POCONO TOWNSHIP BOARD OF COMMISSIONERS
MEETING AGENDA
May 2, 2016
6:00 P.M.

1) Pledge of Allegiance
2) Roll Call
3) Announcements
4) Approval of Minutes
    a. Commissioners Sewer Meeting, April 18, 2016
5) Public Comment

Comments are for any item NOT on the agenda. Comments on agenda items will be taken after each item is discussed by the Board of Commissioners, but before formal action is taken. (Please limit individual comments to 3 minutes to allow time for others wishing to speak and direct all questions and comments to the President)

6) Current Business
    a. PFM – Financial Review
    b. PACT Two Change Order
    c. Sewer Line Televising Bid Award
    d. Marona Payment Application
    e. Pump Station #2 Analysis and Pump Replacement
    f. Seitz EDU Appeal
    g. Gables EDU Appeal
    h. 213 Lower Scotrun Avenue
    i. Sewer Procedures Manual
7) Unfinished Business
    a. Sewer Hump Repair
    b. PACT Proposal – Force main and station redesign
    c. Pump station #1 replacement
    d. DCNR Connection
    e. Service Lateral – Serfas Road
    f. Sanofi Feed Station
8) Adjournment

Next Sewer meeting – May 16, 2016 (6:00 p.m.)

POCONO TOWNSHIP BOARD OF COMMISSIONERS
SEWER MEETING
APRIL 18th, 2016 6:00 P.M.

The Sewer meeting of the Pocono Township Commissioners was held on 04/18/2016 at the Pocono Township Municipal Building, Tannersville, PA, and was opened by Tom Felver, President, at 6:00 p.m., followed by the Pledge of Allegiance.

ROLL CALL: Tom Felver, present; Harold Werkheiser, present; Jerry Lastowski, present; Robert DeYoung, present; and Judi Coover, present.

Gregg Schuster, Manager; Pamela Finkbeiner, Township Secretary; and Jeffry Clapper, Public Works Director, were in attendance.

PUBLIC COMMENT:
Robert Grimaldi, owner Gable's Ice Cream Stand, requested information to appeal the EDU assignment to his property. J. Clapper explained the process of an EDU appeal.

COMMISSIONERS' COMMENTS:

CURRENT BUSINESS:

a) PFM – Financial Review – G. Schuster presented a previous analysis of the sewer system financial model for cash flow. He recommended contacting PFM to update the financial model. He noted a 3.9 mil note is due in August. T. Felver requested a G. Schuster to obtain a proposal from PFM for an Update.
J. Lastowski made a motion, seconded by T. Felver, to authorize G. Schuster to approach PFM for an updated financial review conditioned upon obtaining a quote for cost. Roll call vote: B. DeYoung, yes; H. Werkheiser, yes; T. Felver, yes; J. Lastowski, yes; and J. Coover, yes. Motion carried.

b) Chester's Barbershop – Hardship Claim – J. Clapper explained the Kristina Marie Iacobacci, owner of Chester's Barbershop has requested compensation for lost revenue. G. Schuster noted she had reduced the amount from $12,000 to $5,000. He noted she did not submit proof of lost revenue. No action taken.

c) Sewer Line Televising – J. Clapper noted the previous sewer committee recommended videotaping and cleaning of the Northern section of the line to inspect the condition and locate the lateral. Discussion followed concerning previous problems with lateral locations. J. Lastowski suggested additional sections to be included. G. Schuster noted T&M has prepared the bid on PennBID. No action taken.

UNFINISHED BUSINESS FOR DISCUSSION:

a) Sewer Hump Repair – Almost completed.

b) PACT Proposal – Forcemain and Station redesign

UNFINISHED BUSINESS FOR DISCUSSION:

c) Pump Replacement – PS#1 & #2 – J. Clapper explained the pumps are not sized correctly and will cost an estimate of $25,000 to replacement. The previous sewer committee recommended both PS#1 and PS#2 to be analysis by T&M. Discussion followed. The Board requested J. Clapper get quotes on the hydraulic analysis only.

d) DCNR Connection – J. Clapper note there is a cost sharing MOU will be placed on a future agenda.

e) Sewer Procedures Manual – J. Clapper will present the revised manual to the board for approval.

f) Service Lateral – Serfas Road – J. Clapper explained the previous sewer committee recommended a bore under Rt.611 to connect 4 properties located in the future service area. The bore was recommended to occur after the Township hooked up the current service area. A decision will need to be taken by the board in the future.

g) Sanofi Feed Station – J. Lastowski noted with the new FLU building projected to be built a feed station is needed. J. Clapper explained Evoqua has a mobile feed station to treat the sewer. Discussion followed. No action taken.

ADJOURNMENT:

T. Felver made a motion, seconded by J. Coover, to adjourn the meeting at 7:45 p.m. Roll call vote: J. Coover, yes; H. Werkheiser, yes; T. Felver, yes; J. Lastowski, yes; and B. DeYoung, yes. Motion carried.

The PFM Group
Public Financial Management, Inc.
PFM Asset Management LLC
PFM Advisors

April 25, 2016

Pocono Township
Board of Commissioners
112 Township Drive
Tannersville, PA 18372

Commissioners:

The PFM Group ("**PFM**") would like to submit this Proposal Letter to serve as Independent Financial Advisor for **Pocono Township** (the "**Township**") with respect to its current sewer project and any other Township associated financing(s). As an Independent Financial Advisor, PFM's role is simple: to evaluate all financing options available and represent the best financial interests of the Township.

In recent years, it has become more important than ever to have an Independent Financial Advisor representing the fiduciary responsibility of tax-exempt issuers. As contemplated in the recently enacted Dodd–Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), Underwriters and other brokers are under immense pressure to fully disclose their inherent conflicts of interest while acting as market broker and Underwriter on a debt issuance. By having the checks in balances of an Independent Financial Advisor in place, the Township can be assured that its interests are well represented and will be a significant factor in determining the pricing of the issue and the ultimate selection of the plan of the finance.

PFM is best served to provide the Township with independent financial advisory services due to our unrivaled position within the public finance sector and within the Eastern Pennsylvania community. As the number one financial advisor in the nation, Pennsylvania, and for local governments, PFM has the reputation of providing superior independent financial advisory services to a host of different issuers across the nation and the Commonwealth.

In order to evaluate the various options available to the Township, we would propose to work with the Township on completing (but not limited to) the following items:

- Data collection and creation of existing debt models
- Future forecasting of sewer revenues/expenses via customized sewer model
- Evaluation and Board adoption of any appropriate policies
- Timing & development of financing plan
- Bank qualified vs. non-bank qualified scenarios
- Credit and Bond insurance analysis

- Evaluate call provision options
- Review existing loan documents with Bond Counsel
- Perform a debt capacity analysis – coordinate with DCED
- Assist Township in assembling information for its preliminary and final Official Statements (if necessary)
- Preparation/assistance with credit rating review process
- Manage bond insurance procurement process (if necessary)
- Solicit paying agent proposals (if necessary)
- Assistance in bank/underwriter selection
- Assistance in bond counsel selection
- Independent pricing analysis
- On Township behalf, negotiate appropriate terms with bank/underwriter
- Assistance with continuing disclosure compliance and use of EMMA system
- Provide assistance to bring transaction to a successful closing
- Continue to assist Township as we move toward a fully operational sewer system

PFM is enthusiastic to have the opportunity to serve the Township as Independent Financial Advisor. PFM would propose the following fee structure:
1) Plan Development/Execution of financings for the Sewer Project or other Township related borrowings/requests
2) Other services requested by the Township

1) Plan Development/Execution of financings for the Sewer Project:

PFM would propose a per transaction fee range of $18,500 - $28,500 depending on the complexity of the transaction.

2) Other services: (Hourly Rates)*

Managing Director -	$250
Director/Senior Managing Consultant -	$200
Analyst -	$150

*If and when other services are requested, PFM will offer a cap amount per service requested.

Should you have any questions about our proposal or require additional information, please feel free to contact me by phone at (717) 232-2723 or by email at shearers@pfm.com.

Sincerely,

Scott Shearer
Managing Director

Accepted:

Pocono Township
Authorized Officer

Gregg Schuster

From: Russell G. Benner Jr. <RBenner@tandmassociates.com>
Sent: Thursday, April 28, 2016 3:13 PM
To: Gregg Schuster; Jeffry Clapper; 'Leo Devito'
Cc: Timothy Edinger; Mark Ambrose(T&M); Sami Sarrouh
Subject: FW: Upgrade to the Pocono Township Sewerage System
Attachments: PACT Budget Pricing.pdf; Copy of Final Contract 11 Extension.xlsx; RE: Sewer repai; PROPOSED PROJECT SUMMARY OF WORK.pdf

Please find attached **Final** documents associated with the proposed Change Order for upgrades to the Township's Sanitary Sewerage System based on the Proposed Project Summary and the Plans and Specifications prepared by Sami Sarrouh from our office. The Change Order was submitted by Pact Two the current Contractor for Contract #11. The purpose of the Change Order is to correct current deficiencies in the existing Sanitary Sewer system which were discussed at a meeting with the Township Commissioners on April 5th.

The Scope of the work will include:

- **Modifications to Pump Station 5**
  - Installation of a 1000 gallon Surge Tank
    - New Shed to house the tank
    - New Surge Control Panel
    - Installation of a Surge Anticipator Panel
  - Installation of new instrumentation and controls
  - Electrical Upgrades
  - Installation of a new air compressor

- **Modifications to Pump Station 4**
  - Installation of a 100 gallon Surge Tank(repurposed from valve station 2)
    - New Shed to house the tank
    - New Surge Control Panel
    - Installation of a Surge Anticipator Panel
  - Installation of new instrumentation and controls
  - Electrical Upgrades
  - Installation of a new air compressor
  - Installation of rail Mounted Debris Basket

- **Modifications to Pump Station 3**
  - Installation of new surge release vault
    - Repurposing of surge relief valve from valve station1
    - New Surge Control Panel
    - Installation of a Surge Anticipator Panel
  - Installation of new instrumentation and controls

- Electrical Upgrades
- Installation of a new air compressor
- Installation of two (2) Rail Mounted Basket Screen Baskets

- **Modifications to Valve Station 2**
  - Installation of two new back pressure sustaining control valves
  - Installation of new instrumentation and controls
  - Electrical Upgrades
  - Installation of a new air compressor

- **Decommissioning of Valve Station 1**
  - Removal of existing equipment
  - Installation of bypass pipes and equipment

- **Installation of Air and Vacuum Release Valves**

We have reviewed the scope of the work and the associated cost and found them to be acceptable. As per the attached Sami Sarrouh's email of April 6, 2016 we are characterizing this work as an emergency repair as it relates to issuing a Change Order to the original Contract #11. Should the Commissioners find the Change Order acceptable the Contractor will submit revised bonds and Insurance Certificates to reflect the additional cost. The original general conditions will remain in place. Please let me know if you have any questions. Thanks

