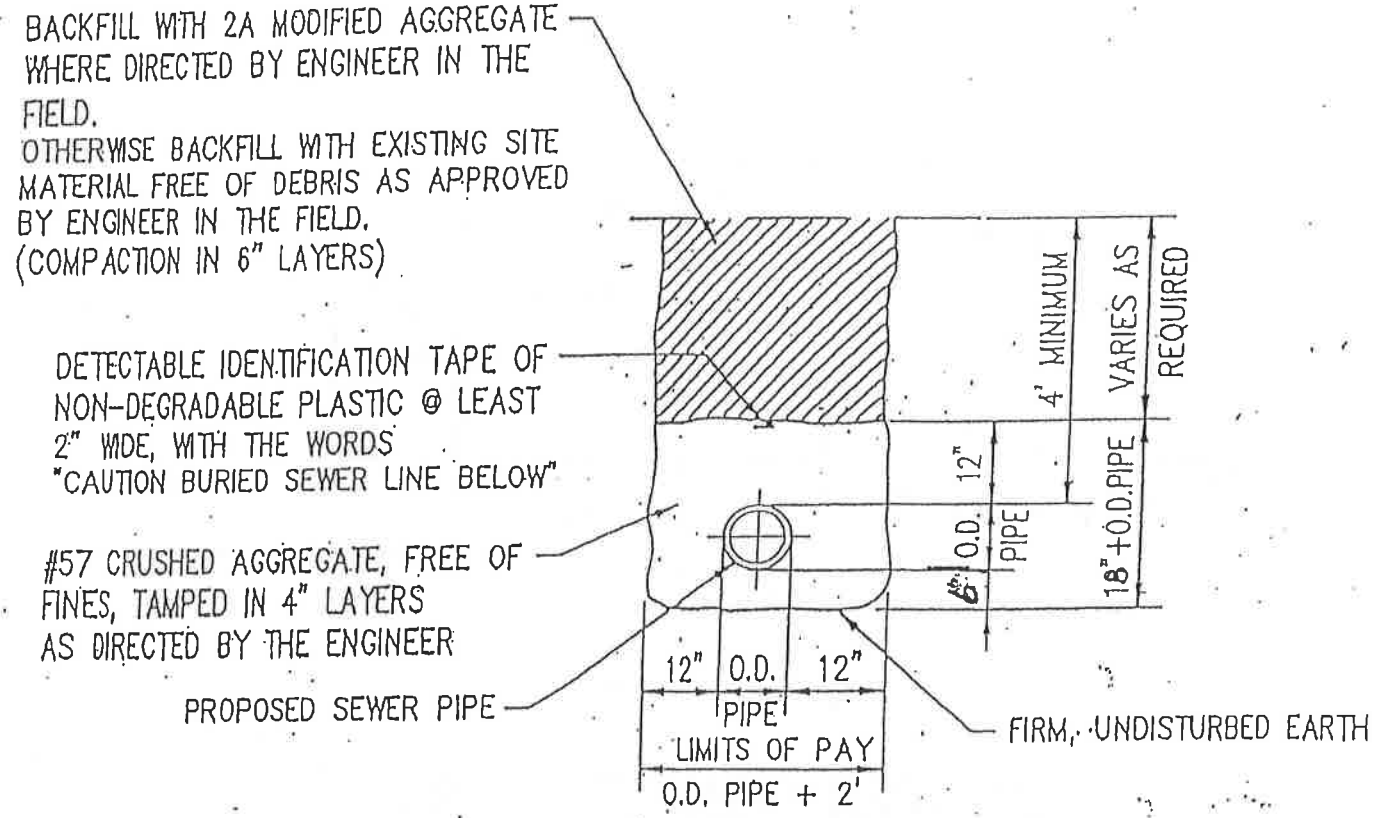
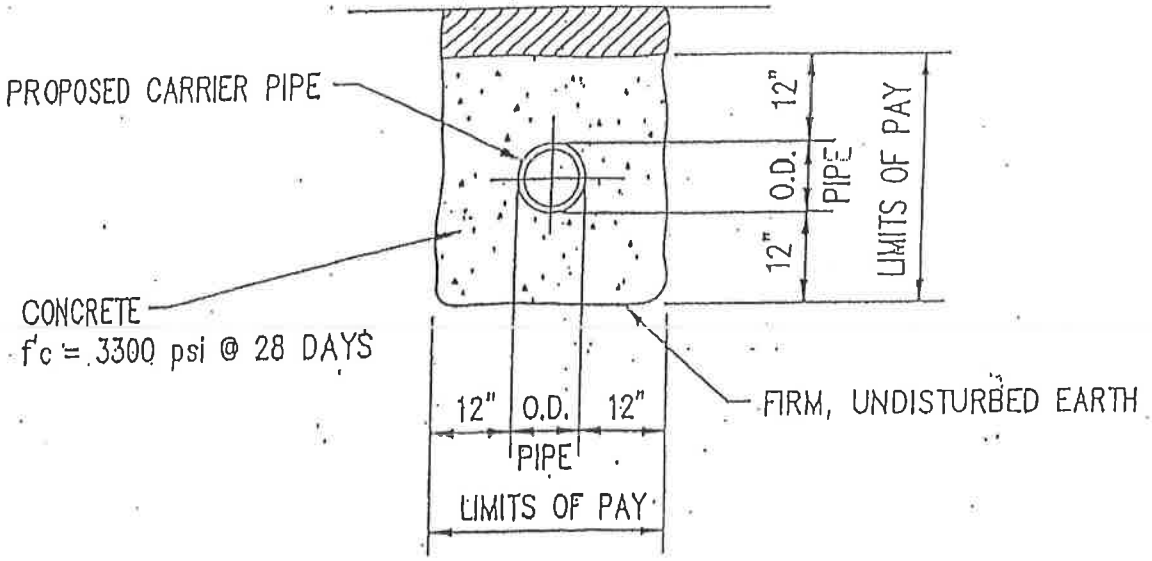


BEDDING & BACKFILLING DETAIL

(N.T.S.)

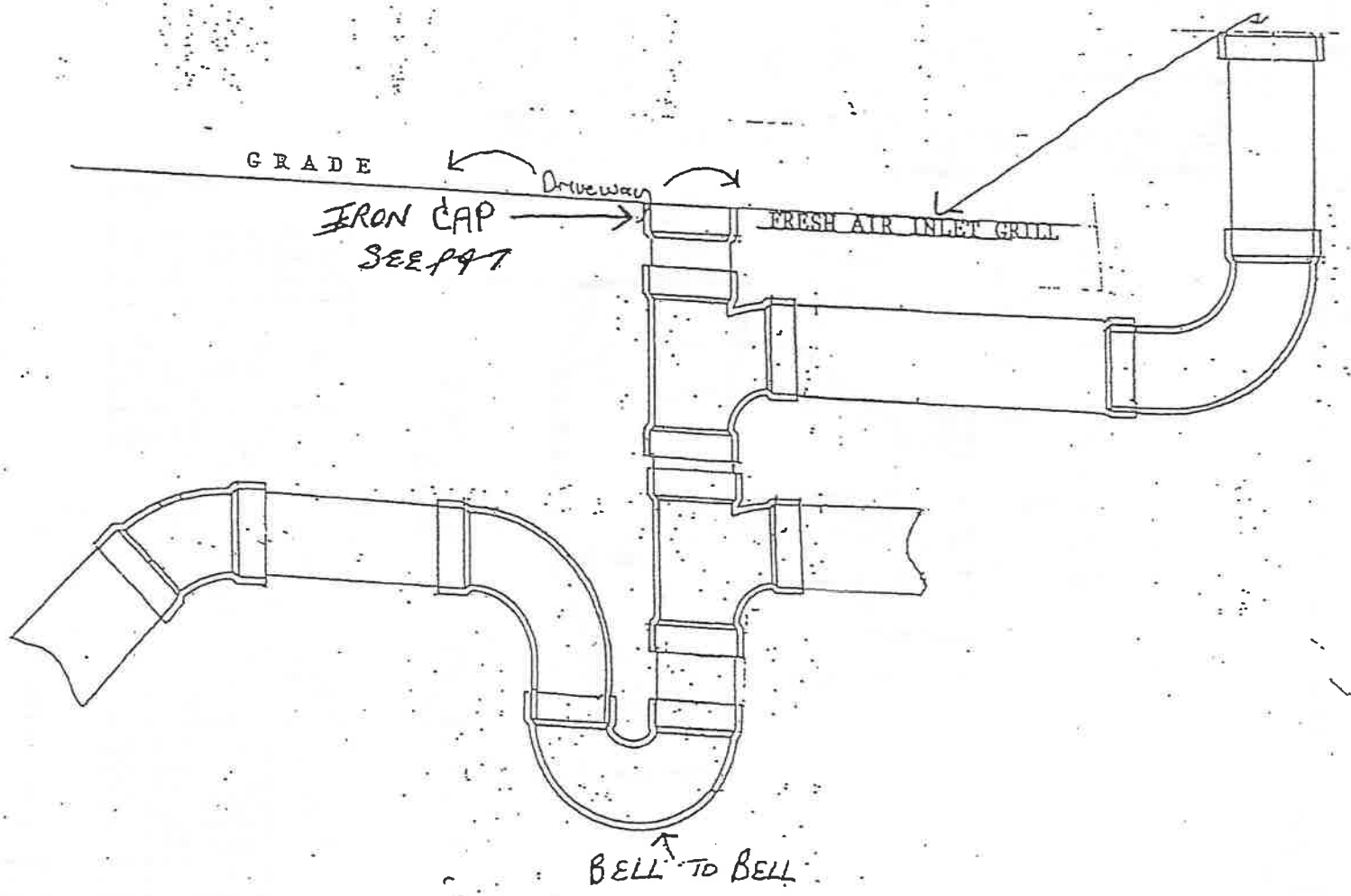
LINES TO BE TAKEN OVER BY THE AUTHORITY

A



CONCRETE ENCASEMENT DETAIL
(N.T.S.)

B

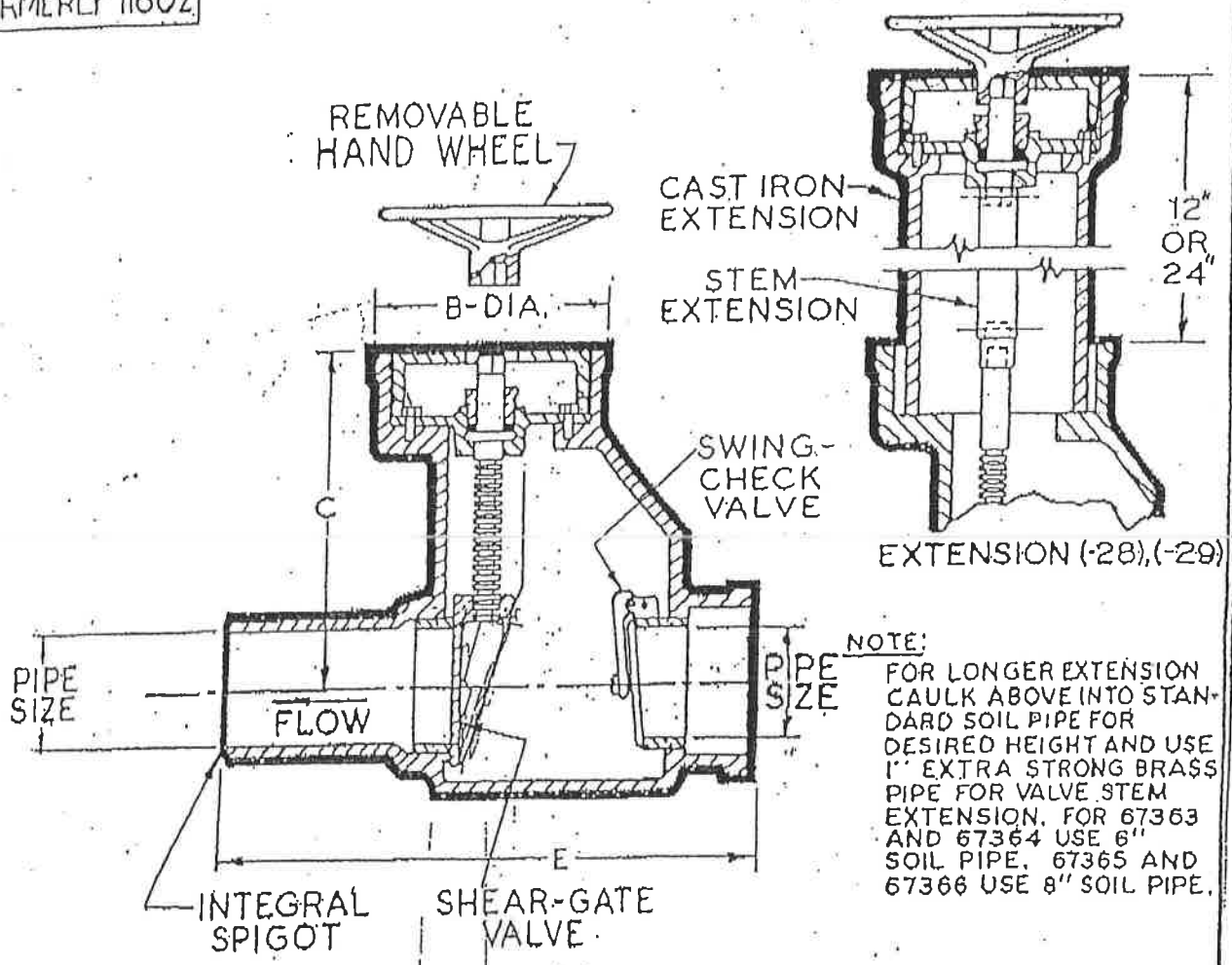

GRADE
Driveway
IRON CAP
SEE P9T
FRESH AIR INLET GRILL
BELL TO BELL

SPECIFICATION: JOSAM 67360 SERIES COATED CAST IRON COMBINATION BACKWATER VALVE, STRAIGHT-THROUGH TYPE, BRONZE SWING-CHECK ASSEMBLY, BRONZE MANUALLY OPERATED SHEAR-GATE WITH NON-RISING STEM, AND HUB AND SPIGOT CONNECTIONS.

DRAINAGE CONTROL BACKWATER VALVE

SERIES 67360

FORMERLY 1160Z



NOTE:
FOR LONGER EXTENSION CAULK ABOVE INTO STANDARD SOIL PIPE FOR DESIRED HEIGHT AND USE 1" EXTRA STRONG BRASS PIPE FOR VALVE STEM EXTENSION. FOR 67363 AND 67364 USE 6" SOIL PIPE. 67365 AND 67366 USE 8" SOIL PIPE.

TYPE	PIPE SIZE	B	C	E	WGT. LBS.
67363	3	8	12	17 1/2	80
67364	4	8	12	17 1/2	80
67365	5	0 1/2	14 1/2	19 1/2	120
67366	6	0 1/2	14 1/2	19 1/2	120

OPTIONS

- (-15) OPEN FLAP
- †(-28) 12" CAST IRON EXTENSION WITH STEM EXTENSION
- †(-29) 24" CAST IRON EXTENSION WITH STEM EXTENSION.

†AT EXTRA COST

DRAWING NO. A-12501-K

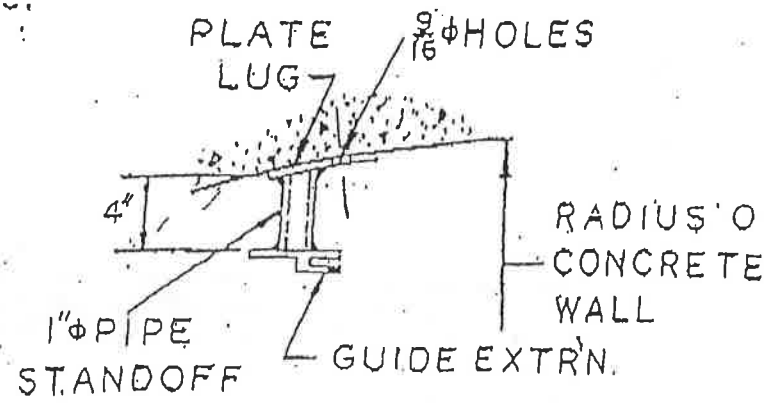
JOSAM COMPANY
P.O. BOX T MICHIGAN CITY, IN 46360-0380

SERIES 67360

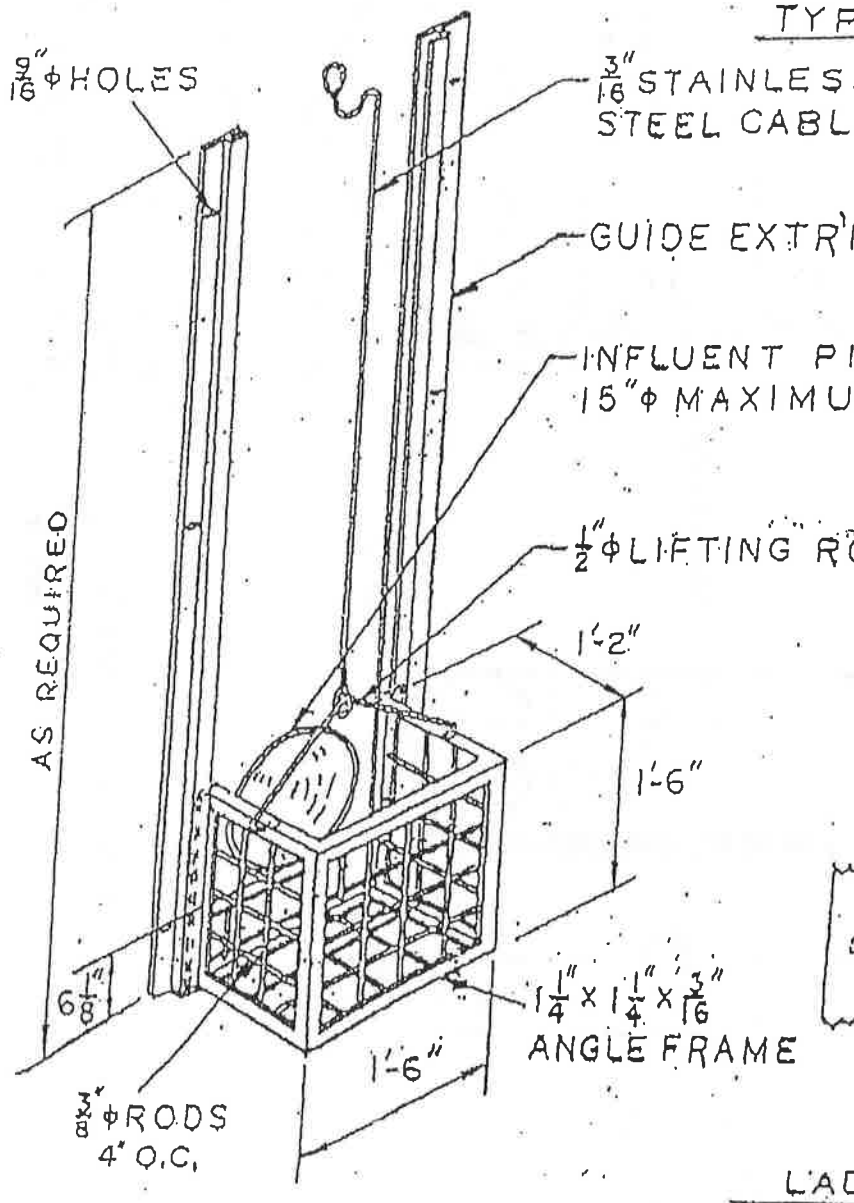
D

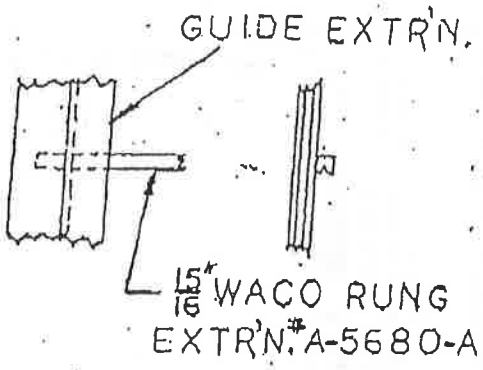
BALTIMORE, MARYLAND 21229
PHONE 301-242-1000

