

SECTION 9: Exhibits

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City Of Harlingen Subdivision (Platting) Process

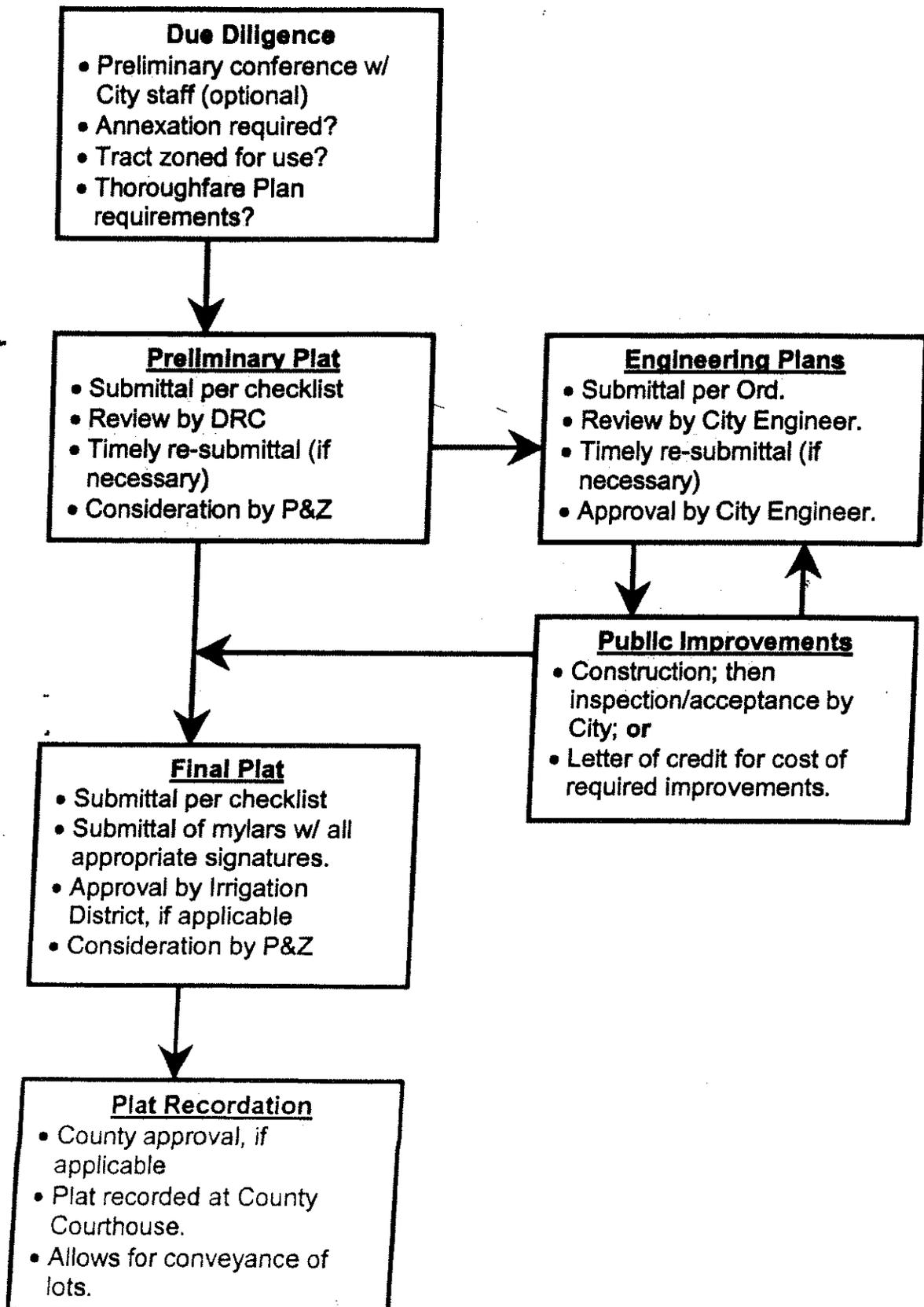


Exhibit D
Flag-Shaped Lot Illustration

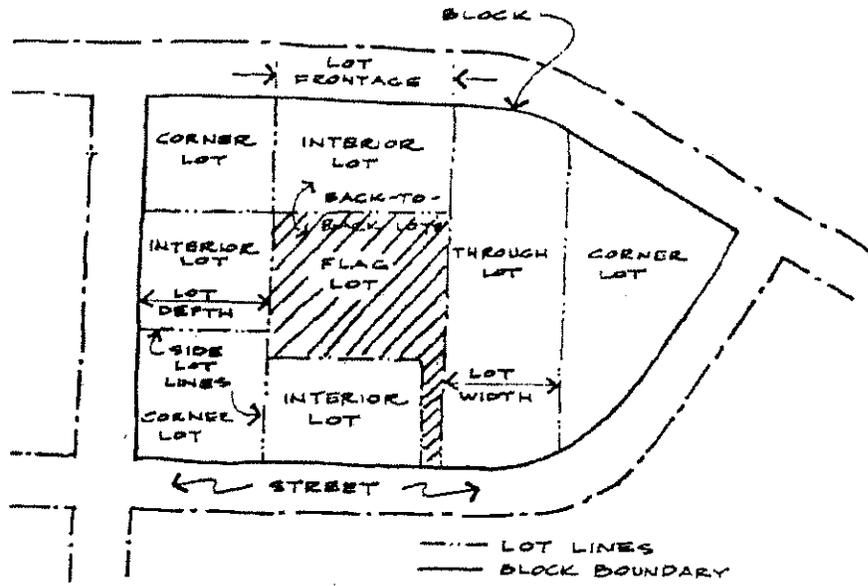
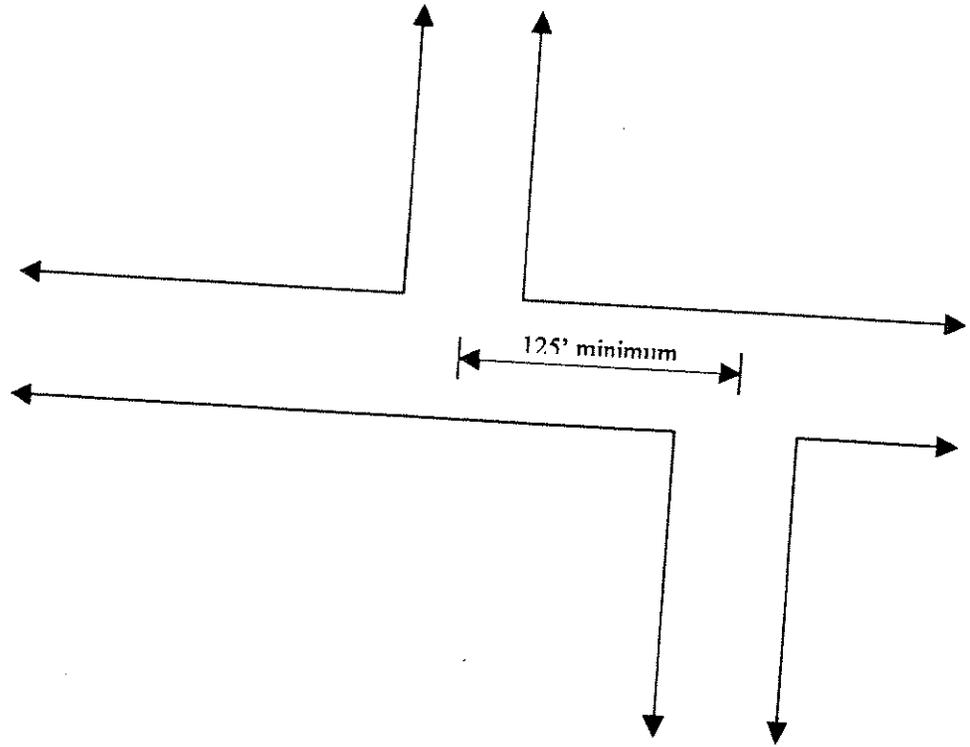
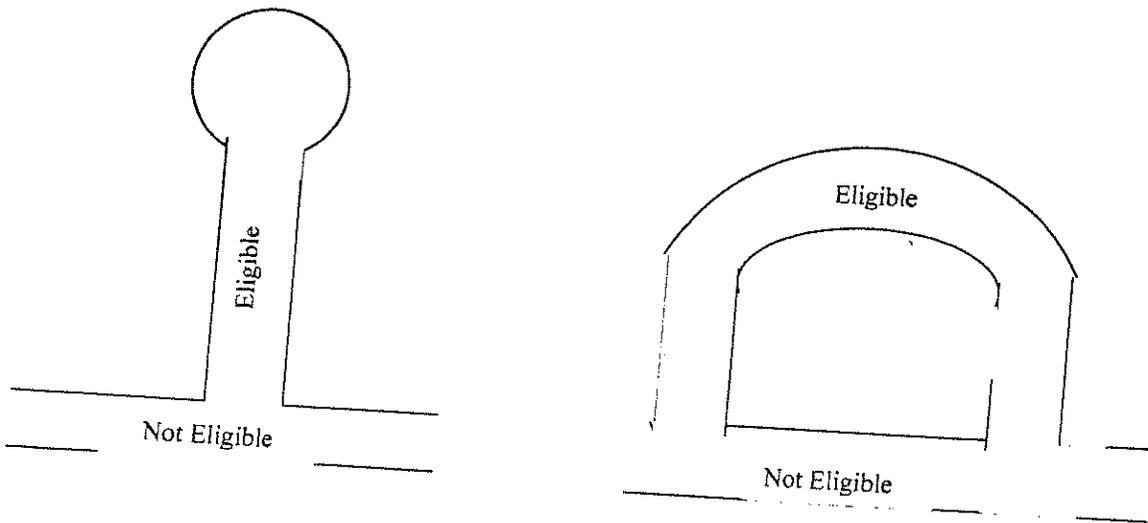


Exhibit E
Street Jog Illustration



Streets Eligible for 33' Pavement Width



Only single loop road as shown above are eligible for pavement reduction.
Double looped roads as shown below are not eligible.

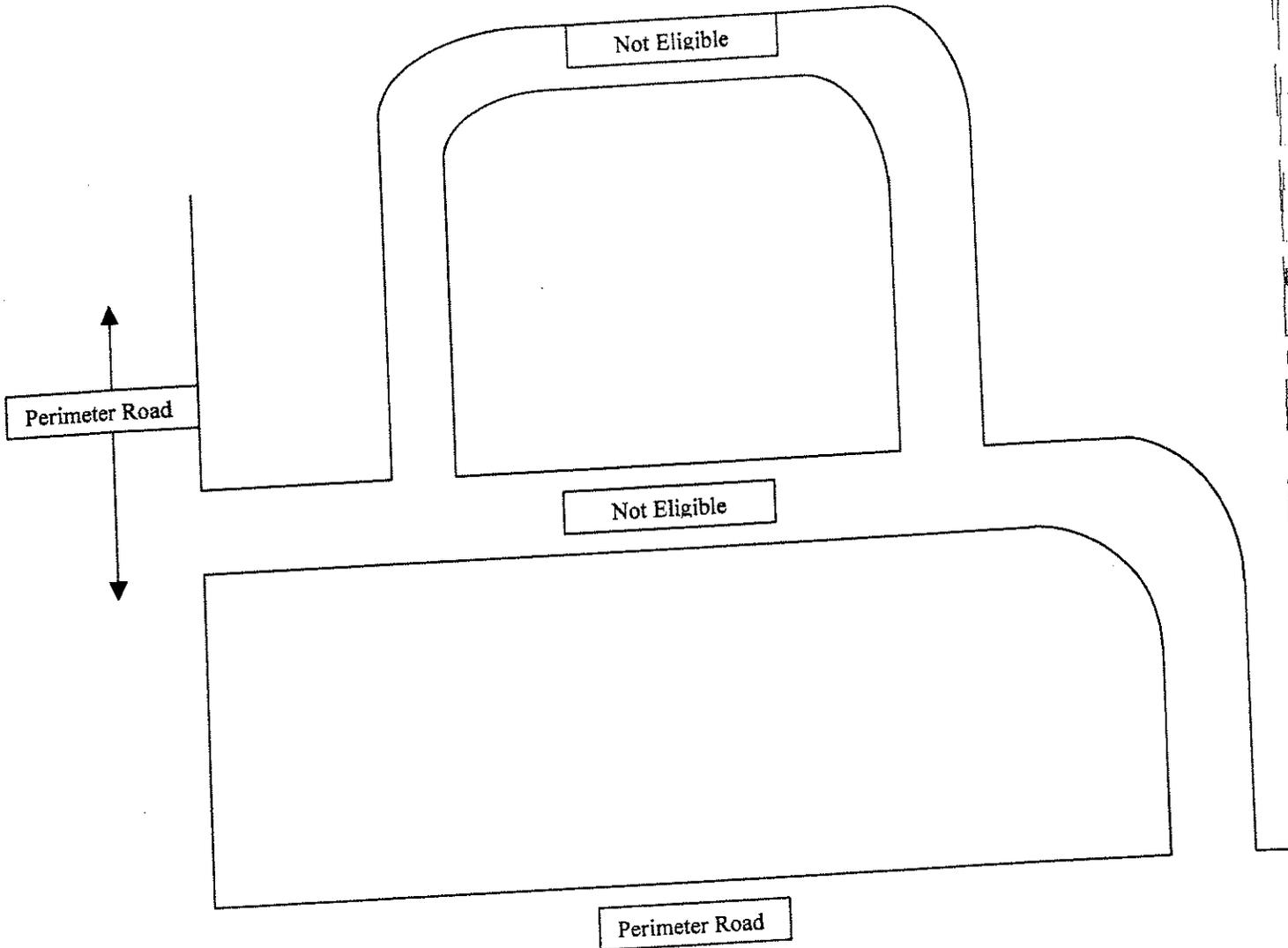


Exhibit F
Signature Blocks for Final Plat

SURVEYOR SIGNATURE BLOCK

State of Texas)
County of Cameron)
I, the undersigned, a registered professional public surveyor in the State of Texas, hereby certify that this plat is true and correctly made and is prepared from an actual survey on the property made under my supervision on the ground, and further certify that proper consideration has been given to this plat.

(Surveyor Seal) _____ Registered Public Surveyor

OWNERS ACKNOWLEDGEMENT BLOCK

State of Texas,)
County of _____)
I (We), the undersigned, owner(s) of the land shown on this plat and designated herein as the _____ Subdivision to the City of Harlingen, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public (as applicable) all streets, alleys, parks, watercourses, drains, easements, water lines, sewer lines, storm sewers, fire hydrants and public places which are installed thereon, shown or not shown, if required otherwise to be installed or dedicated under the subdivision approval process of the City of Harlingen, all the same for the purposes therein expressed, either on the plat hereof or on the official minutes of the applicable authorities of the City of Harlingen.

(Owner Name)

BEFORE ME, the undersigned authority, on this day personally appeared _____ known to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this ___ day of _____, 2000.

Notary Public _____ County, TX

CITY REPS. SIGNATURE BLOCKS

I, the undersigned, City Representative, hereby certify that this subdivision plat conforms to all requirements of the Subdivision Regulations of this City wherein my approval is required.

City of Harlingen Representative

I, the undersigned, Chairman of the Planning and Zoning Commission of the City of Harlingen, hereby certify that this subdivision conforms to all requirements of the Subdivision Regulations of this City wherein my approval is required.

Chairman, Planning & Zoning

I, the undersigned, Mayor of the City of Harlingen, hereby certify that this subdivision plat conforms to all requirements of the Subdivision Regulations of this City wherein my approval is required.

Mayor

ATTEST:

City Secretary

WATERWORKS SIGNATURE BLOCK

This plat approved by Harlingen Waterworks on this ___ day of _____, 2000.

Harlingen Waterworks Engineer

LIENHOLDERS' ACKNOWLEDGEMENT

State of Texas)
County of _____)
I (We), the undersigned, holder(s) of a security interest in the above described property, being the land shown on this plat and designated herein as the _____ Subdivision of the City of Harlingen, Texas, do hereby consent to the subdivision of the property as provided for under the plat and do hereby provide that any foreclosure relating to the security interest on the above described property shall be subject to the platting of the property as provided for herein.

Exhibit G
Sample Form for Irrevocable Letter of Credit

Irrevocable Letter of Credit No. _____

Beneficiary: City of Harlingen
Attn: Planning Director
502 E. Tyler Avenue
Harlingen, TX 78550

Date: _____

Applicant: _____ (name)
_____ (address)

Amount: \$ _____ Expiration Date: (at least 18 months after approval)

To Whom It May Concern:

We hereby issue in your favor this irrevocable standby letter of credit which is available by your drafts drawn on us bearing the clause "Drawn Under Standby Credit No. _____ of the _____ (bank name), at _____ (bank address).

Accompanied by the following:

1. ORIGINAL LETTER OF CREDIT AND ALL AMENDMENTS, IF ANY, for endorsement and then to be returned to beneficiary.
2. BENEFICIARY'S MANUALLY SIGNED STATEMENT ON ITS LETTERHEAD READING AS FOLLOWS:
 "____ (applicant name) _____", has failed to complete the _____ (type of improvement) _____ to _____ (subdivision name) _____

Partial Draws are Permitted.

This credit is irrevocable prior to its expiration date unless both parties consent to revocation in writing.

Signature of Issuer's Authorized Officer

Title

Exhibit H
Subdivision Review Committee

Members Include:

City Staff:

Planning Director
Planning Department Reviewer
City Engineer
Chief Building Official
Public Works Director
Police Chief
Fire Marshal
Fire Chief
Environmental Health Director

Utilities:

Harlingen Waterworks
Southern Union Gas Co.
Central Power & Light
Southwestern Bell
Time Warner, Inc.
Magic Valley Electric

Other Entities:

Cameron Appraisal District
Cameron County Engineer
Harlingen Irrigation District
HCISD Operations
Cameron County Drainage Dist. #5
U.S. Post Office

Exhibit I
Submittal to County Engineer/Utility Companies

Subdivider's Engineer or Surveyor is responsible for simultaneously submitting preliminary and/or final plat copies to the following agencies at the time of submittal to the City of Harlingen for approval:

Utilities:

Southern Union Gas Co.
Central Power & Light or Magic Valley Electric
Southwestern Bell
Time Warner, Inc.