RUSSELL G. BENNER JR., PE
VICE PRESIDENT, DIVISION MANAGER

74 West Broad St. Suite 530, Bethlehem, PA 18018
T + 484.530.1270 **D** + 215.514.5909 **C** + 215.514.5909
RBENNER@TANDMASSOCIATES.COM | TANDMASSOCIATES.COM

PROPOSED PROJECT SUMMARY OF WORK

Pocono's Sewer System conveys raw sewage about 8 miles through a force main to a treatment plant. This project makes improvements to the existing sewage conveyance system to improve reliability and reduce the possibility of failure. We have determined that the current reliability of the system warrants these improvements be considered as an emergency repair.This portion of the system includes three pump stations and two valve stations. The work at each facility shall be as summarized hereafter:

1. **Pump Station 5** is the largest pump station in this project and is the point at which the force main starts. The station includes a screen, mixers and chemical feed system which are not part of this upgrade. This upgrade includes:
    a. Installation of a new 1000 gallon surge tank enclosed in an insulated shed.
        i. New shed will have double doors to allow tank removal.
            1. It will have lighting and power outlets
            2. Township owns two unit heaters which will be installed by the contractor to provide heat.
            3. System will allow stored water to enter the force main when pressure drops below a setpoint and then fill from a potable water connection protected by a new Reduced Pressure Principal Backflow Preventer.
            4. Control valves will be used to fill and drain surge tank.
        ii. New surge control panel shall be installed. Along with instrumentation to control surge tank
        iii. Surge anticipator panel shall also be moved from one of the valve stations to this shed and installed as required to provide control surge and vacuum relief valve. As an alternate contractor may choose to include surge and vacuum relief functionality in the main PLC program and provide all ancillary devices needed in new Surge control panel. Thus eliminating need to connect existing surge anticipator panels.
    b. Install new instrumentation and controls including
        i. Ultrasonic level sensor, and backup floats sensor in wetwell
        ii. Pressure transmitter on pump station discharge header
        iii. New PLC control program and Operator interface screens with new operating setpoints as described in process control description.
        iv. New communication system and internet SCADA.
    c. A project alternative is replace with new all Pumps, Motors, Variable Frequency Drives and Breakers according to the new size. Wiring may remain the same due to reduced current. Township shall determine whether to exercise this option based on cost.
    d. Install new UPS and connect station Instrumentation, controls, communication, security and motor protection relays to it.
    e. Install new air compressor with 60 gallon vertical tank.
        i. Install new pipe to new surge tank and surge vault
        ii. install new filter and dryer at surge vault

2. **Pump Station 4** has the lowest elevation pump station in this project and is connected to the force main just before the first steep hill rise. This upgrade includes:
    a. Installation of a new 100 gallon surge tank in the building. The tank will be repurposed from valve Station 2.
        i. Surge tank system will allow potable water to enter the force main when pressure drops below a setpoint and then fill from a potable water connection protected by a new Reduced Pressure Principal Backflow Preventer.
        ii. New surge control panel will be installed. Along with instrumentation to control surge tank
        iii. Surge anticipator panel will also be moved from one of the valve stations and installed as required to provide control surge and vacuum relief valve. As an alternate contractor may choose to include surge and vacuum relief functionality in the main PLC program and provide all ancillary devices needed in new Surge control panel. Thus eliminating need to connect existing surge anticipator panel.
    b. Install new air compressor providing with 60 gallon vertical.
        i. Install new air pipe to new surge tank and surge vault
        ii. install new air filter and dryer at surge vault
    c. Install new instrumentation and controls including
        i. Ultrasonic level sensor, and backup floats sensor in wetwell
        ii. Pressure transmitter on pump station discharge header
        iii. New PLC control program and Operator interface screens with new operating setpoints as described in process control description.
        iv. New communication system and internet SCADA
    d. <u>As an alternative</u> replace with new all Pumps, Motors, Variable Frequency Drives and breakers according to the new size. Wiring may remain the same due to reduced current. Township shall determine whether to exercise this option based on cost.
    e. Install new UPS and connect station Instrumentation, controls, communication, security and motor protection relays to it.
    f. Install new rail mounted Debris Basket with all Stainless steel components. Install new hatches and hoists systems to allow for basket retrieval and emptying. Replace existing hatch and wetwell concrete cover as needed to fit new hatches over 8 foot diameter wetwell and allow for pumps and baskets removal.
    g. Install new air pipe to as well as filter and dryer at surge vault

3. **Pump Station 3** is the highest elevation pump station in this project and is connected to the force main between Pump Stations 5 and 4. This upgrade includes:
    a. Installation of a new surge relief vault. Extend the discharge piping and installing a new surge vent discharge back to wetwell.

i. Repurposing the surge relief valve from Valve Station 1 and installing in the new vault.
ii. Installing new air supply and electrical wiring.
iii. Adding surge and vacuum relief functionality in the main PLC program and providing all ancillary devices needed to control solenoid in new local control panel.

b. Install new instrumentation and controls per section 13300 including
   i. Ultrasonic level sensor, and backup floats sensor in wetwell
   ii. Pressure transmitter on pump station discharge header
   iii. New local control panel outdoor which includes surge relief valve
   iv. New PLC control program and OIT screens with new operating setpoints as described in process control description provided
   v. New communication system and internet SCADA
c. As an alternative replace with new all Pumps, Motors, Variable Frequency Drives and breakers according to the new size. Wiring may remain the same due to reduced current. Township shall determine whether to exercise this option based on cost.
d. Install new UPS and connect station Instrumentation, controls, communication, security and motor protection relays to it.

e. Install two new rail mounted Screen Baskets of all Stainless steel components as manufactured by Halliday products. Openings shall be ½ inch and provide flow through in all directions. Install new hatches and hoists systems to allow for basket retrieval and emptying. Replace existing hatch and wetwell concrete cover as needed to fit new hatches over 8 foot diameter wetwell and allow for pumps and baskets removal. Hatch orientation may be modified by contractor as needed to allow access to all baskets and pump
f. Install air compressor with 60 gallon vertical.
   i. Install new pipe to new surge vault
   ii. install new filter and dryer at surge vault

4. **Valve Station 2** is at the lowest point of the forcemain and immediately upstream of the discharge point at the plant headworks. This upgrade includes:
   a. Installation of two new back pressure sustain control valves similar to manufactured by Hartman. The valves will be supported to the bottom of the vault. In addition the valve vault will have the following
      i. Replace valve vault piping to accommodate new valves.
      ii. Install new flange adaptors and anchor through the vault wall.
      iii. Install new isolation valves on all piping associated with vault (inside and outside) to accommodate new 200 psi operating pressure. All connections to accommodate higher pressure rating.
      iv. Install new thrust blocks and flowable fill pipe support.
      v. Install new power supply to new electric actuators. Utilize existing buried hydraulic tubing pipe to run wire. Add new conduits if buried existing sizes or condition are insufficient to meet NEC code.

b. Install new instrumentation and controls per section 13300 including:
    i. Four new pressure transmitters on each side of each pressure control valve in vaults
    ii. New local control panel indoor which includes new PLCs and controls as detailed in specs
    iii. New PLC control program and OIT screen with new operating strategy and setpoints as described in process control description provided
    iv. New communication system and internet SCADA
c. Install new UPS and connect station all instrumentation, controls and communication to it.
d. Install new air compressor with 60 gallon vertical tank similar.
    i. Install new pipe to surge vault
    ii. install new filter and dryer at surge vault

5. **Valve Station 1 Decommissioning**.
Valve station 1 will be decommissioned. Refer to original design drawings by others for location. Do not affect or otherwise render inoperable the adjacent existing Bioxide feed or flow measurement system. The work includes:
    a. Removal of:
        i. All above ground enclosures and panels
        ii. All valves and pipe spool pieces in valve vault.
        iii. Surge relief valve and isolation valve.
        iv. All equipment, instrumentation and control equipment in vault, above ground enclosure or panels
        v. Removal of valve vault concrete cover
        vi. Remove exposed pipe and conduit ends at above ground enclosures to a depth of 12 inches.
        vii. Remove and properly dispose of all glycol and debris. All valves and equipment in this and other station to be removed may be selected by the Director to be kept by the Township as spares.

    b. Installation of:
        i. New pipe piece and pipe sleeves to replace valve in vault and render pipe suitable for direct bury.
        ii. Fill vault with flowable fill to top of pipe then fill with soil similar to surrounding area. Slope vault perimeter with soil to cover all concrete walls.
        iii. Cap end of surge relief connection with ductile iron blind flange and 304 SS nuts and bolts in a manner suitable for direct bury.
        iv. Fill surge relief vault with flowable fill to top of pipe then fill with soil similar to surrounding area. Slope vault perimeter with soil to cover all concrete walls.

6. Air and Vacuum Relief Valves

The following table is based on stations as described in original forcemain design drawings by others. Valves must be replaced to accommodate higher pressure rating. Also replace air relief valves with combination air/vacuum relief valves removed from other locations on force main.

Segment	ID In	Station	Air Vacuum Valve Comments
I	12	405+05	Remove and Cap End
H	12	387+90	Replace with New Rated for 200 psig
H to G1	16	374+84	Remove and Cap End
G1	20	351+30	Replace with New Rated for 200 psig
G1 to G	20	335+57	Remove and Cap End
G1 to G	20	319+00	Replace with New Rated for 200 psig
G	20	307+00	Replace with New Rated for 200 psig
F to E	20	278+68	Replace with New Rated for 200 psig
F to E	20	259+51	Keep
E	12	254+90	AR replace with existing AV removed from elsewhere
C	20	148+07	AR replace with existing AV removed from elsewhere

PACT TWO, LLC

P.O. BOX 74, RINGOES, NJ 08551
PHONE 908-788-1985
FAX 908-788-5780

April 4, 2016

Mr. Jeffry Clapper
Public Work Director
Pocono Township

Reference: S.R. 0611 Pocono and Hamilton Townships Sewage System Project
Contract No. 11 – 2016 Scope Budget Pricing

Dear Mr. Clapper:

We are pleased to provide Budget Pricing for the 2016 Scope Changes to the above referenced project. The pricing is based on drawing and specifications prepared by T&M Associates, dated February 15, 2016

Electrical Work (Two quotes Hoffman $89,450, Brennan $233,000)*	$ 160,000
Controls Work (Trijay)*	$ 196,250
Control Valves*	$ 80,000
Material, Pipe, and Misc Subs*	$ 310,000
Labor, Equipment, General Conditions**	$ 365,000
Contingency	$ 150,000
Profit and Overhead (15%)***	$ 189,187
Mobilization/Settlement****	$ 140,000
Not to Exceed Total Budget Price	**$1,590,437**

* Will be billed per actual invoices provided
** Will be billed per the attached spreadsheet. Prevailing Wage Labor and FHWA Equip Rates
*** Will be billed at 15% of all actual costs as defined above
**** Balance of previously agreed upon settlement agreement that will be billed at mobilization

We assume that a change order will be issued to our current contract to correctly document a mutually agreed upon scope, timeframe, and terms and conditions.

If you have any further questions, feel free to contact me.