KIRK



TYPICAL STANDOFF DETAIL



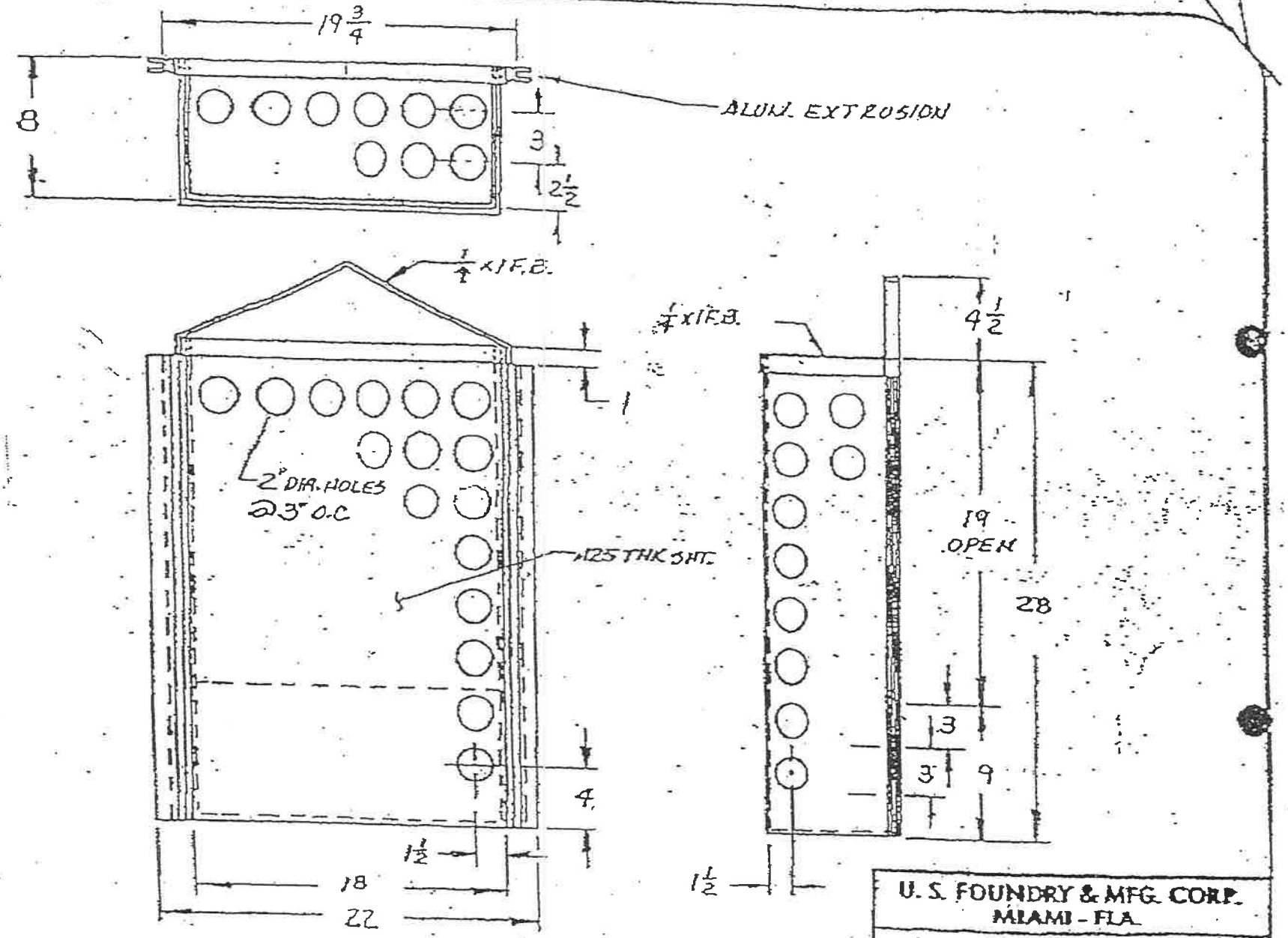


LADDER RUNG DETAIL

NOTE: GUIDES CAN ALSO BE FURNISHED WITH STANDOFFS FOR FLAT WALLS. WHEN LADDER RUNGS ARE REQUIRED GUIDES MUST BE EQUIPPED WITH STANDOFFS.

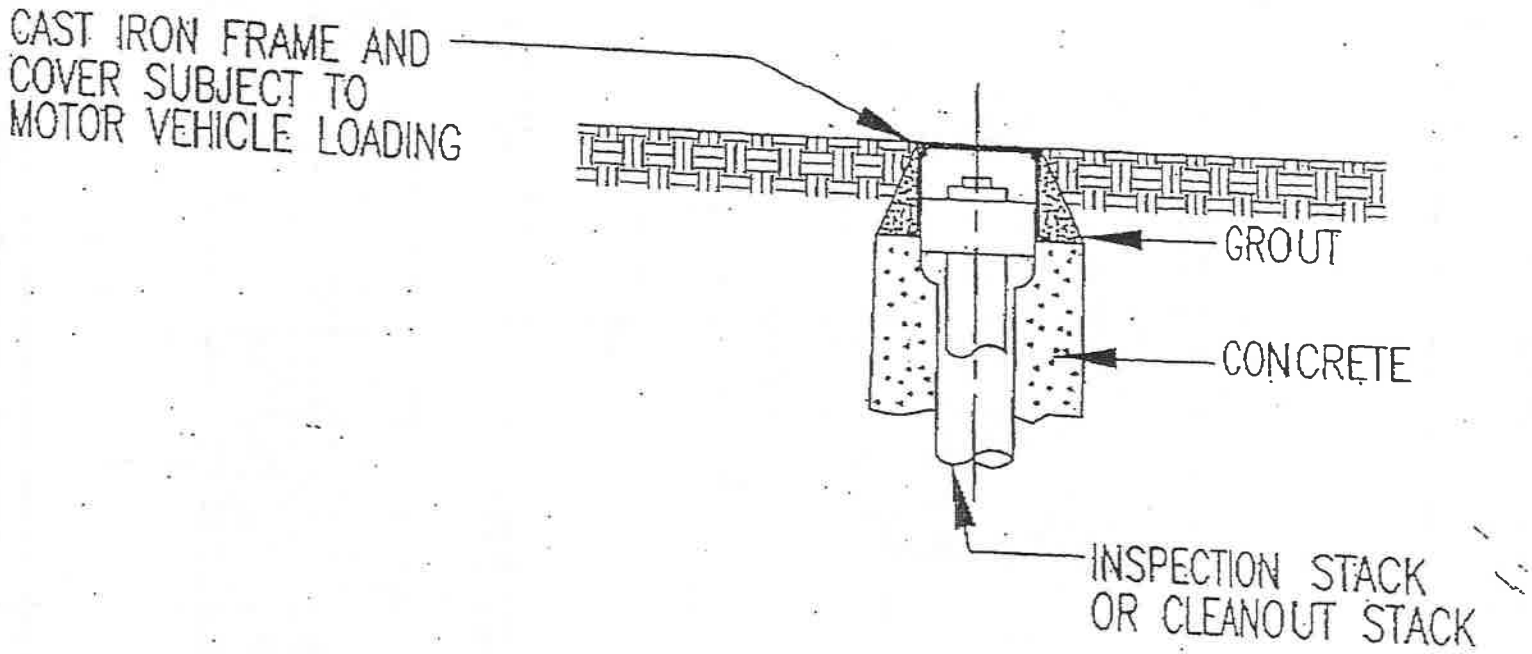
ALUMINUM COARSE DEBRIS BASKET

E



U. S. FOUNDRY & MFG. CORP. MIAMI - FLA.	
TRASH BASKET 8x18x28	
DWN. BY: D.B.	DATE: 10-20-87

NOTE:
1 MATL: STAINLESS STEEL
2 USE [illegible]



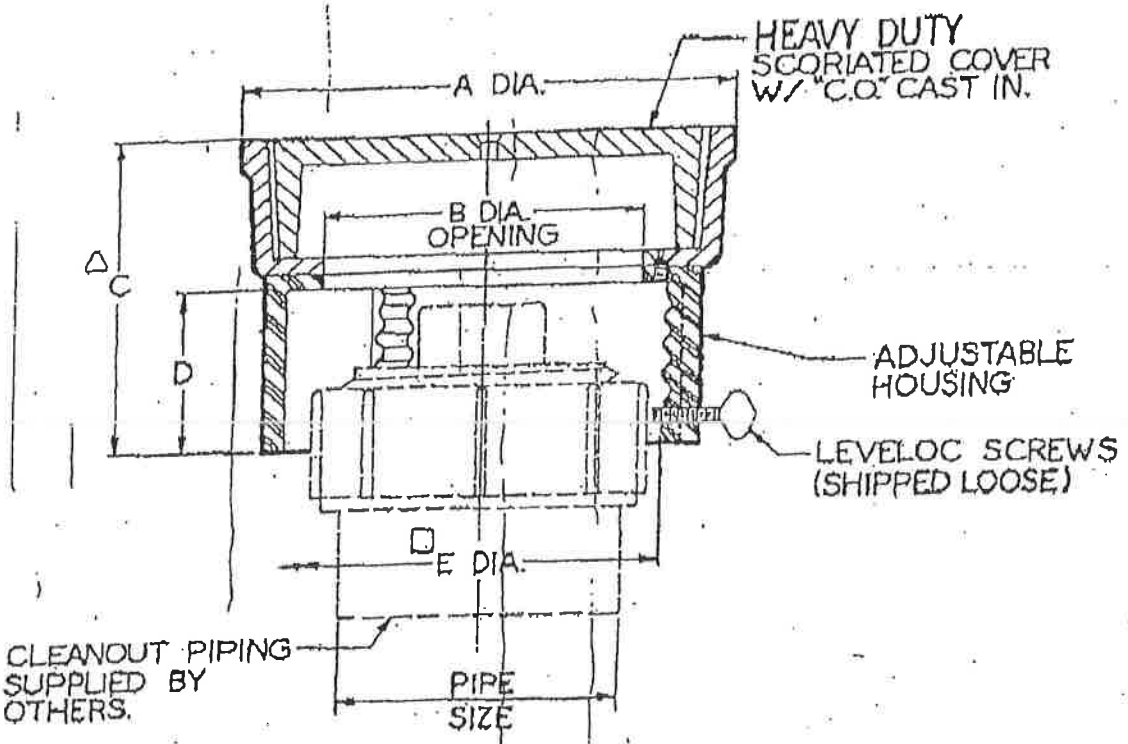
PAVED AREA CLEANOUT INSTALLATION DETAIL

SPECIFICATION: JOSAM 56040 (-88) SERIES ABS FLOOR ACCESS HOUSING WITH HEAVY DUTY LOOSE SET SCORIATED CAST IRON TRACTOR COVER AND ROUND TOP AND LEVELOC SCREWS.

ACCESS HOUSING & COVER

SERIES 56040 -88

10-7-83



△ ADD 1/4" WHEN FURNISHED WITH NIKALOY OR BRASS TOP

□ MAXIMUM SPACE AVAILABLE FOR PIPE FITTING, ENCLOSURE, ETC.

TYPE	FOR PIPE SIZE	A	B	C	D	□ E	WGT. LBS.
56042-88	2	6	3 9/16	5	2 9/16	4	8.2
56044-88	3,4	7 5/8	5 3/16	5	2 9/16	5 3/4	11
56046-88	5,6	9 3/4	7 3/8	5	2 9/16	7 15/16	14

OPTIONS ON BACK

11-18-81, 10-7-83, 10-11-83, 10-24-83, 2-22-84

DRAWING NO. A-13875-K

JOSAM COMPANY
MICHIGAN CITY, IN 46360

SERIES 56040 -88

H

SPECIFICATIONS FOR "NEW MAIN SEWERS" AND "LATERAL SEWERS"

SPECIFICATIONS FOR NEW SEWERS AND LATERAL SEWERS

ELIZABETH TOWNSHIP SANITARY AUTHORITY

THE "OWNER" SHALL BE RESPONSIBLE FOR ALL CONTAINED WITHIN

"REVISIONS" To The TAP-SPECIFICATIONS

(*Revised Date* means all pages reflect a change and document should be examined closely for any changes from previous revised date.)
(***Page Changes listed here*** means that document remains as previous document but note changes to these particular pages.)

01-01-98
05-20-98 - Pages - *ALL
06-10-99 - Pages – 2 – 5 – 6 – 7 + 11
04-20-00 - Pages – 7 + 8
10-02-00 - Pages - *ALL
04-10-01 - Page - 10
08-15-02 - Pages – 2 – 33 + 34
12-10-02 - Pages - *ALL
05-20-04 - Pages - *ALL
06-01-05 - Pages - *ALL
01-10-06 - Page - 4
04-27-06 - Page - 11
12-18-07 - Pages - ALL

RATES - FEES

IN EFFECT

*Due to the possibility of future increases in any of the Authority Rates or Fees this document MAY become outdated depending on where or when the document is obtained, read, or understood. Therefore the Rates or Fees listed below *May or May Not* be in effect at the time. Please feel free to contact the Authority (See **Pg. 5**) for the appropriate contact information and then obtain the most current "Fee Structure(s)".

ELIZABETH TOWNSHIP TAP-PERMIT FEE:

~~01-01-03~~
1-1-09

*~~$4,500.00~~
$6,000.00

*Which INCLUDES the **"Capacity Replacement Fees"** of other Municipal Authorities involved with ETSA. They are listed below for identification. These other Municipal Fees are charged to all new customers. However the *Authority* (ETSA) pays them directly out of the *Tap-Permit Fee* collected. This prevents the customer from having to go, pay those separate fees to the appropriate Municipality, and produce a receipt to ETSA for the Tap-In Permit.

McKeesport Capacity Replacement Fee: 01-01-04: **$1,750.00**

Elizabeth Boro Capacity Replacement Fee: 09-01-05: **$1,800.00**

TAP FEES – *Authority* (Elizabeth Township Sanitary Authority - ETSA:

Circa: 01-01-59: $50.00
Circa: 01-01-65: $75.00
Circa: 01-01-75: $150.00
Circa: 01-01-80: $300.00
Circa: 01-01-95: $1,500.00
Effective: 01-01-03: $4,500.00 (Includes the Cap. Fees for Mckeesport + Elizabeth Boro)

ALL References within these specifications termed: *ACHD* shall mean the **Allegheny County Health Department,** Division of Plumbing, 339 Fifth Ave. McKeesport, PA. 15132.
Phone: (412) 664-8853, (412) 664-8856 or (412) 664-8888.

ALL References within these specifications termed: *TWP or Township* shall mean the **Elizabeth Township,** 522 Rock Run Road, Elizabeth, PA. 15037.
Phone: (412) 751-2880

ALL References within these specifications termed: *ETSA, AUTHORITY or AUTH.* shall mean the **Elizabeth Township Sanitary Authority,** 2420 Greenock Buena Vista Road, McKeesport, PA. 15135. The term *SUPT.* shall mean the Authority Superintendent.
Phone: (412) 754-1643 = Administrative Assistant's Office / (412) 754-1646 = Supt. Office
OR (412) 751-8180 = Sewage Treatment Plant

A. SEWERS UNDER THESE SPECIFICATIONS

These requirements shall apply to the following sewer lines below:

(a) Developer Constructed Sewers, which ultimately will become a part of the Elizabeth Township Sanitary *Authority* Sewer System.

(b) Lateral Sewers, which are constructed on private property, and onto *Authority's* easement to serve individual dwellings or structures.

These specifications are an extension, and explanation of the Ordinances that protect the Sewers of the Elizabeth Township Sanitary *Authority*. The Ordinances as written indicate that the position of Superintendent for the Sanitary *Authority*, shall enforce, establish, monitor, and uphold these laws. So as indicated in these specifications, the position of Superintendent is referred to in many instances, this is only to elaborate on those requirements of him, in regards to the said Ordinances.

****"NON SHEAR FERNCO" AND "SOLID REPAIR SLEEVE" REQUIREMENTS:

SANITARY SEWER MAINS

NON SHEAR FERNCOs

When Making Repairs or Connections From CLAY to PLASTIC Pipe FERNCO FITTINGS Are The Only Useable Connectors.
In this and subsequent paragraphs, **a reference** has been made to NON-SHEAR FERNCO Couplings. These Are Constructed Of Heavy Thick Wall Rubber. However; these are not readily available everywhere.
If such a coupling cannot be procured, an alternate ***Fitting (Standerd Fernco)*** *WITH S/S Metal BAND shall be used. This is Another Less Effective Form of a NON-SHEAR FERNCO. No other type of connection shall be made without the specific approval of the ACHD Inspector and / or the AUTHORITY Superintendent.*
Call (412) 664-8853 OR (412) 754-1646 / (412) 754-1643 to get the Approval and / or Direction.

NOTE:
NO **STANDARD FERNCO** Is To Be Allowed When Going From CLAY to PLASTIC PIPING During *Any Repair* or *Installation.*

SOLID SDR35 REPAIR SLEEVEs

As of **01-01-08**: A SOLID REPAIR SLEEVE (*See* **Pg. X**) Are Now The ONLY Acceptable Repair FOR **SDR35 PLASTIC to SDR35 PLASTIC** PipeWork. When making ANY Repairs or When Cutting Wye Connections Into Sewer Mains, These Fittings *ARE THE ONLY ACCEPTABLE CONNECTIONS or REPAIR FITTINGS THAT ARE ALLOWED BY ETSA.* (*See* **Pg. X**) for a Detail Sheet.

1. APPLICATIONS & TAP-IN PERMITS

(a) TAP-IN PERMIT REQUIRED:

Before any dwelling / structure is connected to the *Authority* sewers, (in existing sewers, where the *Authority* constructs new sewers or whether they are constructed by a developer and turned over to the *Authority*), AND prior to any Township Building Permit, a proper **Tap-In Permit** MUST be secured from the *Authority*. This Permit must be secured prior to any connection and sewer construction, after paying the applicable Tap-In Fee.

(b) APPLICATION FORM:

The Tap-In Permit **Application Form** is available at the Sanitary Authority Office, OR by Mail if requested. However; "Original Signature" Forms must be submitted to the Authority Superintendent for process.

(c) APPLICATION FILLED OUT BY:

The **Application Form** must be completed by the Owner or Plumber, (either at the Authority Office, or may be taken with applicant) and the **Original Signature Form** must be returned to the *Authority* (either in person, or by mail) for processing. When the tap-in permit is ready to be issued by the Superintendent (usually within 1-2 days) the Owner / Plumber will be contacted to pickup the Tap-In Permit at the Authority Office and to pay the appropriate fee(s). *Applications can be mailed or faxed back complete, but MUST **then be also returned in hard copy form in order for the Authority to obtain the "Original" Signatures.**

(d) "CAPACITY REPLACEMENT" FEES ($ As Of 06-01-00):

NOTE: As of 01-01-03 ETSA will pay these fees to the appropriate Municipality. Current Amounts are outlined on **(Pg. 4).** These amounts are INCLUDED in the Elizabeth Township Tap-In Fee!