Other Entities:

Cameron County Engineer (if outside city limits)
Harlingen Irrigation District (if applicable)
Cameron County Drainage Dist. #5 (if applicable)

Exhibit J

Application for Exemption Letter of Determination

Date: _____
Name of Applicant(Owner/Developer): _____
Location of Property: _____
Legal Description and/or Address: _____
Phone Number: () _____
Application for exemption under: _____ 5 acre exemption _____ grandfathered
(Before Nov. 1, 1978)

Attachments:

- _____ Warranty Deed for subject tract(s) indicating date of last conveyance;
- _____ Evidence of a building on the tract prior to the effective date indicated above;
- _____ Current tax certificates;
- _____ Survey of tracts showing proposed partition and existing/proposed improvements, signed and sealed by a registered public surveyor;
- _____ Instrument dedicating additional right-of-way along perimeter streets in accordance with Major Thoroughfare Plan
- _____ Instrument to establish building setback lines (if applicable), easements for access, utilities and drainage purposes
- _____ Recording fees for instruments above (or provide recorded copies)
- _____ Other data as may be necessary to make exemption determination

Notes:

Letter issued: _____

Revised 10/2000

* See Planning Department for most current version

Exhibit K

Subdivision Variance Application

Date: _____

Applicant (Owner/Developer): _____

Phone No. _____ (home) _____ (work)

Address: _____

Subdivision Name: _____

Subdivision Location: _____

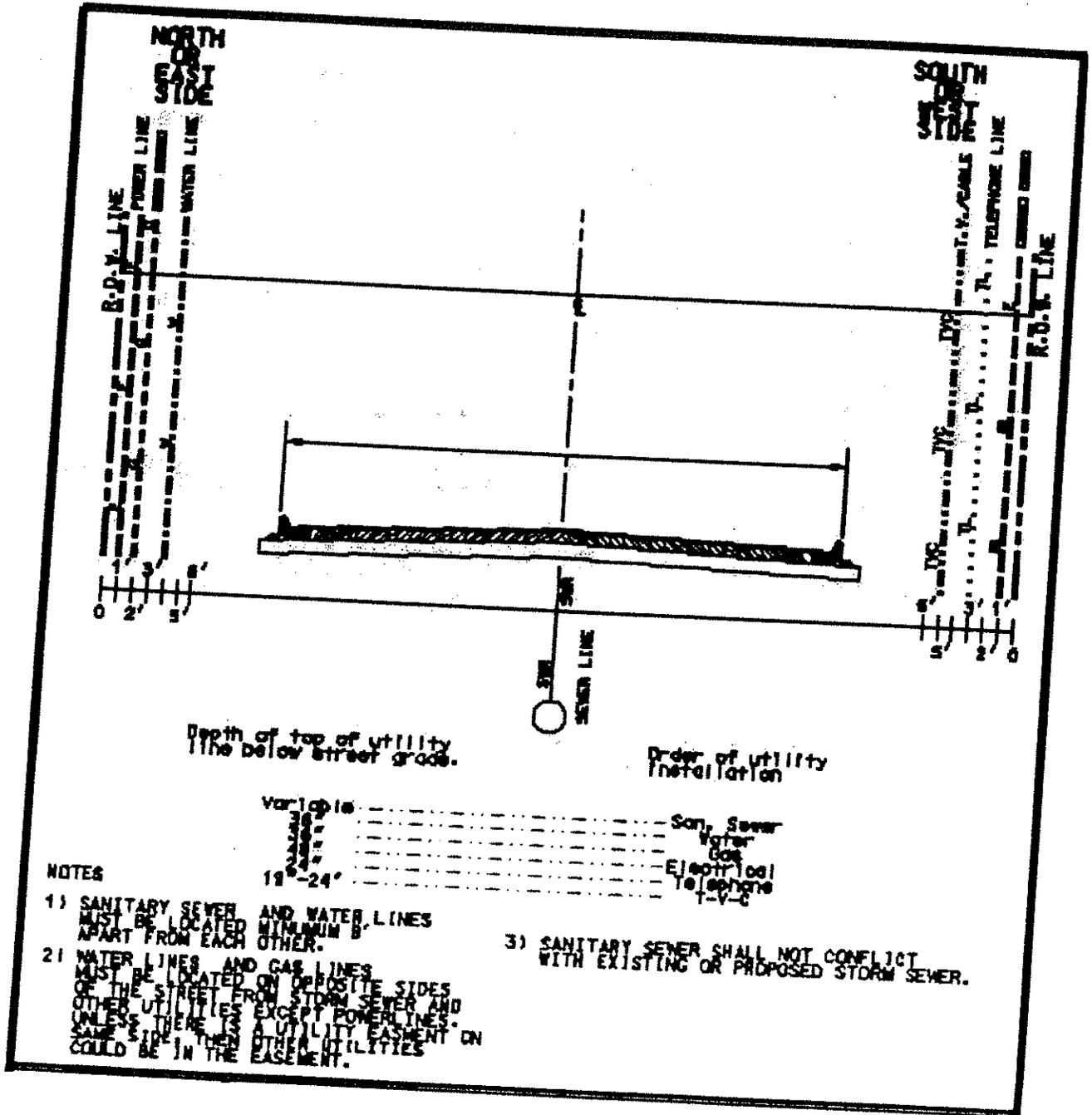
Purpose for request: _____

- A variance will only be considered when special circumstances or conditions affect the land in such a manner that strict application of the established regulations will cause undue harm to such property owner.
- A variance that will adversely affect the health, safety, welfare or the development of surrounding property in the area will not be accepted.
- A complete preliminary plat submittal must accompany this variance request.
- Nonrefundable Fee: \$25 must be submitted with this application.

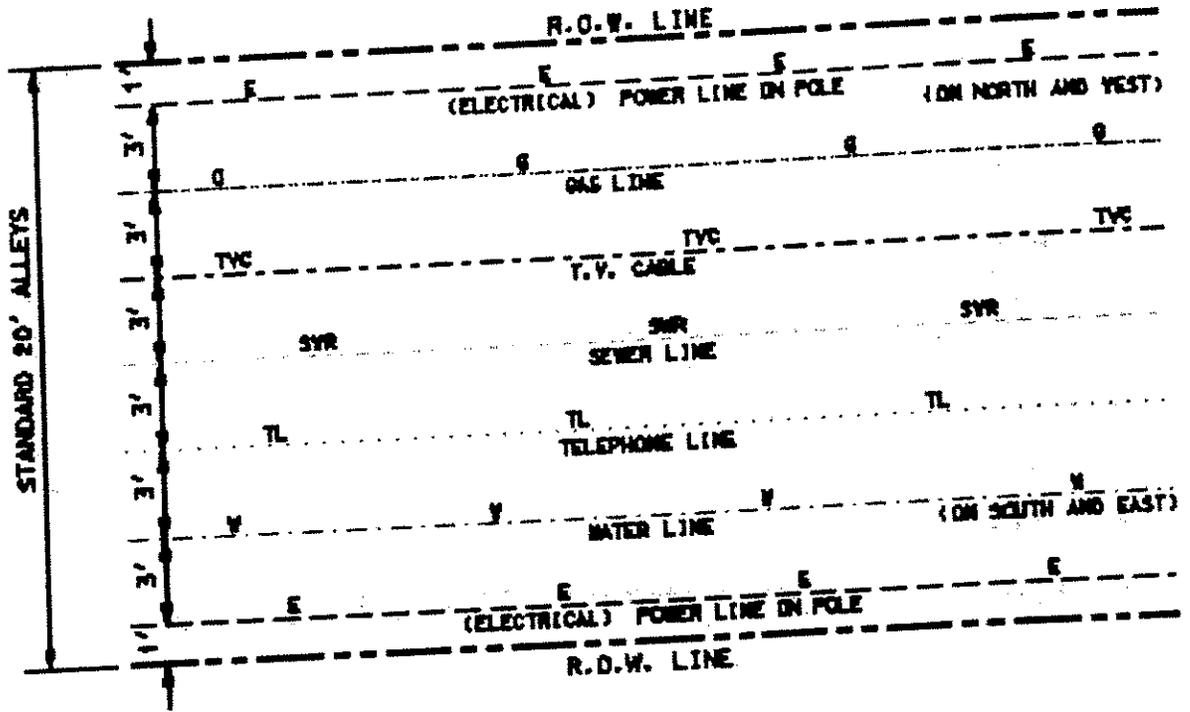
Signature of Applicant

* See Planning Department for most current version

Exhibit L Utility Corridor Assignments



Alley Utility Layout

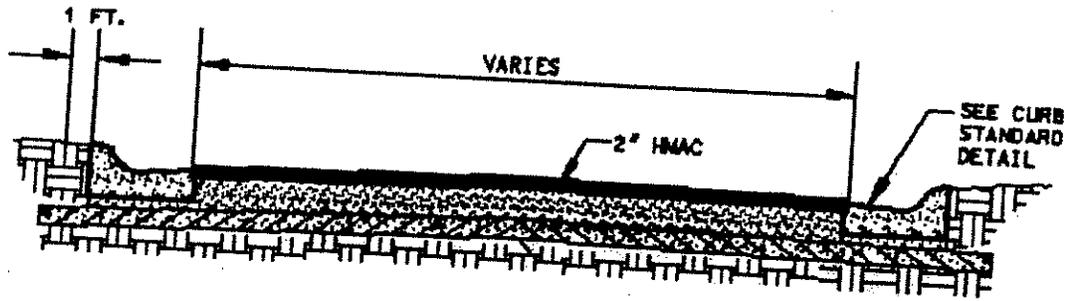


Depth of top of utility line below street grade.

Order of utility installation

Depth (ft)	Utility Type
36"	San. Sewer
30"	Water
28"	Gas
24"	Electrical
19" - 24"	Telephone
	T-V-C

Exhibit M
Typical Cross Section for Pavement



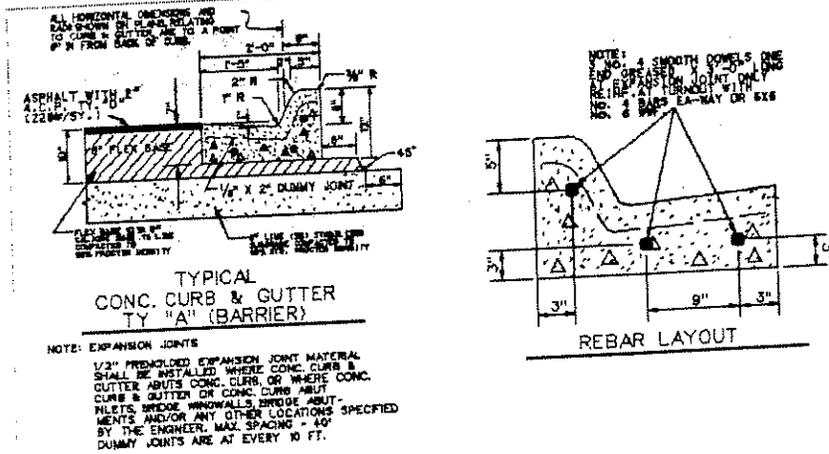
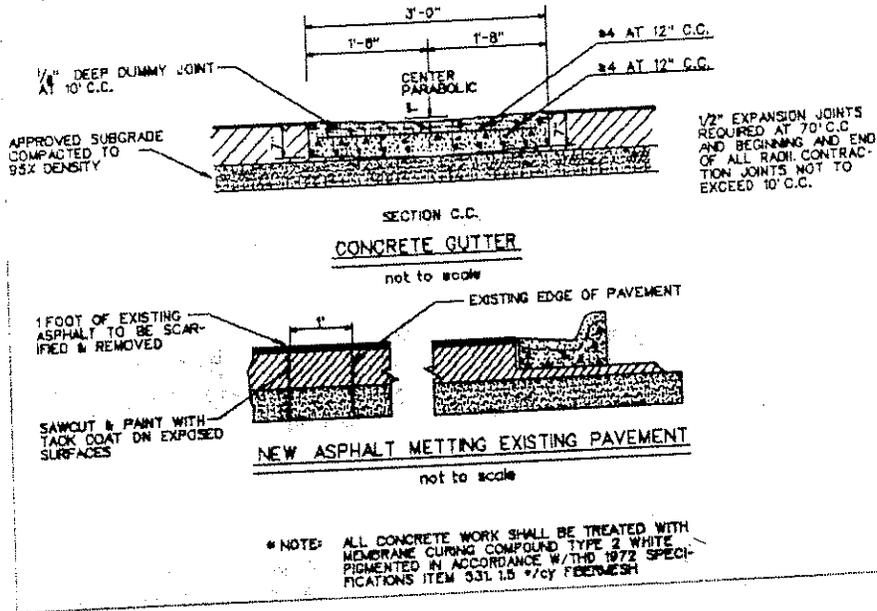
6" LIMED STABILIZED
SUBGRADE COMPACTED
TO 95% OF STANDARD
PROCTOR

6" OF CALICHE BASE
COMPACTED TO 98%
OF STANDARD PROCTOR

- 1) EXTENT LIMED SUBGRADE ONE FOOT BEHIND CURB AND GUTTER
- 2) SET CURB ON 3 INCHER OF CALICHE BASE COMPACTED TO AT LEAST 98% OF STANDARD PROCTOR (ASTM D698) EXTEND 6" BEHIND CURB AND GUTTER.

TYPICAL CROSS SECTION FOR PAVEMENT

Typical Curb and Gutter Details



Typical Curb for Mobile Home Park

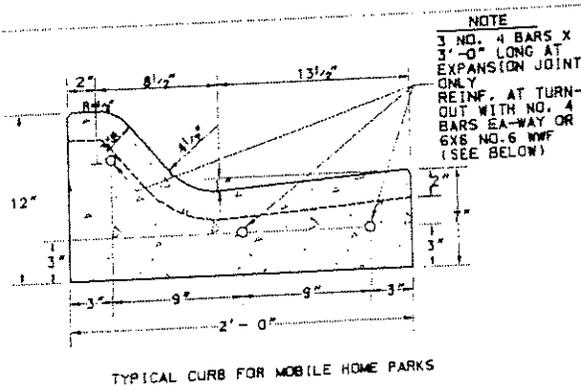
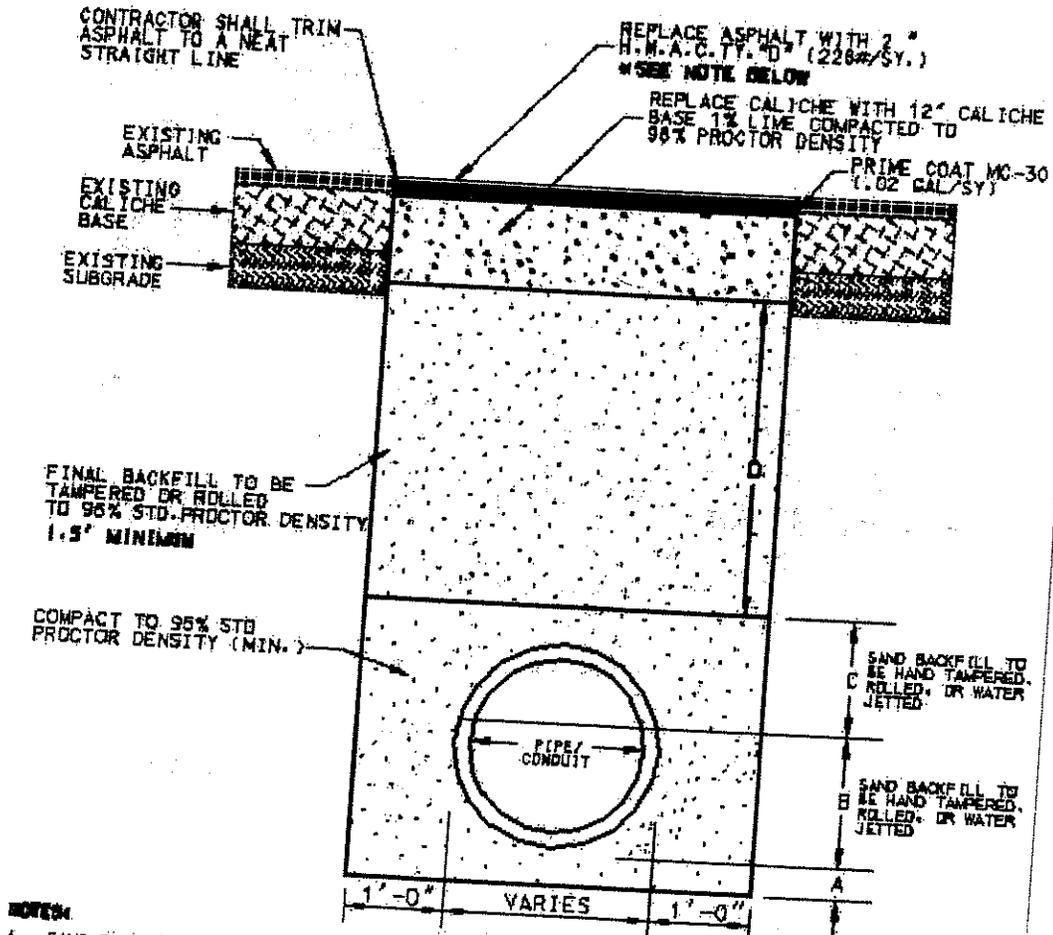