Sincerely,

Henrik P. Maxian
Manager / Executive Director

PACT TWO, LLC

Cost Sheet

PACT CONSTRUCTION INC/ PACT TWO LLC
PO Box 74, Ringoes, NJ 08551
Phone: (908) 788-1985 Fax: (908) 788-5780

CONTRACT: Pocono Township - Contract 11

DESCRIPTION: Onsite Extra Costs

LABOR COSTS:	Quantity	Unit	Rate	Total
Project Manager / Contruction Manager		HR	$ 70.00	$ -
Project Executive		HR	$ 90.00	$ -
Project Administration		HR	$ 35.00	$ -
Superintendent		HR	$ 63.00	$ -
Foreman		HR	$ 53.06	$ -
Heavy Backhoe/Crane Operator		HR	$ 58.46	$ -
Loader/ Non Heavy Backhoe Operator		HR	$ 55.54	$ -
Pipelayer/Laborer		HR	$ 40.91	$ -
			Subtotal	$ -
			46% Insurance, Taxes, Burden	$ -

TOTAL LABOR COSTS $ -

EQUIPMENT COSTS:	Quantity	Unit	Rate	Total
Caterpillar 330 Excavator		HR	$ 147.00	$ -
Stanley Rock Hammer		HR	$ 83.00	
Case CX135 Excavator w/ hoepack		HR	$ 78.00	$ -
Komatsu PC78MR-6 Excavator w/ hoepack		HR	$ 61.00	$ -
Caterpillar Model 322 Excavator		HR	$ 109.00	$ -
Caterpillar Model 312 Excavator with hoepack		HR	$ 83.00	$ -
Kato Model 450 Crawler Excavator with hoepack		HR	$ 106.00	$ -
Caterpillar 938 Wheel Loader		HR	$ 108.00	$ -
Caterpillar 963 Track Loader		HR	$ 125.00	$ -
Komatsu Rubber Tire Loader		HR	$ 68.00	$ -
Daewoo Skid Steer Loader		HR	$ 26.00	$ -
Case Model 580 Backhoe with Hoepack		HR	$ 38.00	$ -
Caterpillar D3C Dozer		HR	$ 46.00	$ -
Asphalt Zipper		HR	$ 68.00	$ -
Ingersoll Rand ECM370 Drill and Compressor		HR	$ 120.00	$ -
Water Truck		HR	$ 40.00	$ -
Ford F250 Pickup Truck w/ Tools		HR	$ 25.00	$ -
Ford F150 Pickup Truck w/ Tools		HR	$ 20.00	$ -
International Dump Truck		HR	$ 53.00	$ -
22' Tool Trailer with contents		HR	$ 35.00	$ -
35' Tool Traler with contents		HR	$ 45.00	$ -
I-R D185SQ Portable Air Compressor		HR	$ 51.00	$ -
Laymor Brooms/John Deere Tractor/Sweeper		HR	$ 35.00	$ -
Dynapac Rollers		HR	$ 89.00	$ -
Case 252 Roller		HR	$ 30.00	$ -
Trench Box and Manhole Box		HR	$ 18.00	$ -
Generator		HR	$ 16.25	$ -
Wacker		HR	$ 16.00	$ -
Blasting Truck with Mats, Seismograph		HR	$ 35.00	$ -
Joy 175 Compressor		HR	$ 18.00	$ -
6" Pumps (Self Priming Trash Pumps)		HR	$ 17.00	$ -
3" and 2" Pumps		HR	$ 8.75	$ -
Trucks w/Operator		HR	$ 85.00	$ -

TOTAL EQUIPMENT COSTS $ -

MATERIAL/OTHER COSTS:	Quantity	Unit	Price	Total
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -

TOTAL MATERIAL COSTS $ -

TOTAL OF ALL ABOVE ITEMS $ -

TRIJAY SYSTEMS INC.
10 Maple Avenue • P.O. Box 109
Line Lexington, PA 18932
215.997.5833 • Fax 215.997.5834

PACT TWO, LLC
554 Route 31 North
P.O. Box 74
Ringoes, NJ 08551

1 April 2016

Attention: Henrik Maxian

Reference: Broadhead Creek Regional Authority/Pocono Township Pumping System Improvements

Subject: **TRIJAY Systems Proposal #Q16041**

Henrik:

This constitutes our proposal for furnishing and delivering equipment and providing services for the above referenced project based on applicable Specification Sections and Contract Drawings prepared by T&M ASSOCIATES.

Our Proposal covers Specification Section 13300 as qualified herein.

The Scope of Supply is defined in the enclosed attachments.

TOTAL PRICE: $ 196,250.00

TAXES:
The Buyer should add all applicable Sale or Use Taxes, Licenses, or other imposed fees to the price quoted herein.

TERMS OF PAYMENT:
Full payment thirty (30) days from date of invoice.

FREIGHT:
All prices are F.O.B. Shipping Point with full freight allowed to tailgate destination at Job Site.

VALIDITY OF PROPOSAL:
All prices quoted herein are valid for a period of thirty (30) days from the date of this proposal.

DRAWING SUBMITTAL:
Approval submittals will be mailed twelve-to-sixteen (12-16) weeks after receipt of purchase order and one (1) complete set of Conforming Engineer Plans and Specifications including all Addenda.

SHIPMENT:
Final Shipment will be made sixteen-to-twenty (16-20) weeks after approval.

TRIJAY SYSTEMS INC.

CLARIFICATIONS:
This proposal specifically excludes the following:

a) The installation or demolition of any equipment.
b) Power and/or signal electrical wiring labor and material, as well as wiring terminations on equipment furnished by TRIJAY or by others.
c) Disposal of demolished/removed debris or existing material.
d) Taxes, licenses, or fees.
e) Any installation materials other than standard manufacturer supplied items such as standard brackets.
f) On-site storage.
g) Unless specifically called out, any equipment defined in the Specifications as being supplied under other Divisions or Specification Sections. We encourage Contractor to contact us if he has any questions in this regard; or if he feels that our Scope has omitted items which, in his opinion, should be part of the Specification Section(s) we are bidding.
h) Responsibility for any Union or Non-Union Labor (Direct or Supervisory) that may be required due to Contractor related necessities. This will further extend to any supervision by TRIJAY personnel of any personnel thus required.
i) Control Valves and Solenoid Valves (by G.C.).
j) Surge Relief Tank and associated Controls for Pump Stations #4, #5 (by G.C.).
k) Magnetic Flowmeters at Valve Station #2; P.S. #3, #4 and #5 (Existing).

TRIJAY Systems, Inc. is bidding this project as a Supplier of the equipment and services herein mentioned. Please be advised that TRIJAY Systems, Inc. is a Minority Business Enterprise (MBE) and is certified by the Pennsylvania Department of General Services – Certification #140531Trijay S.

Any bonding or insurance requirements will be additive to the quoted price.

Should you have any questions or wish to discuss further, I would be happy to hear from you.

Yours truly,

James Arevalo

TRIJAY Systems, Inc.

Encl/Scope of Supply (2 Pages)

TRIJAY SYSTEMS INC.

SCOPE OF SUPPLY

VALVE STATION/PUMP STATIONS

ITEM	QTY.	DESCRIPTION
1	4	12" Isolation Annular Seals w/Pressure Transmitters TAG NO'S: PE/PIT-1001-1, 1001-2, 1004-1, 1004-2 LOCATION: VS #2
2	3	Wet Well Level Transmitters TAG NO'S: LE/LIT-100, 100, 100 LOCATIONS: PS #3, #4 and #5
3	3	Pressure Transmitters TAG NO'S: PIT-120, 120, 120 LOCATIONS: PS #3, #4 and #5
4	6	Back-Up Float Switches TAG NO'S: LSL-100, 100, 100 LSH-100, 100, 100 LOCATIONS: PS #3, #4 and #5
5	2	Pressure Switches TAG NO'S: PSL-140, 140 LOCATIONS: PS #4 and #5
6	3	Local Control Panels (NEMA 4X); fully assembled, wired and tested (for Outdoor Installation) REF.: Contract Drawings ME4 (Sheet 8); ME6 (Sheet 12); ME8 (Sheet 16) LOCATIONS: PS #3, #4 and #5
7	4	UPS Control Enclosures (NEMA 12); fully assembled, wired and tested (for Indoor Installation) LOCATIONS: VS #2; PS #3, #4 and #5
8	1	Valve Station #2 Control Panel (NEMA 12); fully assembled, wired and tested (for Indoor Installation), including the following: a) (LOT) PLC Hardware b) One (1) OIT c) (LOT) Control Relays, Fuses d) One (1) Ethernet Switch e) One (1) 24VDC Power Supply f) (LOT) AC Power and DC Signal Surge Protection

TRIJAY SYSTEMS INC.

SCOPE OF SUPPLY

MASTER SITE – ADMINISTRATION BUILDING

ITEM	QTY.	DESCRIPTION
1	1	Computer Hardware as follows: a) PC Workstation w/24" Monitor
2	1	UPS (for above Workstation)
3	LOT	Project Software as follows: a) A-B FactoryTalk SE Server 25 Displays (Qty: 1) b) A-B FactoryTalk SE Client (Qty: 1) c) A-B FactoryTalk Viewpoint (3-Clients) for Remote Access d) XLReporter (Qty: 1) for Report Generation
4	LOT	Upgraded Wide Area Network Communications: a) Install Secured Routers for VS #2; PS #3, #4 and #5 (Qty: 4) b) Install Secured Router at Administration Building (Qty: 1) c) Network Configuration

MISCELLANEOUS

ITEM	QTY.	DESCRIPTION
1	LOT	Technical Services to include: a) Shop Drawing Submittals b) O&M Manuals c) Panel Drawings d) PLC Programming e) OIT Programming f) HMI Programming g) Start-Up and Commissioning h) Training
2	LOT	Spares

Barry J. Hoffman Co., Inc.,
Electrical Contractor
213 North 14th Street
Allentown, PA 18102-3605
Tel - (610) 437-2507
Fax - (610) 433-6033

Estimate

NAME / ADDRESS
Pact Construction P.O. Box 74 Ringoes, NJ 08551

DATE
3/30/2016

DESCRIPTION	TOTAL
Furnish and install all electrical work per plans, specifications and the following schedule. 1) Demo work at all locations as required. 2) Conduit, wire and connections to 2 valves, 4 pressure transducers at Valve Station #2. 3) Two MCC disconnects for the valves at Valve Station #2. 4) Connections to existing PLC at Valve Station #2. 5) Conduit, wire and connections to valve, sonic level transducer, floats, press. transducer and LCP at PS#3. 6) Two new stainless steel fused disconnects and connections to new submersible motors at PS#3. 7) Conduit, wire and connections to valve, surge tank equipment, sonic level transducer, floats, press. transducer, LCP and HCP at PS#4. 8) Two new stainless steel fused disconnects and connections to new submersible motors at PS#4. 9) Conduit, wire and connections to equipment in new surge tank building including ground grid, panel DP2, T2 and panel PP2 at PS#5. 10) Conduit, wire and connections to valve, sonic level transducer, floats, pressure transducer, LCP and HCP at PS#5. 11) Three new stainless steel disconnects and connections to new submersible motors at PS#5. 12) Arc Flash labels and power identification labels at all locations per	89,450.00
Thank You For The Opportunity To Quote This Job.	**TOTAL**

SIGNATURE

Barry J. Hoffman Co., Inc.,
Electrical Contractor
213 North 14th Street
Allentown, PA 18102-3605
Tel - (610) 437-2507
Fax - (610) 433-6033

Estimate

NAME / ADDRESS
Pact Construction P.O. Box 74 Ringoes, NJ 08551

DATE
3/30/2016

DESCRIPTION	TOTAL
drawings. Items NOT included: 1) No permit costs included. 2) No excavation cost included. 3) No instrumentation, controls, pumps, floats of any kind. 4) No VFD's included.	
Thank You For The Opportunity To Quote This Job.	**TOTAL** $89,450.00

Date Accepted:_____

SIGNATURE _____

BRENNAN ELECTRIC

Electrical Contractors

"When your ready to do it right."

