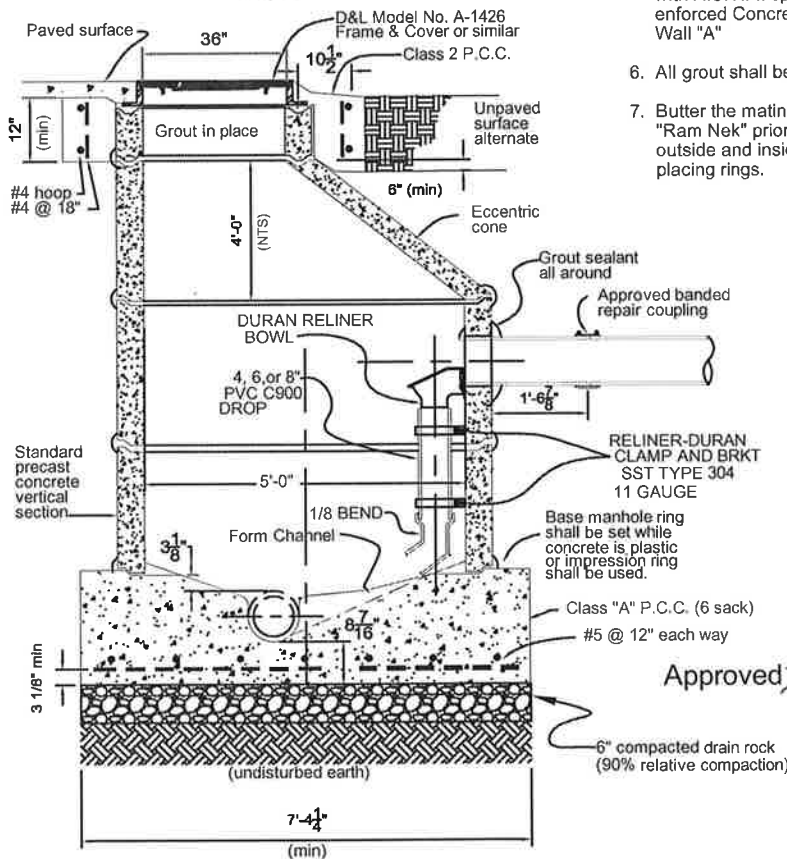
**STANDARD CONCRETE MANHOLE
 (FOR 12" DIA. PIPE OR LESS)**

DETAIL M-1



NOTES:

1. Standard shows installation of mechanical joint ductile iron pipe: consult the District Engineer for use of other approved materials.
2. Concrete classification is as specified in California Standard Specifications dated July, 1984 or later.
3. Manhole frame and cover shall be of cast iron, A.S.T.M. designation A-48, Class 35B with wording WCWD "SANITARY SEWER".
4. There shall be no deviation from these standard plans without the express permission of the District Engineer.
5. All reinforced concrete barrel and taper sections shall be manufactured to comply with A.S.T.M. spec C-76-57-T for "Reinforced Concrete Culvert Pipe" Class II Wall "A"
6. All grout shall be 1:1 mortar
7. Butter the mating surfaces of all rings with "Ram Nek" prior to placing rings, band all outside and inside with 1:1 mortar after placing rings.