Exhibit N Backfill and Excavation Standard Street Pipe Bedding

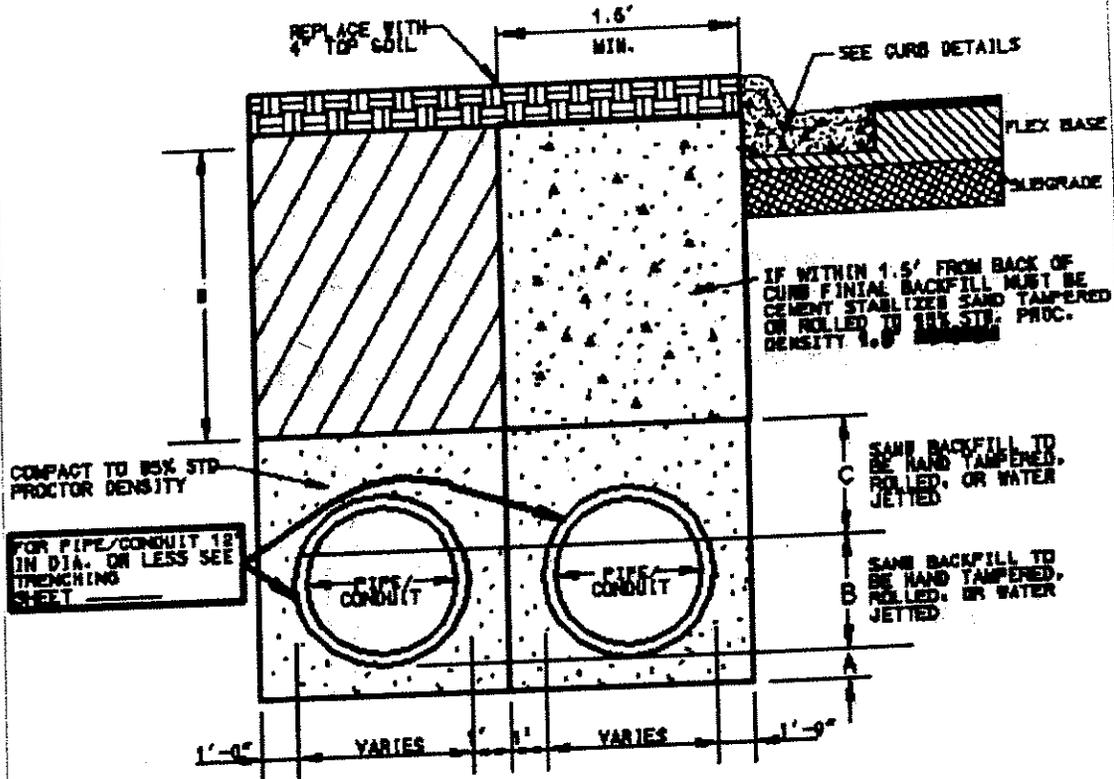


NOTES

- A. SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
- B. SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPERED)
- C. SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (8" LIFTS, HAND TAMPERED)
- D. SAND BACKFILL, CLASS "A" (8" LIFTS, MECHANICAL COMPACTION)

GENERAL NOTE:
 ANY BRANCHING OR EXCAVATING DONE ON CITY STREETS OR R.E.W. NEEDS TO CONTACT THE ENGINEERING DEPARTMENT
 *HOT MIX ASPHALTIC CONCRETE SHALL BE UTILIZED FOR REPAIR OF ASPHALT 300 S.F. OR GREATER.

Standard Pipe Bedding Behind Curb



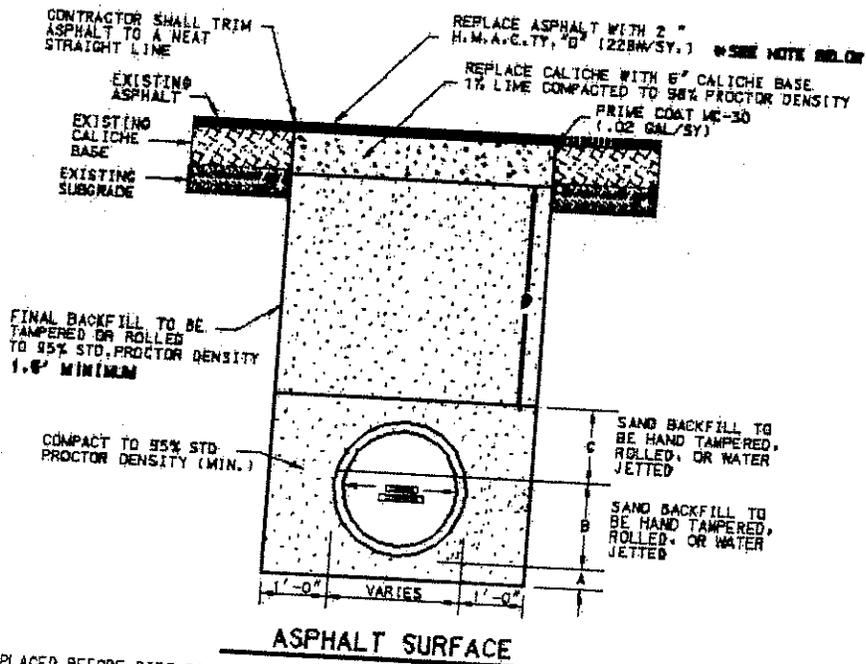
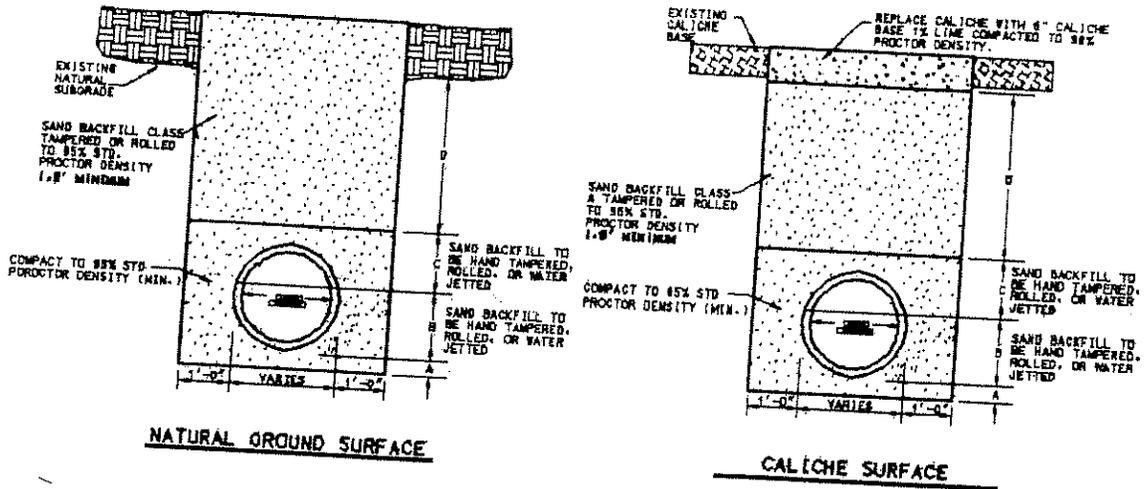
GENERAL NOTE:

ANY TRENCHING OR EXCAVATING WORK ON CITY STREETS OR R.O.W. NEEDS TO CONTACT THE ENGINEERING DEPARTMENT

NOTES:

- A. SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
- B. SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPED)
- C. SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (3" LIFTS, HAND TAMPED)
- D. EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION)

Standard Alley Pipe Bedding



NOTES:

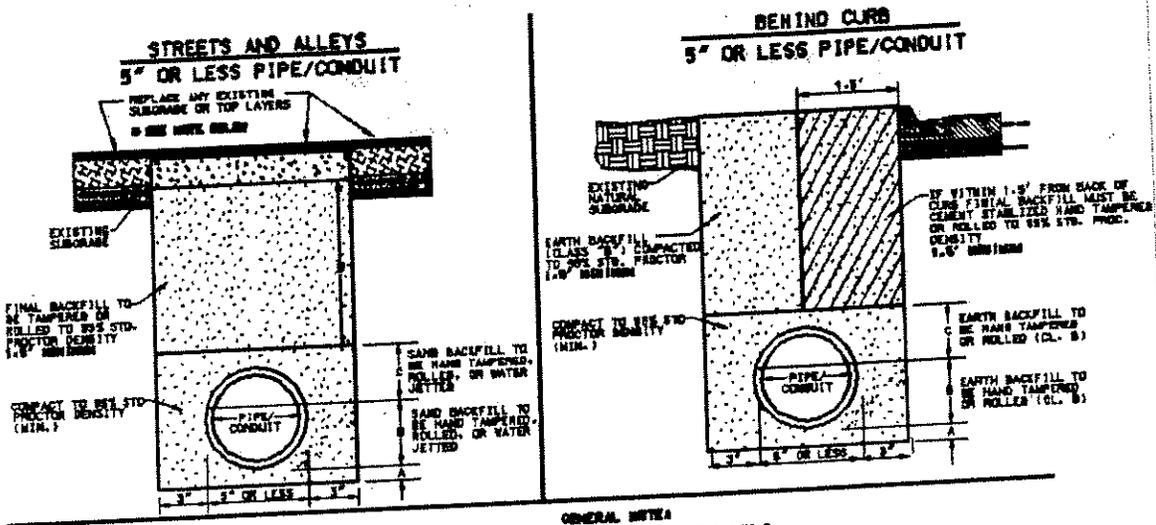
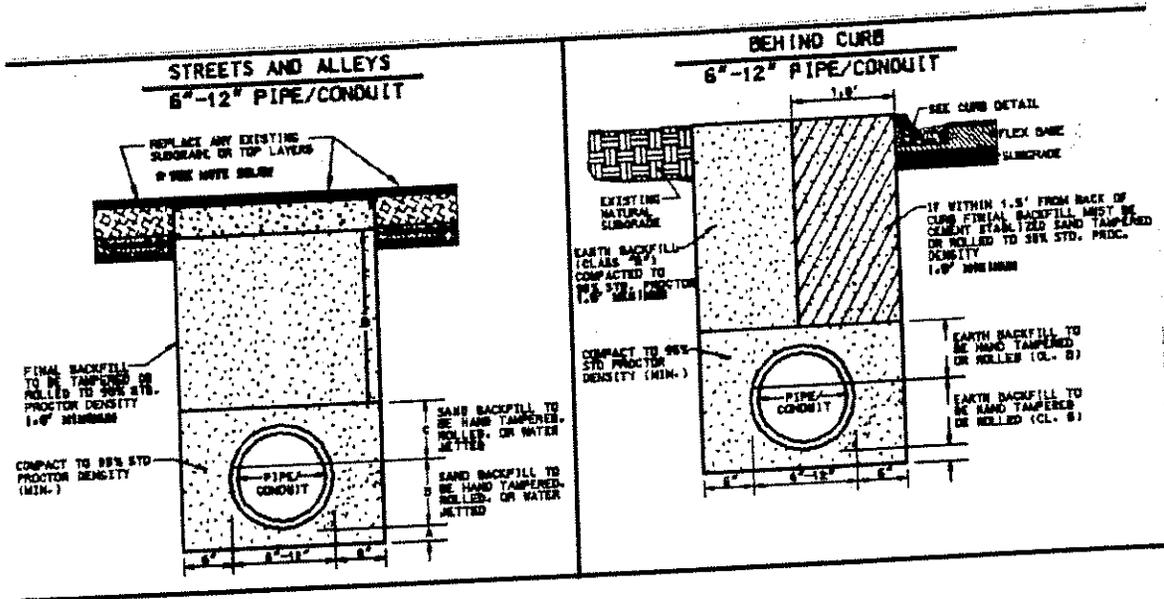
- A. SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
- B. SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPED)
- C. SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED)
- D. SAND BACKFILL, CLASS "A" 16" LIFTS, MECHANICAL COMPACTION)

GENERAL NOTE:

ANY TRENCHING OR EXCAVATING DONE ON CITY STREETS OR R.O.V. NEEDS TO CONTACT THE ENGINEERING DEPARTMENT

* HOT MIX ASPHALTIC CONCRETE SHALL BE UTILIZED FOR REPAIR OF AREAS 300 S.F. OR GREATER.

Standard Trenching Widths



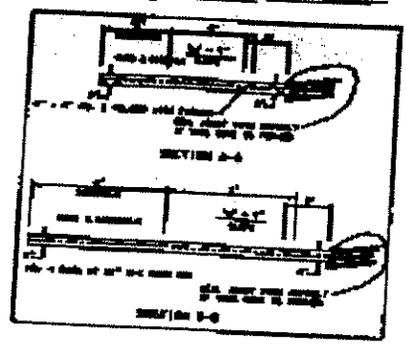
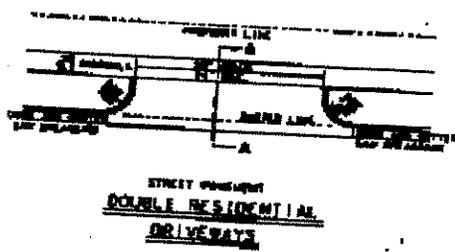
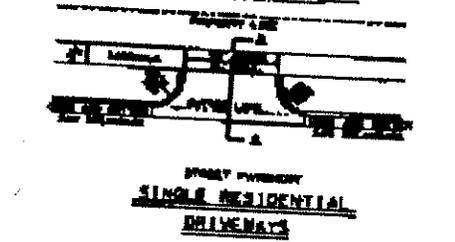
- NOTES**
- SAND BEDDING PLACES BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
 - SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPER)
 - SAND BACKFILL PLACES FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPER)
 - SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION)

GENERAL NOTES

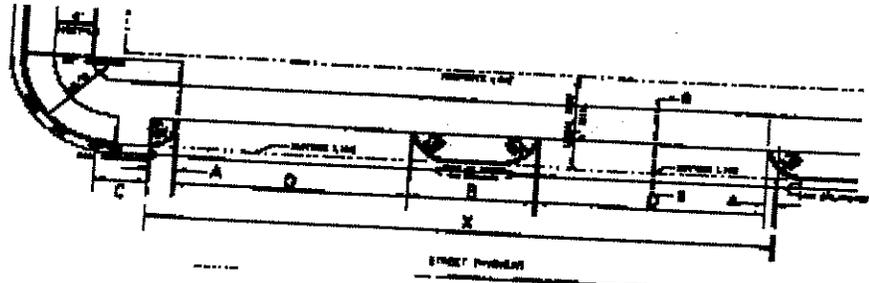
ANY TRENCHING OR EXCAVATION SHALL BE DONE IN ACCORDANCE WITH THE CITY STANDARD SPECIFICATIONS TO CONTROL THE QUALITY OF THE WORKMANSHIP.

ANY NEW ASPHALT OR CONCRETE SHALL BE UTILIZED FOR REPAIR OF AREAS 200 S.F. OR GREATER.

Exhibit O Typical Residential and Commercial Driveway Illustrations



NOTE: DRIVING COMPLETELY THE CURBING SIDE AND RETURN BACK TO END OF THE DRIVE FROM NEW DRIVE APPROACH AND PARTS DIMENSIONALLY. SIDEWALK IS OPTIONAL. FULL MARKING REQUIRED ON COMMERCIAL AND RESIDENTIAL DRIVEWAYS.



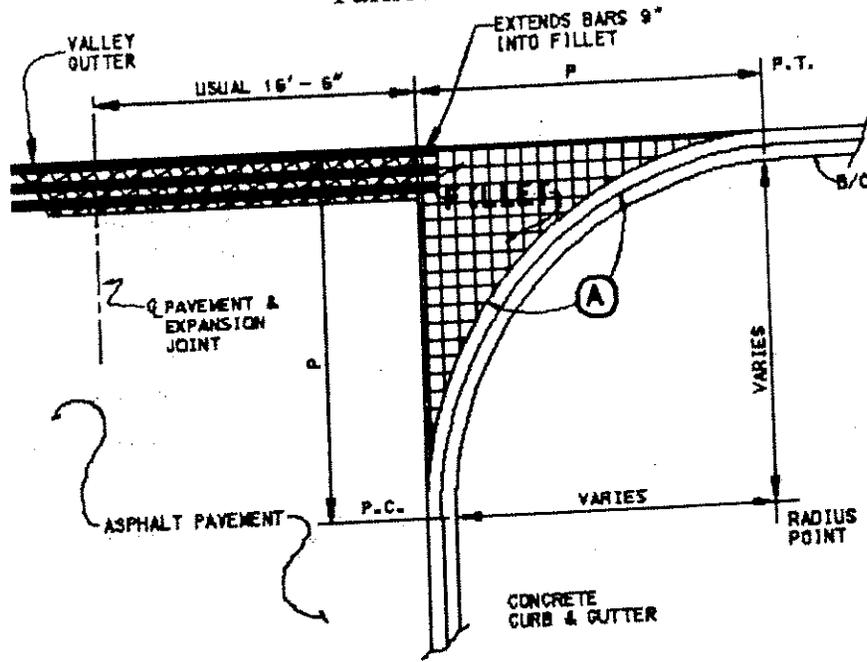
X Frontage	A Curb Return Radii		B Island Width Min.		C Corner Clearance	Max # of Driveways	Driveway Width	
	Min.	Max.	Desirable	Min.			Desirable	Max.
UP to 58'	6'	30'	NONE	5'	NONE	1	24'	45'
58' to 95'	6'	30'	NONE	25'	5'	1	24'	45'
96' to 135'	6'	30'	20'	25'	5'	2*	30'	45'
136' to 320'	6'	30'	20'	25'	15'	2*	35'	45'
321' to 600'	10'	30'	20'	25'	20'	3*	40'	45'
601' and up	Special Design Needed - Contact City Engineer							

* if all minimum requirements are met

NOTES:

1. All driveways on State right-of-way will need a Texas Dept. of Transportation driveway permit.
2. All access driveways from two-way roadway shall be at an angle of 60 to 90 degrees
3. 30 degree to 60 degree ingress driveways will be permitted on frontage abutting a one-way roadway.
4. Maximum driveway widths shall be used only where frontage is sufficient to assure maximum corner clearance, curb return radii and island widths.