P.O. Box 541 • Kunkletown, PA 18058 • Telephone (610) 681-5633

FACSIMILE INFORMATION COVER SHEET

PLEASE DELIVER TO: CARLOS COSTA

THIS FAX IS FROM : PAUL BRENNAN

DATE: 04-05-16

TOTAL NUMBER OF PAGES: 2

PLEASE CONTACT 610-681-5633 FOR TRANSMISSION PROBLEMS.

BRENNAN ELECTRIC
Electrical Contractors
"When your ready to do it right."

P.O. Box 541 • Kunkletown, PA 18058 • Telephone (610) 681-5633

PACT ONE L.L.C.
PACT TWO L.L.C.
554 ROUTE 31 NORTH
RINGOES, N.J., 08551

APRIL 5, 2016

ATT: CARLOS COSTA,

THE FOLLOWING IS A BRIEF DESCRIPTION OF THE PROPOSED ELECTRICAL WORK FOR THE POCONO TOWNSHIP FORCEMAIN SYSTEM REHAB:

EXCLUDED IN THIS PROPOSAL ARE:
ANY SITE PREPARATION OR RESTORATION,
ANY EXCAVATION FOR ELECTRICAL INSTALLATION,
ANY BACK FILL MATERIALS THAT MAY BE NEEDED,
ANY ELECTRICAL MOTORS,PUMPS,VALVES,HEAT ITEMS,
NEW CONTROLS OR CONTROL CABINETS/CENTERS,
POWER VENTILATION SYSTEMS,FLOAT SYSTEMS,
TRANSDUCERS,FLOW CONTROL SYSTEMS,
START UP PROGRAMMING OR SYSTEM INTEGRATION.

ANY LABOR OUTSIDE OF NORMAL WORKING HOURS 7:00 AM to 3:30 PM WILL BE BILLED AS A EXTRA COST AT OVERTIME RATE.

INCLUDED ARE FURNISHING AND INSTALLATION OF:
ALL CONDUIT AND CONDUIT SYSTEMS AND FITTINGS SUITABLE FOR INSTALLATION ENVIRONMENTS,MINOR SPLICE BOXES,PULL BOXES,FITTINGS.
ALL WIRE NEEDED FOR BRANCH CIRCUITS,MOTOR FEEDS, CONTROL INTERCONNECTIONS WITHIN THE CONDUIT SYSTEMS.

PAYMENT SCHEDULE / DRAWS / MOBILIZATION, TO BE AGREED ON IF PROJECT IS APPROVED.

THIS PROPOSAL IS VALID FOR 30 DAYS.

PROPOSED COST...$ 233.000.00
(TWO HUNDRED THIRTY THREE THOUSAND DOLLARS)

THANK YOU,
PAUL BRENNAN

Gregg Schuster

From: Sami Sarrouh <SSarrouh@tandmassociates.com>
Sent: Wednesday, April 6, 2016 7:01 PM
To: Judi Coover
Cc: Harold Werkheiser; Robert DeYoung; Gerald Lastowski; Thomas Felver; Jeffry Clapper; Russell G. Benner Jr.
Subject: RE: Sewer repai

Judy
thanks for your kind words. I hope I was able to relay the level of effort required to do this write. I will do my best to answer questions to help with any decisions. I am glad that you are aware of the severity of the issues and can apreciate the risk from further delay. As I said I worked for a large municipality for a long time and spent years fixing consultants mistakes. So I have little trust to most of them.
As far as T&M and I are concerned we delivered the design we promised and then some what happens next is solely your perogative.
The prior designers were not experts let alone national experts. The term experts is used loosley by msny these days. A national level experts can be easily identified by the credentials not claims. Most people do not realize their own limitations.
There are 3 or 4 engineers in the country that I consider qualified to review my work. I will give people of that caliber full cooperation. That is if you wish a peer review as Harold suggested at the meeting. (My only real peer and mentor retired last year at 83)

However I am not going to waste my time or yours explaining, discussing or debating issues with people I feel unqualified. It is time taxing and aggravating because I would be answering to or responding to a lot of bad ideas by folks attempting to justify their existanxe. I simply do not have the time or stamina to do this. And as I said before I do not trust them to provide a good rebiew.

On the otherhand the people qualigied to do that have a long waiting time, come at a premium and will require to conduct a thorough investigation like I did. At a minimum they may most probably add to the scope recommending complete replacement of the pump station wetwell and pumps because the design is not per Hydraulic Institute standards. This could add another million or so to the cost.

All the meanwhile the township is sitting on an environmental and financial time bomb that could hit at anytime.
Good luck in all you do.
Best regards
Sami

Sent from my Verizon Wireless 4G LTE smartphone

-------- Original message --------
From: Judi Coover <jcoover@poconopa.gov>
Date: 4/6/2016 6:34 PM (GMT-05:00)
To: Sami Sarrouh <SSarrouh@tandmassociates.com>
Cc: Harold Werkheiser <hwerkheiser@poconopa.gov>, Robert DeYoung <rdeyoung@poconopa.gov>, Gerald Lastowski <jlastowski@poconopa.gov>, Thomas Felver <tfelver@hotmail.com>, Jeffry Clapper

<jclapper@poconopa.gov>, "Russell G. Benner Jr." <RBenner@tandmassociates.com>
Subject: Sewer repai

Sami,
I want to thank you for comimg back to present your fundings and recommendations a second time. It will help prepare us for this very important decision. I am sorry I was not there for the entire session.

I readily admit that I have no expertise in this area. I share Harold's perspective that we have spent millions on our current "system" because experts said it was what we needed.

Now many millions and years later, it appears we still may not have the system that will serve our community over the long haul.

So, because I am not an expert, I will want to learn as much as I can and have competitive data where possible prior to making a vote.

Please know that any future questions I may ask or data that I may seek is not to question you or your impressive knowledge and experience.

Thank you again Sami

Judi
Sent from Outlook Mobile

CONTRACT CHANGE ORDER

PROJECT:	SR0611 - Pocono & Hamilton Twps Sewerage System **Contract No. 11**	**CHANGE ORDER NUMBER:**	**PCO#2**
		DATE:	April 25, 2016
CONTRACTOR:	PACT Two, LLC	**ENGINEER'S PROJECT NUMBER:**	POCO0140
		CONTRACT DATE:	July 13, 2011

The Contract is changed as follows:

This Change Order includes improvements to the existing sewage conveyance system to improve reliability and reduce the possibility of system failure. The proposed work will be completed at Pumping Stations 3, 4, & 5; Valve Stations 1 & 2; and at the identified Air and Vacuum Relief Valve Locations. A detailed description of the Work to be completed at each location is provided in the attached *"Proposed Project Summary of Work"* with Contract Plans and Specifications to be issued for Construction upon project approval. The cost to complete the proposed Work shall be determined as identified in the *"Contract No. 11 - 2016 Scope Budget Pricing"* correspondence to Pocono Township dated April 4, 2016 (copy attached). Upon the final acceptance of this Change Order by all parties the Contractor shall provide updated applicable Bond Documents and Certificate of Liability Insurance reflecting the proposed changes to the Contract.

The Original Contract Amount was	**$**	**3,539,773.00**
The net change by previously authorized Change Orders	**$**	**56,207.38**
The Contract Amount prior to this Change Order was	**$**	**3,595,980.38**
The Contract Amount will be Increased by this Change Order in the amount of	**$**	**1,590,437.00**
The new Contract Amount, including this Change Order, will be	**$**	**5,186,417.38**
The Contract Time will be increased by		(431) days
The date of Substantial Completion as of the date of this Change Order, therefore, is		**May 31, 2017**
The date of Final Completion as of the date of this Change Order, therefore, is		**June 30, 2017**

NOTE: This Change Order does not include changes in the Contract Amount or Contract Time that have not been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ENGINEER, CONTRACTOR AND OWNER

T&M Associates	PACT Two, LLC.	Pocono Township
ENGINEER	**CONTRACTOR**	**OWNER**
BY (Signature)	**BY (Signature)**	**BY (Signature)**
(Printed Name)	**(Printed Name)**	**(Printed Name)**
DATE	**DATE**	**DATE**

YOUR GOALS. OUR MISSION.

April 29, 2016

Mr. Gregg Schuster
Pocono Township Manager
112 Township Drive
Tannersville, PA 18372

SUBJECT: SEWER TELEVISING PROGRAM BID OPENING
RECOMMENDATION OF AWARD
OUR PROJECT NUMBER: POCOI0140

Dear Mr. Schuster:

As requested, we have reviewed the bids submitted to Pocono Township and publicly opened on April 25, 2016 for the above referenced project with the following results:

Bidder's Name	Bid Amount
Video Pipe Services, Inc.	$75,501.90
Cleaver Cable Construction Inc.	$79,996.25
Sewer Specialty Services Company, Inc.	$83,419.75
TLC Drain and Sewer	$98,504.75
Lake County Sewer Company	$120,122.50
Aqua Infrastructure Rehabilitation Co, LLC dba Tri-State Grouting, LLC	$173,990.00

Video Pipe Service's is the lowest responsible bidder for this project. Based upon our review of the submitted bid T&M determined that the bid submission was complete and in accordance with PennBid requirements. Based on this information, the bid evaluation that is summarized above and T&M's past experience working with this contractor, Video Pipe Services, Inc. we recommend the Township award the project to Video Pipe Services, Inc. for the total bid cost of $75,501.90.

Should you have any questions regarding this matter please do not hesitate to contact me at the office.

Very truly yours,
T&M Associates

Mark Ambrose

Mark Ambrose, P.E.

cc: Jeffry Clapper, Public Work Director
Russell G. Benner Jr., P.E.
Monica Wall, P.E.