Approved

[Signature]
 KENNETH R. COOK, PE
 ENGINEERING SERVICES MANAGER

WEST COUNTY WASTEWATER DISTRICT

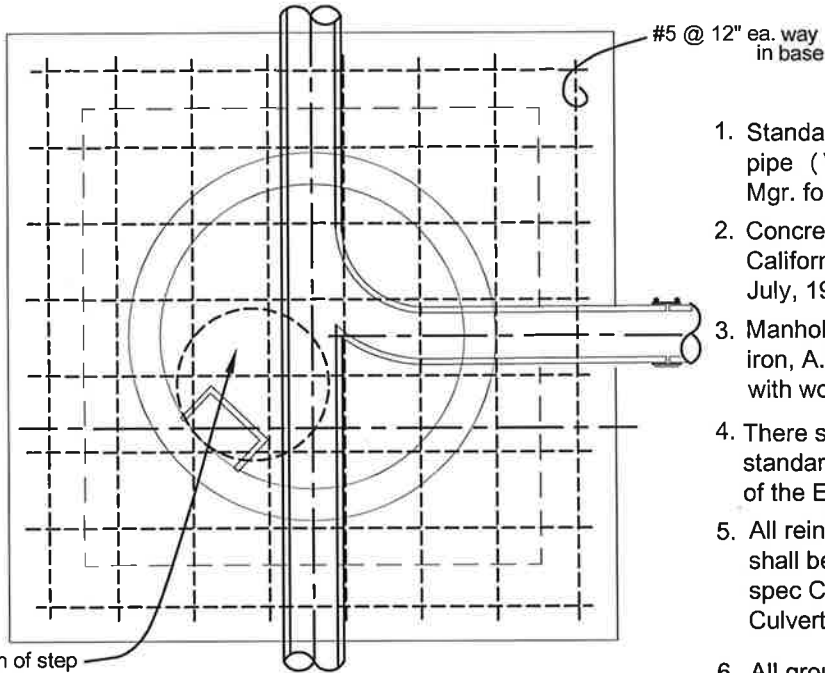
DRAWN BY: MM

DATE: February, 2015

INSIDE DROP CONNECTION

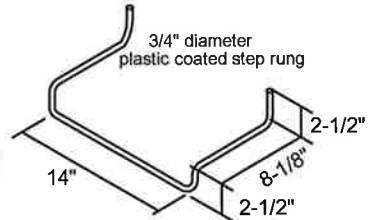
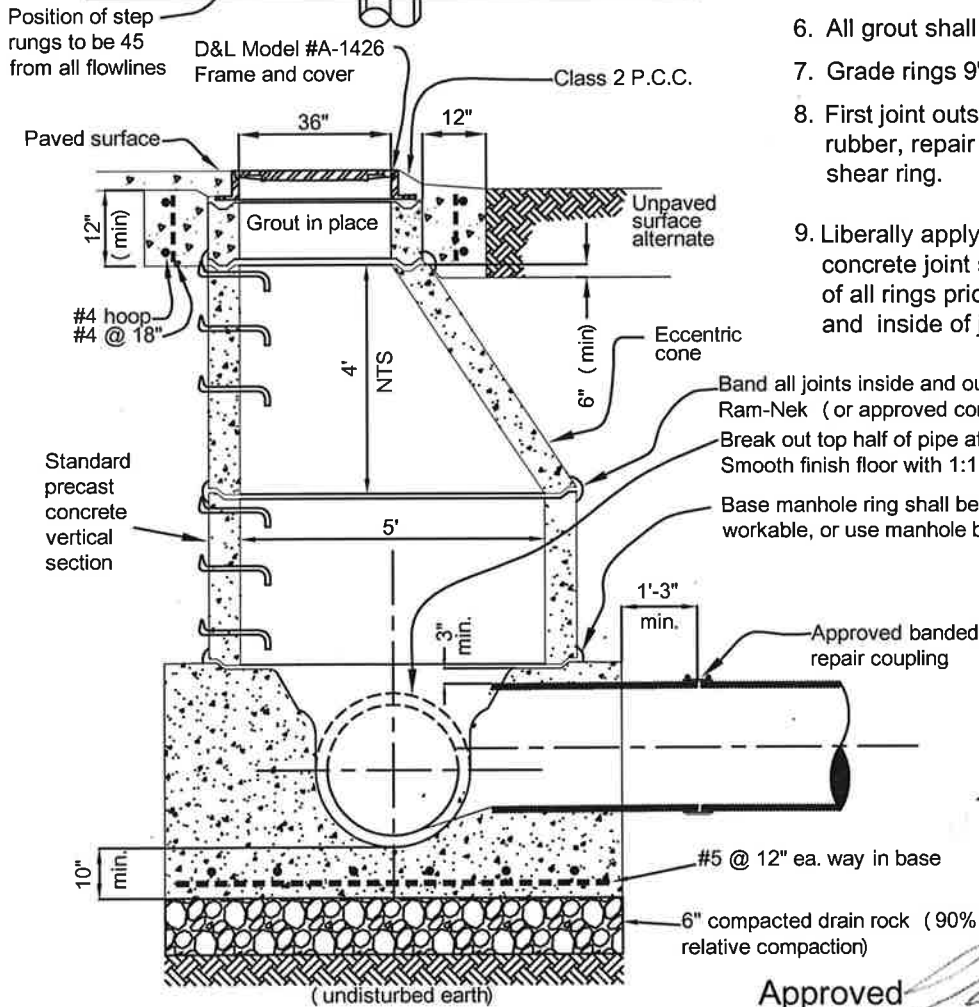
STANDARD DETAIL

M-2



NOTES:

1. Standard shows installation of vitrified clay pipe (VCP) : consult the Eng. Service Mgr. for use of other approved materials.
2. Concrete classification is as specified in California Standard Specifications dated July, 1984 or later.
3. Manhole frame and cover shall be of cast iron, A.S.T.M. designation A-48, Class 35B with wording "WCWD SANITARY SEWER".
4. There shall be no deviation from these standard plans without the express permission of the Engineering Service Manager.
5. All reinforced concrete barrel and taper sections shall be manufactured to comply with A.S.T.M. spec C-76-57-T for "Rein- enforced Concrete Culvert Pipe" Class II Wall "A"
6. All grout shall be 1:1 mortar
7. Grade rings 9" max.
8. First joint outside manhole shall be of flexible rubber, repair coupling with stainless steel shear ring.
9. Liberally apply "Ram-Nek" (or approved concrete joint sealant) to the mating surfaces of all rings prior to placement, band all outside and inside of joints with 1:1 mortar after placing.