1. **APPLICATIONS & TAP-IN PERMITS (CONT.)**

(e) EXPIRATION OF TAP-IN PERMITS:
All Tap-In Permits must be **Used Within One Year** from the date of issue. (The sewer lateral must be constructed, Inspected and connected to the *Authority* main sewer. This constitutes the word USED, as the above states). Any permit not used within that time period shall be considered by the *Authority* to be VOID. If the owner wishes to use the now Void Tap Permit AFTER the time limit, a NEW Tap-In Permit shall be required. And any and All Fees associated shall be due and all costs are borne by the property owner. *Refunds of any fees collected for Tap-In Permits shall be granted only if *no work has been started on the project.*

(f) CROSSSING ADJOINING PROPERTY IN ORDER TO ACCESS MAIN SEWER:
If a lateral serving a dwelling / structure has to cross other property (ies) which have separate deed(s), a proper **right-of-way agreement** must be secured from all parties and for Each property crossed. It must indicate that it is a PERPETUAL agreement. This is what is termed a DEED ATTACHMENT. This ALSO includes having the right-of-ways being shown on Plot Plan(s) or a Survey for the said property (ies). All of these documents are to be submitted with the tap-in permit application. IF there can be no agreement between said parties, a written request of the owner for help in the matter must be submitted to the Superintendent with the application. The Spt. will advise the owner at that time of his rights and options in the matter.

(g) DEVELOPER'S SEWAGE PERMIT PROGRAM:
The "Developers Sewage Permit Program" Was ***dismantled and no longer in effect*** as of 01-01-03.

(h) RE-USE ("RE-ASSIGN) OF AN EXISTING TAP-IN PERMIT:
In the event a structure is destroyed for any reason and WITHIN a ONE YEAR PERIOD a new structure is built using the same property, *that currently has an existing tap-in permit*, a New Tap-In Permit is not required. It will however need to be "Re-Assigned". To do this the owner must file a new Tap-In Permit *Application*. This will give the *Authority* all the needed new and up to date information required to update the permit. No work can proceed until this Application has been processed. *Generally No Fees Apply.* **(See Pg. 42 Section 17)** for other details regarding this issue.

2. **ALLEGHENY COUNTY HEALTH DEPARTMENT'S JURISDICTION, INSPECTION STATIS, AND PLUMBING PERMIT REQUIREMENTS.**

(a) *ACHD* REQUIREMENTS SHALL GOVERN:
If any of the requirements detailed within these specifications are found to be in direct conflict with the requirements / codes of the Allegheny County Health Department, the requirements / codes of the *ACHD* ***shall govern.*** And / or if any *additional requirements* of the *ACHD* are found to be needed, other than those contained in this document, the *additional* requirements / codes of the ACHD ***shall govern.***

(b) *ACHD* INSPECTS FOR AUTHORITY:
The *ACHD* shall **inspect** piping of **"House Laterals"** and All **"Internal Piping"** for the *AUTH.* (ALL **Main Sewer Lines** shall be inspected by the *AUTH* except where Superintendent agrees. Example: Lateral at Wye connections). The *ACHD* shall also enforce All Specifications **within this document** *(that may be in addition to the ACHD regulations).* Any questions regarding this document please call the *ACHD* or the *AUTH.*

(c) *ACHD* "ABSTRACT" FORMS NEEDED:
Blank *Abstract Forms* that are required by the *ACHD* for inspections, will be given with the tap-in permit at the Authority Office (or they can be picked up at the *ACHD* office in McKeesport at #339 Fifth Avenue). These plans need completed in order to obtain the needed *plumbing inspection permit.* Upon completion, these papers are to be submitted by the owner / plumber to the *ACHD* at #339 Fifth Avenue in McKeesport, with the proper payment attached.
The *ACHD* in turn will process the required plumbing permit.
Call the *ACHD* (*See* **Pg. 5**) for more details and information.

(d) *ACHD* VERIFICATION FORM NEEDED:
To verify that ALL waste & sanitary sewer piping is connected to the new sanitary sewer system, **and** that all *storm water* drain piping has been REMOVED and / or DIRECTED AWAY FROM the *AUTH* sanitary sewer system, the Owner / Plumber shall be required to sign a separate document of the *ACHD.* (As a courtesy this *Form* is issued with the Tap-In Permit, OR is available from the *ACHD* inspector himself).
This places responsibility onto the Owner / Plumber, that this new work was completed to specifications as outlined here.

3. LATERAL SEWER WORK

*** The Lateral Sewer Piping is from the edge of the AUTH Easement on private property, all the way to and including the House Trap of the Dwelling / Structure. It is the Owner's responsibility to maintain this section of piping.* ***All piping within the AUTH easement remains with the AUTH.***

(a) LOCATION OF "WYE" FITTINGS:

Any questions regarding the location of a wye fitting, specifications, etc... should be directed to the *Authority* Superintendent or his representative. Contact the *Authority* Office (*See* **Pg. 5**). A detailed sectional copy of the master map is usually given with the tap-in permit to indicate the connection (Wye) location.

(b) PIPE MATERIALS & SIZES ALLOWED:

As of March 01, 1998 ALL Lateral Sewers from the dwelling / structure House-Trap ***TO The Easement*** **of the Main Sewer** Line of the Township shall be of four-inch (4") OR six-inch (6") **SDR35 OR SCHEDULE 40** (ABS or PVC) pipe materials. Acceptable as: *(SDR35* in Gasketed Push Fit or Bell & Spigot Types Only) (OR) *(Schedule 40* in Glued Couplings/Fittings or Glued Swedged Bell Types). ****NOTE: ALL Piping within the *AUTH* Easement shall be six-inch (6") SDR35 ONLY.** To be safe, ALL wye fittings shall be a six-inch (6") inlet with at least a ten foot (10') section of six-inch (6") SDR35 pipe extended towards the dwelling / structure. At THAT POINT the piping may be reduced to four-inch (4").

NO OTHER PIPE MATERIALS SHALL BE ACCEPTED, or INSPECTED.

(Six-inch (6") pipe size may be substituted if desired, rather than use four-inch (4")

*EXCEPT where the **existing building drains are six-inch (6")**. Then a six-inch (6") Terra-Cotta *OR* Cast Iron House-Trap shall be installed. (six-inch (6") plastic traps are not available as described). The house-trap must be of bell to bell seamless construction = the bottom portion of the trap *cannot be made up of two elbow fittings*. (*See* **Pg. C**). This along with the entire lateral shall then be of six-inch (6") pipe all the way to the Main Sewer of the *Authority*.
Call the *ACHD* (*See* **Pg. 5**).

ALL MAIN LINE Sewers to be taken over by the *Authority*, or already owned by the *Authority* (when doing repairs) shall be of eight-inch (8") **SDR35** (or larger) piping **ONLY**. All Main Line Sewer Individual Lateral Stubs, within the Authority's Easement and as outlined here, shall be of six-inch (6") **SDR35 pipe ONLY**. No Exceptions. (*See* **Section 9** – "Lines To Be Taken Over By The *Authority*" - for more information.)

3. **LATERAL SEWER WORK (CONT.)**

(c) TIMES PERMITTED TO WORK IN EASEMENTS:
The Owner / Plumber shall not uncover, or make connections to, ANY *Authority* piping, or carry out work on pipes, manholes, etc... in ANY of the *Authority* Easements Before 8:00 AM **OR** After 4:00 PM on any weekday OR at any time over the **entire weekend.**
*Overtime can be caused if problems arise while any work is performed at these times!

(d) STARTING POINT OF LATERAL:
The connection to any dwelling / structure is to **START AT THE WYE** (or newly inserted one when permitted), **and then** continue on to the dwelling / structure.
There will be no exception to this requirement.
*Any sewer lateral that has been laid to low by not adhering to this requirement will need to be re-laid and inspected, at the owner's expense. *No permission to run alongside sewer mains will be granted if this requirement is not followed.*

(e) PROVIDING DEPTH FOR GRAVEL BEDDING: All excavation must be deep enough to provide for the stone bedding, six-inches (6") **under** the proposed pipe grade elevation.

(f) GRAVEL BEDDING: **NOTE: **LATERALS=2A – MAIN LINE=2B ONLY)**
(Pea Gravel, #1B Crushed Rock or #2A Emulsified / Modified for LATERALS, and **#2B(57s) ONLY** for MAIN LINE SEWERS) of no less than six-inches (6") in depth, shall be placed under the entire length of ANY and ALL **Piping** installed new, used for a repair, or in replacements. This includes All Laterals and All *Authority* Easements.
The Gravel MUST BE PLACED FIRST with piping ON TOP OF IT.
Gravel must then be placed six-inches (6") or more around ALL sides and twelve-inches (12") over top of the pipe to prevent any and all deflection. (*See* **Pg. A)**
NO SLAG of any kind is permitted, *as this causes plastic piping to rupture.*

3. LATERAL SEWER WORK (CONT.)

(g) SITE TEES: (FOR INSPECTION / MAINTENANCE)

ARE REQUIRED IN "ALL" APPLICATIONS

(New OR Repair Work-where applicable).

For the *Authority's* purpose of maintenance - periodic inspections & looking for excess flows a Six-Inch (6") *SITE TEE Fitting* along with a **Six-Inch (6") Vertical Riser Pipe** and ***ACCESS CAP***, shall be installed in the lateral at a point as near as possible to the *Authority's* easement or a roadway. *However; no site tee is to be placed IN an AUTH Easement.*

ALL Site Tees AND the Vertical Riser piping shall be six-inch (6") diameter and be an actual TEE Fitting ONLY! (No combo of a Y fitting plus a 45 degree bend fitting is permitted as you cannot see flow otherwise, and will defeat the purpose of the site tee). *(Preferably constructed of SDR35 Materials, but CAN use same pipe materials as the entire lateral construction as long as it is outside of AUTH easement. It also must have a removable cap that ACHD Inspector approves!)*

The **Access Cap** for the *Site Tee* may be the Push Over OR Threaded style, and shall be slightly HIGHER than the finish grade.

Reduction to four-inch (4") piping **from the site tee back** toward the structure is permitted. *In ALL cases, the Site Tee must be as close as possible to **(but outside)** the *AUTH* easement and readily accessible.

***In DRIVEWAY applications:* an Iron Housing and Cover as Josam series 56040- 88 **or equal** shall be used. Grouting & Concrete shall be placed as indicated. The *ACHD* will fail the inspection if this requirement is not met. (*See* **Pgs. G & H**)

(h) SITE TEES NEEDED AT ROADWAY (NEW + REPAIR WORK):

***NOTE:** When doing *NEW OR Replacement Lateral Work* **where the piping will go under a R.O.W., a Road, or becomes inaccessible for any reason** before going into a Sanitary Sewer Main of the *AUTH*, **a SITE TEE shall be required at a point located as near the R.O.W., Road, ETC. as possible.** *All SITE TEE requirements above shall also apply.*

(i) SITE TEES "NOT REQUIRED" WHEN CONNECTION IS DIRECTLY TO MH.

In instances where a structure's lateral (*with pre-approval*) will enter Directly Into an *AUTH* Manhole, (whether it be a pre-approved/permitted *drop* connection ***or*** core drilled flow line type), which makes it possible to directly access the piping for maintenance and inspection of lateral flows, the SITE TEE requirement can be waived by the *SPT.*

3. **LATERAL SEWER WORK (CONT.)**

(i) LATERAL "CLEAN-OUT" - SPACING:
CLEAN-OUT Fittings are to be placed in the lateral piping at intervals of every ***50 Feet*** if using *four-inch (4")* piping and every ***100 Feet*** if using *six-inch (6")* piping. Push Over or Threaded *CAPS* are to be installed and are to be **above the finished grade**.

Optionally a Standard Y fitting with 45-degree bend could be used to create the Cleanout with a sweeping bend towards the surface. In this case the sweep shall be from the surface down with a sweeping fitting going **towards the flow**!

** NOTE: A *CLEAN-OUT* shall be placed within five-foot (5') from the foundation just before the House-Trap on *new* lateral construction. See *ACHD* for more information.

(j) HOUSE-TRAP REQUIREMENTS:
HOUSE-TRAPS shall be of seamless construction (at the lower elbow) (*See* **Pg. C**).
*They are to be placed no more than five-foot (5') from the foundation in **new work**. In **old work** they shall be placed as close as possible to the existing foundation without violating code or presenting an undue hardship.
No House-Trap is to be installed using SDR35 piping.

An ADAPTOR / TRANSITION Fitting is to be placed at the joining point of the Plastic Piping (PVC/ABS etc) OR Cast Iron House-Trap, **AND** the Lateral Piping to the Main Sewer **IF using SDR35** or dissimilar material pipe. (*See* **Section 3 (m) & (n)**)

- A *CLEAN-OUT* is to be placed as near as possible on the Dwelling / Structure side of the House-Trap. See above and / or the *ACHD* Inspector if there are any questions. (*See* **Section 3(i)**) above for optional Y + 45 degree pipe bend.

3. LATERAL SEWER WORK (CONT.)

(k) FRESH AIR "COVER":
A Pittsburgh Pattern Cast Iron "Fresh Air Cover" is required on the house-trap. This metal vent grille shall be 3 - 4" above the finished grade, no more than five-foot (5') from the foundation in all new installations. All *ACHD* regulations apply. If compliance with the distance requirement cannot be met, (*See* **Section 3(j)**) OR contact the *ACHD*.

(l) FRESH AIR VENTS – DRIVEWAYS + RE-ROUTING:
Fresh Air Vents for house-traps in **Driveways: (*See* Pg. C)**
*On an Existing dwelling / structure air vents shall be routed in such a way as to prevent surface water from entering the house-trap. This will require a re-routing of the vent piping and a threaded cap (to permit access to the trap itself). The re-routed vent grill shall be exposed to the air to permit the flow of water. This is shown in a drawing at the end of these specifications. (*See* **Pg. C**)

*On New Construction NO fresh air vents for the house-trap shall be placed in any driveway. Piping is to be routed away from this area completely. If this proves impossible, re-routing of the vent piping shall be done. (*See* **Pg. C**)
In BOTH Cases:
Concrete work to support piping and an Iron Cover assembly as Josam series 56040-88 OR equal shall be used. See *ACHD* Plumbing Inspector.
(*See* **Pages G & H**)

3. LATERAL SEWER WORK (CONT.)

(m) *6" TO 4" REDUCING*

SIMILAR PIPE MATERIALS:
A ***REDUCER FITTING*** must be installed **if using similar pipe materials** (SDR-SDR etc.) at the transition of pipe sizes from six-inch (6") TO four-inch (4") at the end of the *Authority* easement. This is where the piping may be reduced from six-inch (6") (at the end of *Authority's* easement) to four-inch (4") pipe (on private property) for the remaining footage of the sewer lateral on up to the house trap. **NOTE:** Except in the case of a SITE TEE installation. In that case ALL piping from *AUTH* Main Sewer Line **up to and Including the Site Tee** shall be six-inch (6"). Then from behind the Site Tee on towards the dwelling / structure can be four-inch (4") piping if desired.
*NO FERNCO of ANY kind shall be permitted in this application. See *ACHD*.

DISSIMILAR PIPE MATERIALS:
An ***ADAPTOR / TRANSITION Fitting*** shall **also be required** along with the ***REDUCER Fitting,*** when joining **dissimilar piping material** (as SDR to PVC etc.) in the process of reducing sizes. **(*as described in* Section 3m or anywhere approved).** See *ACHD* Plumbing Inspector.
*NO FERNCO of ANY kind shall be permitted in this application. See *ACHD*.

(n) JOINING DISSIMILLAR PIPING – (AS SDR TO PVC ETC.):
When going from *SDR to PVC Schedule 40 (or other material piping)* an ***ADAPTOR / TRANSITION Fitting*** shall be required. See *ACHD* Plumbing Inspector.

(o) SPACING OF WYE CONNECTIONS:
As far as possible, newly installed **Wye** connections, Except when permitted by Superintendent or representative, shall be no closer than five-foot (5') apart. **(*See* Sections 6 & 7)**

(p) 90 DEGREE ELBOW FITTINGS IN SEWERS:
No 90-Degree Bend Fittings, which are *laid on their side*, are permitted on ANY part of the sewer Lateral from the House Trap to the Main Sewer. They are permitted ONLY to allow a **change in the elevation** of the piping for the house sewer lateral. **NO** 90 Degree Bend Fittings are permitted **ANYWHERE** in the Main Sewers or Easements of the *Authority*.

3. LATERAL SEWER WORK (CONT.)

(q) MANHOLE TAP CONNECTIONS:

NO Direct Lateral Connection To The Authority's MANHOLE shall be permitted. If a standard connection to the sanitary sewer system *other than a MH Tap* will do *damage* or *create a hazard* to the sewer system SOMETIMES a Direct Manhole Tap is warranted. In ANY case, **Manhole Taps** can only be approved by the Superintendent. There are only two (2) allowed methods of installing these MH Taps. No others will be accepted:

#1. A six-inch (6") or eight-inch (8") ***pipe stub*** (as directed by Supt.) installed directly into the manhole below floor level, using the *core-drilling process*. The drilling shall create a water trough that will direct the new flow into the existing flow, and without discharging any material onto the existing floor. The Drilling process will only be allowed IF the *ground conditions around the manhole are favorable* and if approved by the Superintendent or representative(s) **AFTER the excavation, to determine this.**

#2. An ***inside drop connection*** to the MH *after the core drilling process* thru the MH wall (drilling thru a JOINT or STEP is prohibited), using a jackboot around the pipe. Anchoring of the new internal piping to the MH Wall is critical. Using Stainless Steel Drive-In Wall Anchors along with Stainless Steel Stand-Off Brackets shall be used to perform the pipe anchoring. Attaching the piping to the Stand-Offs shall be by Stainless Steel Band Type *Pipe Clamps*. The piping must have an accessible open clean-out TEE at entry point, along with a sweeping *double 45 degree bend* at the floor level that diverts the flow directly into the trough of the MH. At no point is the internal piping to interfere with maintenance, the steps, MH joints, or hinder access by an operator. (*See* **Pg. Y** for detail)
All piping inside of the MH shall be six-inch (6") SDR35. (*See* **Section 3(s)**)

**(The *core drilling* process includes but is not limited to:

- Core drilling shall be on the needed **angle** from outside of the manhole casting.
- When doing above #1. Pipe Stub method - this also must create the trough in the floor at the same time.
- A **Jackboot** is then installed into the properly sized hole, and the pipe installed INTO the rubber jackboot assembly. This makes a waterproof seal. There is to be no **need** for concrete work inside / outside the manhole by this process, unless extra caution is warranted to encase the connection and / or if instructed to do so by the Superintendent.)

NO JackHammering – Chop / Quickie Type Saws are permitted to cut pipe entry.
(Only a contractor that proves in advance to the system Superintendent, to be competent in core drilling, and being able to do the work as described above, using an approved method and / or able to use a sub-contractor to core drill, shall perform this procedure).

3. LATERAL SEWER WORK (CONT.)

(r) GREASE + OIL - TRAPS / INTERCEPTORS / SEPARATORS:

Appropriate **Grease Traps, Interceptors, or Oil Separators** shall be provided in ***ALL*** Commercial Food Preporation Locations, Restaurants, OR ANY **Facilities handling FOOD in any way** (*whether Deep Fryers are present or not*). This shall also apply to any OTHER dwelling / structure designated by the Superintendent, and / or the *ACHD*. **Gas Stations, Service Garages shall also be required to install oil separators in *ALL* Applications.** The name of the Contractor who will periodically be scheduled to clean these units is also to be provided to the *ACHD* Inspector. These devices as listed here, shall conform to all *ACHD* regulations. (*Placement of said units may require them to be installed below floor levels). No Actual **Specification Sheets** are available from *ETSA* or *ACHD*, they must be obtained from the Manufacturer or other local installations. Minimum flow rate shall be 25 GPM. (*See Plumbing Inspector* for actual installation details.) **(Refer to SECTION 20 for in depth details of units)**(*Also see* **Pgs. I-T** *for information, details and drawings*)

(s) PIPING IN *AUTHORITY* EASEMENTS:

ALL Lateral connection piping IN AUTHORITY EASEMENTS shall be of six-inch (6") **SDR 35 Push Fit Piping Only**.