LETTER OF TRANSMITTAL

74 W. Broad St., Suite 530
Bethlehem, PA 18018

(610) 625-2999 * FAX((610) 625-2969

DATE	4/28/16 JOB No. POCO00040
ATTENTION	Gregg Schuster, Township Manager Pam Finkbeiner, Interim Township Manager
RE:	Marona Construction Company Payment Application #4, Signed PCO# 004

TO: POCONO TOWNSHIP
P.O. Box 197
112 Township Drive
Tannersville, PA 18372

WE ARE SENDING YOU ☐ **Attached** ☐ **Under separate cover** ☒ **VIA** Hand Delivery **the following items:**

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☒ Change order ☒ Payment Application

No	DATE	COPIES	DESCRIPTION
1	4/28/2016	2	Payment Application No. 4
2	4/28/2016	1	Signed PCO# 004 Document

THESE ARE TRANSMITTED as checked below:

☐ For approval
☒ For your use
☐ As requested
☐ For review and comment
☐ Approved as submitted
☐ Approved as noted
☐ Returned for corrections
☐ _____
☐ Resubmit _____ copies for approval.
☐ Submit _____ copies for distribution
☐ Return _____ corrected prints.

☐ **FOR BIDS DUE** _____ 20 _____ ☐ **PRINTS RETURNED AFTER LOAN TO US**

REMARKS

COPY TO

SIGNED
Mark Ambrose, P.E.

CONTRACT CHANGE ORDER

PROJECT:	Route 611 Sanitary Sewer Replacement Project	**CHANGE ORDER NUMBER:**	PCO# 004
		DATE:	April 14, 2016
CONTRACTOR:	Marona Construction Company	**ENGINEER'S PROJECT NUMBER:**	POCO-00040
		CONTRACT DATE:	October 6, 2015

The Contract is changed as follows:

Due to unknown subsurface conditions discovered during the excavation for proposed MH C-01-75-1 in the area of Bulger's Run on Pocono Farmstand property the proposed manhole and 270 L.F. of 24-inch, C-905 sewer main can not be installed as per contract plans without significant construction changes and potential impact to existing infrastructure proposed to remain in place. Further inspection and evaluation of the existing 24-inch HDPE pipe determined that the pipe is in good condition and is able to convey the sewer system's design and permitted sewage flow and does not need to be replaced. Based on these findings and determinations the Original Contract Amount shall be revised as outlined below.

The Original Contract Amount was	$	2,625,000.00
The net change by previously authorized Change Orders	$	50,000.00
The Contract Amount prior to this Change Order was	$	2,675,000.00
The Contract Amount will be decreased by this Change Order in the amount of	$	126,533.64
The new Contract Amount, including this Change Order, will be	$	2,548,466.36
The Contract Time will be increased by		(0) days
The date of Substantial Completion as of the date of this Change Order, therefore, is		May 2, 2016
The date of Final Completion as of the date of this Change Order, therefore, is		June 2, 2016

NOTE: This Change Order does not include changes in the Contract Amount or Contract Time that have not been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ENGINEER, CONTRACTOR AND OWNER

T&M Associates	Marona Construction Company	Pocono Township
ENGINEER	**CONTRACTOR**	**OWNER**
BY (Signature)	**BY (Signature)**	**BY (Signature)**
Mark Ambrose, P.E.	STEPHEN SALOMA	Gregg Schuster
(Printed Name)	**(Printed Name)**	**(Printed Name)**
April 14, 2016	4/25/16	4/19/16
DATE	**DATE**	**DATE**

YOUR GOALS. OUR MISSION.

April 28, 2016

Mr. Gregg Schuster
Pocono Township Manager
112 Township Drive
Tannersville, PA 18372

SUBJECT: PAYMENT APPLICATION NO. 4
ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT
OUR PROJECT NUMBER: POCO00040

Dear Mr. Schuster:

T&M received Application for Payment request #4 on April 26, 2016 for the above referenced sanitary sewer project submitted by Marona Construction Company; dated April 25, 2016. This request is for work completed from March 5, 2016 to April 22, 2016.

T&M has verified that the work completed in this Application Period for the installation of four (4) manholes and 50 lineal feet of 24-inch PVC sanitary sewer main pipe has been installed in accordance with the requirements of the Contract Documents (Plans and Specifications) for work visible during construction observations. This Application includes charges associated with previously approved Project Change Orders #2 and #4 in the amount of $85,466.36. PCO #2 was associated with the relocation of the 12-inch water main and PCO #4 was associated with the work performed in the area of the existing sewer main crossing Bulger's Run.

In summary, the *Original Contract Sum* for this project is $2,625,000. The *Contract Sum to Date*, including Change Orders, is $2,710,466.36 and the total amount of the project *Completed and Stored to Date* (Less Retainage) is $2,308,943.04. The total amount of *Previous Payments* is $2,109,000. Based on this information T&M recommends a *Current Payment Due* to Marona Construction in the amount of **$199,943.04** ($2,308,943.04 - $2,109,000) and a *Total Project Retainage* of $121,523.32 at this time. This leaves a *Balance to Finish (including Retainage)* of $401,523.32 ($280,000 + $121,523.32).

If you have any questions about this correspondence or the accompanying documents, please contact me at (610) 301-6736.

Very truly yours,

Mark Ambrose

Mark Ambrose, P.E.
Principal Engineer
T&M Associates

Cc: Stephen Saloma, P.E., Marona Construction

PARTIAL/FINAL PAYMENT

TO OWNER:

POCONO TOWNSHIP
112 TOWNSHIP DRIVE
TANNERSVILLE, PA 18372
ATTN: GREG SCHUSTER

PROJECT:
ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT

CONTRACT NO. **ONE GENERAL CONSTRUCTION**

APPLICATION/INVOICE NO: 004
PERIOD: FROM 3/5/2016 TO 4/22/2016
APPLICATION DATE: 4/25/2016

MARONA JOB# 166

FROM CONTRACTOR:
Marona Construction Company
PO Box 283
3191 Trewigtown Road
Colmar, PA 18915
Project Manager: Steve Saloma, P.E.

ENGINEER:
T&M ASSOCIATES, INC.
74 WEST BROAD STREET
BETHLEHEM, PA 18018
ATTN: MARK AMBROSE, P.E.

CONTRACTOR'S APPLICATION FOR PAYMENT

1. ORIGINAL CONTRACT SUM			2,625,000.00
2. NET CHANGE BY CHANGE ORDERS		$	85,466.36
3. CONTRACT SUM TO DATE		$	2,710,466.36
4. TOTAL COMPLETED & STORED TO DATE	(Column F)		2,430,466.36
5. RETAINAGE:			
a. 5 % of Completed Work	121,523.32 (Column F)		
b. 0 % of Stored Material	0		
c. Total		$	121,523.32
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5c Total)		$	2,308,943.04
7. LESS PREVIOUS PAYMENT (Paid to-date)		$	2,109,000.00
8. CURRENT PAYMENT DUE (Line 6 - Line 7)		$	199,943.04
9. BALANCE TO FINISH (Line 3 - Line 4)			280,000.00

CHANGE ORDER SUMMARY	NUMBER	AMOUNT
Total changes approved in previous months by Owner		
	#2	$ 50,000.00
	#3	$ -
Total approved this Month	#4	$ 35,466.36
TOTALS (Line 2)		$ 85,466.36

CONTRACTORS CERTIFICATION

The undersigned Contractor certifies that (1) all previous progress payments received from Owner(s) on account of work done under the Contract have been applied to Discharge in full all obligations of Contractor incurred in connection with Work covered by prior Applications for Payment number 1 through 3 inclusive; (2) title to all materials and equipment incorporated in said Work or otherwise listed on/or covered by this Application for Payment will pass to the Owner at the time of payment, free and clear of all liens, claims, security interests and encumbrances (except such as covered by Bond acceptable to Owner indemnifying Owner again such lien, claim, security interest, or encumbrances); and (3) all Work covered by the Application for Payment is in accordance with the Contract Documents and is not defective, as that term is defined in the Contract Documents.

Date: 4/25 2016

By: _____
Stephen J. Saloma, P.E., Vice President

Approved Payment Amount $ 199,943.04

Dated: April 28 2016

For: T&M Associates

By: Mark Ambrose, P.E.
Mark Ambrose

CONTINUATION SHEET

Owner: POCONO TOWNSHIP
112 TOWNSHIP DRIVE
TANNERSVILLE, PA 18372
ATTN: GREG SCHUSTER

Project: **ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT**

MCC JOB# 166

Invoice No: 004

Invoice Date: 4/25/2016

Period To: 4/22/2016

Contractor: Marona Construction Co.
PO Box 283
3191 Trewigtown Road
Colmar, PA 18915

A	B	C				D		E		F			G		H
Item No.	Description	Scheduled Value				Work Completed				Work Completed and Stored To Date (D + E)			Balance To Finish (C - F)		Retainage This Period
						From Previous Application (F)		This Period							
		Unit	Quant.	Unit Price	Total Price	Quant.	Amount	Quant.	Amount	Quant.	Amount	%	Quant.	Amount	-5%
	Part A - Sewer														
1	Bonds and Insurance	LS	1	$40,000.00	$40,000.00	1	$40,000.00		$0.00	1	$40,000.00	100%	0	$0.00	$0.00
2	Mobilization & Demobilization	LS	1	$300,000.00	$300,000.00	0.8	$240,000.00		$0.00	0.8	$240,000.00	80%	0.2	$60,000.00	$0.00
3	Traffic Control	LS	1	$50,000.00	$50,000.00	1	$50,000.00		$0.00	1	$50,000.00	100%	0	$0.00	$0.00
4	Demolition & Removal of Existing Pipe	LF	270	$100.00	$27,000.00	0	$0.00		$0.00	0	$0.00	0%	270	$27,000.00	$0.00
5	F&I 28" HDPE Sewer Pipe via Microtunneling	LF	900	$2,100.00	$1,890,000.00	900	$1,890,000.00		$0.00	900	$1,890,000.00	100%	0	$0.00	$0.00
6	F&I Sewer Manholes, Complete, All Depths	EA	5	$25,000.00	$125,000.00	0	$0.00	4.00	$100,000.00	4	$100,000.00	80%	1	$25,000.00	($5,000.00)
7	F&I 28" HDPE Sewer Via Open Cut	LF	320	$500.00	$160,000.00	0	$0.00	50.00	$25,000.00	50	$25,000.00	16%	270	$135,000.00	($1,250.00)
8	Township Roadway Paving, Including Temporary and Permanent Paving	L.S.	1	$20,000.00	$20,000.00	0	$0.00		$0.00	0	$0.00	0%	1	$20,000.00	$0.00
9	F&I 4" Lateral to Sewer Main	LS	1	$13,000.00	$13,000.00	0	$0.00		$0.00	0	$0.00	0%	1	$13,000.00	$0.00
rev.															
					$2,625,000.00		$2,220,000.00		$125,000.00		$2,345,000.00			$280,000.00	-$6,250.00

CONTINUATION SHEET

Owner: POCONO TOWNSHIP
112 TOWNSHIP DRIVE
TANNERSVILLE, PA 18372
ATTN: GREG SCHUSTER

Project: ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT

Invoice No: 004
Invoice Date: 4/25/2016
Period To: 4/22/2016

Contractor: Marona Construction Co.
PO Box 283
3191 Trewigtown Road
Colmar, PA 18915