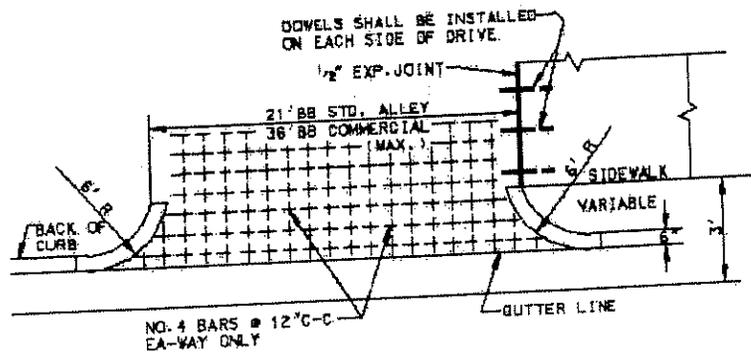
Turnout Detail



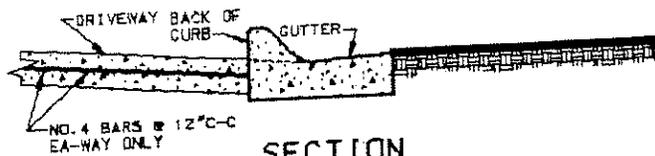
TURNOUT DETAIL

(A) INDICATED CONCRETE FILLET IS TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE CURB AND GUTTER AND SHALL BE MEASURED ALONG THE FILLET PERIMETER. (2P)

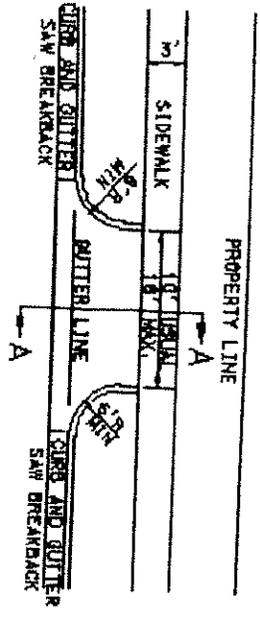
Typical Detail for Reinforcing Driveways



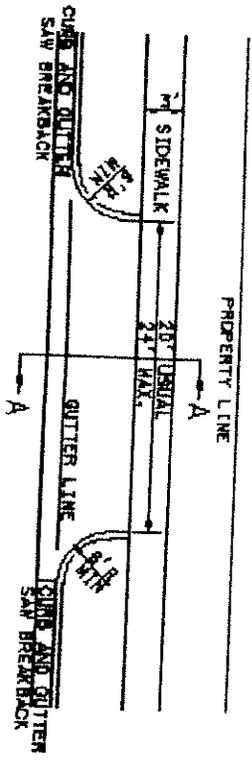
PLAN
STANDARD ALLEY OR COMMERCIAL TURNOUT
NO SCALE



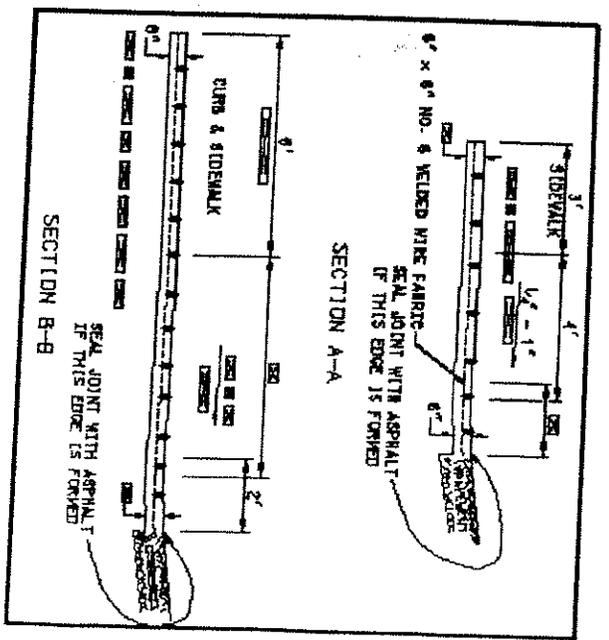
SECTION
NO SCALE



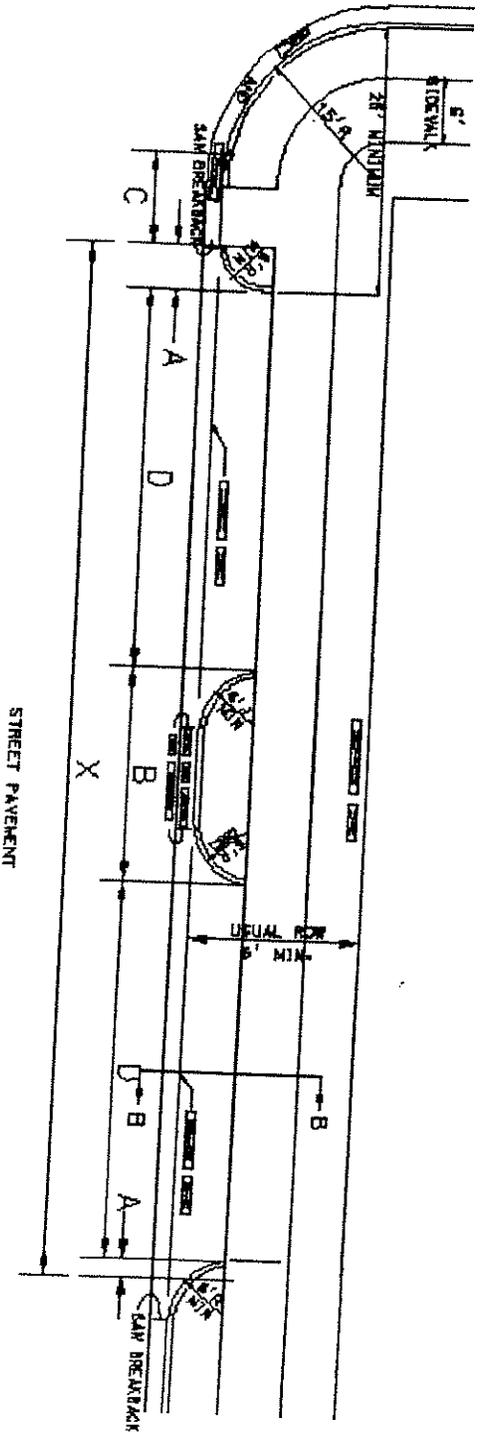
STREET PAVEMENT
SINGLE RESIDENTIAL
DRIVEWAYS



STREET PAVEMENT
DOUBLE RESIDENTIAL
DRIVEWAYS

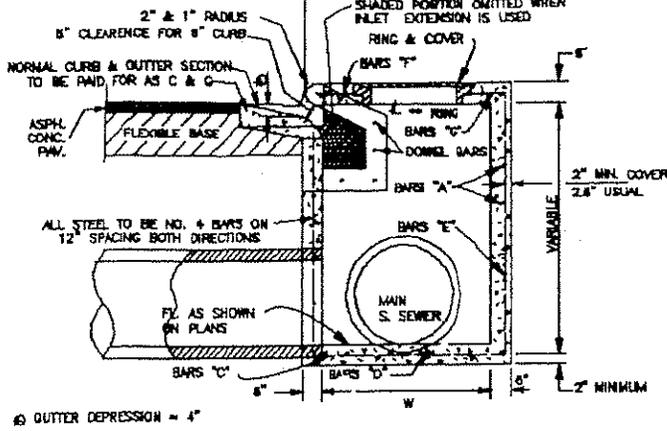


NOTE: REMOVE COMPLETELY THE EXISTING CURB AND GUTTER BACK TO END OF THE RADIUS POUR NEW DRIVE APPROACH AND GUTTER MONOLITHICALLY. SIDEWALK IS OPTIONAL. FULL RADIUS REQUIRE ON COMMERCIAL AND RESIDENTIAL DRIVEWAYS.

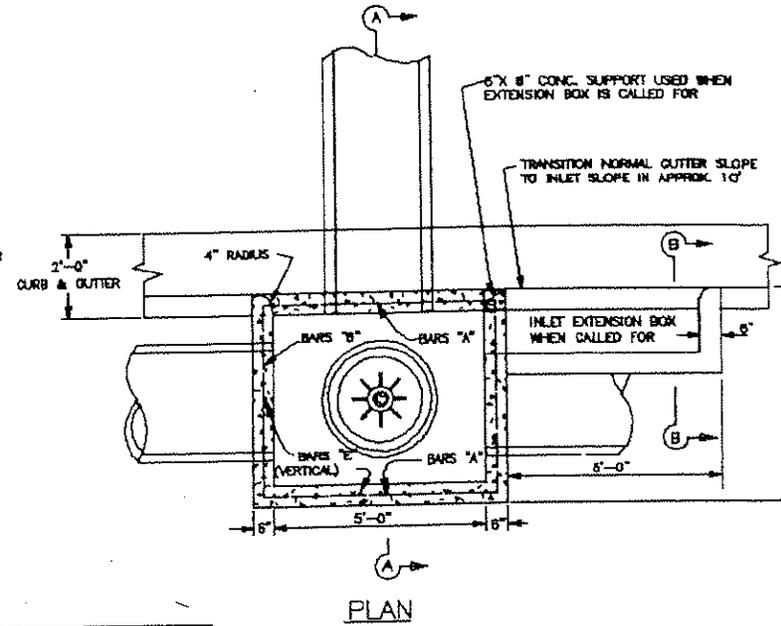


COMMERCIAL DRIVEWAY

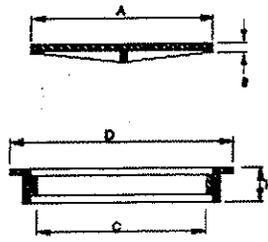
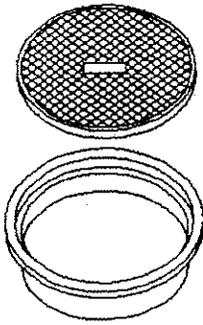
SEE L&D FOR OFFSET DIMENSION
(DIM. IS TO FACE OF CURB)



INLET TY "A"
To be used with Curb & Gutter
SECTION A-A



INLET TYPE	W	MAX PIPE SIZE ALLOW (DIA.)
A	3'-0"	24"
A-1	4'-0"	36"
A-2	5'-0"	48"
A-3	6'-0"	60"

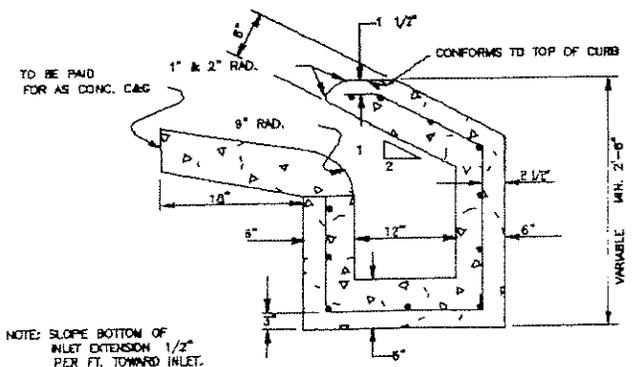


REINFORCING STEEL DETAILS

LD		RING		TOTAL WT.	
"A"	"B"	"C"	"D"	"E"	
15 3/8"	1"	125 lbs. (min)	24	32	5 185 lbs. 310 lbs.

RING & COVER DETAILS

NOTE: RINGS AND COVERS OF SLIGHTLY DIFFERENT DIMENSIONS BUT APPROXIMATELY THE SAME WEIGHT MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER. RING AND COVER TO BE SUBSIDIARY.

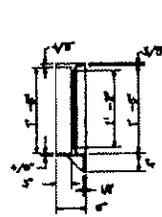
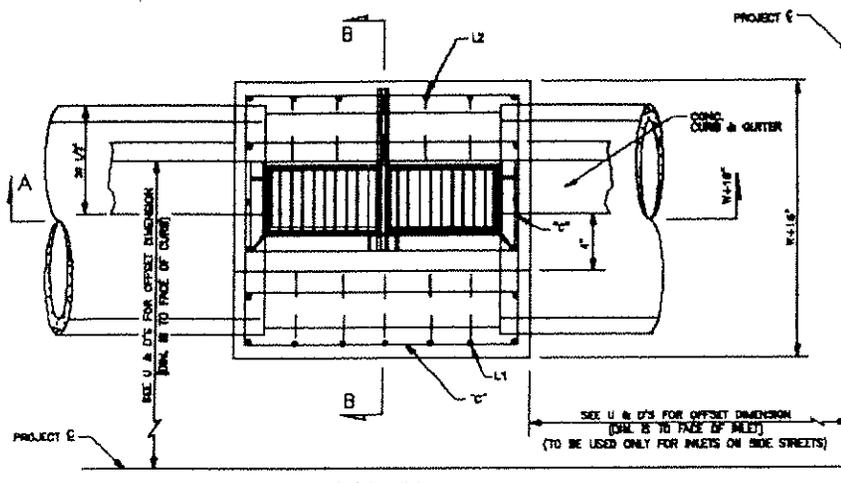


NOTE: SLOPE BOTTOM OF INLET EXTENSION, 1/2" PER FT. TOWARD INLET. ALL STEEL TO BE NO. 4 BARS ON 12" SPACING IN BOTH DIRECTIONS.

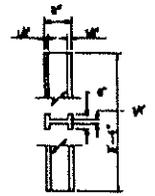
SECTION B-B INLET EXTENSION



TY "A" INLET DETAILS



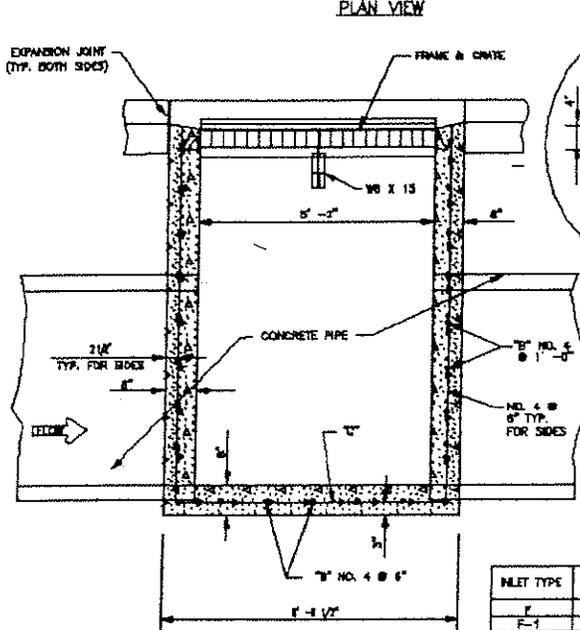
FRAME SECTION



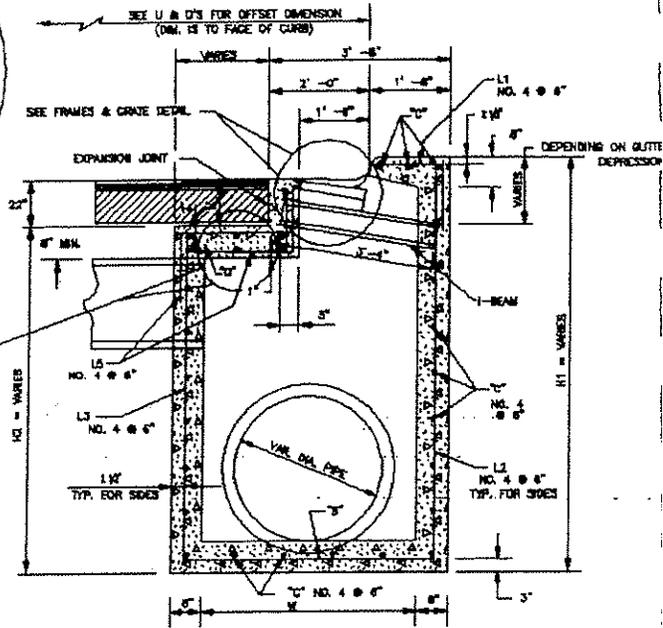
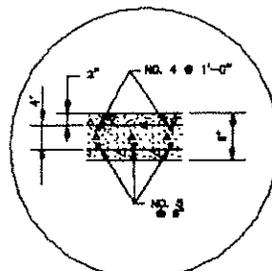
I-BEAM DETAILS
W 6 X 15

NOTE: ALL REINFORCEMENT
BARS SHALL BE
GRADE 60.