Approved

Kenneth R. Cook
 KENNETH R. COOK, PE
 ENGINEERING SERVICES MANAGER

WEST COUNTY WASTEWATER DISTRICT

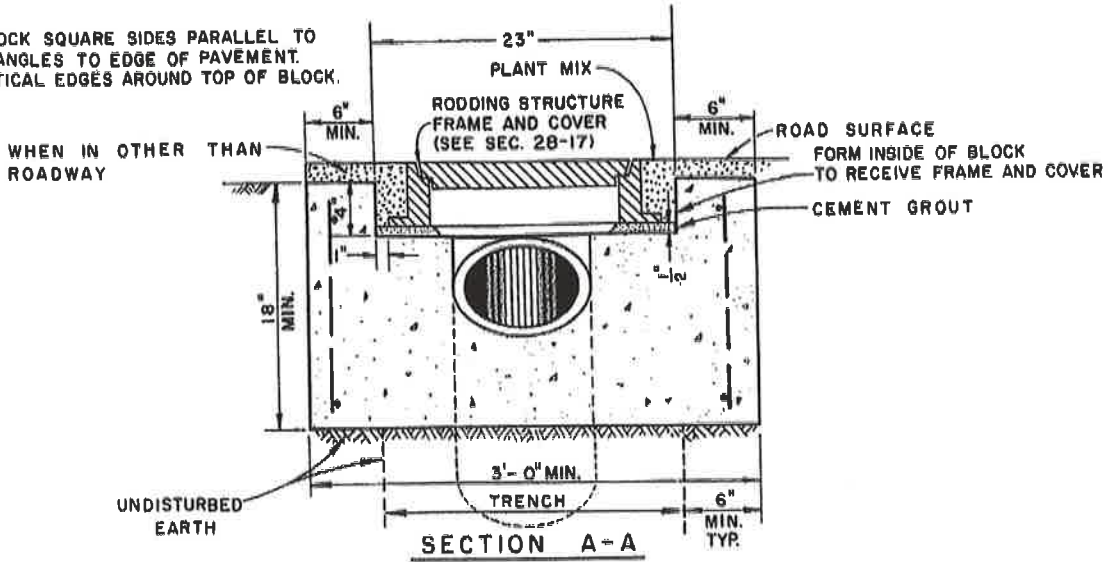
DRAWN BY: MM

DATE: January 2016

**STANDARD TRUNK MANHOLE
 (FOR 15" DIA. PIPE OR ABOVE)**

**STANDARD
 DETAIL M-3**

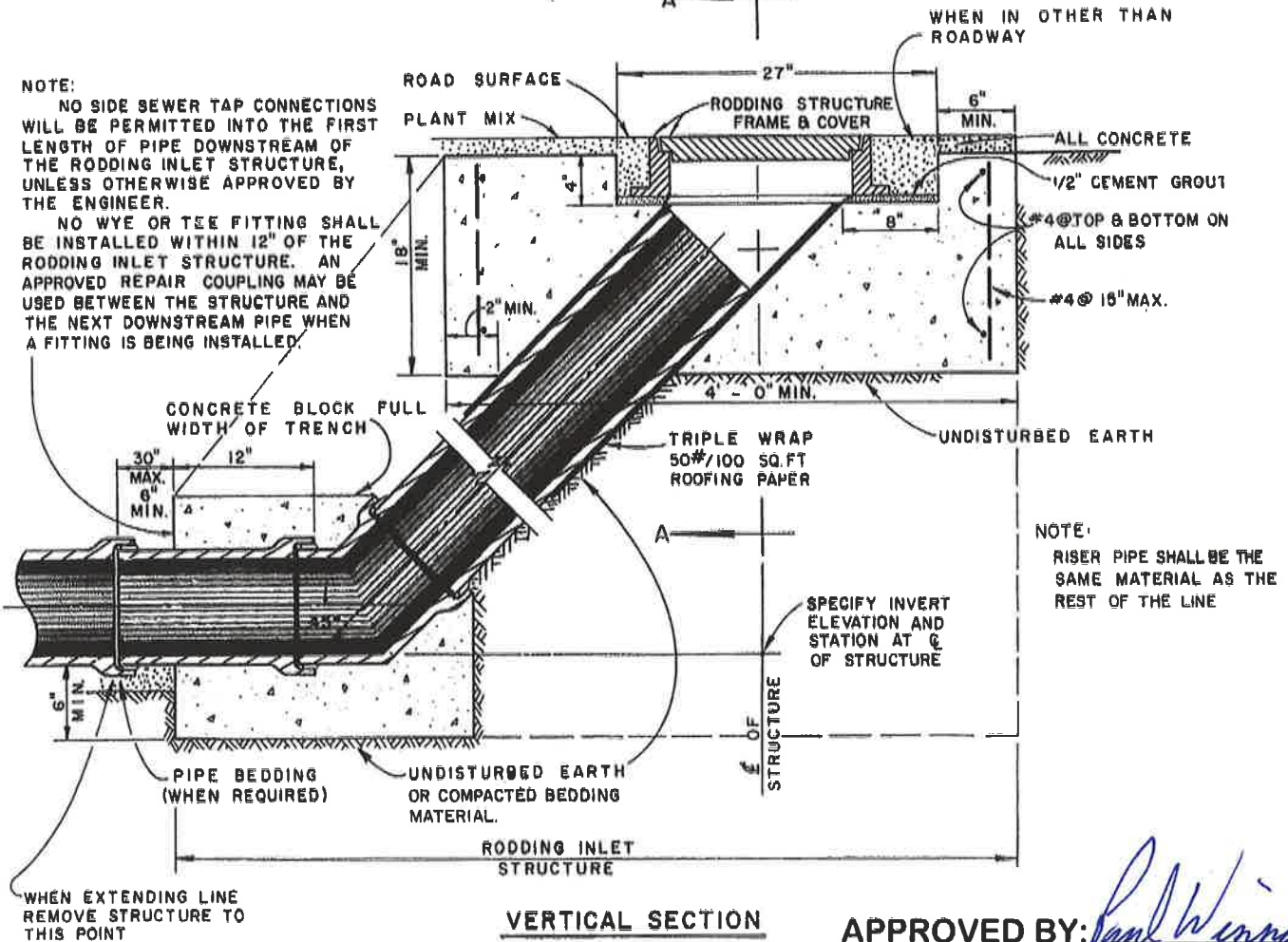
CONCRETE BLOCK SQUARE SIDES PARALLEL TO OR AT RIGHT ANGLES TO EDGE OF PAVEMENT. FORM 3" VERTICAL EDGES AROUND TOP OF BLOCK.



NOTE:

NO SIDE SEWER TAP CONNECTIONS WILL BE PERMITTED INTO THE FIRST LENGTH OF PIPE DOWNSTREAM OF THE RODDING INLET STRUCTURE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

NO WYE OR TEE FITTING SHALL BE INSTALLED WITHIN 12" OF THE RODDING INLET STRUCTURE. AN APPROVED REPAIR COUPLING MAY BE USED BETWEEN THE STRUCTURE AND THE NEXT DOWNSTREAM PIPE WHEN A FITTING IS BEING INSTALLED.



NOTE:

RISER PIPE SHALL BE THE SAME MATERIAL AS THE REST OF THE LINE

APPROVED BY: *Paul Winnicki*
PAUL D WINNICKI
 District Engineer

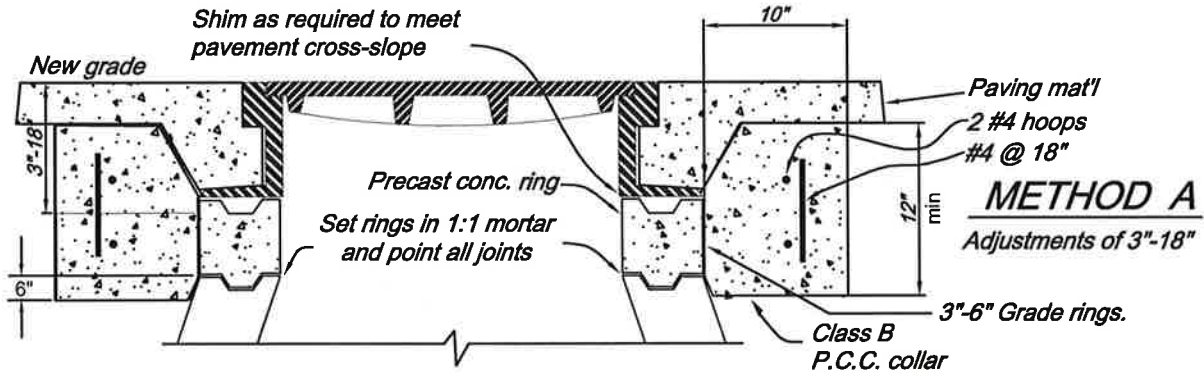
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: A. KATARIA