The Gravel Bedding specification shall also apply. (*See* **Section 3(f)**)

*(Only in extremely short runs will exceptions of other piping be acceptable here, as where making too many transitions of piping would violate the *ACHD* code, etc...) However; the *gravel requirement* shall apply to ALL piping materials in this application

(t) WORKING IN A PUBLIC RIGHT-OF-WAY OR ROAD:

Only a Registered Plumber shall perform all work within or under a *Township* (or Other Owned) RIGHT-OF-WAY, OR ROAD. The homeowner shall not be permitted to perform this work, as all piping installed will be taken over by the *AUTH*. A **Road Opening Permit** (which usually includes a BOND) is needed PRIOR to the start of any work. The *Road Opening Permit* is to be obtained from the proper owner of the Public R.O.W. or ROAD. If Township owned, the Permit shall be obtained from the Township Building Inspector. If unsure, please contact the Authority or the Township Building Inspector. If owned by other government agencies, the permit shall be obtained from the appropriate source, and then a *copy* is to be given to the *AUTH* in the Tap-In Permit Application procedure.

*BEFORE works begins, the contractor must setup an inspection schedule with the *AUTH* Engineering firm.

**These lines will then be taken over by the *Authority* when completed to specifications and the roadway inspected by the *Township*.

3. LATERAL SEWER WORK (CONT.)

(u) MULTIPLE CONNECTIONS USING ONE COMMON LATERAL:
Any property(ies) that *CURRENTLY* utilize **more than ONE** (1) dwelling / structure to a single common sewer lateral will be permitted to continue this way until said property(ies) is / are subdivided or sold. **Separate laterals** shall then be constructed (to the main sewer of the *Authority*, requiring more separate Wye fittings) for any dwelling(s) / structure(s) remaining after they are separated. All costs will be borne by the Owner. *NEW - Separate* tap-in permit(s) must be purchased at the then going rate(s) for Each **new** Wye connection, and will be recorded using the newer address(s), lot number(s), property number(s), etc.

(u1) REPAIRS OF MULTIPLE CONNECTIONS USING ONE COMMON LATERAL:
Any property(ies) that CURRENTLY utilize more than ONE (1) dwelling / structure to a single common sewer lateral, and obtains permission from the system Superintendent AND the *ACHD* Inspector, shall use six-inch (6") pipe (or larger if directed) in any ***repair*** of the common sewer lateral. If the existing lateral is of smaller pipe, it shall then be removed and replaced by two (2) new and separate laterals, as required in these specifications. *There shall be no multiple connections on one lateral in* ***Commercial*** *applications.* See *ACHD* for more details. (*See* **Section 3(u2)** below)

(u2) SEPARATE LATERALS REQUIRED:
A separate lateral shall be constructed for EACH separately deeded property and / or dwelling / structure. Two or more dwellings / structures on two or more separately deeded properties shall not have *New* sewer lines connected to a *New Common* lateral.

(v) LATERALS NOT PERMITTED TO RUN ALONG A PUBLIC SEWER:
As far as possible, a lateral serving a dwelling / structure shall be totally on the property of the owner of the dwelling / structure, *not running parallel* within the *Authority's* easement. Only in isolated instances of special unforeseen conditions will an exception to this be considered by the system Superintendent. And no consideration will be forthcoming if this problem arose because of non-compliance of the Lateral Starting Point, (*See* **Section 3(d)**).

3. **LATERAL SEWER WORK (CONT.)**

(w) WHOM SHALL BE ALLOWED TO PERFORM SEWER WORK:
The OWNER / RESIDENT or a PLUMBER May Perform the Sewer Lateral Installation.
The OWNER may not, if they do not RESIDE at the "Connection Address".
The RESIDENT may not if they do not OWN the property at the "Connection Address".
(This is a specification requirement of the *ACHD* **not the** *AUTH*)

(x) NO PLUMBING CONTRACTORS CAN BE RECOMMENDED:
The *Authority* does not and can not legally recommend any Plumbing Contractor to anyone. The *Authority* will only provide a short list of names of some businesses that have previously performed acceptable plumbing work in *Elizabeth Township*. No recommendations of any of these or any others can or will be made.

(y) SLOPE OF PIPE & PERCENT (%) GRADE:
Four-inch (4") pipes shall be constructed at a slope of **1/8" per foot = 1%.** For flatter slopes, consideration should be given to the use of six-inch (6") pipe at a slope of 1%.

(z) ***CUTTING*** OF TERRA-COTTA PIPING:
Any and all instances where the main sewer needs to be severed, for instance to install a wye connection, a **PIPE SNAPPER Tool** shall be required. *No Chop, Quickie or other types of saws are acceptable.* **NOTE:** There shall be pre-approved permission by the Superintendent or representative prior to starting this type of work. ALSO *Authority* Personnel must be present with advanced notice PRIOR to starting the work.
(*See* **Section 6(f)**). *Sometimes AUTH PUMP STATIONS are involved and need to be controlled by AUTH Personnel to avoid possible injury or flooding problems!*

3. LATERAL SEWER WORK (CONT.)

CONCRETE ENCASMENT *(See **Pg. B** for drawing)*

(z) 1. *CONCRETE ENCASEMENT* shall be placed in any installation where a sewer **lateral,** or a **main** sewer line being built or repaired for the Sanitary *Authority*, crosses under a creek, waterway, stream, etc.... The piping section(s) needing this additional requirement shall be encased where instructed.
This encasement shall be no less than a twelve-inch (12") cross section **on all sides** of the pipe. *Proper ground preparations and pipe supports shall be made to handle the increased weight the concrete places on the piping.*
^^For more information contact the *Authority* Superintendent, and / or the *Authority* Engineer.
*(*See* **Pg. B)** for a detailed drawing of this requirement.

2. *CONCRETE ENCASEMENT* shall be placed in any installation where a sewer **lateral,** or a **main** sewer line being built or repaired for the Sanitary *Authority*, is deemed to be too close to the surface for vehicle traffic, ground use, or any other reason the *Authority* Superintendent, and / or the *Authority* Engineer feels it is warranted. The piping section(s) needing this additional requirement shall be encased at locations instructed.
This encasement shall be no less than a twelve-inch (12") cross section on all sides of the pipe. *Proper ground preparations and pipe supports shall be made to handle the increased weight the concrete places on the piping.*
^^For more information contact the *Authority* Superintendent, and / or the *Authority* Engineer.
*(*See* **Pg. B)** for a detailed drawing of this requirement.

4. **INSPECTIONS**

(a) SCHEDULING INSPECTIONS:
ALL Lateral Inspections are performed for the *Authority* by the *ACHD*, and shall be scheduled in advance with the *ACHD* (*See* **Pg. 5**). NO lateral Inspections will be done on Weekends **or** after 4:00 PM on Weekdays; unless scheduled with *ACHD* Inspector.

(b) All completed LATERAL work shall be INSPECTED by the *ACHD* **BEFORE** the work is back-filled, partially back-filled or covered. If any work is covered prior to the inspection, the work shall be uncovered to permit the County's visual inspection. *Partial Inspections* can be scheduled for long laterals or poor ditch conditions. Scheduling of these inspections must be done with *ACHD* (*See* **Pg. 5**).

(c) **The Owner / Plumber, shall fill out the Blank *"AS BUILT"* Lateral Form,** (that was supplied with the tap-in permit) (or can obtain a blank form from the *ACHD* inspector, or also get one at the *AUTH* Offices). It must show all lineal feet between fittings, types of fittings, average depths, measurements from foundation, pipe material, etc. . ALL points shall be clearly marked by using a S*imple* hand drawn **Line Drawing**. This must be completed and given to the *ACHD* inspector, in order to pass the inspection. The OWNER is responsible to have this document created. Failure to perform this may lead to a delay in obtaining the "Occupancy Permit" from the *Township* Building Inspector!

(d) If using *PVC SCH. 40* Pipe, the Owner / Plumber shall show to the *ACHD* inspector that **ALL GLUED JOINTS are *permanently / properly & solidly*** joined together.

4. **INSPECTIONS(CONT.)**

(e) The *Township* Building code requires that a *sign off sheet* (that was issued for the dwelling / structure) be completed for ALL inspections. As per *Township* and CABO (Council of American Building Officials) 1989 Edition (or newer) CABO Manual Section R III Inspection, recommendation.
Township Building Inspector upon issue of the *building permit* gave sheet to the owner. THIS SHEET MUST BE PRESENT for the *ACHD* to SIGN when the lateral inspection is performed. This is needed for the Owner to obtain an Occupancy Permit. Any questions on this requirement call *ACHD* or the *Township* Building Inspector.

(e) ALL Plumbing work done inside and outside of the dwelling / structure shall be inspected for the *Authority* by the *ACHD*. There are certain conditions contained in **Sections 6(b) 6(f) & 6(g) & 7(b)** where the ***Authority* Personnel MUST be Present for the Work. *Please review these sections.*** Call either (*ACHD*) or (*AUTH*) (*See* **Pg. 5**).

(g) After all Permitted work is inspected and approved by the *ACHD* and the *AUTH's* Engineering Firm, the work that was within any public right-of-way(s) and / or in any *Authority* easement(s) will then be accepted into the *Authority's* system. This procedure is outlined in **Section 9** - Sewer Lines To Be Taken Over By The *Authority*

5. CONNECTION TO AN *AUTHORITY* SEWER.
(Where A Wye Connection Is Already Available)

NOTE 1:
In this and subsequent paragraphs, **a reference has been made to** NON-SHEAR FERNCO Couplings.

NOTE: (*See* Pg. 6) for details regarding FERNCOS.

Call ACHD or the AUTH (*See* **Pg. 5**) to get the approval and / or direction.

NOTE 2:
Gravel bedding as outlined in these specs must be performed for ALL PIPING In Private Laterals and in any *Authority* Easement. (*See* **Section 3(e) & 3(f) - *See* Pg.10)**
ALL Gravel to be placed OVER the piping is to be done AFTER INSPECTION.

(a) To connect the six-inch (6") lateral pipe to the *Authority* Main Sewer *WYE Connection*, a NON-SHEAR FERNCO is to be used at the existing *terra cotta Wye Fitting*. See the *ACHD* Plumbing Inspector and (*See* **Pg. 6**) for details.

(b) Alternatively, an ADAPTOR RING *where available*, shall be installed on the six-inch (6") lateral pipe used, and then PUSHED into the six-inch (6") *Terra-Cotta Hub* of the existing *Wye Fitting*. **Concrete Encasement** shall then be required.

(c) IF the Main sewer piping is SDR35 Plastic, with an end HUB, then a section of six-inch (6") SDR35 pipe shall be installed directly into the existing SDR35 *Wye Fitting* and extend to a point outside of the *AUTH.* Easement. In THIS case; NO other method of connection is acceptable.

6. **CONNECTION TO AN *AUTHORITY* SEWER.**
(Where A Wye Connection Is Not Available At A Suitable Location)

(a) A connection to an *Authority* line where a Wye is not available shall be made ONLY in the way described in **(6(d) & 6(e)) below**. The intent is to install a new *SDR35 WYE Fitting* in the existing main pipeline. (***NO Saddles shall be permitted***).

(b) THIS WORK MUST BE DONE IN THE PRESENCE OF THE *AUTHORITY* PERSONNEL. An advance notice of at least one (1) day MUST be given to the *Authority's* sewer system Superintendent, or his representative, BEFORE any work is to start! Some *Authority* pump stations may need to be re-timed to permit this work. This is to ensure no interruption of service to any customers anywhere in the system, and prevention of injury.

(c) The **location** of the new *wye fitting* must be established in consultation with the *Authority* Superintendent or personnel BEFORE any work starts. As far as possible, newly installed **Wye** connections, shall be no closer than five-foot (5') from any existing wyes.

(d) The new *wye fitting*, complete with two (2) pipe nipples and two (2) NON SHEAR Fernco couplings OR Solid Repair Sleeve (*See* **Pg. 6**) must be furnished by the Owner / Plumber.

(e) A new ***wye fitting*** (suitably sized for the Main Line sewer pipe, with a six-inch (6") side outlet (for lateral connection) along with properly sized pipe nipples, with a NON SHEAR Fernco coupling OR Solid Repair Sleeve (*See* **Pg. 6**) installed on to EACH end, shall be READY at the worksite, for Insertion in the existing main sewer pipe, BEFORE any work starts.

(f) Cutting the existing Terra-Cotta Main Sewer pipe, shall be done only in the presence of the *Authority* personnel, (*See* **Section 4(f)**) and at the pre-determined location as (6(c)) above AND please review **Section 7**). It also shall **ONLY** be CUT by the use of a **PIPE SNAPPER Tool.** The cut shall only be a space EQUAL to the length of the wye fitting (which shall be ready to install; as in (6(e)) above)! No other method of cutting *Main Sewer Line Terra-Cotta Piping* shall be permitted. (A *Chop Saw* shall not be permitted for cutting in this instance = Poor Cutting results & Too Slow of an operation)

(g) The new *wye fitting* will then be inserted in the existing main sewer pipe and secured by the NON-SHEAR Fernco Couplings OR Solid Repair Sleeve (*See* **Pg. 6**) at each end. Gravel bedding as per these specifications shall be used. (*See* **Section 3(e) & 3(f)**) This work is to be done under observation of the *Authority* personnel and / or *ACHD*.

6. CONNECTION TO AN *AUTHORITY* SEWER(CONT.).
(Where A Wye Connection Is Not Available At A Suitable Location)

(h) Only a REGISTERED MASTER PLUMBER is permitted to perform the procedure of cutting a new *wye fitting* into a ***main*** sanitary sewer line of the *AUTH.*

(i) **HOT / LIVE TAPS:** In Extreme and special condition cases, where deemed appropriate by the *Authority* Superintendent, and where the sewer Main is constructed of plastic pipe, what is known as a "HOT TAP" method shall be permitted. Proper equipment shall be required to use this connection method. This will prevent the main sewer from possibly being damaged when "Cutting-In A New Wye" as described in connection to an *Authority* Sewer where a Wye is not available (*See all of* **Section 6**).

(j) **SADDLE FITTINGS: *NOTE:** Under no circumstance shall SADDLE Fittings be allowed anywhere in the sewer system: Laterals or *AUTH* Main Line piping.

6A. CONNECTION TO AN *AUTHORITY* SEWER*.
(Where A Wye Connection Is Not Available At A Suitable Location)
(When A Customer Wants Service AND The Lateral Must Extend Under A Roadway)

(a) As of 01-01-04: **In Cases Where A Customer Desires Service, And The Dwelling / Structure Lateral Must Be Extended Under A Roadway TO The Main Sewer In Order To Obtain Service**; it shall be the **Owner's responsibility to bear all costs** associated; and to comply with all *AUTH* And *Township* regulations.

(b) OWNER EXTENDING LATERAL UNDER ROADWAY: as listed in **(6A(a))** above, the owner must first obtain a "Road Opening" / "Occupancy" **Permit** from the *Township Building Inspector* for all Roadways owned by the Elizabeth *Township*. This permit shall be submitted **with** the Tap-In Permit Application.

(c) NOTE: In the case of Roadways not owned by the *Township*, but instead are owned by Allegheny County or the Pennsylvania Department of Transportation (PENDOT), the owner is INELIGIBLE to obtain a Road Opening / Occupancy Permit. Only the *Township* Or *ETSA* can procure the permit for this type of work as they have "Domain Status". The *Township* Or *ETSA* needs to make application, go through the needed procedures and finally obtain the needed permitting. *The Owner shall be liable for all costs and will be assessed / billed for reimbursement of said costs*.

(d) ALONG with the Tap-In Permit Application, and the Road Opening Permit (if applicable) as in **(6A (b))** above, a Plot Plan showing the desired crossing location must be submitted in order for the Tap-In Permit Application process *to begin*.

(e) The owner must also comply with **(Section 6(f), 6(g) & 6(h)** above) (Please review)

(f) The owner must **pre-schedule inspections** of ALL the work with the *AUTH's* Engineering firm prior to starting any construction of sewers.

(g) AFTER having completing all the work to specifications, the *AUTH* will take over all piping in the public R.O.W. through the normal process.

(h) Having completed all the work to specifications, (as part of the Road Opening Permit requirements) the owner shall RESTORE all pavement to specifications of the permit, and do so in a timely manner.

(i) In MOST cases, the *AUTH* shall perform ALL work and obtain any needed permits. ALL costs however will be borne by the owner(s). Payment to the *AUTH* shall be by the "Assessment" method. Please see **Section 6B** for some more information regarding similar situations OR contact the *AUTH* for more information.

6B. CONNECTION TO AN *AUTHORITY* SEWER (CONT).
(Where A Wye Connection Is Not Available At A Suitable Location)
(When LEGAL ENFORCEMENT Action Is Taken Against A Customer To Obtain Sanitary Sewer Service AND The Sewer Lateral Must Extend Under A Roadway Or OTHER Means In Order To Get TO The Owner's Property Line!)

(a) **In Cases Where A Customer Is LEGALLY FORCED To Obtain Service by any Agency of the Commonwealth of Pennsylvania (ACHD, DEP, ETSA, Etc.)** it shall be the ***Owner's*** **responsibility to bear all costs** associated with the costs to extend the new Sanitary Sewer Main / Lateral to the Owner's Property Line.

(b) ***The AUTH Shall perform any and all work to obtain this connection point.*** ETSA will then place an "Assessment" upon the Property Owner for recovery of these costs! Under no circumstance shall any private individual perform this work. *A Public Utility (or a Sub-Contractor of one) must perform all work in any public R.O.W.*

(c) Any *Right Of Way* boundaries needed for said extension shall be the *Authority's* responsibility to obtain, but as in (a) above, any and all costs associated with same shall be borne by the owner. These fees will be included in the "Assessment" fee levied upon the owner by the *AUTH.*

(d) If multiple Customers are LEGALLY FORCED to Obtain Sanitary Sewer Service, (as described above), and the Dwellings or Structures will use a Common Sewer Main or Lateral, the involved owners will pay an equal share of the total cost. The *AUTH* will levy an "Assessment" to upon the involved parties of the small *individual project* unless determined otherwise.

(e) If there are numerous other individual connections required (as in a Sanitary Sewer Project of usually six or more dwellings) then individual "Assessment" responsibilities, reimbursements, exemptions and other payment methods may be utilized. In this type of financing, costs to the involved owners may be partially or entirely eliminated based on the Project Financing options to the *AUTH.*

(f) After such work is completed, and the private owner(s) have been connected, any and all Utility Piping in any Public R.O.W. shall be owned and thereafter maintained by *ETSA.*

7. CONNECTION TO AN *AUTHORITY* SEWER
(Where A Wye Connection Exists, But Cannot Be Located)

(a) The Owner / Plumber will be responsible to **excavate** the Entire Length of the *Authority's* main sewer within the boundary of the property, (if need to) to locate the needed mapped *Wye fitting*. **Sometimes the Wye is located just a few feet from the marked location!**

(b) If after the excavation of entire property length of sewer main as in **(7(a))** above, the mapped *Wye fitting* Cannot be located THEN the *Authority* will furnish the needed *Wye fitting* to the Owner / Plumber. All work installing the Wye fitting will be the Owner's / Plumber's responsibility. Receiving the fitting from the *Authority* will be the only recourse of the Owner / Plumber in this situation.
This *Wye fitting* will consist of: the SDR35 *Wye fitting* itself, two (2) NON-SHEAR FERNCO Couplings OR Repair Sleeve (*See* **Pg. 6**) and the needed SDR35 pipe nipples to complete the new *Wye fitting*, ready for installation.