PLAN VIEW

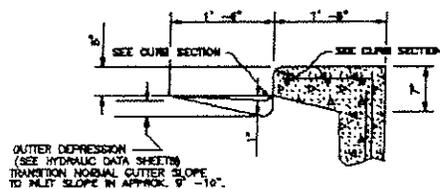


SECTION A-A

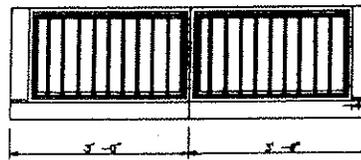


SECTION B-B

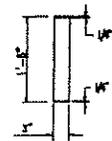
INLET TYPE	W	MAX PIPE SIZE ALLOW (DIA.)
F-1	3'-0"	24"
F-2	4'-0"	36"
F-3	6'-0"	60"



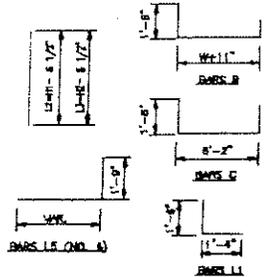
CURB SECTION DETAIL



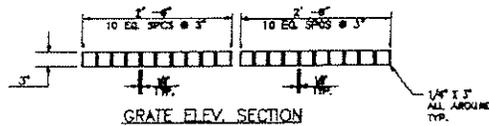
FRAMES AND GRATE TOP VIEW
TO BE SHORROWY TO INLET ITEM



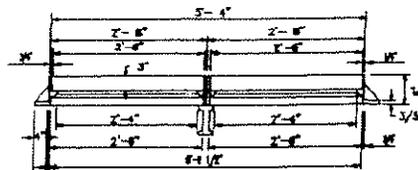
GRATE SECTION



REINFORCING STEEL DETAILS



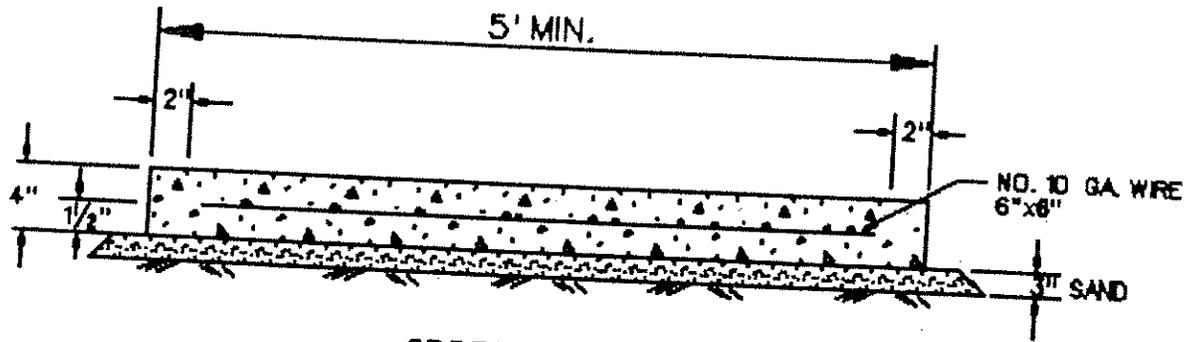
GRATE ELEV. SECTION



FRAME ELEVATION

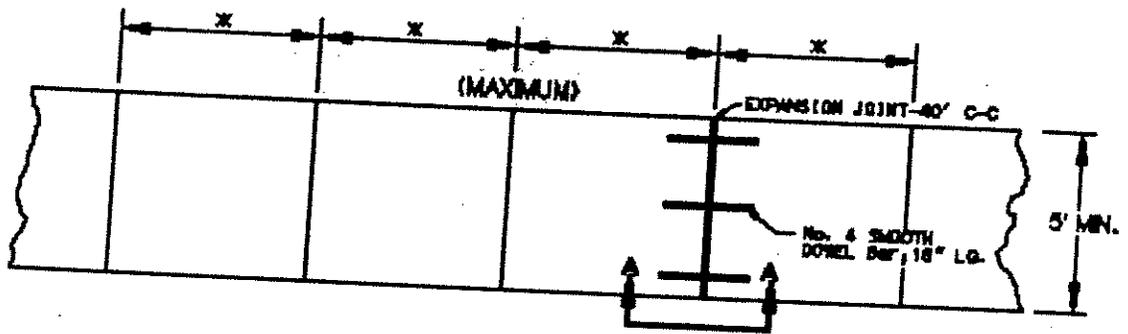
CITY OF HARLINGEN TEXAS
TY "F" INLET DETAILS

Exhibit Q Typical Sidewalk Cross Section



CROSS SECTION

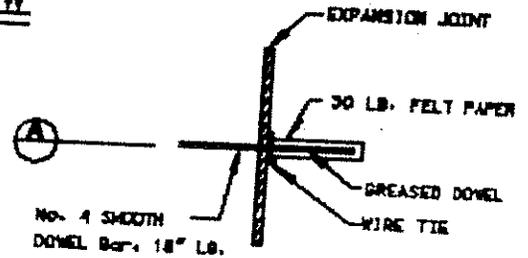
not to scale



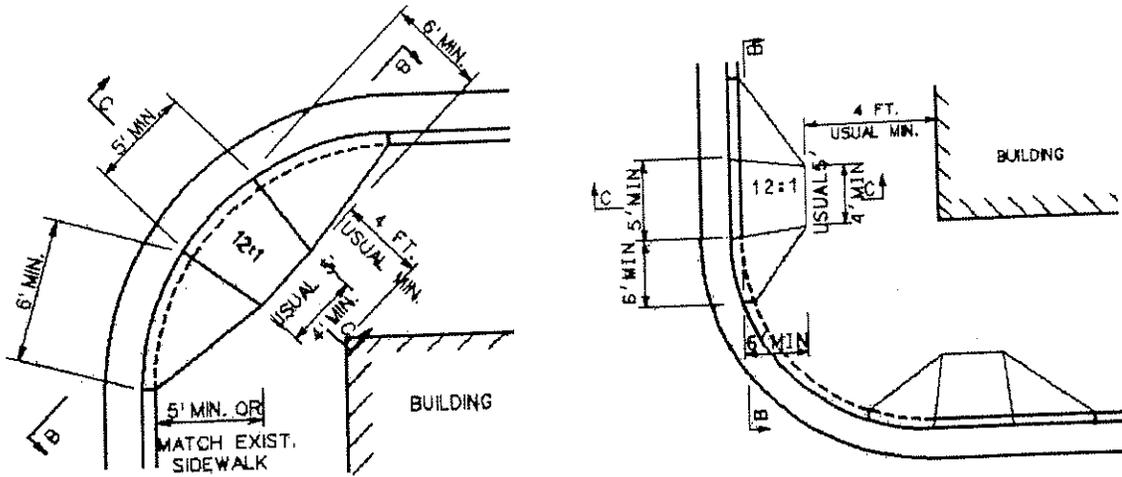
PLAN VIEW

not to scale

* CONTROL JOINTS EQUAL TO THE WIDTH OF THE SIDEWALK
EXPANSION JOINTS AT EVERY 40'
AND ALONG EXISTING CONCRETE
SURFACES.
ALL CONCRETE SHALL BE 3000 PSI



Sidewalk & Wheel Chair Ramp Details



SIDEWALK RAMP DETAILS

NOTES:
 MINIMUM 6'-0" WIDE SIDEWALK.
 SIDEWALK GRADIENT NOT TO EXCEED 1:20.
 PROVIDE DROPPED CURBS AT INTERSECTIONS.
 DO NOT LOCATE DROPPED CURBS ON CURVES.
 ALL CONCRETE SHALL BE CLASS "A" CONC.
 SIDEWALK TO BE IN LINE WITH EXIST. SIDEWALK.

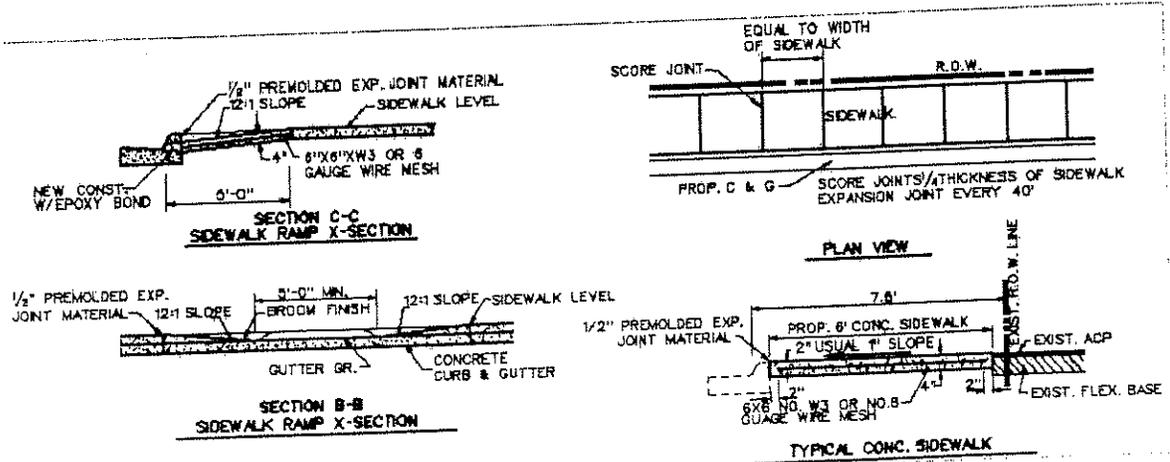
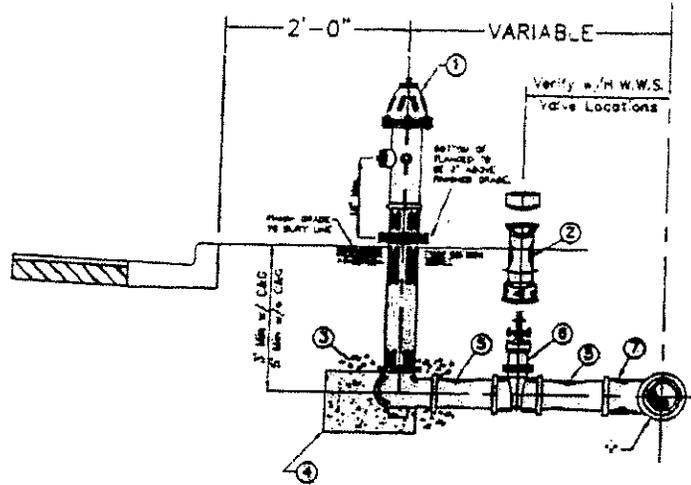


Exhibit R Fire Hydrant Details



STANDARD FIRE HYDRANT INSTALLATION

Mueller (Super Centurion 250 A-423) or American Darling B-84-B (SEE NOTE 4) only

NOTE:

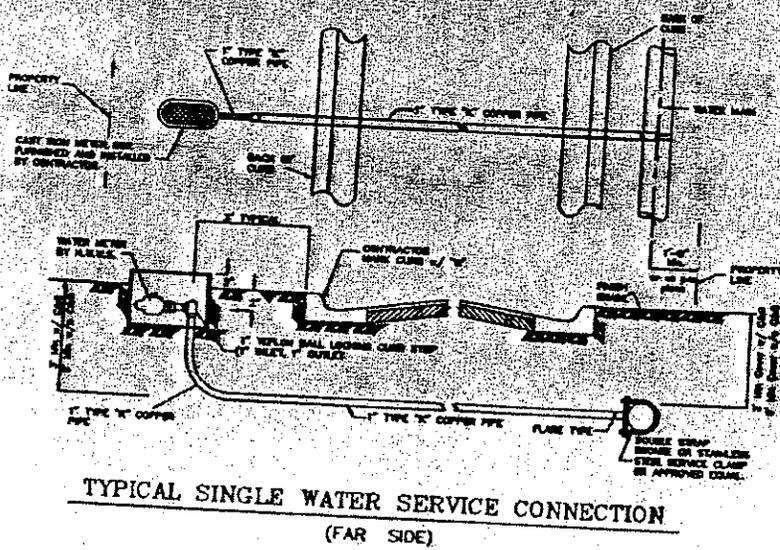
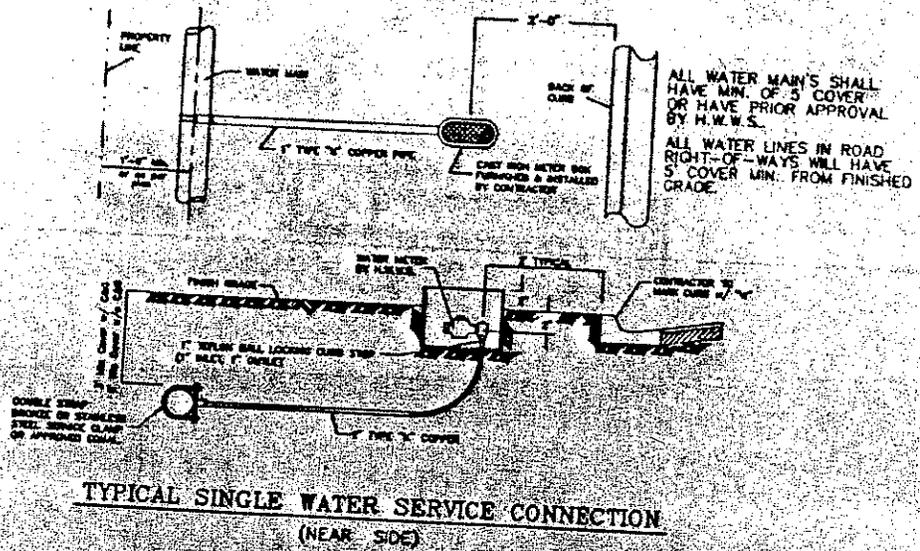
- 1.) OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
- 2.) PUMPER NOZZLE SHALL FACE ROADWAY. (4 1/2" N.S.T.)
- 3.) IN CERTAIN INSTANCES, WHERE DISTANCES PERMITS, A PARALLEL TEE OR UNION-TITE 90° ELBOW W/RESTRAINING LUGS MAY BE USED IN LIEU OF A STANDARD TEE. FINAL APPROVAL BY H.W.W.S. REQUIRED.
- 4.) IF AMERICAN DARLING IS USED MODEL B-84-B w/EPOXY COAT VALVE PLATE AND INTERIOR SHOE.
- 5.) ALL VALVES, FITTINGS AND ACCESSORIES, VALVE BOXES, METER BOXES AND COVERS WILL BE OF DOMESTIC ORIGIN AND APPROVED BY H.W.W.S..
- 6.) TAPPING SLEEVES TO HAVE STAINLESS STEEL BOLTS AND NUTS.

FIRE HYDRANT INSTALLATION CONSISTS OF FIRE HYDRANT, VALVE AND VALVE BOX

FIRE HYDRANT UNIT SHALL INCLUDE:

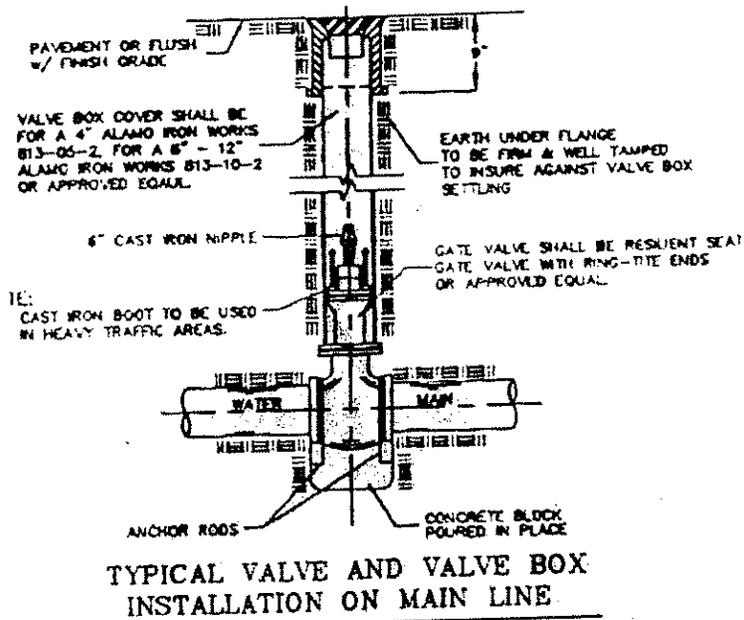
- 1.) 1- FIRE HYDRANT w/
(4 1/2" PUMPER NOZZLE)
- 2.) 1- VALVE BOX
- 3.) 3 CU. FT. GRAVEL
- 4.) 3 CU. FT. CONCRETE
- 5.) 6" PVC SPOOLS
- 6.) 1-6" RESILIENT SEAT GATE VALVE
- 7.) 1-X"x6" CAST IRON TEE
x" WATER MAIN DIA.

Exhibit S Typical Single Water Service Connection



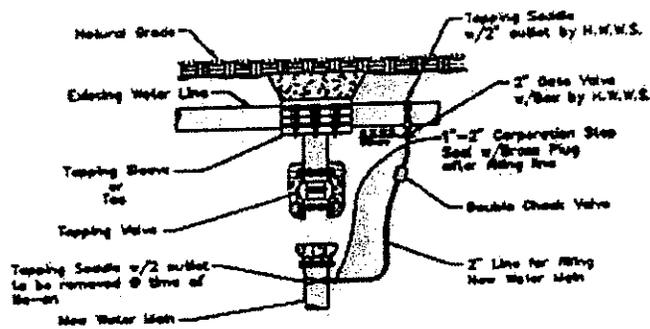
NOTE:
ALL SYSTEMS OF WATER SERVICE TO BE FLAME FREE.

Typical Valve and Valve Box Installation on Main Line



Mueller (A-2360 series) or American Darling (series 500) Only

Method for Filling New Water Lines Prior to Chlorination and Testing



METHOD FOR FILLING NEW WATER LINES PRIOR TO CHLORINATION AND TESTING

NOTES:

1. This Method shall also be used at a new connection to an existing Open End Line.
2. After the New Line has been Disinfected & Pressurized, the Valve at the Connection to the Existing Line shall be opened (By H.W.S.) to flush out the Disinfectant.
3. 2" Tap Fee need to be paid by developer, contractor, or customer.