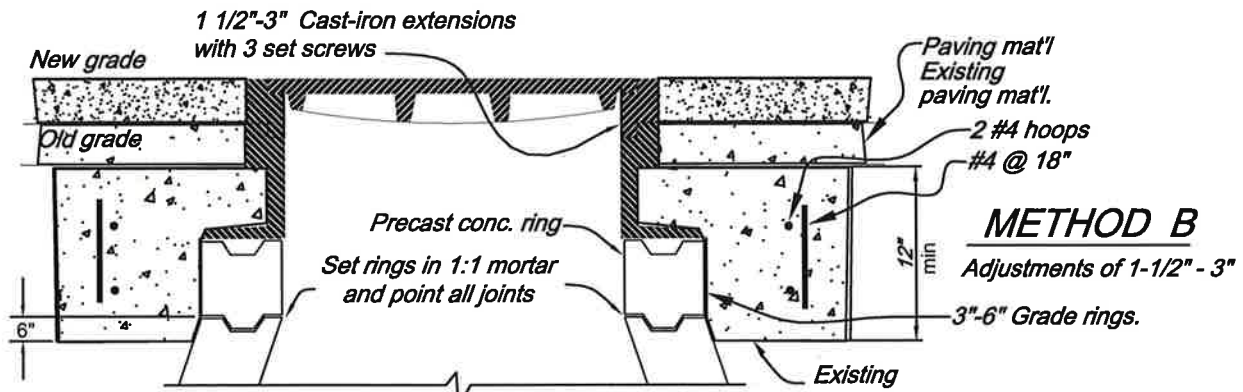
DATE: 1-3-2008

RODDING INLET

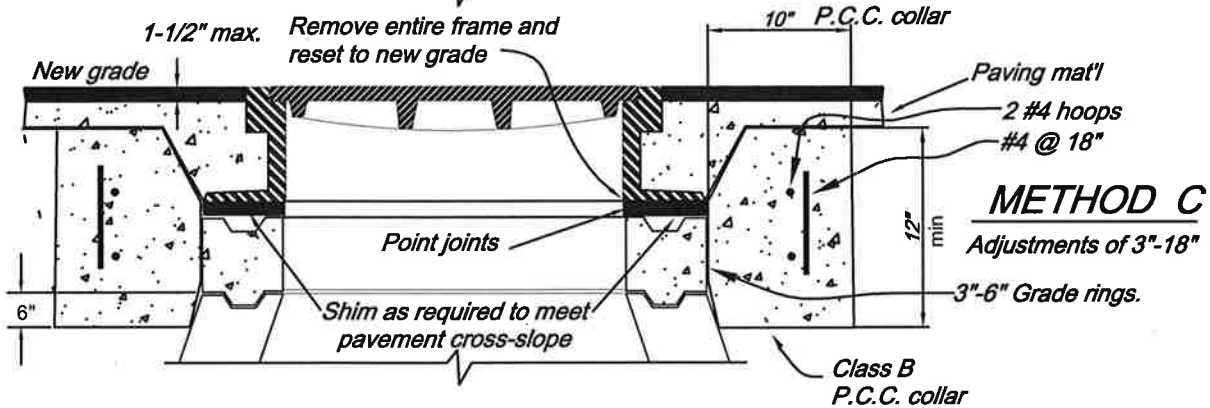
STANDARD
 DETAIL M-4



METHOD A
Adjustments of 3"-18"



METHOD B
Adjustments of 1-1/2" - 3"



METHOD C
Adjustments of 3"-18"

NOTES:

1. Contractor shall be responsible for maintaining access to sewer structures at all times during the work.
2. Contractor shall exercise care and caution in the salvage and reuse of existing castings. Contractor shall be held responsible for castings damaged during the work.
3. Contractor shall prevent rock and construction debris from entering the sewer.
4. All grade adjustments will be inspected by the West County Wastewater District.

Approved: 
KENNETH R. COOK, PE
ENGINEERING SERVICES MANAGER

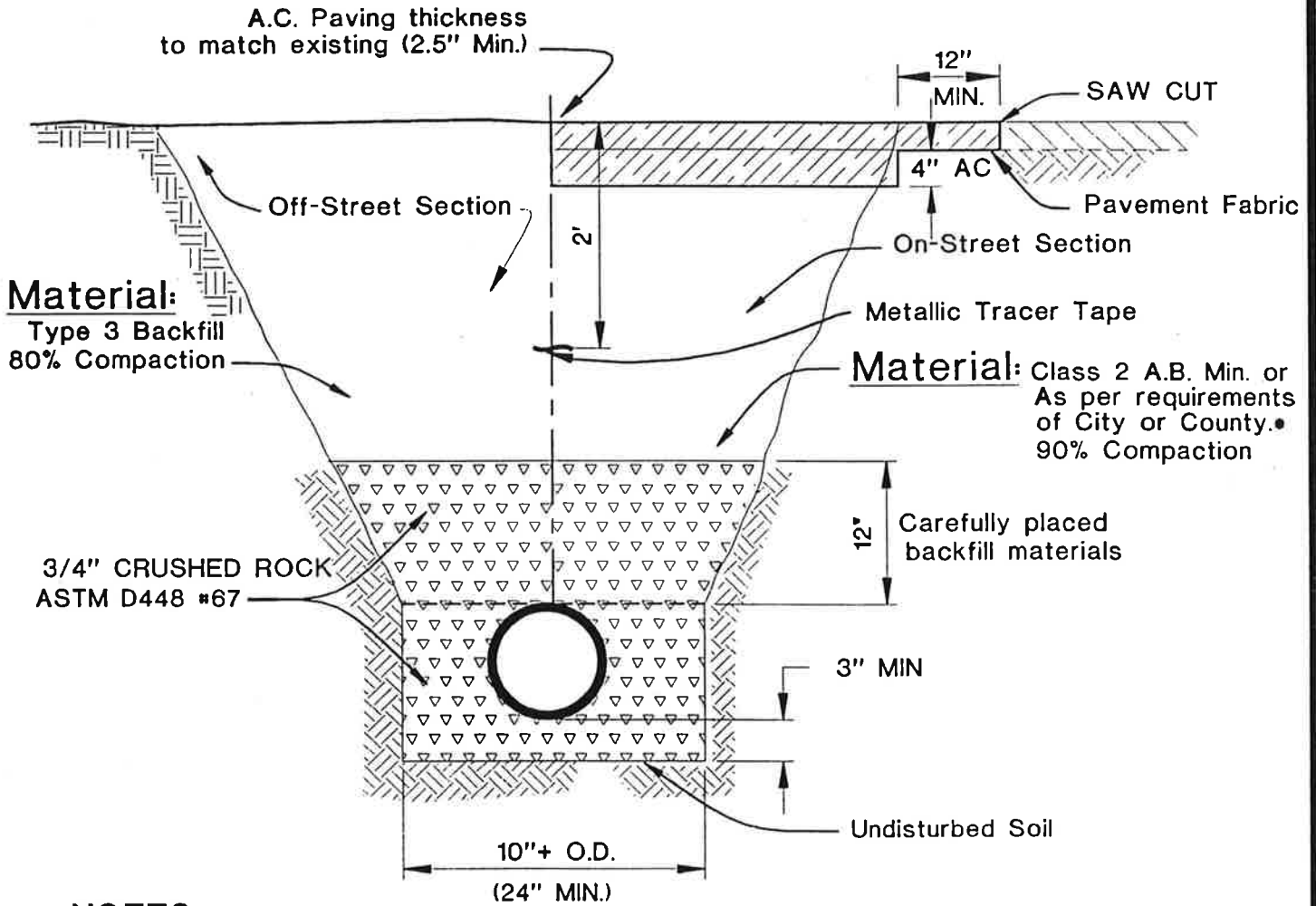
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM

DATE: August, 2015

MANHOLE GRADE ADJUSTMENT

DETAIL M-5



NOTES:

1. Encroachment Permit: Proof of County or City street cut encroachment permit required prior to WCWD Inspection.
2. Materials: To conform to CALTRANS Standard Specifications Dated July, 1984.
3. Pavement Cuts: Trim neatly 12" (min.) from broken edge after backfilling, prior to paving.
4. Safety: All work to meet the requirements of CALOSHA for underground safety and confined spaces.