MCC JOB# 166

A	B	C				D		E		F			G		H
Item No.	Description	Scheduled Value				Work Completed				(D+E) Work Completed To Date and Stored to Date			Balance To Finish (C - F)		Retainage This Period
						From Previous Application (F)		This Period							
		Unit	Quant.	Unit Price	Total Price	Quant.	Amount	Quant.	Amount	Quant.	Amount	%	Quant.	Amount	-5%
	CHANGE ORDERS														
CO-1					$0.00		$0.00		$0.00	0	$0.00		0	$0.00	$0.00
CO-2	RELOCATE BCRA 12" WATER MAIN	LS	1	$50,000.00	$50,000.00		$0.00	1	$50,000.00	1	$50,000.00		0	$0.00	($2,500.00)
CO-3	CONTRACT TIME EXTENSION	LS	1	$0.00	$0.00		$0.00		$0.00	0	$0.00		1	$0.00	$0.00
CO-4	RECONNECT EX 24" HDPE TO MH #2	LS	1	$35,466.36	$35,466.36		$0.00	1	$35,466.36	1	$35,466.36		0	$0.00	($3,546.64)
	Original Purchase Order														
	Subtotal Part A		*Sheet 1 Line 1 >*		**$2,625,000.00**		$2,220,000.00		$125,000.00		$2,345,000.00	89%		$280,000.00	
	Change Orders														
	Change Order 1		*Sheet 1 Line 2 >*		**$0.00**		$0.00		$0.00		$0.00			$0.00	
	Change Order 2		*Sheet 1 Line 2 >*		**$50,000.00**		$0.00		$50,000.00		$50,000.00			$0.00	
	Change Order 3		*Sheet 1 Line 2 >*		**$0.00**		$0.00		$0.00		$0.00			$0.00	
	Change Order 4		*Sheet 1 Line 2 >*		**$35,466.36**		$0.00		$35,466.36		$35,466.36			$0.00	
											Sheet 1 Line 4			*Sheet 1 Line 9*	
rev.	**GRAND TOTALS**		*Sheet 1 Line 3 >*		**$2,710,466.36**		$2,220,000.00		$210,466.36		**$2,430,466.36**	90%		**$280,000.00**	

PARTIAL/FINAL PAYMENT

TO OWNER:

POCONO TOWNSHIP
112 TOWNSHIP DRIVE
TANNERSVILLE, PA 18372
ATTN: GREG SCHUSTER

PROJECT:
ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT

CONTRACT NO. **ONE GENERAL CONSTRUCTION**

APPLICATION/INVOICE NO: 004
PERIOD: FROM 3/5/2016 TO 4/22/2016
APPLICATION DATE: 4/25/2016

MARONA JOB# 166

FROM CONTRACTOR:
Marona Construction Company
PO Box 283
3191 Trewigtown Road
Colmar, PA 18915
Project Manager: Steve Saloma, P.E.

ENGINEER:
T&M ASSOCIATES, INC.
74 WEST BROAD STREET
BETHLEHEM, PA 18018
ATTN: MARK AMBROSE, P.E.

CONTRACTOR'S APPLICATION FOR PAYMENT

1. ORIGINAL CONTRACT SUM			2,625,000.00
2. NET CHANGE BY CHANGE ORDERS		$	85,466.36
3. CONTRACT SUM TO DATE		$	2,710,466.36
4. TOTAL COMPLETED & STORED TO DATE	(Column F)		2,430,466.36
5. RETAINAGE:			
a. 5 % of Completed Work	121,523.32 (Column F)		
b. 0 % of Stored Material	0		
c. Total		$	121,523.32
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5c Total)		$	2,308,943.04
7. LESS PREVIOUS PAYMENT (Paid to-date)		$	2,109,000.00
8. CURRENT PAYMENT DUE (Line 6 - Line 7)		$	199,943.04
9. BALANCE TO FINISH (Line 3 - Line 4)			280,000.00

CHANGE ORDER SUMMARY	NUMBER	AMOUNT
Total changes approved in previous months by Owner		
	#2	$ 50,000.00
	#3	$ -
Total approved this Month	#4	$ 35,466.36
TOTALS (Line 2)		$ 85,466.36

CONTRACTORS CERTIFICATION

The undersigned Contractor certifies that (1) all previous progress payments received from Owner(s) on account of work done under the Contract have been applied to Discharge in full all obligations of Contractor incurred in connection with Work covered by prior Applications for Payment number 1 through 3 inclusive; (2) title to all materials and equipment incorporated in said Work or otherwise listed on/or covered by this Application for Payment will pass to the Owner at the time of payment, free and clear of all liens, claims, security interests and encumbrances (except such as covered by Bond acceptable to Owner indemnifying Owner again such lien, claim, security interest, or encumbrances); and (3) all Work covered by the Application for Payment is in accordance with the Contract Documents and is not defective, as that term is defined in the Contract Documents.

Date: 4/25 2016

By: _____
Stephen J. Saloma, P.E., Vice President

Approved Payment Amount $ 199,943.04

Dated: April 28 2016

For: T&M Associates

By: Mark Ambrose, P.E.
Mark Ambrose

CONTINUATION SHEET

Owner: POCONO TOWNSHIP
112 TOWNSHIP DRIVE
TANNERSVILLE, PA 18372
ATTN: GREG SCHUSTER

Project: ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT

MCC JOB# 166

Invoice No: 004

Invoice Date: 4/25/2016

Period To: 4/22/2016

Contractor: Marona Construction Co.
PO Box 283
3191 Trewigtown Road
Colmar, PA 18915

A	B	C				D		E		F			G		H
Item No.	Description	Scheduled Value				Work Completed				Work Completed and Stored To Date (D + E)			Balance To Finish (C - F)		Retainage This Period
						From Previous Application (F)		This Period							
		Unit	Quant.	Unit Price	Total Price	Quant.	Amount	Quant.	Amount	Quant.	Amount	%	Quant.	Amount	-5%
	Part A - Sewer														
1	Bonds and Insurance	LS	1	$40,000.00	$40,000.00	1	$40,000.00		$0.00	1	$40,000.00	100%	0	$0.00	$0.00
2	Mobilization & Demobilization	LS	1	$300,000.00	$300,000.00	0.8	$240,000.00		$0.00	0.8	$240,000.00	80%	0.2	$60,000.00	$0.00
3	Traffic Control	LS	1	$50,000.00	$50,000.00	1	$50,000.00		$0.00	1	$50,000.00	100%	0	$0.00	$0.00
4	Demolition & Removal of Existing Pipe	LF	270	$100.00	$27,000.00	0	$0.00		$0.00	0	$0.00	0%	270	$27,000.00	$0.00
5	F&I 28" HDPE Sewer Pipe via Microtunneling	LF	900	$2,100.00	$1,890,000.00	900	$1,890,000.00		$0.00	900	$1,890,000.00	100%	0	$0.00	$0.00
6	F&I Sewer Manholes, Complete, All Depths	EA	5	$25,000.00	$125,000.00	0	$0.00	4.00	$100,000.00	4	$100,000.00	80%	1	$25,000.00	($5,000.00)
7	F&I 28" HDPE Sewer Via Open Cut	LF	320	$500.00	$160,000.00	0	$0.00	50.00	$25,000.00	50	$25,000.00	16%	270	$135,000.00	($1,250.00)
8	Township Roadway Paving, Including Temporary and Permanent Paving	L.S.	1	$20,000.00	$20,000.00	0	$0.00		$0.00	0	$0.00	0%	1	$20,000.00	$0.00
9	F&I 4" Lateral to Sewer Main	LS	1	$13,000.00	$13,000.00	0	$0.00		$0.00	0	$0.00	0%	1	$13,000.00	$0.00
rev.															
					$2,625,000.00		$2,220,000.00		$125,000.00		$2,345,000.00			$280,000.00	-$6,250.00

CONTINUATION SHEET

Owner: POCONO TOWNSHIP
112 TOWNSHIP DRIVE
TANNERSVILLE, PA 18372
ATTN: GREG SCHUSTER

Project: ROUTE 611 SANITARY SEWER REPLACEMENT PROJECT

Invoice No: 004
Invoice Date: 4/25/2016
Period To: 4/22/2016

Contractor: Marona Construction Co.
PO Box 283
3191 Trewigtown Road
Colmar, PA 18915

MCC JOB# 166

A	B	C				D		E		F			G		H
Item No.	Description	Scheduled Value				Work Completed				(D+E) Work Completed To Date and Stored to Date			Balance To Finish (C - F)		Retainage This Period
						From Previous Application (F)		This Period							
		Unit	Quant.	Unit Price	Total Price	Quant.	Amount	Quant.	Amount	Quant.	Amount	%	Quant.	Amount	-5%
	CHANGE ORDERS														
CO-1					$0.00		$0.00		$0.00	0	$0.00		0	$0.00	$0.00
CO-2	RELOCATE BCRA 12" WATER MAIN	LS	1	$50,000.00	$50,000.00		$0.00	1	$50,000.00	1	$50,000.00		0	$0.00	($2,500.00)
CO-3	CONTRACT TIME EXTENSION	LS	1	$0.00	$0.00		$0.00		$0.00	0	$0.00		1	$0.00	$0.00
CO-4	RECONNECT EX 24" HDPE TO MH #2	LS	1	$35,466.36	$35,466.36		$0.00	1	$35,466.36	1	$35,466.36		0	$0.00	($3,546.64)
	Original Purchase Order														
	Subtotal Part A			*Sheet 1 Line 1 >*	**$2,625,000.00**		$2,220,000.00		$125,000.00		$2,345,000.00	89%		$280,000.00	
	Change Orders														
	Change Order 1			*Sheet 1 Line 2 >*	**$0.00**		$0.00		$0.00		$0.00			$0.00	
	Change Order 2			*Sheet 1 Line 2 >*	**$50,000.00**		$0.00		$50,000.00		$50,000.00			$0.00	
	Change Order 3			*Sheet 1 Line 2 >*	**$0.00**		$0.00		$0.00		$0.00			$0.00	
	Change Order 4			*Sheet 1 Line 2 >*	**$35,466.36**		$0.00		$35,466.36		$35,466.36			$0.00	
											Sheet 1 Line 4			*Sheet 1 Line 9*	
rev.	**GRAND TOTALS**			*Sheet 1 Line 3 >*	**$2,710,466.36**		$2,220,000.00		$210,466.36		**$2,430,466.36**	90%		**$280,000.00**	

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Bain/Mike Hall
Date:	March 7, 2016	Temp / Weather:	Sunny 61 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator, light posts, jumping jack compactor.

REMARKS:

- Met with Tom Lavito owner of Pocono Farmstand to review pending construction work on Farmstand property and driveway access at two locations on Learn Road during construction. Also discussed removing several stock items located in the proposed construction area. Tom agreed to have items removed over the next several days.
- Met with the owner of Chester's to discuss pending water line relocation work schedule and driveway access to her business.
- Contractor was prepping site for water line relocation work and completed saw cuts of the road in areas to be excavated.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Bain/Mike Hall
Date:	March 8, 2016	Temp / Weather:	Sunny 61 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations and storm basin, tri-axle dump truck, generators, mini excavator, light posts, jumping jack compactor.