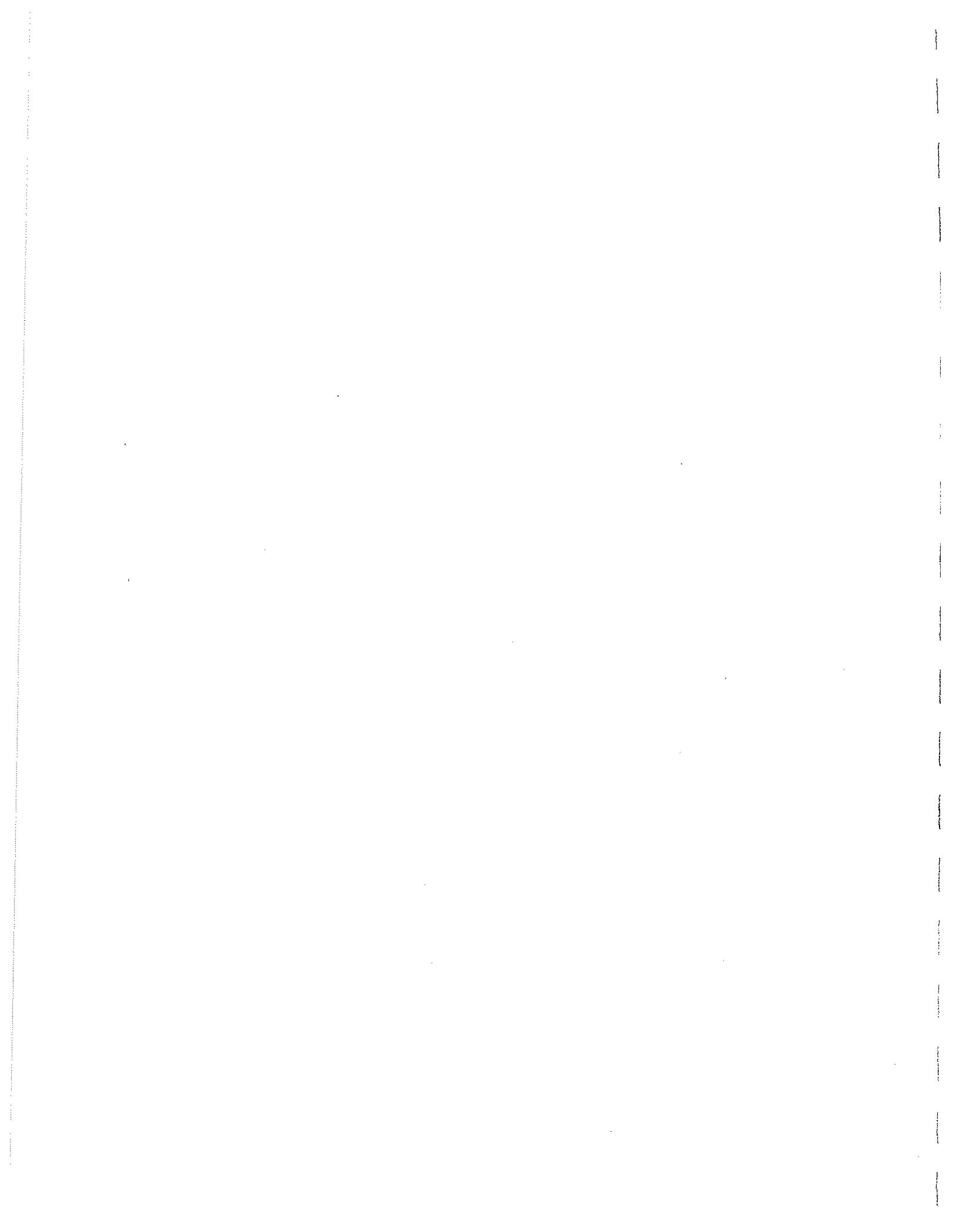
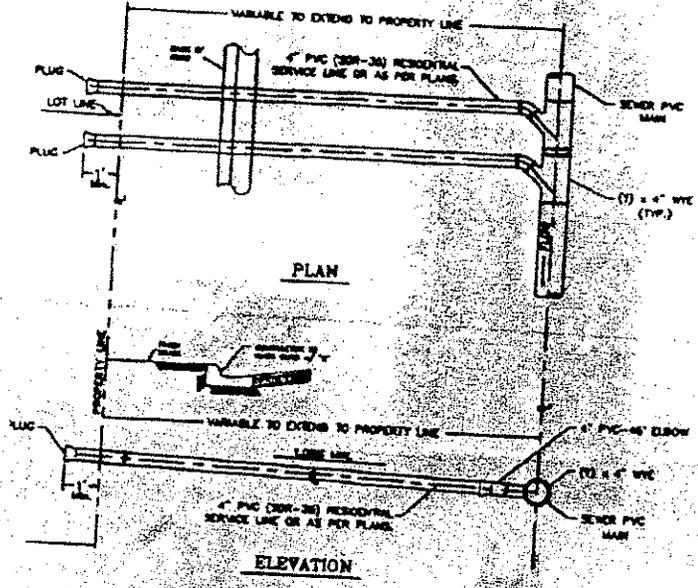


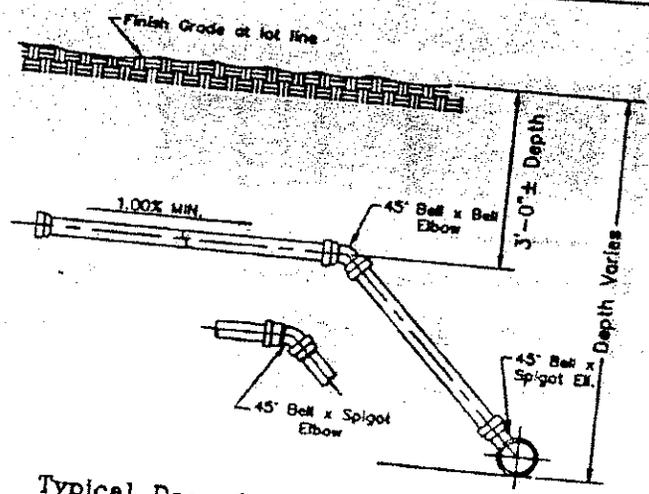
Exhibit T Typical Sewer Service Line Installation



NOTE:
POLY (VINYL CHLORIDE) (PVC) SEWER PIPE SHALL CONFORM TO REQUIREMENTS OF ASTM D-3034-73 - SDR-35 MANHOLE 4" PVC (SDR-35) SEWER PIPE OR APPROVED EQUAL.

TYPICAL SEWER SERVICE LINE INSTALLATION

Typical Deep Service Connection

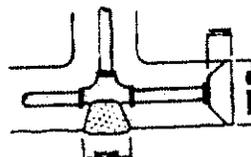


Typical Deep Service Connection

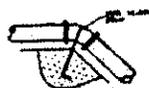
Thrust Block Details

THRUST BLOCK SIZE			
Nominal Pipe Size	Casing Size		No. of Skids
	Minimum	Maximum	
6"	12"	14"	4
8"	14"	16"	4
12"	20"	22"	4
16"	24"	26"	5

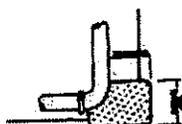
NOTE: All thrust blocks are subject to a minimum of 10% of the pipe weight and a maximum of 1000 lbs. per linear foot of pipe.



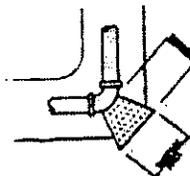
TEES & DEAD ENDS



VERTICAL BONDS



HYDRANT BURLYS



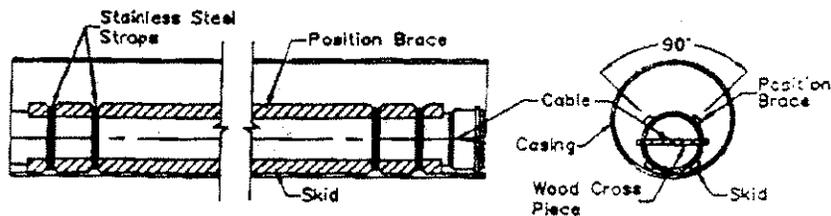
HORIZONTAL BONDS

THRUST BLOCKS DETAILS

NOTE: All thrust blocks are subject to a minimum of 10% of the pipe weight and a maximum of 1000 lbs. per linear foot of pipe.

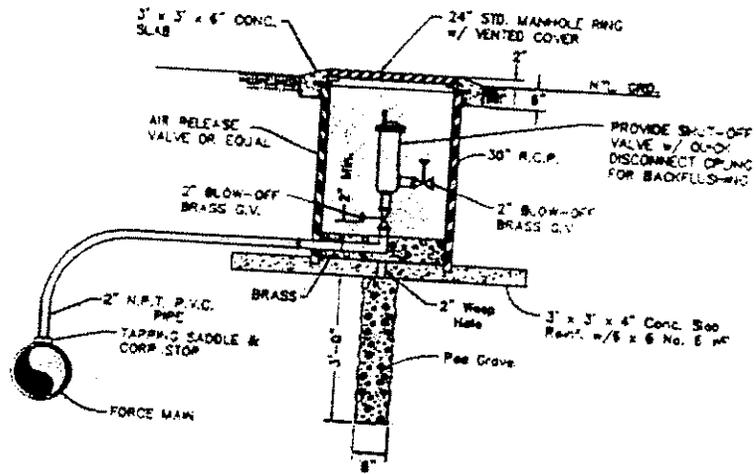
Steel Pipe Casing and Skids

Nominal Pipe Size	Casing Size	No. of Skids
6"	12"	4
8"	16"	4
12"	20"	4
16"	24"	5



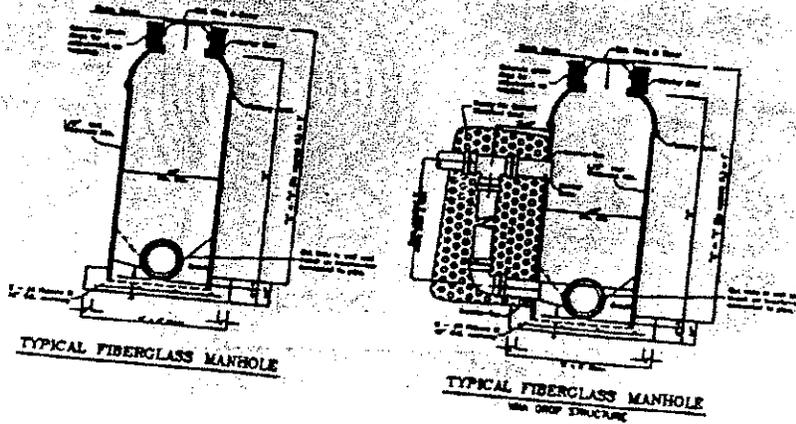
STEEL PIPE CASING & SKIDS

Sewage Air Release Valve Installation Detail

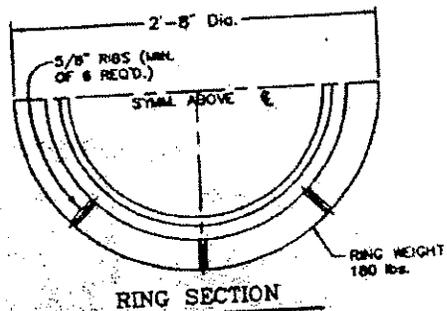


INSTALLATION DETAIL
SEWAGE AIR RELEASE VALVE

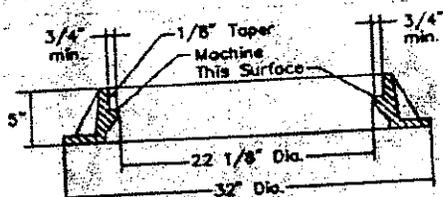
Typical Manholes



Standard Roadway Manhole Ring and Cover Casting Detail

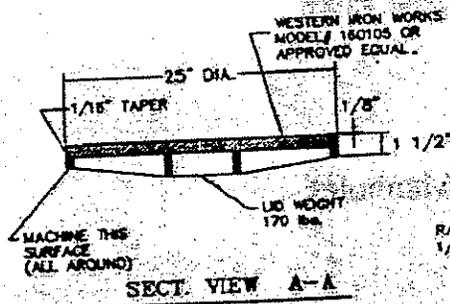


RING SECTION

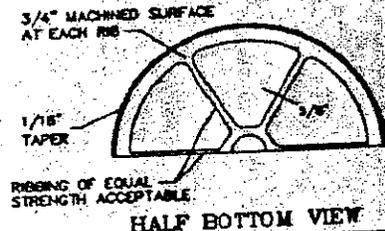


HALF-SECTION

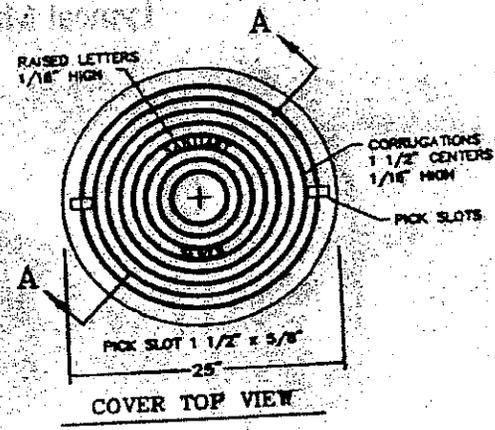
NOTE:
ALL MANHOLE COVERS & RINGS TO BE DOMESTIC OR WESTERN IRON WORKS MODEL # 160105 OR APPROVED EQUAL.



SECT. VIEW A-A

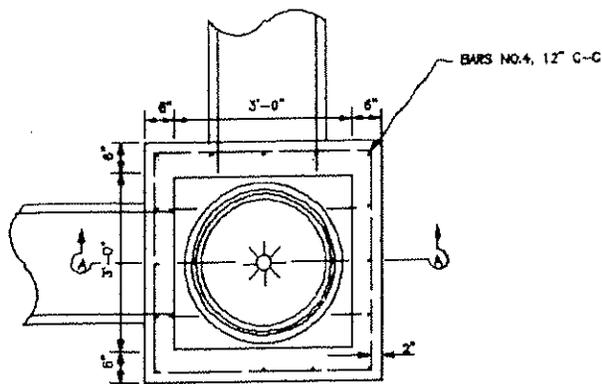


HALF BOTTOM VIEW



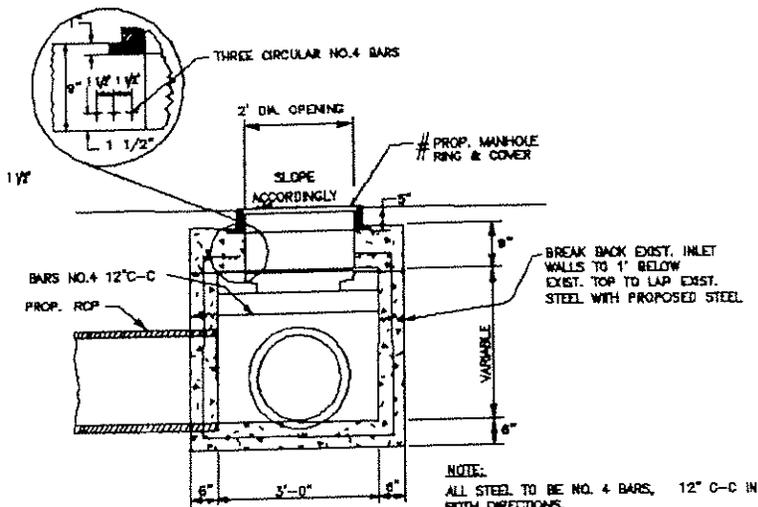
COVER TOP VIEW

CITY STANDARD ROADWAY MANHOLE RING & COVER CASTING DETAIL

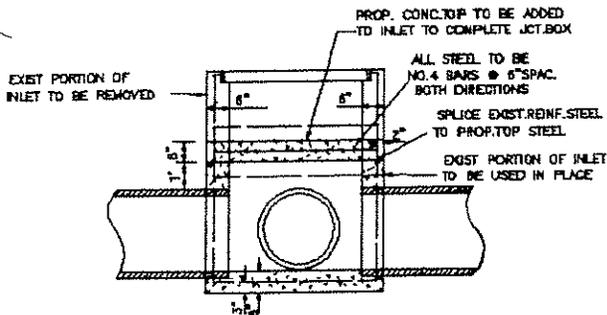


PLAN VIEW

(TO BE MADE UNDER ITEM 479 "ADJUST INLET (JCT. BOX)")

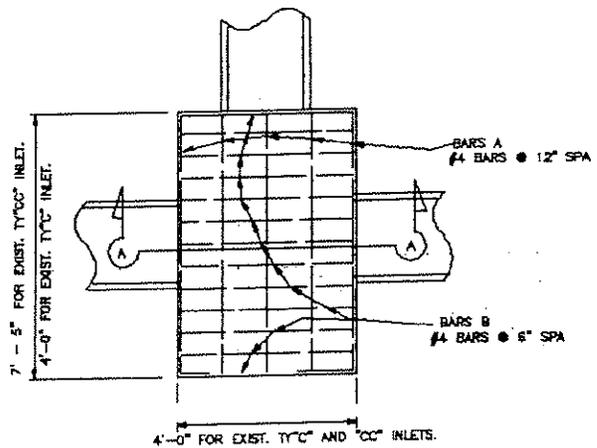


SECTION A-A
ADJUST INLET (JUNCT. BOX)

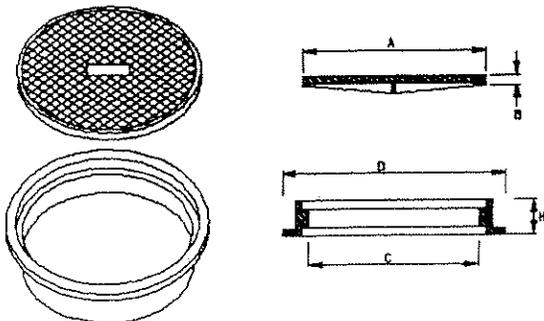


EXIST TY "C" OR TY "CC" INLET TO BE CONVERTED TO JCT. BOX

SECTION A-A
ADJ. INLET (CAP)



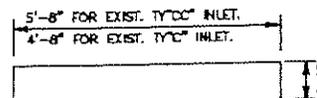
PLAN



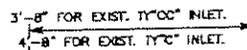
LID			RING		
"A"	"B"	WEIGHT	"C"	"D"	"H"
2'-2"	1"	174 lbs. (min)	2'-0"	2'-7 1/2"	5"

RING & COVER DETAILS
(FOR MANHOLE TY "A" AND "A1")
(NON-PAY)

NOTES: RINGS AND COVERS OF SLIGHTLY DIFFERENT DIMENSIONS BUT APPROXIMATELY THE SAME WEIGHT MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