*NOTE: The Owner / Plumber shall contact the system Superintendent (or personnel) in order to collect the *Wye fitting* (as **7(b)** above) and then **obtain a new wye location** from the *AUTH.* on the exposed main sewer, in order to install the *Wye fitting*. (*See* **Section 6**)

At this time: **Connection To *Authority* Sewer Where Wye Is Not Available** (as in **Section 6**) shall be required of the Owner / Plumber. (Meaning *AUTH.* personnel must be present).

(c) For any new subdivision prior to 1996, the Owner / Plumber shall at the Owner's / Plumber's expense, install a new *Wye fitting*, as described in these specifications (*See* **Section 6**) where the *Wye fitting* is NOT found at the mapped location.
This in most all instances means that the *Wye fitting* was not installed as indicated while the sewers were constructed.
(This no longer happens as newer subdivision requirements and procedures now make developers responsible for this type of error.)

(d) In an ANY instance where a Wye fitting was to have been located at the property edge, where the Main sewer is located "Across a road, street, R.O.W. or other situation beyond the property edge, and is suspect or proven the wye "Does Not Exist" ALL of **Section 6** shall prevail. Please consult entire section for direction

(e) NOTE: When looking for the Wye connection along, near or at a road, street, or other public R.O.W. the owner shall be responsible to **start at the pavement edge. Sometimes it will be necessary to even go under the pavement some.** Please contact the *AUTH* for more information.

8. GENERAL SPECIFICATIONS FOR SEWERS IN *AUTH.* EASEMENTS

(a) All piping shall be installed to existing alignment & grade and as shown on approved plans.

(b) GRAVEL BEDDING: **NOTE: LATERALS=2A – MAIN LINE=2B ONLY)
(Pea Gravel, #1B Crushed Rock or #2A Emulsified / Modified for LATERALS, and #2B(57s) **ONLY** for MAIN LINE SEWERS) of no less than six-inches (6") in depth, shall be placed under the entire length of ANY and ALL **Piping** installed new, used for a repair, or in replacements. This includes All Laterals and All *Authority* Easements. The Gravel MUST BE PLACED FIRST with piping ON TOP OF IT. Gravel must then be placed six-inches (6") or more around ALL sides and twelve-inches (12") over top of the pipe to prevent any and all deflection. (*See* **Pg. A)**
NO SLAG of any kind is permitted, *as this causes plastic piping to rupture.*

(c) All excavation must be deep enough to provide the stone bedding under the proposed pipe grade. **(Section 3(e) & 3(f))** (*See* **Pg. A** for drawing)

(d) All *Authority* sewers and laterals shall have the same material (*as in* **8(b)**) for pipe bedding, and is to be no less than ONE FOOT above the top of the piping being installed and / or replaced. The material shall be compacted on the sides to prevent deflection of the pipe. (*See* **Pg. A)**

(e) A REDUCER FITTING must be installed **if using similar pipe materials**(SDR-SDR etc.) at the transition of pipe sizes from six-inch (6") TO four-inch (4") at the *Authority* easement. This is where the piping may be reduced from six-inch (6") (at the edge of the *Authority's* easement) to four-inch (4") pipe (on private property), for the remaining footage of the sewer lateral on up to the house trap. **(Section 3(m) & 3(n))** NO FERNCO of ANY kind shall be permitted in this application.

(f) Only a Registered Plumber shall perform any and all work within a PUBLIC RIGHT-OF-WAY, that goes UNDER a *Township* or ANY Public ROADWAY. The homeowner shall not be permitted to perform this work. (*See* **Section 3(t))**

(g) PRECAST MANHOLE BASE SECTIONS shall have **A*LOK** Integral Boot/Hub Assemblies in ***ALL Normal Use Applications***. They permit 10% omni-directional deflection. However; some conditions may require piping to deflect more than 10%. If said deflection in those cases is accepted by Engineering Standards and is approved by ETSA Engineers, **Z*LOK** Integral Boot/Hub Assemblies shall be an acceptable alternative.

(h) Owner / Developer must **SUBMIT SHOP DRAWINGS** to ETSA Engineers and get approval for ALL materials used in construction of Sanitary Sewers. Anyone who fails to comply with this requirement ***does so at their own risk!*** Any unapproved materials shall be "Replaced" with ETSA approved materials. Monetary Fines may apply *also / instead.*

9. SEWER LINES TO BE TAKEN OVER BY THE *AUTHORITY (Additional Items)*

(a) The *Authority's* Engineer shall review all plans for sewer lines to be constructed by the developers (and later to be taken over by the *Authority*).

(b) All such plans shall conform to the latest requirements of the DEP Wastewater Facilities Manual (slopes, manhole locations, etc.).

(c) All such sewers (whether they are in a right-of-way of a public road or whether they fall within an *Authority's* easement established by recorded subdivision plans) shall be at minimum eight-inch (8") SDR35 pipe.

(d) All Main Sewer Piping in the *Authority's* easements shall be SDR35 ONLY. Pipes of any other class (ABS-PVC sch40) will not be accepted unless special permission is given. NOTE: IF SUCH PIPING IS NOT USED, THEN THE DEVELOPER / OWNER WILL BE REQUIRED TO REPLACE THE PIPING, ANY AND ALL EXPENSES ASSOCIATED WITH REDIGGING, REFILLING ETC... WILL BE BORNE BY THE DEVELOPER / OWNER. BE SURE TO GET APPROVAL **IF** OTHER PIPE IS USED.

(e) All manhole frames and covers shall conform to the sizes and patterns currently used in the *Authority's* system. **No other patterns shall be used.** An "Approved Shop Drawing" must be submitted and accepted by Engineers of ETSA prior to ordering manhole frames and covers. Otherwise the Contractor does so at their own risk.
Standard Manhole Frames shall be **East Jordan Ironworks #196510 OR Neenah Foundry Pattern R-1653-E.**
Watertight Frames shall be **East Jordan Ironworks #188310 OR Neenah Foundry Pattern R-1755-F1.**
Standard Manhole Covers shall be **East Jordan Ironworks #196535 OR Neenah Foundry Pattern R-1653-E (BOTH with pick hole).**
Watertight Manhole Covers shall be **East Jordan Ironworks #188950 OR Neenah Foundry Pattern R-1755-F1.**
*See the Sanitary *Authority* of Elizabeth Township "Construction Specs" for details. (Copies are available at the Authority Office)

(f) ANY lateral connection locations for current or future use shall be *eight-inch (8") x six-inch (6") Wye fittings ONLY.* Unused connections shall have push in caps installed.

(g) MANHOLE **"INSERTS"** *Shall be supplied by AUTH. at no cost to the Owner / Contractor.* However; said Owner / Contractor must pick them up at the *AUTH.* **AND** INSTALL them where indicated. The supplied item will be as follows: MANHOLE ELIMINATOR Model#101-2625-0. (Orange in color, step formed for strength). Supplied by **COTT MFG. CO.** Flange Diameter of 26 ¼", have a 3/8" dia. S/S Lifting Eyelet with two nuts/flat washers + 1 lock washer. **NOTE:** Lifting Eyelet will need to be installed. It is to be placed anywhere in "Uppermost Step". Please call the *AUTH.* if there are any questions. (*See* **Pgs. U V + W).** NO OTHER SUBSTITUTE WILL BE ACCEPTED!!

9. SEWER LINES TO BE TAKEN OVER BY THE *AUTHORITY* (CONT.)

(h) GRAVEL BEDDING: **NOTE: LATERALS=2A – MAIN LINE=2B ONLY)
(Pea Gravel, #1B Crushed Rock or #2A Emulsified / Modified for LATERALS, and **#2B(57s) ONLY** for MAIN LINE SEWERS) of no less than six-inches (6") in depth, shall be placed under the entire length of ANY and ALL **Piping** installed new, used for a repair, or in replacements. This includes All Laterals and All *Authority* Easements. The Gravel MUST BE PLACED FIRST with piping ON TOP OF IT. Gravel must then be placed six-inches (6") or more around ALL sides and twelve-inches (12") over top of the pipe to prevent any and all deflection. (*See* **Pg. A)**
NO SLAG of any kind is permitted, *as this causes plastic piping to rupture.*

(i) All excavation must be deep enough to provide the stone bedding under the proposed pipe grade. (*See* **Section 3(e) & 3(f)).**

(j) All *Authority* sewers and laterals shall have the same material (*as in* **9(h)**) for pipe bedding, and is to be no less than ONE FOOT above the top of the piping installed and / or replaced. The material shall be compacted on the sides to prevent deflection of the pipe. (*See* **Pg. A)**

(k) Any subdivisions done at a later date by either the developer, or anyone else shall have ***preliminary as-built drawings*** of these plans PRIOR to any permits being issued for those properties.

(l) The *Township* or the Sanitary *Authority* will engage the services of their Engineers to review plans prior to construction and to inspect the work during its construction. The Owner / Developer AND the Engineering firm shall do scheduling of the Engineering firm's Inspector. ***48 Hours Notice*** is required Prior to starting any work on the project. The system Superintendent shall be informed of all work as it progresses. All work including final testing shall be carried out in the presence of an authorized representative of the *Authority's* Engineers. The work will not be accepted and taken over by the *Authority / Township* without a Certificate of Completion by the Engineers. ALL COSTS ASSOCIATED WITH REVIEW AND INSPECTION SHALL BE BORNE BY THE OWNER / DEVELOPER.

(m) No tap-in permits will be issued **until** the Certificate of Completion from the Engineers has been submitted to the system Superintendent, who then will take before the *Authority* Board for acceptance into the sewer system.

(n) Reproducible; accurate **as-built drawings** must be submitted before final acceptance of sewers by the *Authority*. Where applicable, the existing reproducibles shall be revised to *reflect the modifications* to property lines and sewer lines, if any. **Six copies** of the revised or new as built drawings shall be submitted to the *Authority* system Superintendent.

10. LANDSCAPING & MANHOLE GRADES

(a) If during the sewer lateral installation, (or any other time,) any *Authority* manhole(s) are encountered upon the property of any new or existing dwelling / structure, and new **Landscaping** is performed, then the elevation of the new grading and landscaping work MUST meet the CURRENT GRADE of the manhole(s) that existed **before** any work had started.

*Any work requiring **more than six-inches (6")** additional height to the MH(s) the *Owner* shall be required to obtain a **Variance.** The Superintendent will advise the Owner of the procedure to follow in order to accomplish this request. It requires in part, a request in writing to be presented to ETSA for approval.

All work permitted shall then be performed by the Owner or Owner's Contractor. This work shall be done under the supervision of the *Authority* personnel. **All costs shall be borne by the Owner.**

All verbal / written instructions issued to the Owner must be observed.

No manhole work shall be done without the consent or knowledge of the *Authority* Superintendent and / or his representative.

*Any work requiring **less than six-inches (6")** additional height to the MH(s) when **agreed to in advance** by the Superintendent and Owner, of the need to raise the manhole(s), then the *Authority* shall perform the said needed / requested work. Scheduling of this shall be at the sole discretion of the Superintendent. This *usually* only requires one or two steel "Riser Rings" to be placed in the MH to achieve the needed results.

(b) If any manhole(s) is left covered by the Owner / Contractor / Developer after grading or landscaping is completed, and after refusal to comply with written notice to make the acceptable & needed height adjustments; the property Owner of record will be liable for reimbursement to the *AUTH* who shall complete the needed work. The Owner will also be liable for legal action taken against them under the Ordinances of Elizabeth *Township* and the *Authority*. All costs associated with such prosecution and reimbursement shall be borne by the property Owner.

11. GRINDER PUMP APPLICATIONS

All requirements other than contained herein, of connections, if any shall be imposed and enforced by the *ACHD* by their Inspector.
Call the *ACHD* (*See* **Pg. 5)** for more information.

(a) *Grinder Pumps* will be permitted only where gravity connection to an existing or proposed sewer is not possible. Except in instances of frequent and documented flooding / backwater problems it is decided to be **undertaken directly by the *Authority*.**

(b) *ACHD* **may** require the Owner to have a *split system*. Meaning if it is at all possible part or the entire upper / main floor of the structure shall enter the sanitary sewer system by gravity as a routine connection. The basement shall then use the *Grinder Pump* to lift the flow **up to** the main floor plumbing, which will flow into the standard gravity sewer lateral.

(c) Please NOTE that a *Grinder Pump* **request** in some instances will be denied connection to the sanitary sewer system. All requests / applications for these devices will be examined for proper operation into the sewer system by the Superintendent. In some instances, the Owner's request for the pump may be denied this option of a sewer connection. This denial may be by either the *Authority* **or** *ACHD*. Also note that in some instances, right-of-ways from other property owners will be needed for the piping to reach the sanitary sewer easement. If this requirement is necessary, (*See* **Section 1(f))** for the procedure.

(d) Regulations of the *ACHD* require that a ***variance* to their rules** must be obtained where an individual *Grinder Pump* is to be used. The Owner / Plumber shall contact the *ACHD* on this matter prior to starting the tap-in permit application process (as in **Section 1**).

(e) A complete **Plumbing "Abstract" Plan** must be filed with the *ACHD* prior to construction. Call ACHD (*See* **Pg. 5)** for more information. This step must be done AFTER the Tap-In Permit from the *Authority* has been issued, as a copy of the tap-in permit and permit number are required by the *ACHD*. (*See* **Section 2(c))**

(f) The house lateral discharging into the Grinder Pump *Basin*, shall be at least four-inch (4") pipe.

(g) The pressure lateral from the pump assembly shall be **1 1/4", 1 1/2" or 2"**. It shall be of rolled PVC pipe and use mechanical metal compression type joints.

(g) Other connection joint ***methods*** shall only be permitted with approval from *ACHD*.

11. GRINDER PUMP APPLICATIONS (CONT.)

(h) At the Main sewer, connection of these pump systems to an existing Wye fitting must be done by installing a plastic **"Bushing"** to allow the connection. (*See* **Section 11(l) below**). If No Wye fitting exists, (*See* **Section 11(m) below & Section 6**).

(i) The grinder pump installation shall consist of the following items:

(i) A *basin* of concrete or fiberglass which will accommodate the pump. The depth of the basin must be sufficient to suit the individual installation. OR preferably a self-contained unit.

(ii) A grinder *pump* installed in the basin. The pump should be designed to move up and down on a rail system so that the pump can be removed quickly for repairs or service.

(iii) *Discharge piping* with a quick disconnect so that the pump can be removed without dismantling any piping. All piping shall be of PVC Schedule 40.

(iv) *Electrical work* to include extending the power from the residence, an alarm, a control panel supplied by the pump manufacturer and power and control wiring to the pump through a junction box and floats.

(j) The grinder pump shall be obtained from a reputable manufacturer and shall deliver about ten (10) GPM against the total dynamic head needed for the installation.

(k) The discharge piping from the pump shall be a minimum of 1 1/4" diameter and will be increased to 2" PVC Schedule 40 piping outside the pump basin.

(l) The discharge piping can remain 2" until it nears the Easement of the *Authority* sewer. There the 2" size must be increased to six-inch (6") SDR 35 Pipe. Remember; ALL piping within *AUTH.* easements shall be six-inch (6") SDR Pipe. Connection to the installed wye shall comply with Section 5.

(m) If a Wye fitting does not exist at the point of connection of the discharge line a new fitting shall be installed to comply with Section 6.

11. GRINDER PUMP APPLICATIONS (CONT.)

(n) If the 2" discharge main has a *high point* from where **gravity piping** will be laid up to the *Authority* sewer, a vent pipe shall be installed at the high point. A four-inch (4") gravity sewer shall then be installed up to the *Authority* easement boundary where it is to be **increased** to six-inch (6") pipe. This will be in the *Authority's* easement where all piping is required to be six-inch (6") **SDR 35 Pipe**! (The vent pipe is also a requirement of the *ACHD* and shall conform to their code).

(o) Under no circumstances shall any 90-degree bends be permitted to be *laid on their sides* allowing drainage to collect. They will however be permitted where they provide a **change in the elevation** of the lateral. (*See* **Section 3(p)**)

(p) The entire system (pump, piping and electrical work) shall be the Owner's responsibility even where the system may cross another property. If the system is constructed on any other property(ies), a proper deed agreement shall be attached with the permit application. (*See* **Section 1(f)**)

(q) The entire installation shall be inspected and approved by the *ACHD* before the system is placed into operation.

12. INSTALLATION OF BACKWATER CONTROL VALVE(S)

(a) At the time of the Tap-In Permit procedure, IF recommended and implemented by the system Superintendent **of the need** for the Backwater Control Valve, the owner(s) of the dwelling / structure will be required to install within their plumbing the said valve. This will prevent backing up of sewage into the dwelling / structure, in the event the *Authority's* sewers are surcharged due to reasons beyond the *Authority's* control.

(b) If the Owner Refuses to implement the valve as described in this section, the Owner will be required to sign a document prepared by the *Authority* Solicitor, stating this refusal. If any backup occurs due to not having this valve, the *Authority* may or may not be responsible for any damages as a result.

(c) The *ACHD* does not approve closeable type valves within a public system. But in the cases where they are on private property, maintained by the Homeowner, and approved by the *Authority*, a waiver usually applies. Please contact the *ACHD* (*See* **Pg. 5**) for more information.

(d) The Backwater Control Valve shall be JOSAM Series, coated cast iron combination backwater valve, straight through type. No other valve is acceptable! (*See* **Pg. D**)

(e) The valve shall be equipped with a bronze swing check assembly and a bronze manually operated shear gate with a non-rising stem.

(f) The valve shall be as shown in drawing No. A-12501-K, included at the end of these specifications. (*See* **Pg. D**)

(g) The valve shall be installed preferably inside the dwelling / structure where it is accessible in inclement weather. Under the concrete floor of the basement is preferred.

(h) If installed outside, the valve shall be installed in a suitable pit or a chamber preferably a standard Manhole. (like all others throughout the sewer system.)

(i) The shear gate stem shall be extended to such a length that the removable hand wheel can be installed and operated without excavation.

(j) The owner(s) of the dwelling / structure shall through their Plumbing contractor familiarize themselves with and be responsible for, the operation, maintenance (periodic opening / closing of valve), and / or repair of the backwater valve, if the need presents itself.

13. INSTALLATION OF A SCREENING / STRAINING DEVICE

(a) Elizabeth *Township's* sewer use Ordinance clearly provides that discharge of any objects, which can hamper the capacity, and operation of sewers and / or sewage treatment plant is prohibited.

(b) If the Sewer System Superintendent determines that a possibility of discharge of such objects may arise from a particular NEW or EXISTING dwelling / structure (due to type of operation) a suitable type of *screening mechanism* shall be furnished and installed at a suitable location on the lateral serving the dwelling / structure. *ACHD* shall enforce the requirement implemented by the *AUTH.* system Superintendent.

(c) The *screening mechanism* shall be installed in a monitoring chamber or manhole with an access hatch or manhole lid.

(d) The chamber and the *screening mechanism* shall be situated so as to be accessible to the *Authority* personnel without the necessity of entering the operations area or dwelling/structure. Inspection activities by the *Authority* shall require no specific permission from the property owner.

(e) The determination of the system Superintendent as to whether such a *screening mechanism* is required, Shall Be Final, in order to obtain the tap in permit. Exemption for this requirement shall be by the *Authority* Board only.

(f) It has been determined that a possibility of discharge of such objects may arise from certain institutional and commercial usages. All ***Personal Care Homes, Extended Care Homes, Restaurants, Banquet Halls, Prisons, Group Homes and any other facilities*** that the *Authority* Superintendent feels are and should be required to comply with this regulation, shall be fitted with a suitable type of *screening mechanism*. It shall be installed at a suitable location on the lateral serving the dwelling / structure. Once required by the Superintendent, exceptions shall only be granted by the Sanitary *Authority* at a regular scheduled meeting of the Board.
Note: It may be the System Superintendent's option to refer the owner(s) of these facilities to *ACHD* or the *Authority* Engineering Firm for implementation. The owner(s) MAY also be refered to the *Authority* Board for any action.