REMARKS:

- Completed test digs (8:00 – 11:00) in two locations on Learn Road to verify water main location and depth of pipe and existing fittings. Road was saw cut and excavation was completed with mini excavator.
- Piping material was delivered at approximately 9:00.
- Observe 60' of 12-inch water main crossing Learn Road from (5:30 – 11:30). Section of main was installed and capped on each end for pressure testing (275 psi for 2 hours) and disinfection. Disinfection requirements were completed in accordance with BCRA and PADEP requirements. Line was installed with 5-feet of cover (2A-modified) and compacted in 12-inch lifts and excavation was with CAT excavator. Cold patch was placed in trench for temporary restoration.
- Disinfection was completed using sodium hypochlorite solution poured into the pipe.
- Pressure test did not pass and contractor coordinated with BCRA to complete the test the next day. Problem was determined to be with the temporary piping associated with the testing port.
- Disinfection test 1 of 2 was also completed following day (after 24-hour holding period).
- Informed Chester's owner of need to start working at 6:00 however, because of customers inside the contractor waited until 6:30 when it was decided to move forward with construction. I informed the owner that the contractor would pull plates across the road to accommodate traffic. There were two customers and two workers who were impacted and neither waited more than 2 minutes to leave.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Bain/Mike Hall
Date:	March 9, 2016	Temp / Weather:	Sunny 68 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations and storm basin, tri-axle dump truck, generators, mini excavator, light posts, jumping jack compactor.

REMARKS:

- Bypass pumping and over-land piping was delivered this morning. System consisted of 6-inch Godwin pumps and 6-inch metal piping. Vendor indicates that the system will be able to pump 1.3 MGD which exceeds township's current flow rates by more than double. I requested documentation substantiating pumping rates.
- Contractor was setting up piping along Learn Road from the manhole by Pocono Farmstand's first driveway (bypass manhole) to the manhole behind Benninger's Insurance (discharge manhole).
- Met with Tom Lavito owner of Pocono Farmstand and construction foreman to confirm driveway access at two locations on Learn Road during construction and construction schedule on his property.
- No significant construction scheduled on the 10th or 11th. Contractor will be preparing to excavate for Manhole C-01-75-2.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Bain/Mike Hall
Date:	March 14, 2016	Temp / Weather:	Drizzle/overcast 47 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations and storm basin, tri-axle dump truck, generators.

REMARKS:

- Begin excavation of pit to place MH C-01-75-2 and locate existing 24-inch sewer main and 48-inch steel casing pipe. (working on Benninger's Insurance side of Creek) Spoils being hauled to Pocono Township Park.
- Excavation being hampered by high groundwater table and proximity to Bulger's Run Creek. The location of the existing casing pipe in relation to the Creek is leading to difficult to excavation. The condition of the casing pipe and the foreign contents inside will need to be verified in order to determine the feasibility of removing the existing sewer main and placement of the new main; further excavation is required.
- A second filter bag was installed in order to keep up with de-watering of excavation.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Bain/Mike Hall
Date:	March 15, 2016	Temp / Weather:	Night work, 46 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, tri-axle dump truck, generators, mini excavator, light stands.

REMARKS:

- Work to relocate the existing 12" ductile iron water main from 6:00 – 4:00 a.m. Work coordinated with BCRA who had 5 employees on site to reduce pressure in the main by blowing off hydrants, to operate valves to shutdown section of piping in construction area, and inspect pipe installation.
- Existing pipe was cut in three places to redirect water flow and remove pipe crossing Learn Road in order to place manhole over existing sewer main. Marona re-located existing hydrant at the request of BCRA and installed a new 12" gate valve. Existing water main was 5' deep to top of pipe. Backfill was with modified and tamped with mechanical hand jumping jack. Trench was topped with cold patch. Area around hydrant was backfilled to within 18 inches and temporarily plated overnight because contractor ran out of backfill material. Excavator was also parked over plates to prevent traffic from driving over plates where backfill was not to grade. Site was swept clean upon completion.
- Section of pipe removed from service to be removed during excavation on Learn Road.
- Notified Christy at Chester's ahead of construction with phone call earlier in the day. Also notified Kent Werkheiser, Mike Shay and Township of night construction schedule.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/Mike Hall
Date:	March 17, 2016	Temp / Weather:	Cloudy, 55 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Site inspection of excavation for MH C01-75-1, contractor tried to find steel casing crossing creek, unable to do so without over-excavating also found 4-foot steel trough not on previous plans that will require additional construction to remove. Casing is shorter than what was shown on the plans. Excavation is 8'wide X 28' long and 6'-8' deep.
- Hand dug inside of trough to determine depth and minimize potential of damaging HDPE sewer main.
- Decided to leave excavation open in order to determine next step in this area, may need to leave existing piping in place. Will need BOC approval as CO based on further analysis.
- Address MCCD inspection letter items related to E&S items.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/Mike Hall/ Mike Bain
Date:	March 21, 2016	Temp / Weather:	Sunny, 44 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo Excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Beginning of excavation for MH C-01-75-5 placement on Learn Road. Removed 12" DIP water main that was removed from service, BCRA picked up section of pipe for disposal.
- Encountered significant rock at 6' that required excavator and pecker to break and remove rock.
- Review construction concerns with foreman in the Farmstand area associated with existing HDPE pipe/steel casing and steel trough. Considering potential impacts to Creek if trough is removed and casing pipe drops.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/Mike Hall
Date:	March 24, 2016	Temp / Weather:	Sunny, 62 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Walk project site with newly assigned Marona Construction superintendent Sam to review E&S controls potential construction schedule and concerns that could delay the completion of the project.
- Address filter bag run-off situation from 611 and impact to Chester's parking area. Respond to complaint from Christie about runoff draining along embankment toward creek. Runoff was passing under silt sock as designed but was not draining to swale and draining under 611. Marona set a new bag on newly placed stone pad near manhole located near drainage swale. Addressed runoff to Chester's parking area.
- Marona cleaned and prepared site for Easter weekend.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/ Mike Hall
Date:	March 29, 2016	Temp / Weather:	Sunny, 49 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Excavating pit for MH C-01-75-5, jackhammering rock at elevation 1.5 feet above existing 28-inch HDPE pipe. Mini excavator in bottom of pit loading material into bucket of 650LC excavator for removal. Excavation process slow due to rock and removal method of material.
- MCCD (John Motz) visited site at 10:45 and pointed out concerns with sediment bag installed on 3/24/2016 in the area of the storm pipe crossing under 611. Marona temporarily installed this bag to address dewatering runoff concerns made by Christie from Chester's. Based on John's direction Marona removed the temporary bag and another previously used bag located along the shoulder of 611 and placed a new bag into service. Cold patch was also placed along concrete barrier to prevent water from draining onto 611. Extra silt sock was placed along the top of the embankment/shoulder to filter water that was draining to the basin crossing under 611. Runoff was also draining to swale along Chester's property. New hay bale was placed in front of outlet pipe crossing under 611 to improve filtering.
- Marona used loader and manpower to modify the drainage swale bordering Chester's property to provide positive drainage of filtered water to the creek behind Chester's.
- I walked the construction site at the Farmstand end of the project with John Motz to verify that the items pointed out in his previous inspection were adequately addressed. We also discussed additional measures to address filtering of groundwater that enters excavation pits.
- Hanover Engineering survey crew on site 3/30/2016 to survey structures near Farmstand. Survey information will be used to set manhole structures and verify if existing sewer pipe in casing crossing under Bulger's Run can be removed or if it needs to remain.
- Surveyors were taking elevations in the area of Chester's, possibly to obtain sewer lateral information. BIU representative on-site possibly assisting them.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/Mike Hall
Date:	March 30, 2016	Temp / Weather:	Sunny, 46 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Continued excavating for MH C-01-75-5 and preparing for removal of existing HDPE sewer main from service. Alignment issues of existing pipe and pipe penetrations on manhole needed to be resolved. Significant rock and groundwater impacting construction. Required contractor to excavate additional material to allow for better pipe alignment into new manhole.
- Plug MH C-01-75 and begin bypass pumping operations. Observe pump performance and suction at upstream manhole and discharge at manhole located on Learn Road behind Benninger's. No splashing of sewage outside of manholes and no leakage of pipe sections along Learn Road. Suction and discharge manholes are secure and traffic control measures, including flashing lights and Yield to Oncoming Traffic are as previously discussed. Pumping operations will be monitored daily and during weekends. Spare parts and fittings are available on-site. There is a backup pump that operates on a float system that will operate if primary pump shuts down. Access to Pocono Farmstand is maintained and not impacted by pump setup.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/Mike Hall
Date:	March 31, 2016	Temp / Weather:	Cloudy, 65 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Discovered bypass pump malfunction with contractor and correct accordingly. Confirmed required elevation to set MH C-01-75-5 and piping alignment to connect MH C-01-75-4 and MH C-01-75-5. Cut existing HDPE pipe and prepare base of pit for stone base for manhole installation.
- Met with Godwin Pump Rep to review emergency contact information in the event of pump failure.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/ Mike Hall
Date:	April 1, 2016	Temp / Weather:	Cloudy, drizzle, 68 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Final excavation and preparation for the placement of stone base and MH C-01-75-5. Stone base consisted of #57 stone 18 – 24 inches thick. Base was leveled and checked with 6-foot bubble level and manhole seal and HDPE pipe were over lubricated to prevent damage to manhole gasket.
- Section of piping between MH C-01-75-4 and MH C-01-75-5 was installed. Pipe was 24-inch ductile iron with 401 protecto lining. This was necessary because part the pipe was in PennDOT ROW and required by PennDOT. Backfill was placed 2-feet over pipe and construction was shifted to MH C-01-75-2.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/ Mike Hall
Date:	April 5, 2016	Temp / Weather:	Sunny, 35 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Cut existing HDPE pipe near Benninger's, coordinate pump and haul arrangements of sewage with All State Septic. Pumped approximately 4,000 gallons out of 24-inch pipe. Inspect existing section of HDPE pipe to remain from MH C-01-75 to MH C-01-75-2 to determine condition in the event that it remains in place. Install brick bulk head in the end of 24-inch HDPE pipe to remain. Pre-set MH C-01-75-2 to verify pipe alignment; wait for BOC approval of PCO 004 to determine construction schedule.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Sam Heltsel/ Mike Hall
Date:	April 6, 2016	Temp / Weather:	Cloudy, 48 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Move forward in accordance with PCO 004. Cut existing HDPE pipe in pit for MH C-01-75-2 for placement of manhole, meet with Pocono Farmstand to inform them of change in project. Place manhole base and return to backfilling of MH C-01-75-5. Discuss backfill requirements within PADOT ROW with PennDOT representative. Backfill with Modified placed in 18-24 inch lifts compacted with hoe pack on the back of the mini excavator.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 8, 2016	Temp / Weather:	Cloudy, 42 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Complete installation of MH C-01-75-2, install 24-inch PVC pipe between MH C-01-75-2 and MH C-01-75-3, backfill and pipe connections, vacuum test manholes 2 and 3, air test pipe section between manholes 2 and 3, shut down bypass pumping operation and monitor sewage flows through new piping. First flows to pass through new piping system.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 13, 2016	Temp / Weather:	Sunny, 55 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Inspection for backfilling of receiving pit (location of MH C-01-72-3) in PennDOT ROW, discuss backfilling requirements and schedule with PennDOT inspector and United Testing Lab technician. Coordinate Eureka quarry delivery slips and proctor information in order to backfill compaction percentage. Compaction requirements are 95% two feet above pipe, 97% up to three feet of finished grade and 100% from three feet to finished grade. Contractor was achieving greater than 100% on nearly all tests. Compaction was with hoe pack on Volvo Excavator.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 14, 2016	Temp / Weather:	Sunny, 62 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Backfill and compaction for MH C-01-75-5 at Learn Road outside DOT ROW (this manhole does not require compaction testing), review Benninger Insurance lateral connection requirements with foreman, discuss connection difficulties and concerns due to depth at building.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 15, 2016	Temp / Weather:	Sunny, 66 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Coordinate PADOT remaining inspections with foreman and PennDOT, discuss quantity delivery slips and submittal to PennDOT as required.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 19, 2016	Temp / Weather:	Sunny, 63 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Complete backfilling in the areas of MH C-01-75-2 and MH C-01-72-3. Review finished grading in the areas of manholes MH C-01-75-2 and MH C-01-72-3. Review piping layout of Benninger's sewer lateral and coring of MH C-01-72-2.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 20, 2016	Temp / Weather:	Sunny, 68 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Backfill in the area of MH C-01-75-4 in accordance with PennDOT requirements. PennDOT and United Testing Labs technician were onsite. There were problems with removing trench boxes and shoring plates and concerns with trench wall stability particularly along 611. Boxes were disassembled in place and removed in sections to minimize impact and make handling easier. PennDOT did not have any issues when all boxes and plates were removed.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