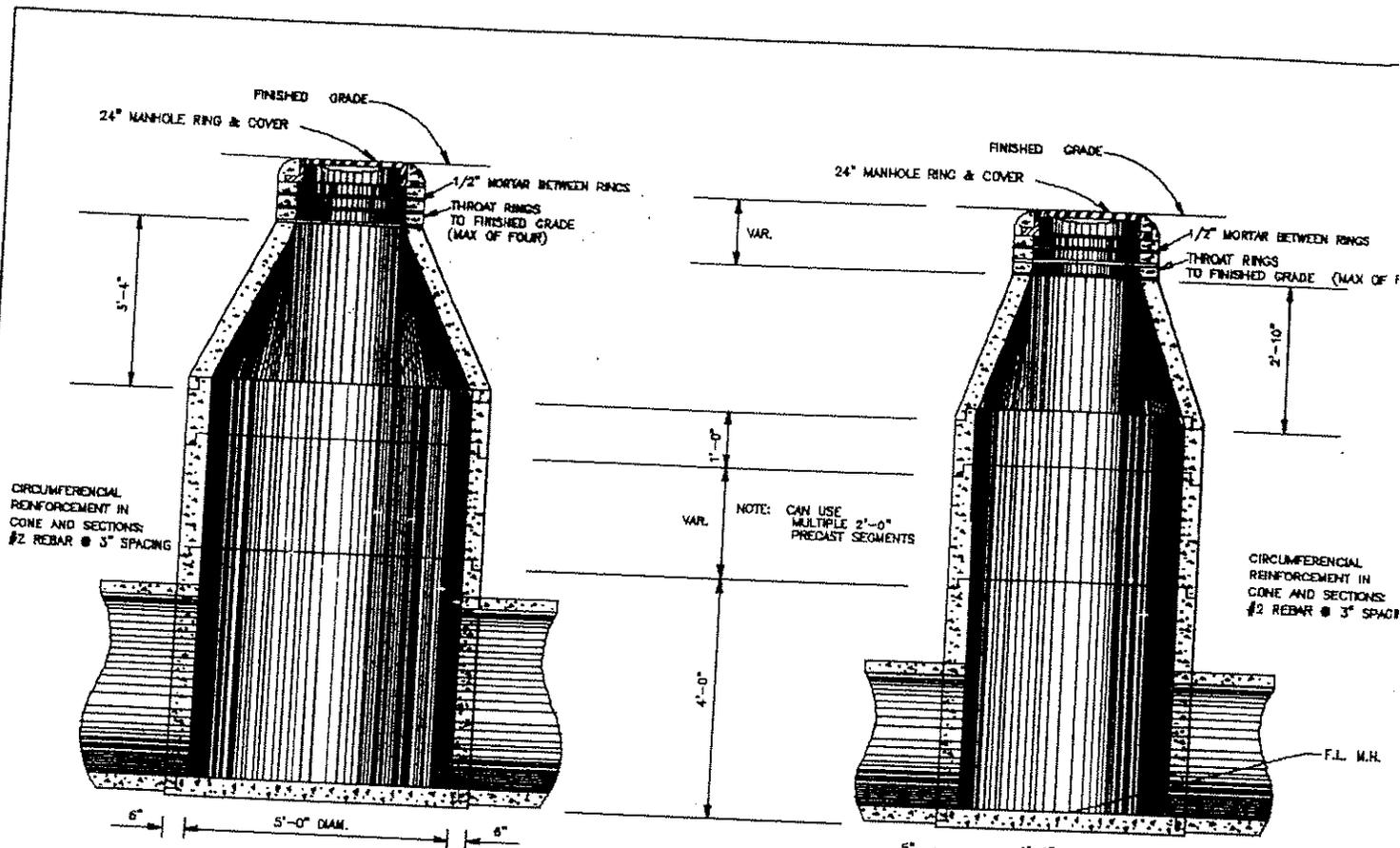
BARS A



BARS B

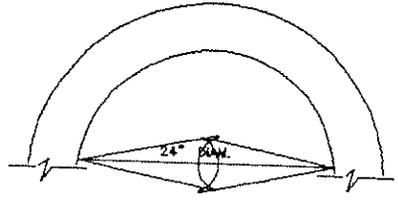
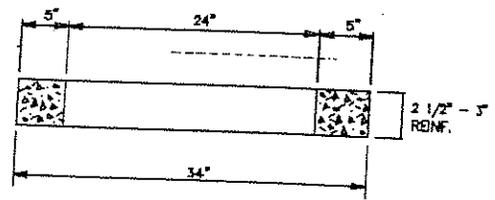
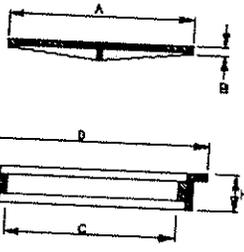
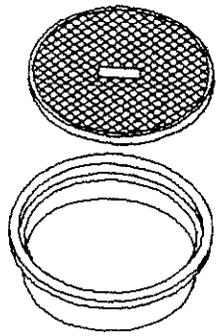


CITY OF
HARLINGEN
TEXAS
**INLET AND MANHOLE
CAPPING DETAILS**



TY "A1"

TY "A"



LID			RING		
"A"	"B"	WEIGHT	"C"	"D"	"H"
2'-2"	1"	174 lbs. (min)	2'-0"	2'-7 1/2"	5"

RING & COVER DETAILS
 (FOR MANHOLE TY "A" AND "A1")
 (SUBSIDIARY)

REINF. CONC. THROAT RING

GENERAL NOTES:
 FOR MANHOLES LOCATED WITHIN PAVED PORTIONS OF THE ROADWAY, THE COVER SHALL BE OF A TYPE THAT CAN BE BOLTED TO THE RING.
 RINGS AND COVERS OF SLIGHTLY DIFFERENT DIMENSIONS BUT APPROXIMATELY THE SAME WEIGHT MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.
 CONCRETE STRENGTH: 4,000 P.S.I. MIN.
 THE CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH MANHOLES OF EQUIVALENT STRUCTURAL DESIGN.

ALTERNATE DESIGN DRAWINGS BEARING THE SEAL OF A REGISTERED ENGINEER WILL BE ACCEPTABLE FOR PRECAST CONSTRUCTION OF MANHOLES.



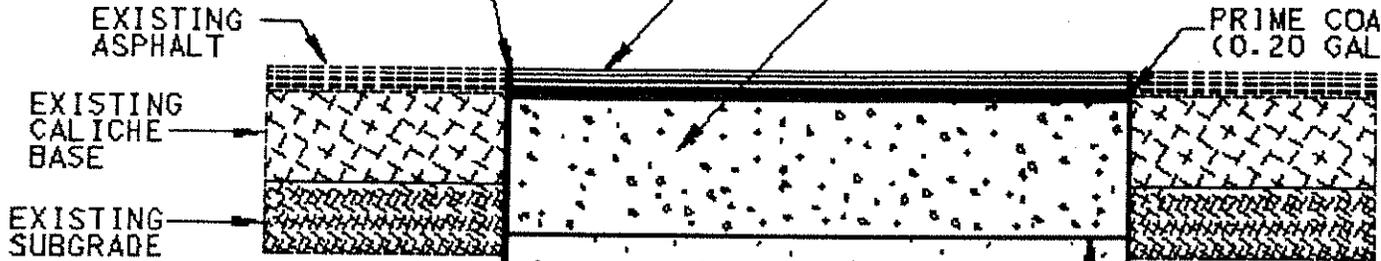
TY "A" & "A-1"
 MANHOLE (COMPLETE)

CONTRACTOR SHALL TRIM ASPHALT TO A NEAT STRAIGHT LINE

REPLACE ASPHALT WITH 2" H.M.A.C.T.Y. "D" (228#/SY.)
*SEE NOTE BELOW

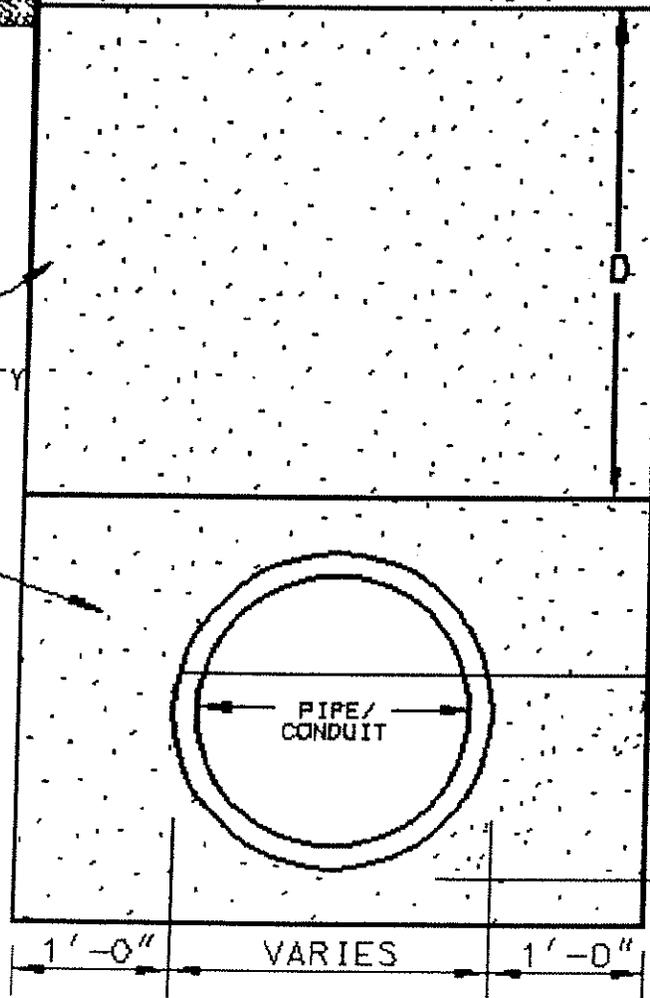
REPLACE CALICHE WITH 12" CALICHE BASE 1% LIME COMPACTED TO 98% PROCTOR DENSITY

PRIME COAT MC-30 (0.20 GAL/SY)



FINAL BACKFILL TO BE TAMPERED OR ROLLED TO 95% STD. PROCTOR DENSITY
1.5' MINIMUM

COMPACT TO 95% STD PROCTOR DENSITY (MIN.)



SAND BACKFILL TO BE HAND TAMPERE, ROLLED, OR WATER JETTED

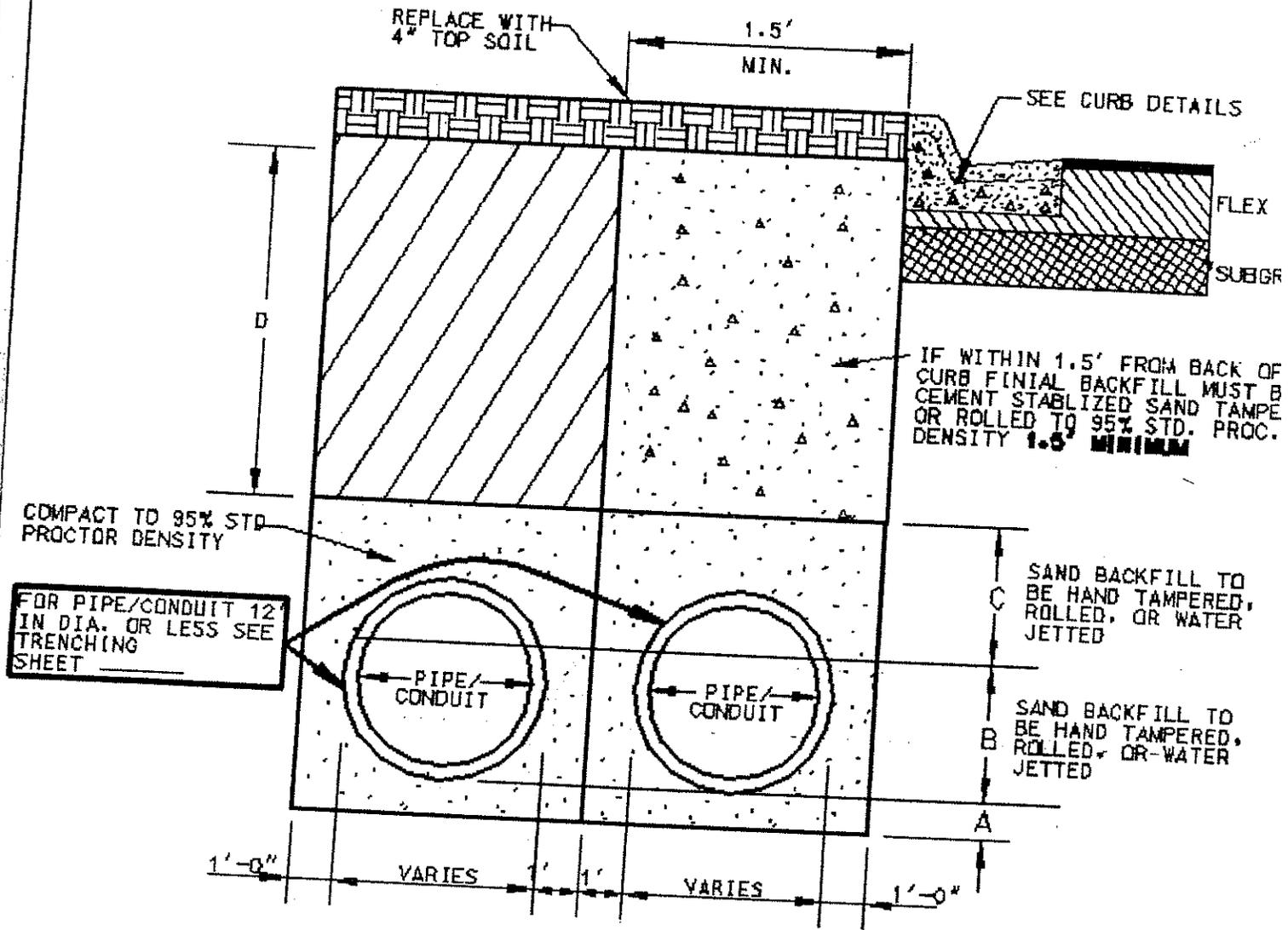
SAND BACKFILL TO BE HAND TAMPERE, ROLLED, OR WATER JETTED

NOTES:

- A. SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
- B. SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPED)
- C. SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED)
- D. SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION)

GENERAL NOTE:
ANY TRENCHING OR EXCAVATING DONE ON CITY STREETS OR R.O. NEEDS TO CONTACT THE ENGINEERING DEPARTMENT

*HOT MIX ASPHALT/CONCRETE SHALL BE UTILIZED FOR REPAIR OF AREAS 300 S.F. OR GREATER.

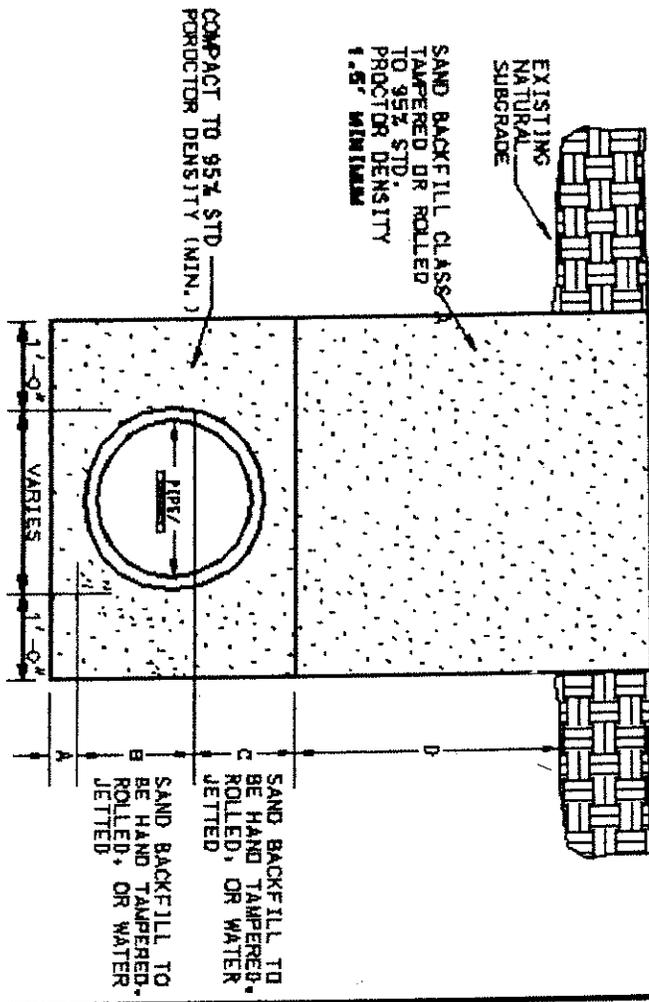


GENERAL NOTE:

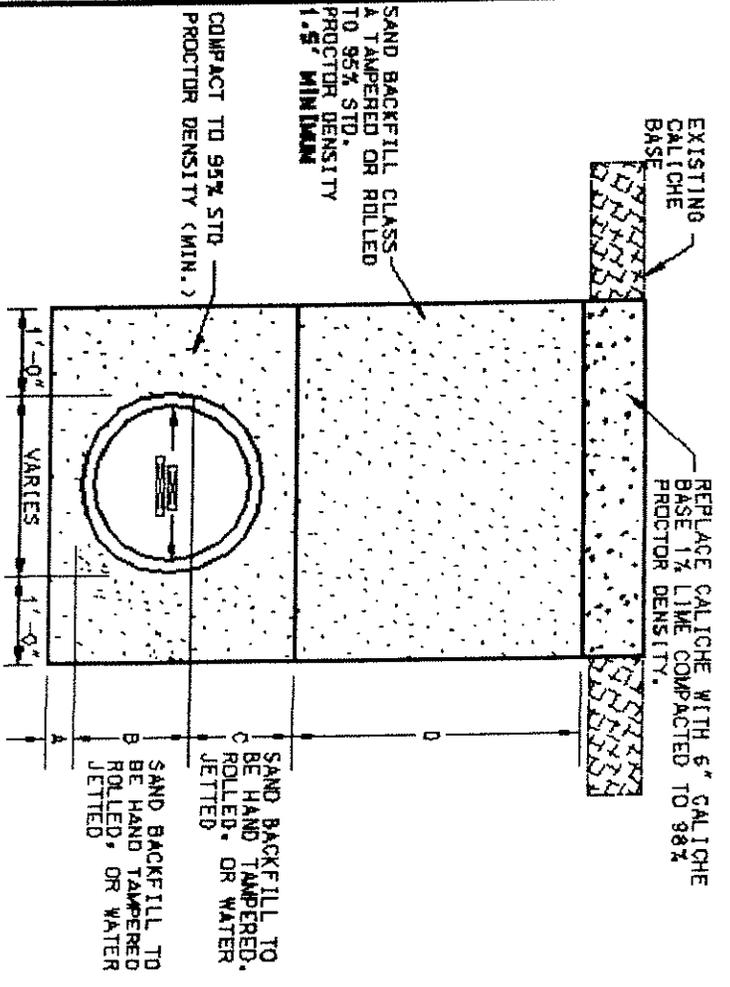
ANY TRENCHING OR EXCAVATING DONE ON CITY STREETS OR R.O.W. NEEDS TO CONTACT THE ENGINEERING DEPARTMENT