(g) A drawing of a simple type of *screening mechanism* can be found at the end of these specifications. (*See* **Pg. E & F)**

14. SEPTIC TANK DISCONNECTION & BACKFILLING.

(a) No privy, vault, cesspool, septic tank, mine hole or other similar receptacle used for sanitary waste water and solids shall at any time be connected to the *Authority* sewer system, either directly or indirectly.

(b) The *Authority* ***highly recommends*** that septic tanks be Emptied of All Wastes and to have these wastes disposed of in accordance with all Federal, State, County & Local Regulations. **Ask the *ACHD* for more direction.** If the septic tank shows signs of non-compliance or failure, as seen by the *ACHD* plumbing inspector, it shall then be pumped out before work is to continue. Under No Circumstances shall it be permitted to dispose of septic tank wastes into the *Authority* sewer.

(c) Pumping out / emptying the septic tank when required as **14(b)** above, shall be done by a qualified Contractor familiar with this type of work, having the proper equipment, and most importantly be able to produce the proper Federal, State, County and Local **permits**. Any violations committed during this procedure shall be the responsibility of the Owner / Plumber / Contractor, and any and all liability shall be with them.

(d) The septic tank must be filled in with inert material after it has been pumped out / emptied. Inert material shall be: Gravel, Sand, Slag, or mixed modifications of these materials. **Note:** under no circumstances shall any kind of *earth* be placed in the empty tank for this purpose.

(e) Using excavation equipment, (backhoe, highlift etc...) to implode, cave in, crush or otherwise destroy the septic tank AFTER it has been emptied properly (as outlined in this section) is permissible, if desired. **Earth may be used only for backfilling** in this instance.

(f) In order to construct a service lateral through *or* bridge over a septic tank, the tank must be Pumped Out as above in **14(b) + 14(c),** and Filled In as in **14(d).** Otherwise the connection to the septic tank shall be physically *disconnected.* And the piping of the new sewer lateral shall be re-routed around the tank.

(g) If excess surface water continues to enter the septic tank after pumping, it may be filled in with Gravel (as in **14(d)** above) and drained into an approved surface drain system that complies with the *ACHD*. Call the *ACHD* (*See* **Pg. 5)** for more information.

15. INDIRECT WASTES / SWIMMING POOL DRAINING & ROOF LEADERS.

(a) **Indirect Wastes** / Discharges as defined by the *ACHD*, shall be in accordance with all *ACHD* regulations. Any questions regarding this requirement should be directed to the *ACHD* inspector.

(b) **Swimming Pool** drain water discharge whether Public or Private shall not be directed into any sanitary sewer of the *Authority* for any reason. All draining of this water shall be directed to, a berm, gutterway, roadway, indirect piping, or any other conduit leading to a STORM Sewer, or STORM Water Collection System. Any and all questions regarding this type of work shall be directed to the *ACHD* (*See* **Pg. 5**).

(c) **Roof Leaders** are not permitted to enter ANY Sanitary Sewer of the *Authority*. They must discharge either to a gravel pit, be directed to a roadway, or some other lower point. If they are found to be into a Sanitary Sewer, the Owner will be directed to remove these connections at once. There are no time limits, extensions, or other consideration for this removal work. *ACHD* will be notified by the Superintendent and be *directly involved* with the removal and inspection of this work. All *ACHD* requirements shall be met, or legal proceedings by *ACHD* will take place.

(1) Neither the *Authority* nor the *Township* has an "Ordinance" in place regarding anyone who directs their "Roof Leader" **flows / runoff** onto another person's property. In the event this has taken place, this is a *Civil Matter* between the involved property owners.

16. SECOND WATER METERS (Used to obtain credit for filling of Swimming Pools, Lawn Care, Outdoor Use, etc..)

(a) All allowed uses of "*Second Water Meters*" shall only be considered if and WHEN they are a permanently installed unit of the structure.

(b) NO Credit shall be allowed except for water that has passed through the *Second Meter*. (Any water used prior to installation of the *Second Meter* shall have sewage charges apply. No Exceptions)

(c) The *Second Meters* are not to be a "Temporary" connection. Nor are they to be ones placed temporarily onto hose-bibs.

(d) A Registered Master Plumber must install the *Second Meters*. If the Homeowner feels capable, they may install the meter.

(e) **Only ONE hose-bib shall be connected to the *Second Meter*.** This will also ensure easy future inspections.

(f) The *Second Meter* MUST be placed in a water line AFTER the Water Co. House Meter and directly before the outside hose-bib outlet on the **inside of the structure**. This makes sure all water passes through the Water Co. Meter; *and also prevents freezing*.

(g) The Sanitary Authority Superintendent (or his deemed representative) MUST inspect all plumbing connections PRIOR to Meter use AND subsequent CREDIT. **No Exceptions.** This allows for the initial meter reading and is also to gather information in order to setup an account. Any questions or to schedule an inspection please call the *AUTH* (*See* **Pg. 5**).

(h) The CUSTOMER must phone in the *Second Meter* READING to the Authority office (*See* **Pg. 5**) upon receipt of the Sewer Bill in order to obtain a credit amount.

(i) A new Sewer Bill TOTAL will be quoted to the customer at that time, and they will be instructed how to write the new amount on the bill. All credited account figures and information will be handled by the *Authority Administrative Assistant*. This will ensure that the accounts will be correct and up to date.

16. SECOND WATER METERS (Used to obtain credit for filling of Swimming Pools, Lawn Care, etc.) (CONT.)

(j) There is to be NO Sanitary Sewer "DRAIN" anywhere adjacent to the hose-bib that is used for the *Second Meter*. No inspection will be completed if this condition is violated.

(k) NO WATER from the *Second Meter* can be intentionally discharged into a Sanitary Sewer "DRAIN" either directly, piped, or by ground drainage of any means.

(l) NOTE: As applicable to **(16(j))** & **(16(k))** above, No Washing of vehicles (in a garage, patio, driveway) where water shall enter a Sanitary Sewer "DRAIN" leading to the structure or any other sanitary sewer system is permitted. **NOTE: You cannot lead a hose from the Second Meter to be used where the water from the hose will go into a Sanitary Sewer DRAIN. This defeats the purpose of the AUTH allowing credit for non-sewered water use.*

(m) NO other appliance or fixtures of any kind (Washing Machines, Laundry Tubs, Water Filters, etc…) shall be placed after the *Second Meter*. If found to be in violation at time of inspection, the owner shall be required to reconnect as directed, and then be required to have another initial inspection PRIOR to the account being activated! *If found to be in violation on a subsequent inspection, the owner will be billed for all water readings between the last billed period to the inspection date.* Also, the second water meter account for that customer will be terminated and it will no longer eligible for discount. It will be considered a VOID Second Meter Account!!

17. LATERALS – WHEN STRUCTURE IS "DESTROYED, REMOVED, REPLACED OR OTHERWISE COMPLETELY ALTERED" -- "DEMOLITION PERMITS"

(a) When a structure or dwelling has been destroyed by any manner AND had a Sanitary Sewer connection to the *Authority's* Sewer System, the Lateral connection must be dealt with immediately. The lateral connection must be disconnected properly PRIOR to demolition. The *TWP* (*See* **Pg. 5**) MUST be contacted to obtain the needed **"Demolition Permit".** Permit procedure **and** the *AUTH,* mandates that the sewer lateral be disconnected and SEALED. The *ACHD* (*See* **Pg. 5**) must be contacted to Inspect the Sanitary Sewer CAP/SEAL. *ACHD* must also Inspect the lines when reconnected! This is required by the *ACHD* Plumbing Code. *ACHD* will answer any questions on the procedure when *scheduling* the inspection. *See* **Section 17(b) & 17(c)** for Sealing details.

(b) In the event the Structure *is to be* Replaced, Rebuilt, or Reused in any way, the **House Trap must be Completely Removed and the Street Side of the Lateral temporarily Plugged / Capped** in such a way as not to allow foreign debris and / or water to enter during the entire work process. In most cases it will need to be lowered underground slightly and capped.

(c) In the event the Structure *is not to be* Replaced, Rebuilt or Reused in any way, the owner has *a period of 90 days*, **to disconnect the House Trap and entire Lateral from the *Authority's* main sewer at the WYE Connection POINT**. The lateral must be severed and SEALED at the Authority's WYE connection in order to prevent any debris, foreign material and / or water to enter the main sewer. **This work NEEDS INSPECTED prior to backfill.** Call *ACHD* or *AUTH.* The remaining Lateral section from the Main Sewer to the Structure can remain if the owner desires. However; it will need to be Inspected by the *ACHD,* IF and when it is reconnected. *TV Inspection will most likely be required.*

(d) Work (as in **(17(b))** or **(17(c))** MUST be scheduled with the *ACHD* Plumbing Inspector and inspected by same. Please call *ACHD* (*See* **Pg. 5**) to schedule the Inspection of this work PRIOR to STARTING!

(e) The owner has a ONE YEAR Time Period to rebuild and CONNECT the sewer piping. If the structure is CONNECTED **within** the One Year time period a new Tap-In Permit does NOT have to issued. The OLD Permit will be **Re-Assigned.** (*See* **Section 1(h)**).

(f) If the ONE YEAR Time Period is exceeded a NEW Tap-In Permit will need to be obtained. Any and all current fees will then be due.

(g) The **ONE YEAR Time Period** BEGINS with the DATE that the DEMOLITION PERMIT was ISSUED **TO** the DATE of the NEW BUILDING PERMIT APPLICATION!

18. GARAGE, STORAGE FACILITY CONNECTIONS

(a) Prior to construction of any Garage, Storage Facility, or any other Separate/Detached Structure, it shall first be determined if there is to be a **"Floor Drain".**

(b) As per *ACHD* & the *AUTH*, if any building is Required or Desires to have one or more fittings known as a "Floor Drain" it / they shall be connected directly to a **separate Public Sanitary Sewer Connection Point (Wye).**

(c) No **"Gravel Pit"** type of drain disposal points shall be permitted. As per *ACHD*, all drains from any structure shall be "Separately" connected to a sanitary sewer.

(d) In the event that any structure as described in **18(a)** above is to be constructed, prior to obtaining the required Township Building Permit, the *AUTH* requires that a **Separate Tap-In Permit** shall be obtained / issued.

(e) In the event that any structure as described in **18(a)** above is to be constructed a **Separate Tap Connection POINT (Wye) to the Main Sanitary Sewer shall also be required.**

(f) Under no circumstance shall the new structure in **Section 18** be allowed to connect **directly into the Dwelling / House sanitary sewer *lateral* at any point.** It shall as explained here have it's own **separate** connection into the sanitary sewer main of the *AUTH.*

(g) In making the separate sewer connection for the structure it may be necessary to install a new Wye into the sanitary sewer main. In such a case please follow the guidelines set forth in **(Section 6)** –"Where A Wye Connection Is Not Found At A Suitable Location"

(h) All appropriate specifications within this document shall also prevail for the construction of the lateral sewer to the new structure.

(i) The prevailing Tap-In Permit Fee at the time of construction shall be implemented.

(j) Only when a new garage is **integral = within the owner's dwelling / structure** shall the Tap-In Permit, Separate Tap Connection, and the prevailing Tap-In Permit Fee requirements in **Section 18** be waived and not applicable.

(k) If the new structure is deemed by the *AUTH* Superintendent to have, or will have, excessive flows *other than normal*, the owner shall be required to submit design flows at the time of the Tap-In Permit Application. The structure will then be subject to the *EDU Formula* to determine the appropriate Tap-In Fee and Billing Method that will be applied.

18. GARAGE, STORAGE FACILITY CONNECTIONS (CONT.)

(l) No more than one structure shall use any one six-inch (6") lateral *crossing* under any public roadway or public R.O.W. However; in a rare and unusual case as deemed by the *AUTH* Superintendent, or the *AUTH*, more than one structure shall be permitted to use one (1) common six-inch (6") lateral crossing. In this instance a new Manhole (constructed at the owner's cost, and to *AUTH* specifications) shall be required. It will be used to combine the multiple (two (2) or three (3)) laterals to one common point and then cross the roadway or public R.O.W. in the said single six-inch (6") lateral.

(m) A Manhole is required to combine the multiple (two (2), three (3) or ?) laterals as above in **18(l)** now as *ACHD* regulations prohibits another structure from connection into any existing laterals.

(n) IF however there becomes a nuisance cleaning issue (determined by the Supt.) the current owner at the time shall be liable to construct ANOTHER Manhole at the other end of the lateral crossing! This will allow the *AUTH* to perform the needed cleaning maintenance of the combined lateral crossing. IF however this becomes too frequent (as determined by the Supt.) the existing six-inch (6") lateral **shall be excavated and replaced** with an eight-inch (8") lateral crossing. ETSA will perform the construction and all costs shall be borne by the existing owners. This will be done by an assessment process.

(o) ***NOTE:** A release document stating the particulars of this type of situation shall hold the current or subsequent owners liable to install the necessary new manhole and / or lateral installation(s). Prior to obtaining the Tap-In Permits all owners involved shall sign off on the document.

(p) Any and all structures that have been built and occupied prior to 06-01-04 shall be allowed to remain as connected. However, if maintenance of said lines becomes a nuisance, **Section 18(n)** shall be implemented.

(q) If at any time any structure built prior to 06-01-04 does remodeling, makes additions, constructs more areas or rooms, or in any other way improves upon the existing structure that is described herein **Section 18,** it too shall be liable for the additional **flow calculations**. Then any new fees or billing changes applicable will be subsequently enforced.

19. SIX-INCH (6") LATERAL CROSSINGS UNDER ROADWAYS, PUBLIC R.O.W. USED BY MORE THAN ONE STRUCTURE:

(a) No more than one structure shall use any one six-inch (6") lateral *crossing* under any public roadway or public R.O.W. However; in a rare and unusual case as deemed by the *AUTH* Superintendent, or the *AUTH*, more than one structure shall be permitted to use one (1) common six-inch (6") lateral crossing. In this instance a new Manhole (constructed at the owner's costs, and to *AUTH* specifications) shall be required. It will be used to combine the multiple (two (2) or three (3)) laterals to one common point and then cross the roadway or public R.O.W. in the said single six-inch (6") lateral.

(b) A Manhole is required to combine the multiple (two (2), three (3) or ?) laterals as above in **19(a)** now as *ACHD* regulations prohibits another structure from connection into any existing laterals.

(c) IF however there becomes a nuisance cleaning issue (determined by the Supt.) the current owner at the time shall be liable to construct ANOTHER Manhole at the other end of the lateral crossing! This will allow the *AUTH* to perform the needed cleaning maintenance of the combined lateral crossing. IF however this becomes too frequent (as determined by the Supt.) the existing six-inch (6") lateral **shall be excavated and replaced** with an eight-inch (8") lateral crossing. ETSA will perform the construction and all costs shall be borne by the existing owners. This will be done by an assessment process.

(d) ***NOTE:** A release document stating the particulars of this type of situation shall hold the current or subsequent owners liable to install the necessary new manhole and / or lateral installation(s). Prior to obtaining the Tap-In Permits all owners involved shall sign off on the document.

20. GREASE INTERCEPTORS / TRAPS + OIL SEPARATORS.

***Subsection (a) repeated here from Section 3(r) to clarify this section;*
GREASE + OIL - TRAPS / INTERCEPTORS / SEPARATORS:

(a) Appropriate **Grease Traps, Interceptors, or Oil Separators** shall be provided in ***ALL*** Commercial Food Preporation Locations, Restaurants, OR ANY **Facilities handling FOOD in any way** (*whether Deep Fryers are present or not*). This shall also apply to any OTHER dwelling / structure designated by the Superintendent, and / or the *ACHD*. **Gas Stations, Service Garages shall also be required to install oil separators in *ALL* Applications.** The name of the Contractor who will periodically clean these units is also to be provided to the *ACHD* Inspector. These devices as listed here, shall conform to all *ACHD* regulations. (*Placement of said units may require them to be installed below floor levels). No Actual **Specification Sheets** are available from *ETSA* or *ACHD*, they must be obtained from the Manufacturer or other local installations. Minimum flow rate shall be 25 GPM. (*See Plumbing Inspector* for actual installation details.)

(b) *ACHD* Regulations regarding Interceptors and Separators is attached. (*See* **Pg. I**)

(c) Procedure for SIZING **Grease Traps** is attached. (*See* **Pgs. J-K-L-M & N**)

(d) Inside Grease Traps shall have a Minimum of **22.5 GPM** Flow Rate as per *ACHD*.

(e) Outside Grease Trap / Oils Separators shall be of pre-cast concrete design and can be obtained from local suppliers that sell equipment for septic systems.

(f) A drawing of one *acceptable* design for an Exterior Grease Trap is attached. (*See* **Pg. O**)

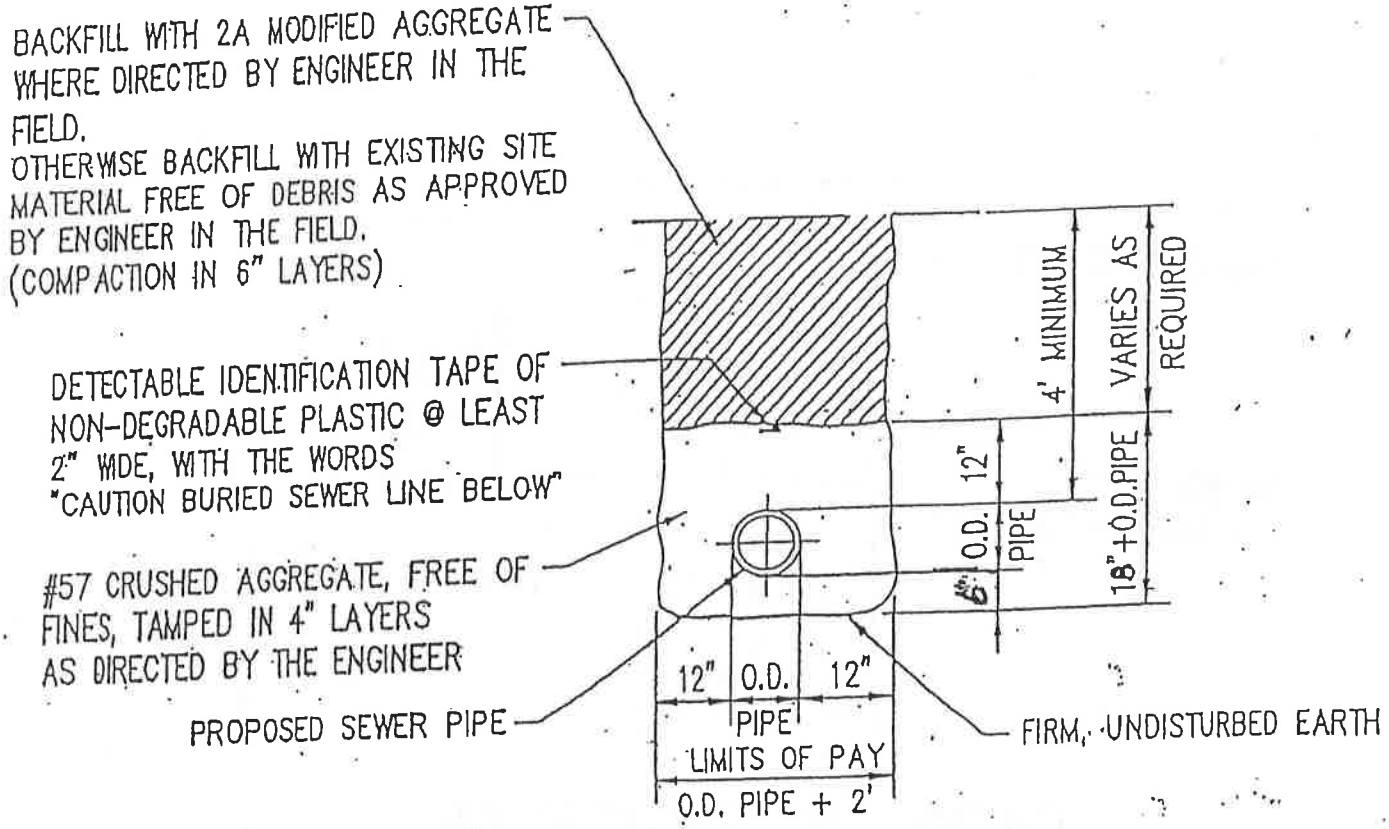
(g) After the Owner decides on which unit to install, A COPY of the selected unit MUST BE FAXED to *ACHD* (412-664-8857) **PRIOR to purchase**! This will assure *ACHD* will accept and inspect the unit.