• Contractor shall obtain necessary street-cut permit from appropriate agency, and verify backfill requirements. Current requirements are listed above.

Approved *Paul Winnicki*
District Engineer

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: M Allendorfer

DATE: March, 1999

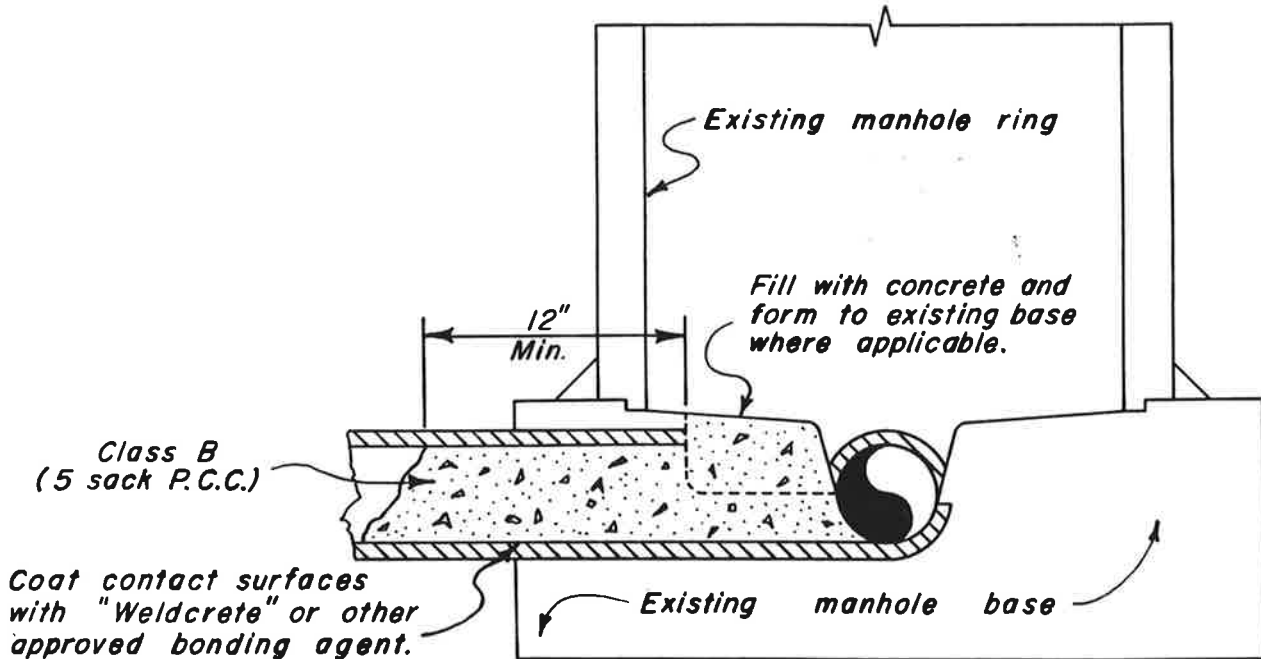
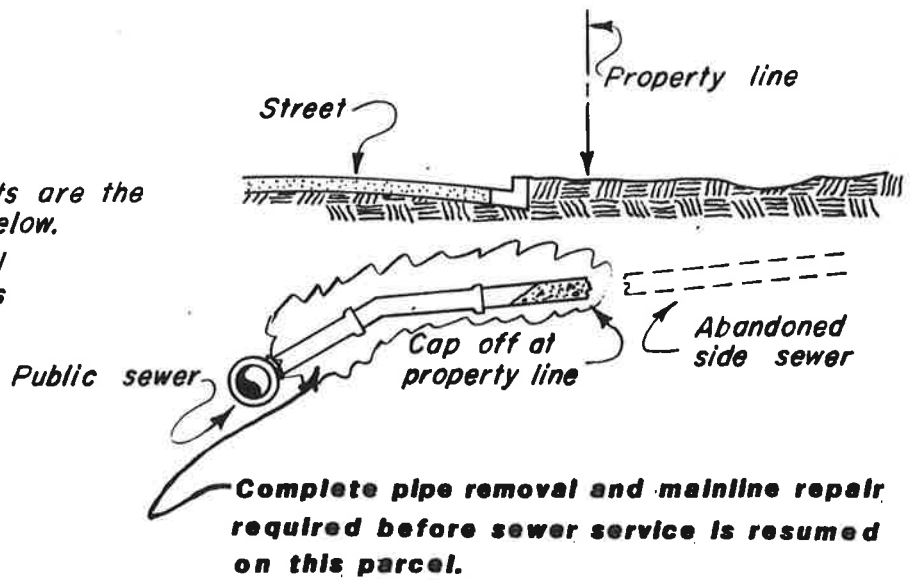
TRENCH & BACKFILL DETAIL

**STANDARD
DETAIL P-1**

NOTE

SIDE SEWER "CAP OFF"

1. All "cap off" requirements are the same as those shown below.
2. "Cap off" required for all side sewers of buildings demolished or removed.



PUBLIC OR BUILDING SEWER
AT MANHOLE

Approved *Paul C. Solter*
Engineer-Manager

WEST CONTRA COSTA SANITARY DISTRICT

DRAWN BY *E.L.H.*
DATE *9/21/70*

PIPE PLUGGING

STANDARD
DETAIL NO. *P-7*

APPROVED:

Kenneth R. Cook
KENNETH R. COOK, PE
DISTRICT ENGINEER

USE OF TAP-TITE CONNECTION
REQUIRES PRIOR DISTRICT APPROVAL

PUBLIC SEWER

BUILDING SEWER

A

A

INSERT SYNTHATIC RUBBER FITTING

STAINLESS STEEL BAND
AND ADJUSTING SCREW

TAPERED INSERT PLASTIC
COMPRESSION FITTING

BUILDING SEWER
(SIDE SEWER)

TAP-TITE
(SEE DETAIL)

TAP-TITE
(DETAILS)