NOTES:

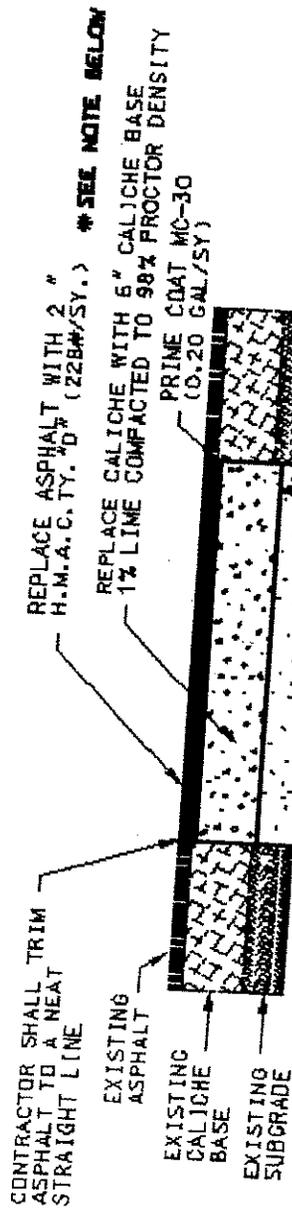
- A. SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
- B. SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPED)
- C. SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED)
- D. EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION)



NATURAL GROUND SURFACE



CALICHE SURFACE



CONTRACTOR SHALL TRIM ASPHALT TO A NEAT STRAIGHT LINE

EXISTING ASPHALT

EXISTING CALICHE BASE

EXISTING SUBGRADE

REPLACE ASPHALT WITH 2" H.M.A.C.T.Y. D (22BA/SY.) *SEE NOTE BELOW

REPLACE CALICHE WITH 6" CALICHE BASE 1% LIME COMPACTED TO 98% PROCTOR DENSITY

PRIME COAT MC-30 (0.20 GAL/SY)

FINAL BACKFILL TO BE TAMPERED OR ROLLED TO 95% STD. PROCTOR DENSITY **1.5' MINIMUM**

SAND BACKFILL TO BE HAND TAMPERED, ROLLED, OR WATER JETTED

SAND BACKFILL TO BE HAND TAMPERED, ROLLED, OR WATER JETTED

1'-0"

1'-0"

VARIES

1'-0"

ASPHALT SURFACE

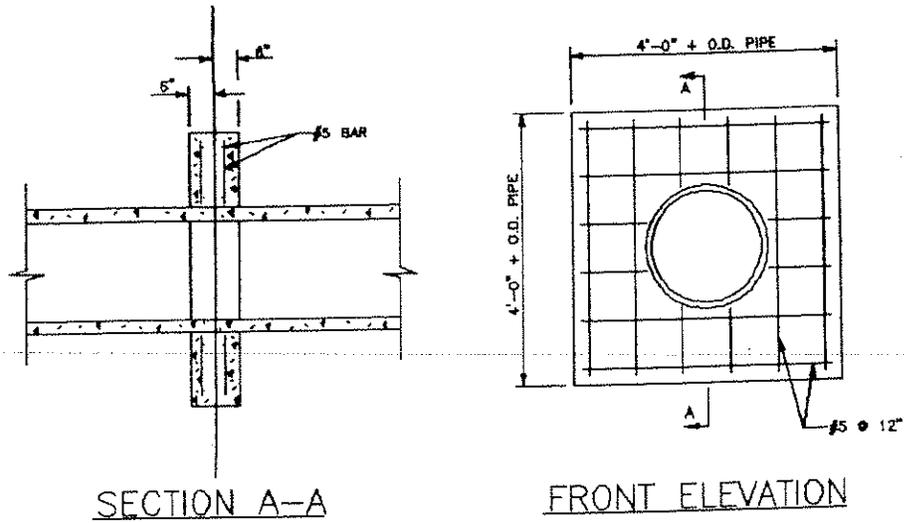
NOTES:

1. SAND BEDDING PLACED BEFORE PIPE (S LAID UP TO FLOW LINE OF PIPE. (MIN. THICKNESS = 3")
2. SAND BACKFILL PLACED AFTER PIPE (S LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, HAND TAMPED)
3. SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 3" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED)
4. SAND BACKFILL, CLASS "A" (8" LIFTS, MECHANICAL COMPACTION)

GENERAL NOTE:

ANY TRENCHING OR EXCAVATING DONE ON CITY STREETS OR R.O.W. NEEDS TO CONTACT THE ENGINEERING DEPARTMENT

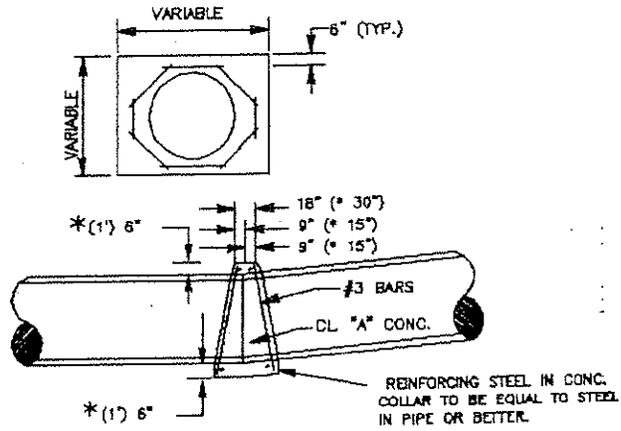
* HOT MIX ASPHALTIC CONCRETE SHALL BE UTILIZED FOR REPAIR OF AREAS 300 S.F. OR GREATER.



SECTION A-A

FRONT ELEVATION

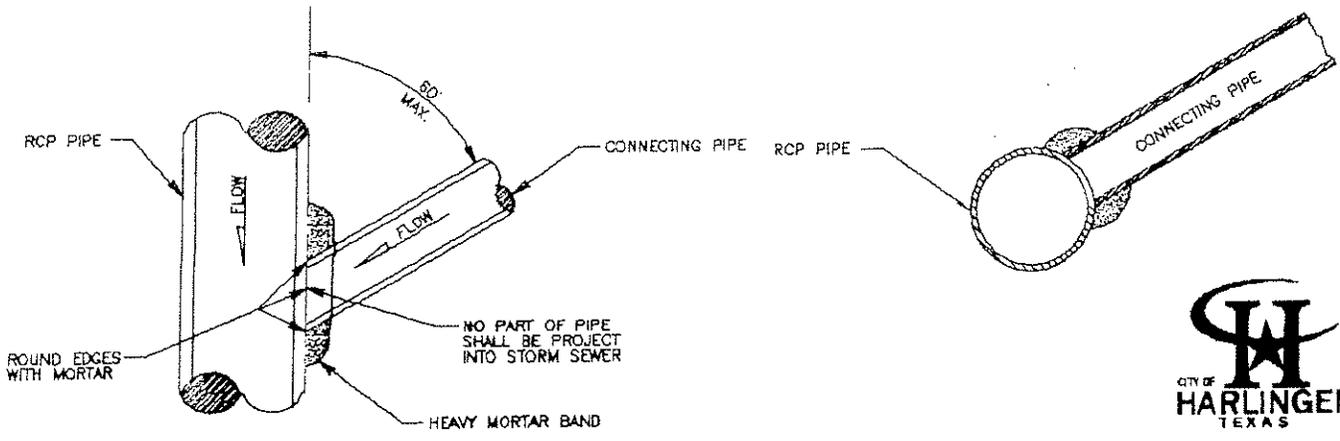
CONCRETE PIPE COLLAR



DETAIL FOR CONC. COLLARS
DRAINAGE STRUCTURES AND PIPE
SIPHONS (HORIZ. & VERT. BENDS)

NOTE: PROP. CONC. COLLAR WILL NOT BE PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO THE BIDS ITEMS INVOLVED.

* FOR 42" AND LARGER PIPE



TYPICAL REINFORCED CONC. PIPE
CONNECTION WITHOUT MANHOLE

CONCRETE PIPE COLLAR
AND CONNECTION DETAIL



HOT MIX ASPHALTIC CONCRETE PAVEMENT

4.6.1.5.

A. DESCRIPTION:

This item shall consist of a base course, a leveling-up course, a surface course, or any combination of these courses as shown on the plans each to be composed of a compacted mixture of mineral aggregate and asphaltic material.

The pavement shall be constructed on the previously completed and approved subgrade, base existing pavement, bituminous surface or in the case of a bridge, on the prepared floor slab, as herein specified and in accordance with the details shown on the plans.

B. MATERIALS:

Hot Mix Asphaltic Concrete, Type "D" (fine graded surface course)(Modified)

The hot mix asphaltic concrete shall conform to the requirements of the Texas Department of Transportation 1993 Standard Specifications Item 340. The successful bidder shall submit an asphalt mix design within ten (10) days upon award of contract from a geo-technical laboratory demonstrating that the hot mix asphaltic concrete to be used meets these specifications. The asphalt to be used shall be A.C. 20. Special Modifications to Standard Specification Item 340, for this project are as follows:

1. Asphalt Content - Asphaltic Material (AC-20) shall form from 4 to 8.0 percent of the mixture by weight.
2. Retained Stability - The paving mixture shall have a retained stability of not less than 70 percent when tested in accordance with ASTM Standard Procedure D1075.
3. Hveem Stability - Hveem stability shall not be less than 30 percent.
4. Fine Aggregate (passing the No. 10 sieve), shall contain a minimum of 50 percent crushed limestone.

C. CONSTRUCTION METHODS:

Construction methods used in Hot Mix Asphaltic Concrete Pavement shall meet the requirements as set forth in Item 340 "Hot Mix Asphaltic Concrete Pavement" of the SDHPT Standard Specifications, with the following additions:

1. Conditions for Placement:

The asphaltic mixture when placed with a spreading and finishing machine, shall not be placed when the air temperature is below 50 degrees F° and is falling, but it may be when the air

temperature is above 50 degrees F° and is rising. The air temperature shall be taken in the shade away from artificial heat. It is further provided that the asphaltic mixture shall be placed only when the humidity, general weather conditions, and temperature and moisture condition of the base in the opinion of the Engineer, are suitable.

If the temperature of the asphaltic mixture of a load or any part of a load becomes less than 225 degrees F° or more than 350 degrees F° after being dumped from the mixer and prior to passing through the lay-down machine, all or any part of the load may be rejected.

2. Transporting Asphaltic Concrete

The asphaltic mixture, prepared as specified above, shall be hauled to the work in tight vehicles previously cleaned of all foreign material. The dispatching of the vehicles shall be arranged so that all material delivered may be placed, and all rolling shall be completed during daylight hours. In cool weather or for long hauls, canvas covers and insulating of the truck bodies may be required. The inside of the truck body may be given a light coating of oil, lime slurry or other material satisfactory to the Engineer, if necessary, to prevent mixture from adhering to the body.

3. Placing:

a. Generally, the asphaltic mixture shall be dumped and spread on the approved prepared surface with specified spreading and finishing machine, in such manner that when properly compacted the finished pavement will be smooth, of uniform density and will meet the requirements of the typical cross sections and the surface tests. During the application of asphaltic material, care shall be taken to prevent splattering of adjacent pavement, curb and gutter and structures.

b. In placing a level-up course with the spreading and finishing machine, binder twine or cord shall be set to line and grade established by the Engineer. If approved by the Engineer, level-up courses may be spread with a motor grader.

c. When the asphaltic mixture is placed in a narrow strip along the edge of an existing pavement, or used to level up small areas of an existing pavement or placed in small irregular areas where the use of a finishing machine is not practical, the finishing machine may be eliminated when authorized by the Engineer, provided a satisfactory surface can be obtained by other approved methods.

d. Flush Structures. Adjacent to flush curbs, gutters, liners and structures, the surface shall be finished uniformly high so that when compacted it will be slightly above the edge of the curb or flush structure.

4. Compacting:

a. Rolling with the three wheel and tandem rollers shall start longitudinally at the sides and

proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the rear wheel unless otherwise directed by the Engineer. Alternative trips of the roller shall be slightly different in length. On super-elevated curves, rolling shall begin at the low side and progress toward the high side unless otherwise directed by the Engineer. Rolling with pneumatic-tire roller shall be done as needed. Rolling shall be continued until no further compression can be obtained and all roller marks are eliminated. One tandem roller, one pneumatic-tire roller and at least one three wheel roller as specified above shall be provided for each job. If the Contractor elects, he may substitute the three axle tandem roller for the two axle tandem roller and/or the three wheel roller; but in no case shall less than three rollers be in use on each job. Additional rollers shall be provided if needed. The motion of the roller shall be slow enough at all times to avoid displacement of the mixture. If any displacement occurs, it shall be corrected at once by the use of rakes and of fresh mixtures where required. The roller shall not be allowed to stand on pavement which has not been fully compacted. To prevent adhesion of the surface mixture to the roller, the wheels shall be kept thoroughly moistened with water, but an excess of water will not be permitted. All rollers must be in good mechanical condition. Necessary precautions shall be taken to prevent the dropping of gasoline, oil, grease or other foreign matter on the pavement, either when the rollers are in operation or when standing.

In lieu of the rolling equipment specified, the Contractor may, upon written permission from the Engineer operate other compacting equipment that will produce equivalent relative compaction as the specified equipment. If the substituted compaction equipment fails to produce the desired compaction as would be expected the specified equipment, as determined by the Engineer its use shall be discontinued.

b. Hand Tamping: The edges of the pavement along curbs, headers and similar structures and all places not accessible to the roller, or in such positions as will not allow thorough compaction with the rollers, shall be thoroughly compacted with the lightly oiled tamps.

5. Opening to Traffic:

The pavement shall be opened to traffic when directed by the Engineer. The Contractor's attention is directed to the fact that all construction traffic allowed on pavement open to public will be subject to the laws governing traffic on Public Road and Streets.

If the surface ravels it will be the Contractor's responsibility to correct this condition at his expense.

6. Density Test - Acceptance Sampling and Testing of Hot Mix Asphaltic Concrete (Compaction):

Hot Mix Asphaltic Concrete will be accepted for density on a lot basis. A lot will consist of one day's production or 1,200 tons, whichever is less and shall be divided into four equal sublots. One test shall be made for each sublot.

Each lot of pavement will be accepted with respect to density, when the average field density is equal to or greater than 91.0 percent of the average maximum theoretical density as determined in accordance with ASTM D2041, and when no individual determination is less than 90.0 percent of the average maximum theoretical density. Four field density determinations will be made for each lot.

The use of nuclear field density determination shall be used as the basis for acceptance with respect to density.

TABLE 8
SLIDING SCALE PAY FACTORS
(DENSITY BASED ON PERCENT OF MAXIMUM THEORETICAL)

<u>AVERAGE PERCENT DENSITY</u>	<u>RECOMMENDED PERCENT PAYMENT</u>
92 or above	100
91.0- 91.9	90
Below 90.0	Reject**

*Average of 4 samples.

** If the Owner agrees to accept densities below 90.0%, the pay factor for density shall be 50%.

7. Surface Tests:

Tests for conformity with the specified crown and grade shall be made by the Contractor immediately after final rolling. Any variation exceeding the specified tolerances shall immediately be corrected by removing the defective work and replacing with new material, as directed by the Engineer. Any correction required shall be at the sole expense of the Contractor.

For surface course, the finished surface shall not vary more than ¼ inch (6.35mm), when tested with a 16 foot straightedge applied parallel with, or at right angles to, the centerline.

The finished surfaces of hot mix asphaltic concrete shall not vary from the gradeline elevations and cross sections shown on the plans by more than ½ inch (12.7mm). The Contractor shall correct pavement areas varying in excess of this amount by removing and replacing the defective work. Skin patching shall not be permitted for correction of low areas nor shall planing be permitted for correction of high areas.

8. Sampling Pavement

Samples for determination of thickness and density of completed pavements shall be obtained by the Contractor at no extra cost. The size, number and locations of the samples will be as directed by the Engineer. Samples shall be neatly cut with a saw, core drill or other approved equipment. The Contractor shall furnish all tools, labor and materials for cutting samples and replacing pavement.

All tests necessary to determine conformance with the specified requirements will be performed without cost to the Contractor however, any required retests shall be performed at the Contractor's cost.

Upon delivery of the Hot Mix Asphaltic Concrete to the site, the Owner will hire a reputable commercial testing laboratory to sample the material and run laboratory tests to verify that the mixture conforms to project specifications (Graduation, Extraction, Hveem Stability and Retained Stability.)

D. MEASUREMENT

Hot Mix Asphaltic Concrete pavement shall be measured by either the ton (2000#) or by the square yard of specified thickness applied as actually used in the completed and accepted work. Method of measurement (by square yard or by ton) is specified on the plans and bid sheets.

E. PAYMENT:

The work performed and materials furnished, as prescribed by this item, measured as provided herein, shall be paid for at the contract unit price bid per ton or square yard for "Hot Mix Asphaltic Concrete Pavement", which price shall be full compensation for furnishing and placing all materials; and for labor, tools, equipment, and incidentals necessary to complete the work except prime coat but including tack coat when required. Be sure to include the cost of extra thickness adjacent to curb. No separate payment will be made for the extra thickness.