(h) Other designs of Grease Interceptors are shown in spec sheets attached. (*See* **Pgs. P-Q & R**)

(i) Multi-Sink Grease Interceptor schematic is attached. (*See* **Pg. S**)

(j) *ACHD* requires a Grease Trap "Maintenance Record" be placed for inspection at all times. A copy of such a document is attached. (*See* **Pg. T**)

(k) Please review all documentation listed here, then contact the *ACHD* Inspector for more information prior to any purchase and starting of any work.

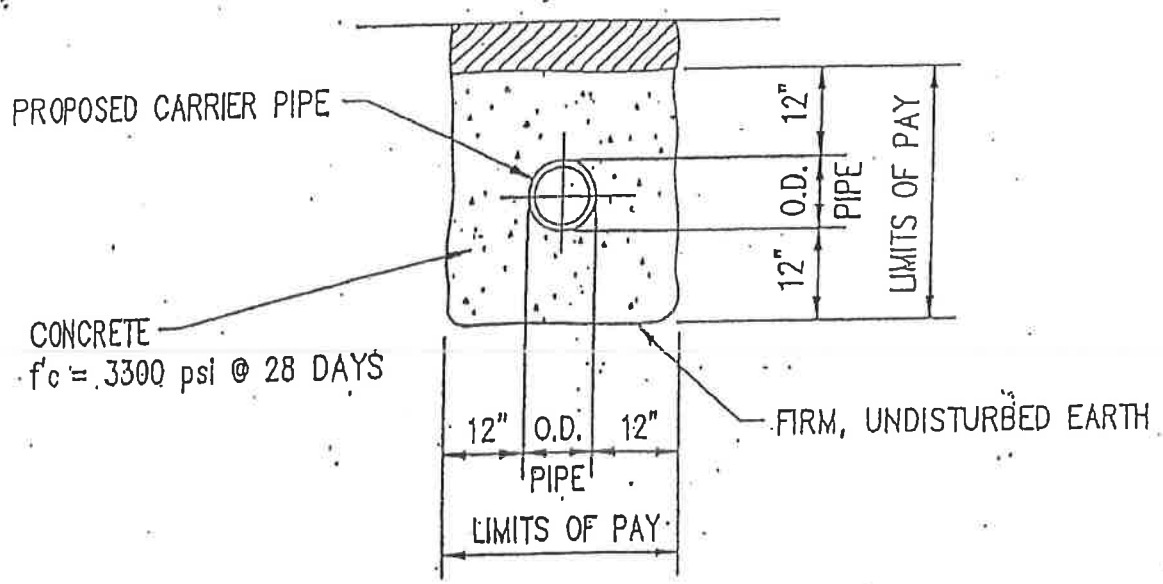


BEDDING & BACKFILLING DETAIL

(N.T.S.)

LINES TO BE TAKEN OVER BY THE AUTHORITY

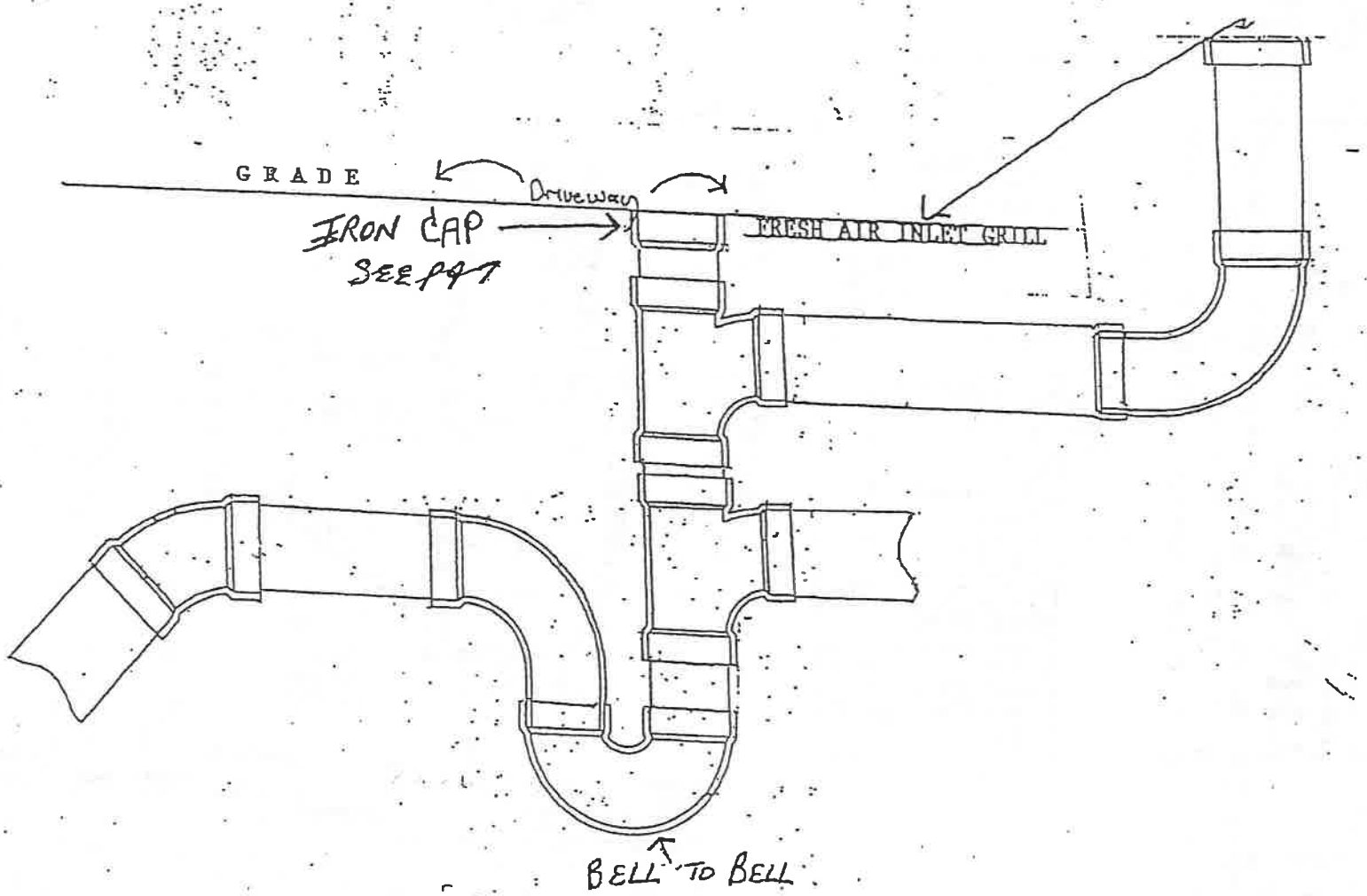
A



CONCRETE ENCASEMENT DETAIL

(N.T.S.)

B

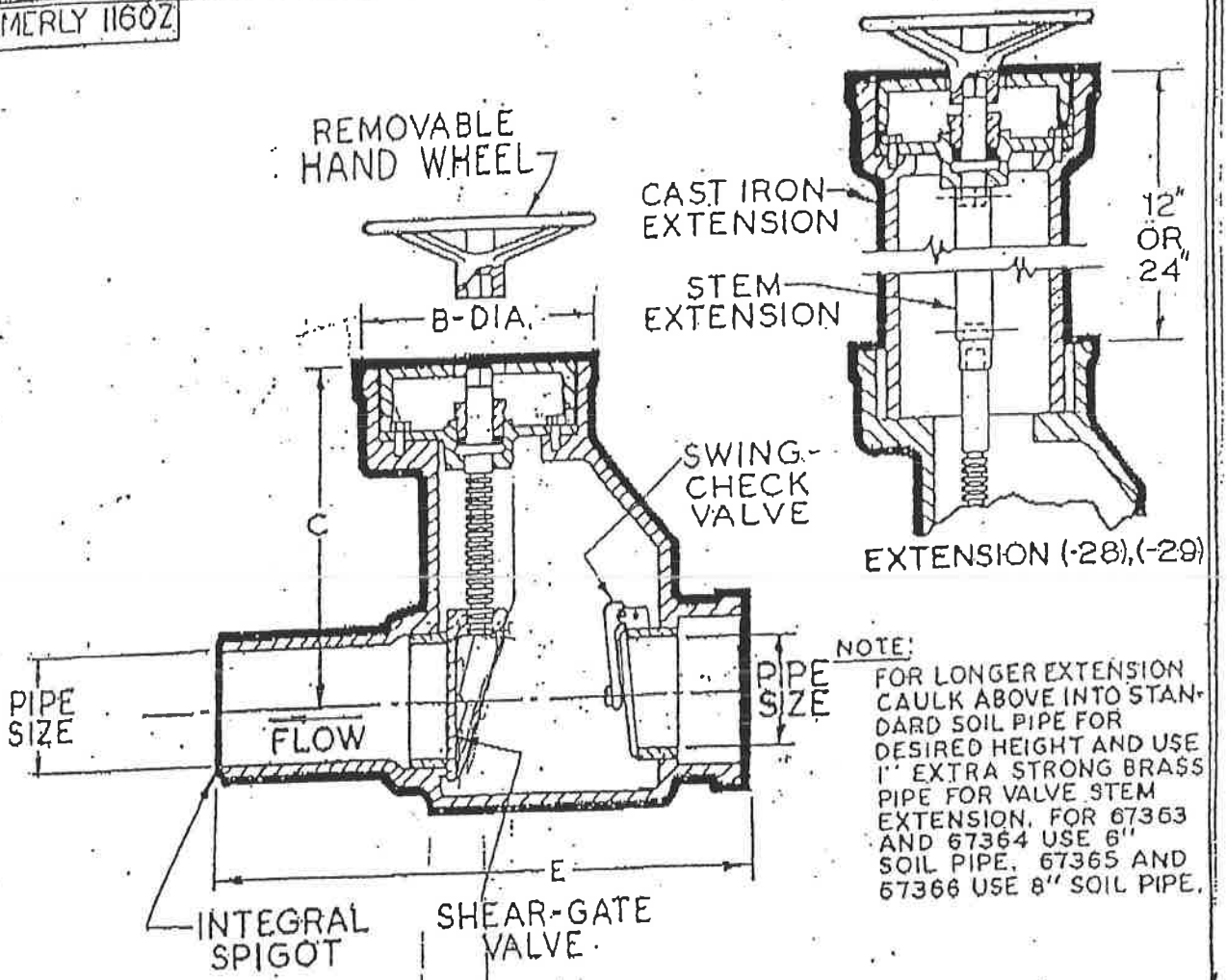

GRADE
Driveway
IRON CAP
SEE P47
FRESH AIR INLET GRILL
BELL TO BELL

SPECIFICATION: JOSAM 67360 SERIES COATED CAST IRON COMBINATION BACKWATER VALVE, STRAIGHT-THROUGH TYPE, BRONZE SWING-CHECK ASSEMBLY, BRONZE MANUALLY OPERATED SHEAR-GATE WITH NON-RISING STEM, AND HUB AND SPIGOT CONNECTIONS.

DRAINAGE CONTROL BACKWATER VALVE

SERIES 67360

FORMERLY 1160Z



NOTE:
FOR LONGER EXTENSION CAULK ABOVE INTO STANDARD SOIL PIPE FOR DESIRED HEIGHT AND USE 1" EXTRA STRONG BRASS PIPE FOR VALVE STEM EXTENSION. FOR 67363 AND 67364 USE 6" SOIL PIPE. 67365 AND 67366 USE 8" SOIL PIPE.

TYPE	PIPE SIZE	B	C	E	WGT. LBS.
67363	3	8	12	17 1/2	80
67364	4	8	12	17 1/2	80
67365	5	0 1/2	14 1/2	19 1/2	120
67366	6	0 1/2	14 1/2	19 1/2	120

OPTIONS

- (-15) OPEN FLAP
- †(-28) 12" CAST IRON EXTENSION WITH STEM EXTENSION
- †(-29) 24" CAST IRON EXTENSION WITH STEM EXTENSION.

†AT EXTRA COST

DRAWING NO. A-12501-K

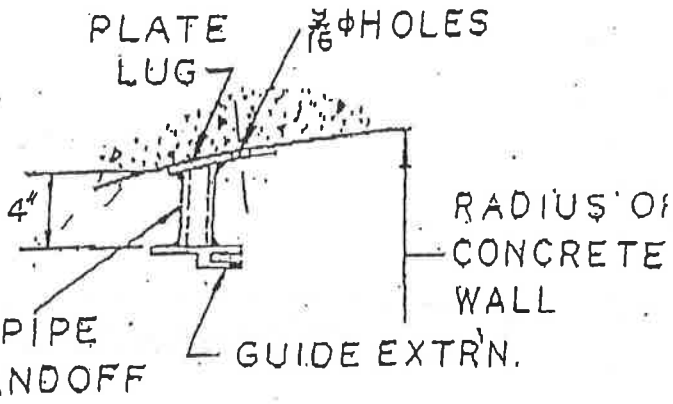
JOSAM COMPANY
P.O. BOX T MICHIGAN CITY, IN 46360-0360

SERIES 67360

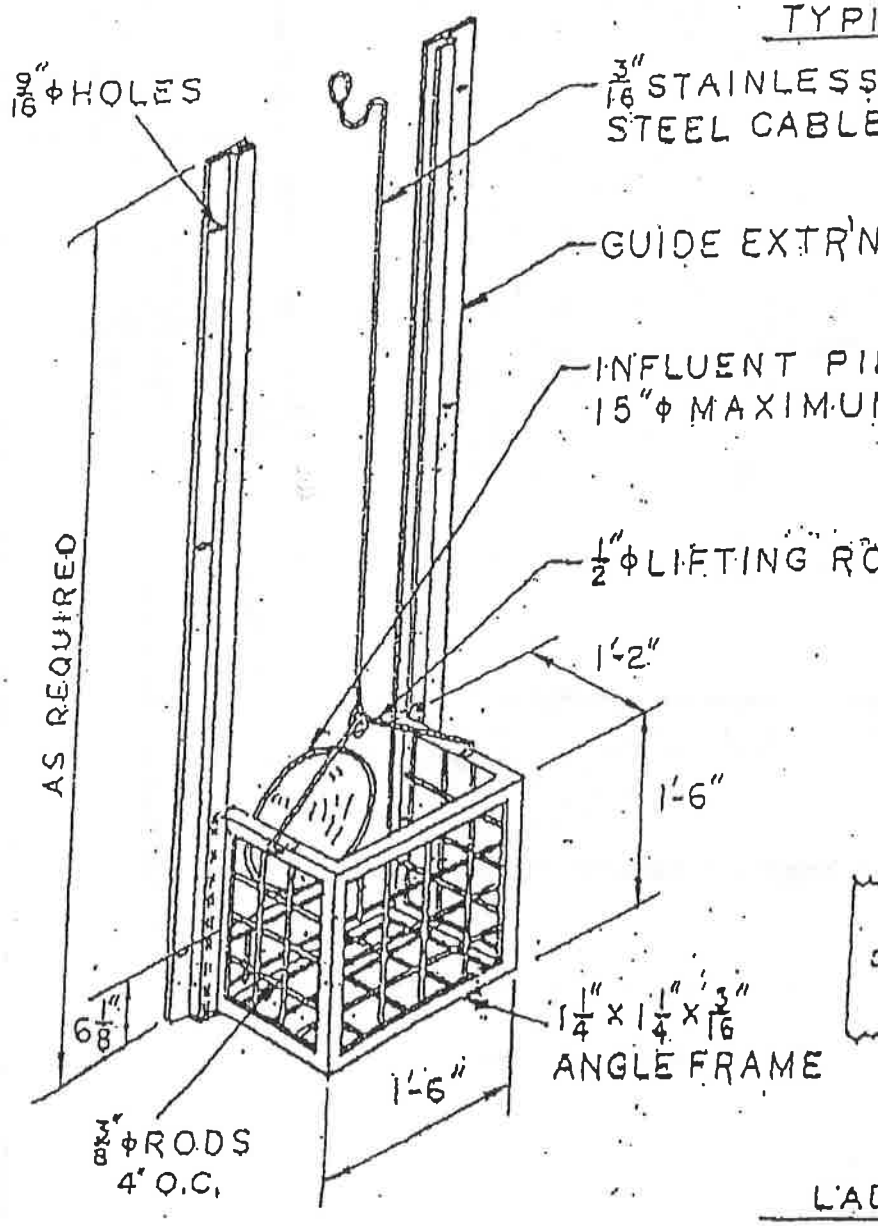
D

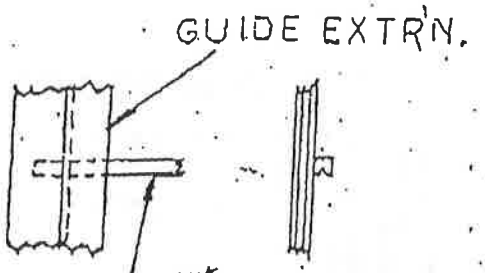
BALTIMORE, MARYLAND 21229
PHONE 301-242-1000

KIRK



TYPICAL STANDOFF DETAIL





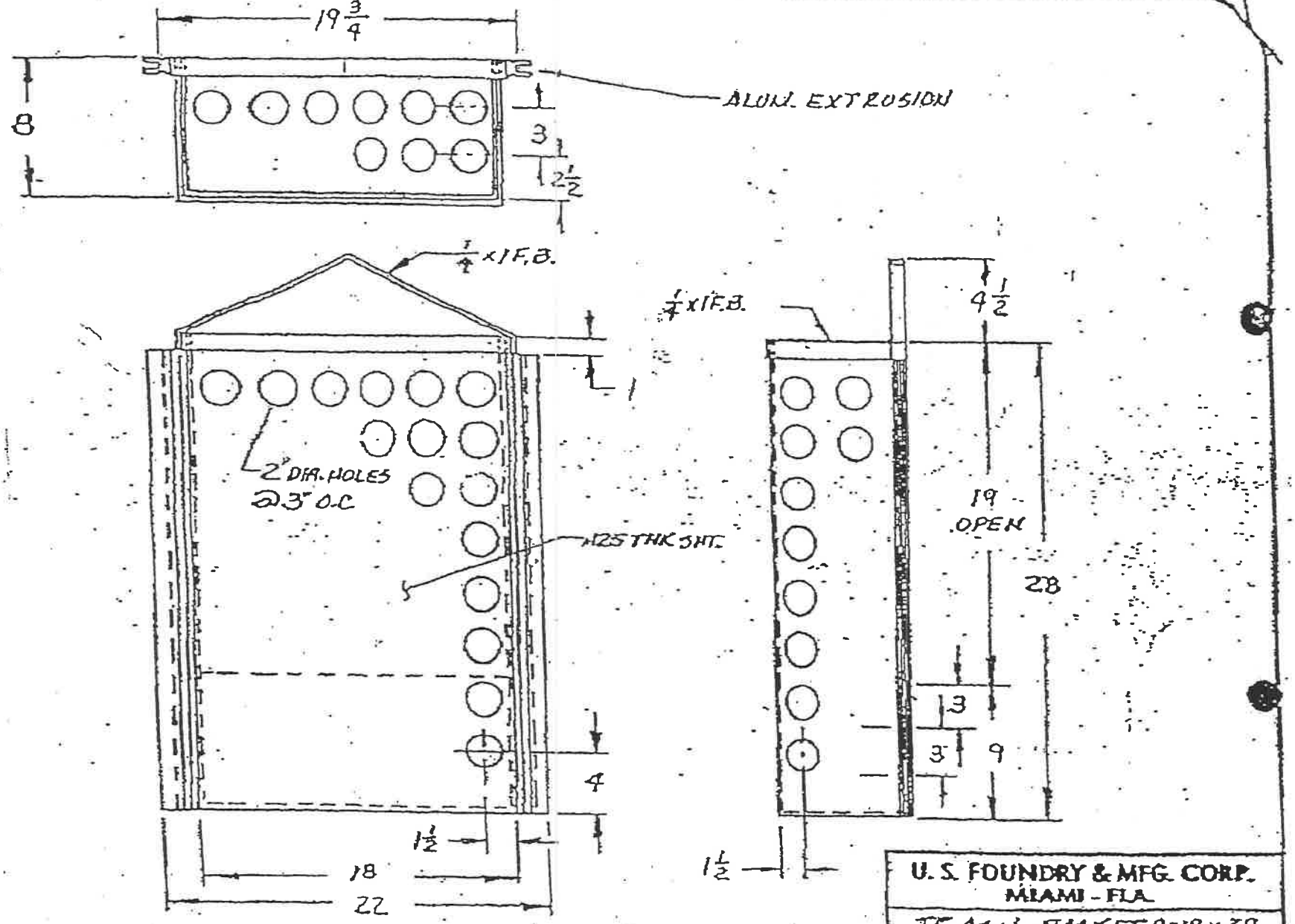
LADDER RUNG DETAIL

NOTE: GUIDES CAN ALSO BE FURNISHED WITH STANDOFFS FOR FLAT WALLS. WHEN LADDER RUNGS ARE REQUIRED GUIDES MUST BE EQUIPPED WITH STANDOFFS.