PUBLIC SEWER

BUILDING SEWER

45°

PUBLIC SEWER

BACKFILL OR BEDDING
MATERIAL AS REQUIRED
BY DISTRICT ENGINEER

TAMP BACKFILL
UNDER BEND AND TEE

SECTION A-A

NOTE: SEE STANDARD DETAIL P-1 FOR TRENCH BACKFILLING PROCEDURE

WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: A. KATARIA

DATE: JULY, 2012

TAP-TITE CONNECTION
BLDG. SEWER TO PUBLIC SEWER

STANDARD
DETAIL NO. P-9

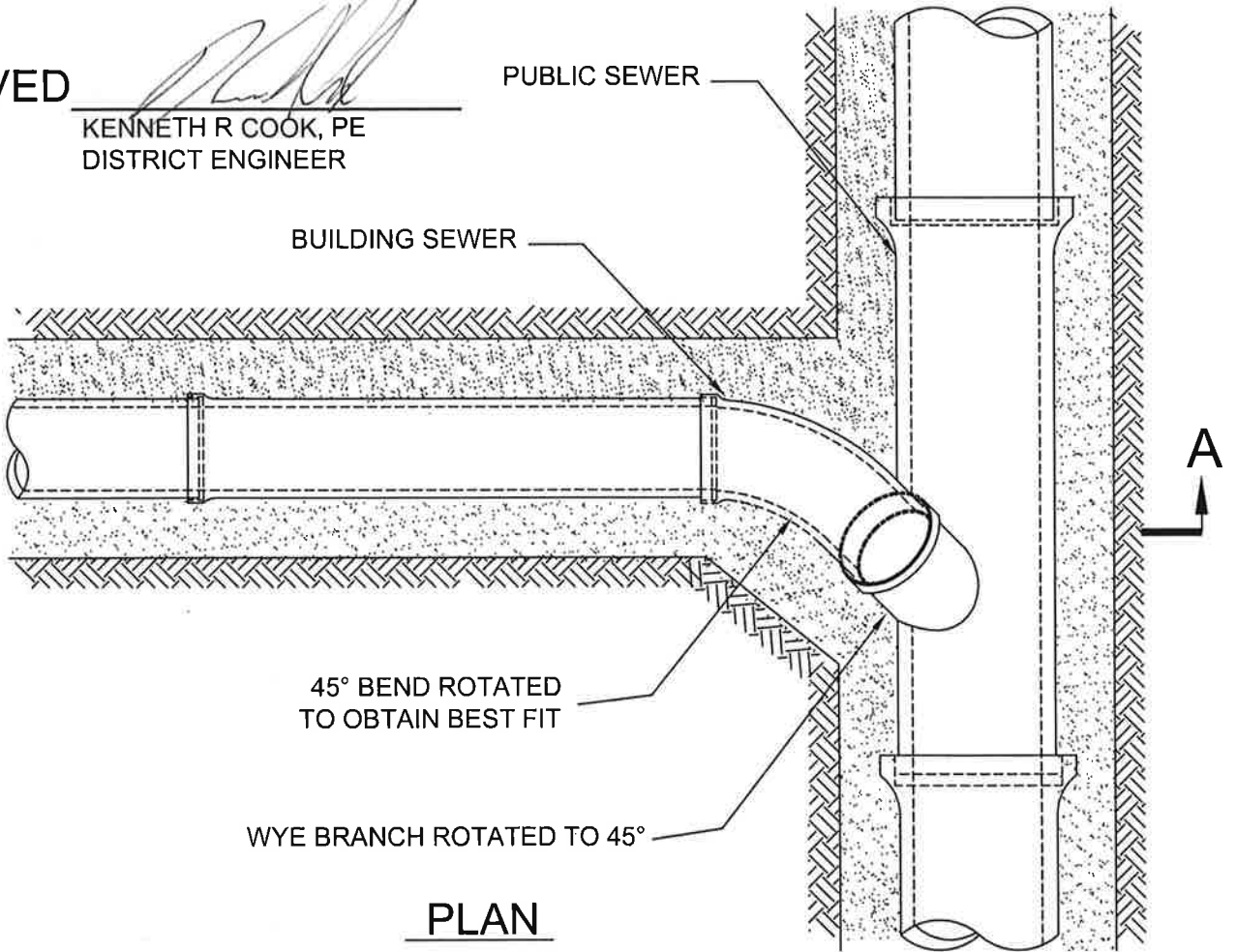
APPROVED


KENNETH R COOK, PE
DISTRICT ENGINEER

PUBLIC SEWER

BUILDING SEWER

A
↑



45° BEND ROTATED
TO OBTAIN BEST FIT

WYE BRANCH ROTATED TO 45°

PLAN

BUILDING SEWER

45°

PUBLIC SEWER

BACKFILL OR BEDDING
MATERIAL AS REQUIRED
BY DISTRICT ENGINEER

TAMP BACKFILL
UNDER BEND AND WYE

SECTION A-A

NOTES:

1. STANDARD SHOWS INSTALLATION OF VITRIFIED CLAY PIPE (VCP); CONSULT DISTRICT ENGINEER FOR USE OF APPROVED MATERIALS.
2. SEE STANDARD DETAIL P-1 FOR BACKFILLING PROCEDURE.

WEST COUNTY WASTEWATER DISTRICT


DRAWN BY: A. KATARIA

DATE: JULY, 2012

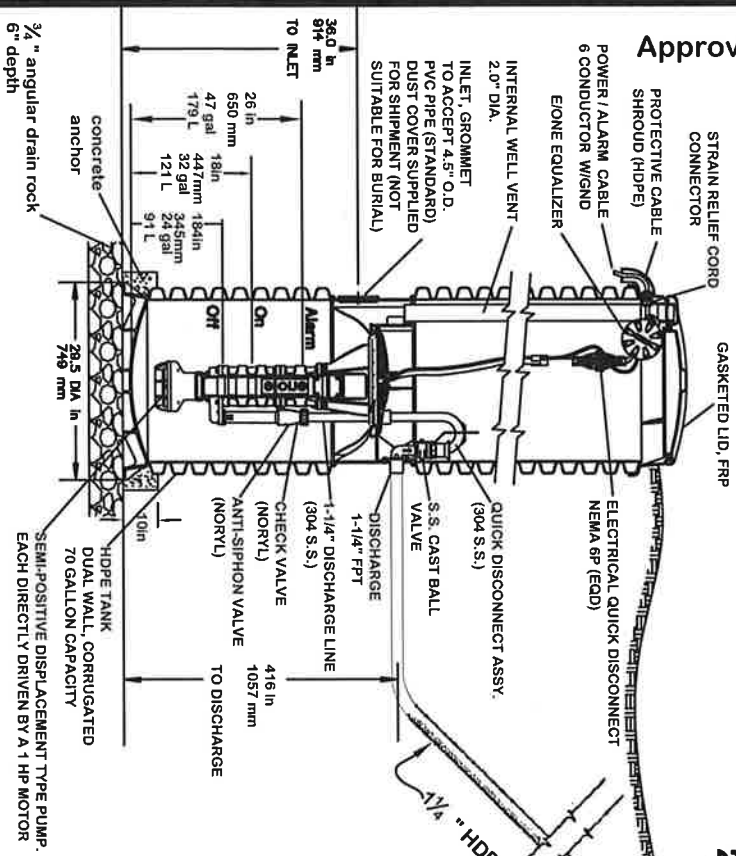
**WYE CONNECTION
BLDG. SEWER TO PUBLIC SEWER**