ALUMINUM COARSE DEBRIS BASKET

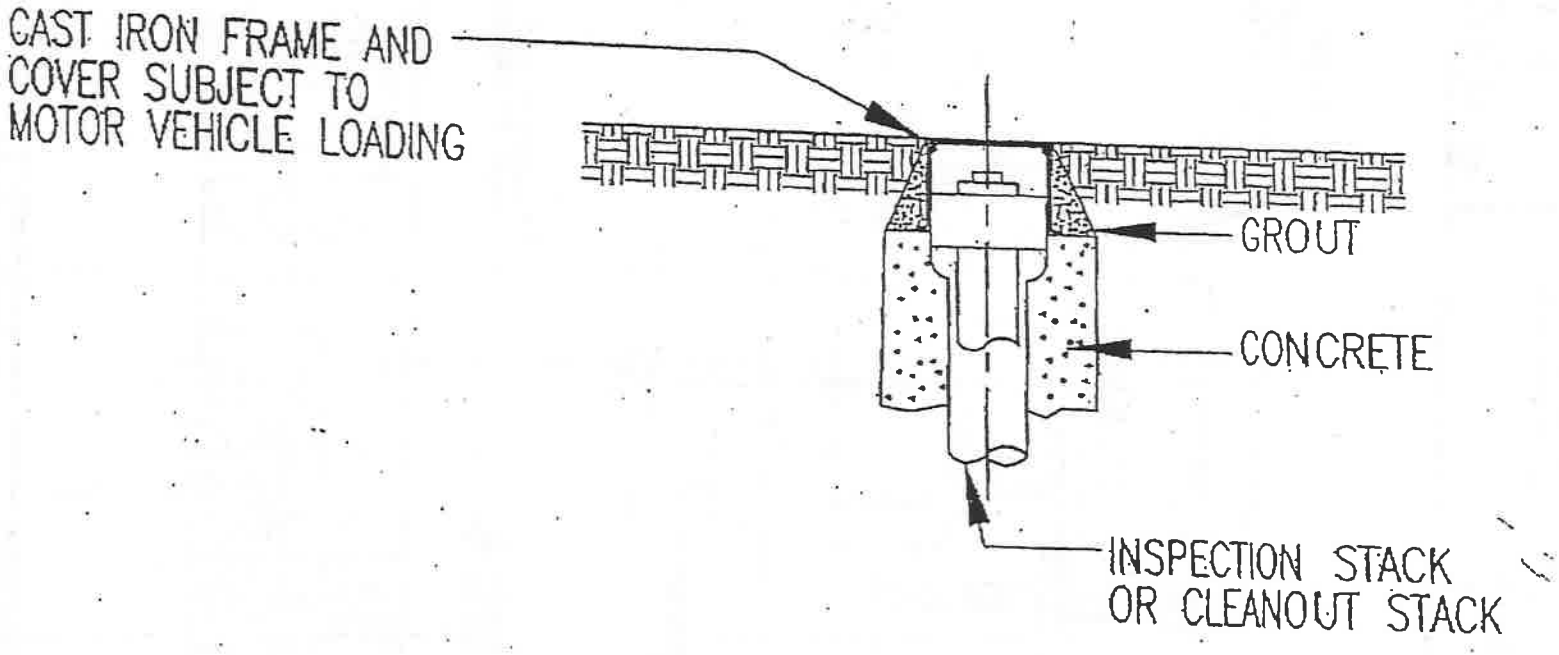
E

LOWER TEN MILE JOINT SEWER AUTHORITY



U. S. FOUNDRY & MFG. CORP. MIAMI - FLA.	
TRASH BASKET 8x18x28	
DWN. BY: D. B.	DATE: 10-20-87

NOTE:
1 MATL: STAINLESS STEEL
2 USE [illegible]



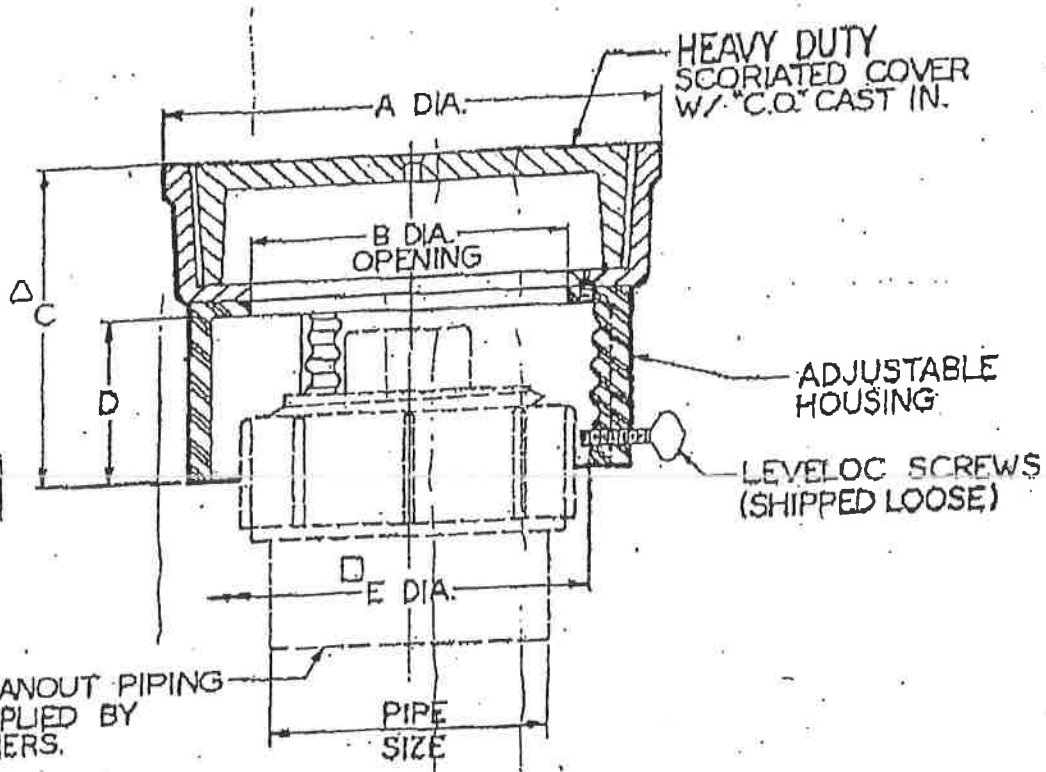
PAVED AREA CLEANOUT INSTALLATION DETAIL

SPECIFICATION: JOSAM 56040 (-88) SERIES ABS FLOOR ACCESS HOUSING WITH HEAVY DUTY LOOSE SET SCORIATED CAST IRON TRACTOR COVER AND ROUND TOP AND LEVELOC SCREWS.

ACCESS HOUSING & COVER

SERIES 56040 -88

10-7-83



△ ADD 1/4" WHEN FURNISHED WITH NIKALOY OR BRASS TOP

□ MAXIMUM SPACE AVAILABLE FOR PIPE FITTING, ENCLOSURE, ETC.

TYPE	FOR PIPE SIZE	A	B	C	D	□ E	WGT. LBS.
56042-88	2	6	3 9/16	5	2 9/16	4	8.2
56044-88	3,4	7 5/8	5 3/16	5	2 9/16	5 3/4	11
56046-88	5,6	9 3/4	7 5/8	5	2 9/16	7 15/16	14

OPTIONS ON BACK

11-18-81, 10-7-83, 10-11-83, 10-24-83, 2-22-84

DRAWING NO.	JOSAM COMPANY	SERIES
A-13875-K	MICHIGAN CITY, IN 46360	56040 -88

H

CHAPTER 7

700 INTERCEPTORS, SEPARATORS, AND BACKWATER VALVES

701 INTERCEPTORS AND SEPARATORS

When required, interceptors and separators (including grease, oil and sand interceptors etc.) shall be provided when, in the opinion of the Administrative Authority, Allegheny County Sanitary Authority or Sanitary Authorities, they are necessary for the proper handling of liquid wastes containing grease, flammable wastes, sand, glass and other ingredients harmful to the building drainage system, the public sewer, treatment plant, or processes.

701.1 Approval

The size, type, and location of each interceptor or separator shall be approved by the Administrative Authority, and no wastes, other than those requiring treatment or separation, shall be discharged into any interceptor. Before installing any special type separator, a drawing, including all pertinent information, shall be submitted for approval to the Administrative Authority.

701.2 Grease Interceptors

Grease interceptors where necessary or required, shall not be located in any kitchen or room where food is prepared, cooked, mixed, baked, smoked, preserved, exposed, bottled, packed, handled, stored or manufactured. This provision need not apply where a semi-automatic draw-off type grease interceptor is provided. No food waste grinder unit shall be connected to any grease interceptor.

701.3 Venting Interceptors

Interceptors shall be so designed that they will not become air bound if closed covers are used. Each interceptor shall be properly vented. Oil or other flammable waste separators shall be provided with a three (3) inch vapor vent extending from the top of the separator and terminating independently in the open air at an approved location at least twelve (12) feet above grade or as approved by the Administrative Authority.

701.4 Interceptors and Separators to be Readily Accessible

Each interceptor and separator shall be so installed that it is readily accessible for removal of cover, servicing and maintenance. Need for use of ladders or moving bulky objects in order to service interceptors shall constitute a violation of accessibility.

701.5 Maintenance of Interceptors, Separators and Grease Traps

Interceptors, separators and grease traps shall be maintained in efficient operating condition by periodic removal of accumulated grease, scum, oil or other floating substances and solids deposited in the interceptor, separator, or grease trap. When grease traps are installed, a maintenance schedule and records, including the hauler, shall be kept on the premise and made available upon request to the Administrative Authority.

702 BACKWATER VALVES

Backwater valves, when required by other sections of this code or used on fixtures subject to backflow, shall be installed in accordance with requirements of the Administrative Authority.

I

SIZING – PDI METHOD

Table A1.2 – Sizing and Rating

PDI Size Symbol		4	7	10	15	20	25	35	50
Flow Rate	GPM	4	7	10	15	20	25	35	50
	L/s	0.25	0.44	0.63	0.95	0.95	1.26	1.58	3.16
Grease Capacity	Lbs.	8	14	20	30	40	50	70	100
	Kg	3.6	6.4	9.1	13.6	18.2	22.7	31.8	45.4

A1.3 Sizing Procedure

Table A1.3 is provided to show the standard formula in steps for sizing grease interceptors to suit requirements of specific fixtures. An example of this sizing formula is included to illustrate the steps.

Table A1.3 – Procedure For Sizing Grease Interceptor

STEPS	FORMULA	EXAMPLE
1	Determine cubic content of fixture by multiplying length x width x depth.	A sink 48" long by 24" wide by 12" deep. Cubic content 48 x 24 x 12 = 13,824 cubic inches.
2	Determine capacity in gallons. 1 Gal. = 231 cubic inches.	Contents in gallons: 13,824/231 = 59.8 gallons
3	Determine actual drainage load. The fixture is normally filled to about 75% of capacity with water. The items being washed displace about 25% of the fixture content, thus actual drainage load = 75% of fixture capacity.	Actual drainage load 0.75 x 59.8 = 44.9 gallons
4	Determine flow rate and drainage period. In general, good practices dictate a one minute drainage period, however, where conditions permit, a 2 minute drainage period is acceptable. Drainage period is the actual time required to completely drain the fixture. Flow rate = Actual Drainage Load/Drainage Period	Calculate flow rate for one minute period: 44.9/1 = 44.9 GPM Flow Rate Calculate flow rate for two minute period: 44.9/2 = 22.5 GPM Flow Rate
5	Select interceptor, From Table A1.2 select interceptor which corresponds to the flow rate calculated. Note: Select next larger size when flow rate falls between two sizes listed.	For one minute period: 44.9 GPM requires PDI size "50" For two minute period: 22.5 GPM requires PDI size "25"

A1.4 Selection

Table A1.4 is included as a selection chart for standard PDI Certified grease interceptors applicable to various size fixtures commonly used in domestic, commercial, and institutional installations. The selections listed are based on the sizing formula covered in Table A1.3.

A1.5 Dishwashers

A separate grease interceptor is recommended for each commercial dishwasher. The size of the interceptor is determined by the GPM discharge rate of the dishwasher as specified by the manufacturer. Select proper interceptor of equivalent or next higher rate from Table A1.2.

GREASE TRAPS

Inside Grease Traps

Sizing procedure / minimum size permitted

Semi- Automatic drawl off type.

- Used on pot scullery sinks.
- Dishwashers, garbage disposals, and prep sinks are prohibited.
- Location of installation allows being in area's where food is stored, prepared, cooked, packed, manufactured ect.
- Flow restrictor with vent required.
- Grease trap requires venting.

Removable Lid type.

- Used on pot scullery sinks.
- Dishwashers, prep sinks and garbage disposals are prohibited.
- Location of installation prohibits being in area's where food is stored, prepared, cooked, packed ect.
- Flow restrictor with vent required.
- Grease trap requires venting.

Manufacturers Recommendations.

- Does not require fixtures to be tapped, or vented.
  - ARTICLE XV requires fixtures trapped and vented.
- Allows for dishwashers, and garbage disposals.
  - ARTICLE XV prohibits dishwashers, and disposals.

Special Considerations

- Elevation problems while retro fitting to existing plumbing system .
- Selecting proper grease trap to suite existing plumbing.

Consultations.

- Be informative to the plumber, or the owner.
- Ask for cut sheets.
- If elevation problems develop recommend possible solutions.
- Remind the plumber that the sink needs to be trapped, and vented.
- Make it a point to inform the owner, or manager that when a grease trap is installed, a maintenance schedule and records, including the hauler, shall be kept on the premise and made available upon request to the Administrative Authority.

Assisting Sanitary Authorities issuing orders.

- Request documentation if not already provided by the Sanitary Authority to the establishment in violation.
- Visit the establishment and inform of violation.
- Advise that a registered plumber file permits and installs grease trap, and calls for inspection.
- Advise on the need for maintenance schedule and records including hauler.
- Send violation n

J

Outside Grease Traps

Grease traps must be at least 1,000-gallon minimum size.

Tank must be coated internally with 2.0 mil. thick bituminous or epoxy coating.

Tank must be vented.

A. Thru inlet piping, or thru tank riser.

B. Must have a minimum 3" air space across top of tank to vent tank thru riser or building sewer.

Make sure access riser and inlet & outlet piping is sealed properly.

To check tank size.

Measure inside tank length x width x depth from invert of outlet pipe in inches, and divide by 231.

L x W x D = cubic inches / 231= Gallon Capacity of Tank

K

PROCEDURE FOR SIZING INSIDE GREASE TRAPS

Sink- 48" long x 24" wide x 12" deep

Step 1 Multiply L x W x D

48 x 24 x 12 = 13,824 cubic inches.

(capacity in gallons 1- gallon = .231 cubic inches)

Step 2 Divide contents in gallons.

13824 / 231 = 59.8 gallons

Step 3 Actual drainage load is 75 % capacity of water. Allowing for displacement.

0.75 x 59.8 = 44.9 gallons

Step 4 Calculate flow rate / per minute.

Based on one - minute period of drainage time.

44.9 / 1 = 44.9 GPM Flow Rate

Based on two – minute period of drainage time.

44.9 / 2 = 22.5 GPM Flow Rate.

(May have to round off next size of available capacity. 25 GPM Flow Rate.

22.5 GPM Flow Rate is the minimum size accepted by Article XV.

L

SIZING – PDI METHOD

A1.6
Multiple Fixtures

Where multiple fixtures are serviced by a single interceptor, calculate the total capacity of all fixtures, establish the maximum number of fixtures that may be drained simultaneously and apply factor to the total capacity to determine maximum simultaneous capacity. Then proceed with sizing and selection of interceptor using sizing formula Table A1.3.

Table A1.4 – Selection Chart
(Metric Equivalents Omitted for Simplicity)

Fixture Compartment Size (Inches)	Number of Compartments	Drainage Load (Gallons)	Recommended PDI Size Grease Interceptor	
			One-minute Drainage Period	Two-minute Drainage Period
18 x 12 x 6	1	4.2	7	4
16 x 14 x 8	1	5.8	7	4
20 x 18 x 8	1	9.4	10	7
18 x 16 x 8	2	15.0	15	10
20 x 18 x 8	2	18.7	20	10
30 x 20 x 8	1	15.5	20	10
24 x 20 x 12	1	18.7	20	10
22 x 20 x 8	2	23.0	25	15
22 x 20 x 12	2	34.0	35	20
24 x 24 x 12	2	44.9	50	25

A1.7
Alternate Sizing Method Based on Drainage Fixture-Units

Most plumbing codes list drainage Fixture-Unit values for plumbing fixtures and for fixtures not listed, these values are given for drain outlet or trap size. Fixture-unit values are converted to discharge rates on the basis of one fixture-unit equaling 7.5 GPM. See Table A1.7 for recommended PDI size grease interceptor based on drainage fixture-unit sizing method.

Table A1.7

Fixture Outlet or Trap Size (Inches)	Drainage Fixture-Unit Value	GPM Equivalent	PDI Size Grease Interceptor
1-1/4	1	7.5	10
1-1/2	2	15.0	15
2	3	22.0	25
2-1/2	4	30.0	35
3	5	37.5	50
4	6	45.0	50

m