**STANDARD
DETAIL NO. P-10**

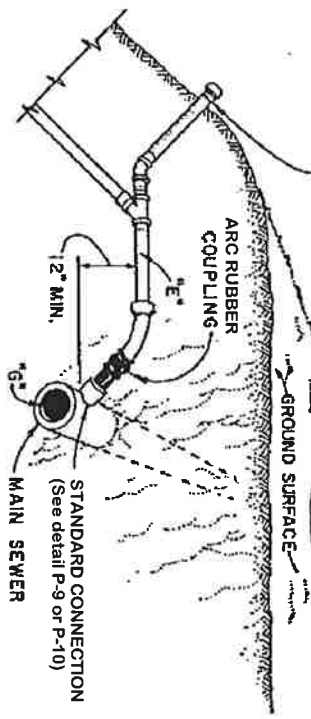
RESIDENTIAL SEWERAGE PUMPING SYSTEM
SEE NOTE FOR COMMERCIAL APPLICATION
(SPECIAL USE APPROVAL REQUIRED)

Approved: 
KENNETH R. COOK, PE
ENGINEERING SERVICE MANAGER

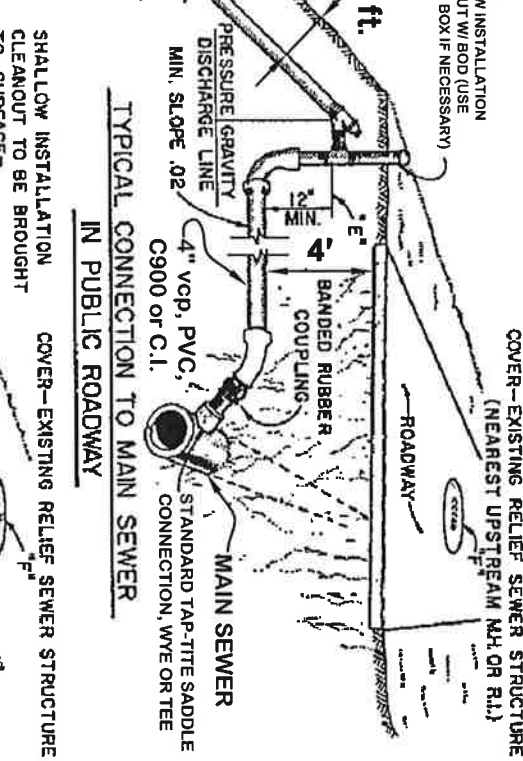
- Foundation for the Eone pump assembly**
- 1.) 36" dia of 3/4" angular drain rock
 - Depth: At least 6"
 - 2.) 10" depth concrete anchor w/ a diameter of 36"



TYPICAL CONNECTION TO MAIN SEWER IN EASEMENT OR TO SIDE SEWER



TYPICAL CONNECTION TO MAIN SEWER IN PUBLIC ROADWAY



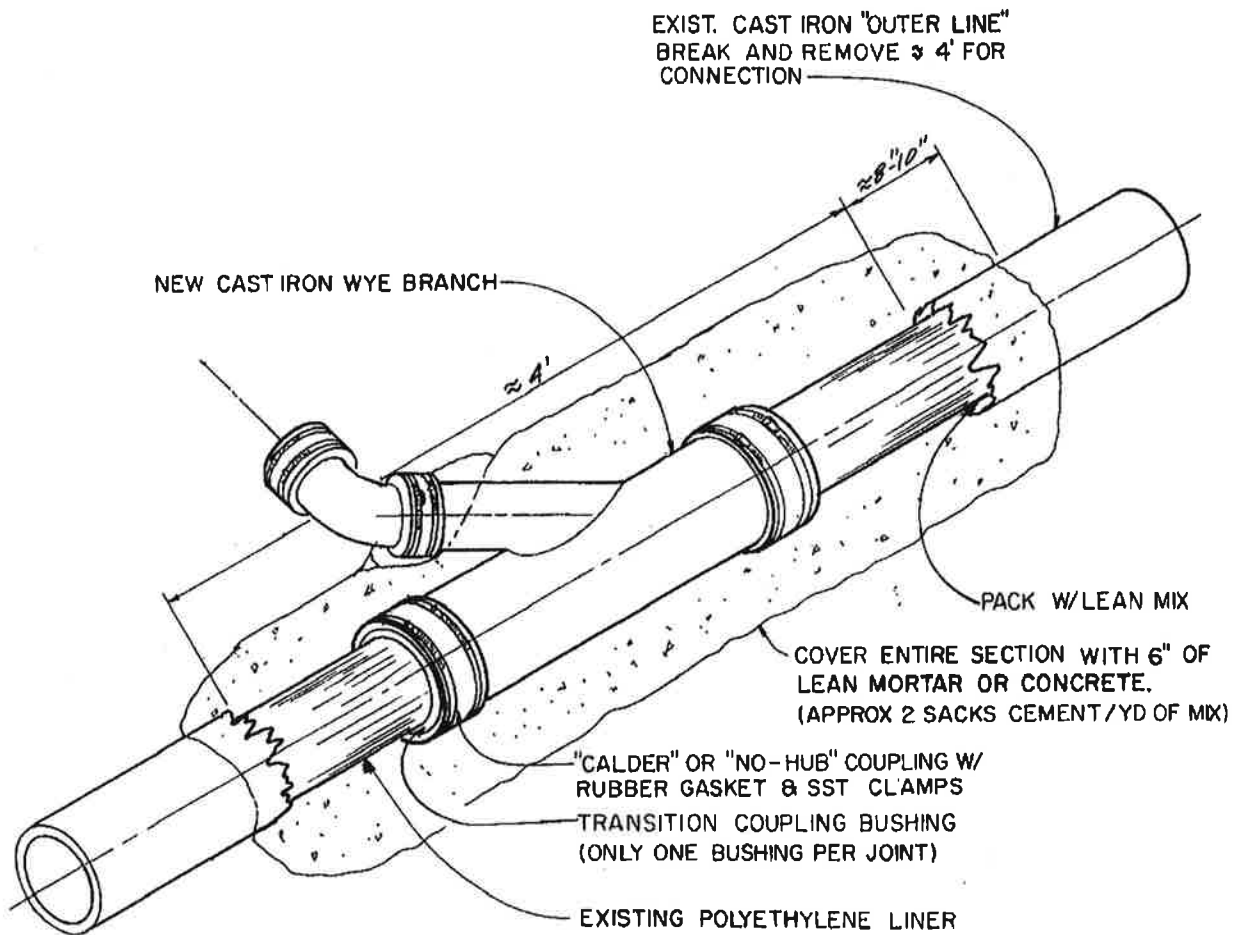
WEST COUNTY WASTEWATER DISTRICT

DRAWN BY: MM

DATE: April, 2016

RESIDENTIAL SEWER PUMPING SYSTEM

P-11A



Approved: 
 KENNETH R. COOK, PE
 DISTRICT ENGINEER

WEST COUNTY WASTEWATER DISTRICT

LATERAL CONNECTION TO
 SLIP-LINED SEWER MAIN

DRAWN BY: MM
 DATE: October, 2012

SL-1

**Procedure for Installation, Testing, and Acceptance of
Sewer Main Extensions**

I. APPROVAL FOR CONSTRUCTION:

- A. All permit(s) must be paid in full.
- B. Three sets of "Plans Approved for Construction" must be on file at the District Office.
- C. One week prior to construction, three sets of cut sheets shall be submitted to the Engineering Services Manager for review and approval. Cut sheets shall contain the following information:
 - 1. Offset distance.
 - 2. Stationing along centerline of pipe.
 - 3. Elevation of stations along offset line.
 - 4. Elevation of sewer flowline at stations.
 - 5. Cuts to flowline.
 - 6. Cuts to flowline in and out at manholes.
 - 7. Cuts to rodding inlets, wye, side sewers and all other related appurtenances.
 - 8. Acceptable cut sheet form is attached.
- D. All underground contractors must pick up one set of Approved Plans and Cut Sheets at the District Office prior to construction. This shall be deemed, as notice of approval for construction and any work done prior to this shall be considered as unauthorized work.
- E. No work shall be permitted to proceed until all District requirements have been met including payment of all fees, acquisitions of all easements, permits, cut sheets, etc. are submitted and approved and the "Plans Approved for Construction" along with approved cut sheets are received by the underground contractor and all bonds have been posted and received by the District.
- F. Any office or field changes deviating from the "Plans Approved for Construction" nullifies any prior approval of the plans and will require that new plans be submitted and approved prior to construction.
- G. "Plans Approved for Construction" implies the District has reviewed the plans, cut sheets, and the field area in which the work is proposed. The plans, cut sheets and the field conditions seem to meet the requirements of the District and construction may begin. The District reserves the right to instruct the contractor to make changes as necessary to comply with minimum District standards and specifications.

- H. If conditions arise during construction, which dictate changes need to be made, for any reason, resulting in a deviation from the "Plans Approved for Construction." The construction of the affected portion of the system shall not proceed until the plans are revised by the job engineer, resubmitted to the District and deemed "Plans Approved for Construction" again, including revised cut sheets, if necessary.

II. INSPECTIONS

- A. All work done and all materials furnished shall be subject to inspection and approval. This is interpreted to mean no sewer or appurtenance shall be backfilled until inspection and approval is complete.
- B. Inspectors shall at all times have access to the work during its construction and the contractor shall provide proper and safe facilities for such access and inspection.
- C. All inspections requested outside normal District working hours should be reimbursed to the District by the contractor at the rates in effect at the time. Except in the case of unforeseen circumstances, all requests for inspections outside normal District working hours shall be made in writing 24 hours in advance of the required inspection.
- D. Absolutely no sewer work shall be done outside normal District working hours unless an inspector is available for inspections.
- E. The contractor shall notify the District at least 48 hours in advance of the start of the project.
- F. The contractor shall also give the District notice of the time when he or she will start work or resume said work when work has been suspended for any reason. Notice shall be given at least 24 hours in advance of resuming work.
- G. The District shall have the authority to suspend work wholly or in part, for such period as deemed necessary, due to unsuitable weather or other conditions unsuitable for the safe and proper installation of the sewer system.
- H. In the event suspension of work is ordered, the contractor, at his or her own expense, shall do all necessary work to provide a safe, smooth and unobstructed passageway for the public through the construction area during the period of such suspension.

III. TESTING

- A. The contractor, prior to low-pressure air tests, shall clean all new main and trunk sewers and such site collectors and side sewer systems as deemed necessary by the District. This shall be done with an approved cleaning ball (such as the Wayne Ball) or a device, in accordance with the manufacturer's instructions. In addition, the contractor may be required to flush the system again prior to sanitary waste use and prior to required District Television Inspection.
- B. The contractor shall perform low-pressure air tests on the total footage of all new sewer pipeline installations, including side sewers, after such pipelines have been installed, including test fittings, backfilling, placement of aggregate base and prior to required District Television Inspection.
- C. After all of the work on the pipeline installation has been completed to the satisfaction of the District, including the manhole channel, Wayne balling, and final air testing. The District shall perform at no cost to the contractor, Internal Closed Circuit Television Inspection of all sewer mains and trunk sewers as deemed necessary by the District prior to any final pavement placements. Said Television Inspection is to be performed by District personnel within an acceptable time limit. Any deficiencies found during this inspection shall be corrected by the contractor at his or her expense and the cost of any additional Television Inspections shall be charged to the contractor.
- D. After final paving and adjustment of the manhole frame and covers to the final grade and prior to sanitary waste use, the sewer system shall be final balled and flushed, if deemed necessary by the District.
- E. The District Inspector, upon written request by the contractor, shall make the final inspection of the work site together, with an authorized representative of the owner of the development and the underground contractor. The contractor and owner shall be informed in writing (Final Punch List) of all deficiencies observed during this inspection. The contractor and owner shall also be informed in writing if no deficiencies are observed.
- F. Final Inspections for private developments such as subdivisions, tracts, townhouses, condominiums and commercial centers shall be made only after the installation of all other utilities and permanent structural site improvements such as roadway surfacing, curbs, gutters, sidewalks, etc.
- G. The owner shall, upon completion of work noted in the Final Punch List, request in writing that the sewer system be accepted by the District as a public sewer system. Upon receipt of this letter, the District Engineer shall take the appropriate action as soon as possible.

- H. Upon date of acceptance, during the one-year maintenance period required on the bond, the contractor shall make any and all repairs to the sewer system deemed necessary by the District. During the one-year period the District may at its own expense perform Internal Closed Circuit Television Inspection of those pipelines deemed necessary. Any and all deficiencies observed during this inspection shall be corrected at the contractor's expense.
- I. No connections to the newly installed system will be allowed until all sewer mains, trunk sewers, and related appurtenances are complete and the project has been accepted by the District Board. It is understood that under certain circumstances it is necessary to connect existing users to a system that has not been accepted. This does not imply that the system has been accepted.

NOTE: Inspections, tests or approvals by the District shall not relieve the contractor or developer from his or her obligation to perform the work in accordance with the requirements of the Contract Drawings and Specifications, District minimum standards or the standards and requirements of other Public Agencies having jurisdiction over the work.