DAILY CONSTRUCTION REPORT

Project Name:	Pocono Township Route 611 Sewer Improvements	Project No.	POCO00040
Contractor:	MARONA Construction	Contractor Super:	Mike Hall
Date:	April 21, 2016	Temp / Weather:	Sunny, 70 degrees
Work Location:	Intersection of Learn Road & Route 611, Pocono Township, Monroe Co., PA		

EQUIPMENT:

Rubber tire loader, Hitachi 650LC excavator, CAT excavator, Volvo excavator, various pumps for dewatering excavations, tri-axle dump truck, generators, mini excavator.

REMARKS:

- Meet with Benninger's to coordinate lateral construction, notify SEO to schedule tank abandonment inspection, call All State Septic to arrange pumping from regularly scheduled pumping date, and inspect backfill of sending pit with PennDOT and United Inspection tech.

Name: Mark Ambrose, P.E.

Supervisor: Russell Benner, P.E.

Gregg Schuster

From: Jeffry Clapper
Sent: Thursday, April 21, 2016 9:44 AM
To: Gregg Schuster
Subject: FW: Pump Station 2 Hydraulic Evaluation per our telephone conversation today.

Gregg-

Please place the Pump Station No 2 pump investigation/replacement topic on the next sewer committee agenda.

Sami's quotation for analyzing pump station 2 is shown below as Not to Exceed $ 12,000. For this figure, he will determine if the current pump sizing is correct. He will also provide comments on the pumps I have selected as replacements.

I am seeking approval to proceed with Sami's engineering so we can replace these pumps ASAP.
If Sami's investigation reveals they are the correct replacement pumps I am also seeking approval to purchase the replacement pumps on Costars at a cost of $ 23,655.
It should be noted that there will be additional installation expenses. The installation cost is estimated to be $ 3,500 total.
FYI, we have another pump blockage today. This is the 4th blockage in 3 weeks.

Jeff

Jeffry D. Clapper
Pocono Township
Public Works Director
484-553-3336 cell
570-629-1922 x 217 office

From: Sami Sarrouh [mailto:SSarrouh@tandmassociates.com]
Sent: Tuesday, April 19, 2016 2:44 PM
To: Jeffry Clapper <jclapper@poconopa.gov>
Cc: Mark Ambrose(T&M) <mambrose@tandmassociates.com>; Russell G. Benner Jr. <RBenner@tandmassociates.com>
Subject: Pump Station 2 Hydraulic Evaluation per our telephone conversation today.

Jeff
Per our telephone conversation I am sending you this as a cost to only do the hydraulic analysis and pump sizing for pump station two. This will result in providing you a pump versus system curve and anh opinion to either approve or modify the pump selection and size, already made by Pocono, based on how it fits within in the system.
This effort does not include any investigation beyond pump size such as it:

- Does not include any investigation of the pump station Instrumentation and controls. Per prior phone calls I got by your electrician and you there were some issues in the speed settings when he looked at it. There may be other problems since they were done by the same people who did the other facilities.

- Does not include any electric power evaluation. Judging from the over 30 violations in the other facilities and since were designed by and done by the same people I fear that the same mistakes would be repeated here.
- Does not include any modification to the pump control logic or interlocks. Hence the unsafe and unstable level and flow operation seen elsewhere may still be present.
- Does not include any specifications, drawings or other contract documents
- Does not include any technical reports or memoranda, trips, meetings, presentations or extended conference calls
- DOES NOT INCLUDE ANY STATED OR IMPLIED RESPONISIBILITY AS IT RELATES TO THE OPERATION OF THE FACILITY OR PERFORMANCE OF THE PUMPS AS A RESULT OF THIS EFFORT. <u>The facility does not meet Hydraulic Institute standards not to mention the remaining inadequate controls. Since proper operation depends on a lot of factors more than pump size this effort is insufficient for porper operation and does not meet standard of care for a properly functioning pump station.</u>

I appologize for the emphasis but I didn't want to held responsible for other peoples mistakes because a decision was made to conduct a partial analysis. Thepump sizing effort as described above will take about a week of work. As such the fee will be 40 hrs@$285/hr= $ 11,400 + minor admin costs to a total of no more than $12,000.
Please let me know if you have any questions.

SAMI SARROUH, PE
SENIOR TECHNICAL ENVIRONMENTAL ENGINEER

600 Superior Avenue East, Suite 1300, Cleveland, OH 44114
T + 216.479.6853 **D** + 440.471.0354 **C** + 216.688.6462
SSARROUH@TANDMASSOCIATES.COM | TANDMASSOCIATES.COM

POCONO TOWNSHIP AND HAMILTON TOWNSHIP REGIONAL SEWER SYSTEM
SEWER SERVICE INQUIRY

The purpose of this form is to aid Pocono Township in addressing the questions and concerns of its sewer users. The form should be filled out with as much information as possible by the PROPERTY OWNER. Attach additional supporting information (such as water usage data or an existing NPDES Permit) to assist the Township to address your concerns. You may attach additional sheets if needed. Please print or type forms.

Once submitted, Pocono Township will review the information provided and place the inquiry on the agenda at the Township's Commissioners meeting, where a decision may be rendered. All Township Meetings are open to the public.

Completed Sewer Customer Inquiry forms can be hand delivered or mailed to: Pocono Township Commissioners, P.O. Box 197, Tannersville, PA 18372 RE: SEWER SERVICE INQUIRY.

PROPERTY TAX MAP ID: DATE:

PROPERTY INFORMATION: POCONO TWP. X HAMILTON TWP.____
PROPERTY OWNER NAME: Brian Seitz
BUSINESS NAME: Seitz Brothers
SEWER SERVICE ADDRESS: 2857 & 2859 Route 611 Tannersville, PA 18372
*Provide a specific property name, if applicable (Example XYZ Plaza)

PROPERTY OWNER'S CONTACT INFORMATION
MAILING ADDRESS: 83 Claremont Ave Tamaqua, PA 18252
PHONE NUMBER: (570) 629-5151

PROPERTY OWNER'S REPRESENTATIVE'S CONTACT INFORMATION:
PERSON CALLING: Jill Murphy
RELATIONSHIP TO OWNER: Manager at Seitz Broth.
PHONE NUMBER: (570) 629-5151
MAILING ADDRESS: 2857 Route 611 Tannersville PA. 18372

INQUIRY: Provide as much detail as to the nature of the inquiry as possible. (Attach supporting information)
Why being charged for "3 EDU's" for these properties.
Attached are the statements for the past year for each location.

PROPERTY USE: Provide information regarding all the existing uses of the property in question. (for example, if the property in question as several business's, please provide the name and description of each business. If the existing use is a multifamily residence, provide number of apartments.)
2859 - Single dwelling home occupied by one adult
2857 - Is used as an office for the exterminating business. Service technicians fill the tank on there truck daily for the days work

WATER SUPPLIER: Is the property served by public water system: YES____NO____ (Check one) IF PUBLIC: BCRA____, PJWA____ (Check one)

TOWNSHIP USE ONLY

ESTIMATED ASSIGNED FLOW:	TABLE NO.
ESTIMATED ASSIGNED EDU'S:	ESTIMATED USER RATE:
HOW WAS FLOW DETERMINED?	ESTIMATED TAPPING FEE:

COMMENTS:

RECEIVED
APR 14 2016
POCONO TOWNSHIP

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393	SEITZ BROTHERS	2857 ROUTE 611

Service/Description	Amount
WATER CHARGE	92.62

Due Date	Pay After Due Date	Pay By Due Date
02/13/15	93.39	92.62

Service Period		Meter Reading		
From	To	Previous	Current	Usage
10/02/14	01/07/15	315150	330320	15170

WATER UNITS = 1.21 SEWER UNITS = 0.00

pd 92.62
2/5/15
ck 10630

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393	SEITZ BROTHERS	2857 ROUTE 611

Service/Description	Amount
WATER CHARGE	251.93

Due Date	Pay After Due Date	Pay By Due Date
05/14/15	254.02	251.93

Service Period		Meter Reading		
From	To	Previous	Current	Usage
01/07/15	04/06/15	330320	398480	68160

WATER UNITS = 1.70 SEWER UNITS = 0.00

If you are paying bill at office, due to the bridge work you can only reach our location by entering Mill Creek Rd from N. Fifth St. (Rte. 191).

pd 251.93
5/7/15 ck 10948

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393	SEITZ BROTHERS	2857 ROUTE 611

Service/Description	Amount
WATER CHARGE	138.49

Due Date	Pay After Due Date	Pay By Due Date
08/14/15	139.64	138.49

Service Period		Meter Reading		
From	To	Previous	Current	Usage
04/06/15	07/06/15	398480	423010	24530

WATER UNITS = 1.70 SEWER UNITS = 0.00

IF YOU ARE PAYING BILL AT OFFICE, DUE TO THE BRIDGE WORK YOU CAN ONLY REACH OUR LOCATION BY ENTERING MILL CREEK RD FROM N.FIFTH ST (RTE.191).

pd 138.49
8/6/15
ck 11241

Office

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393	SEITZ BROTHERS	2857 ROUTE 611

Service/Description	Amount
WATER CHARGE	115.98

Due Date	Pay After Due Date	Pay By Due Date
11/13/15	116.94	115.98

Service Period		Meter Reading		
From	To	Previous	Current	Usage
07/06/15	10/02/15	423010	438880	15870

WATER UNITS = 1.70 SEWER UNITS = 0.00

pd 115.98 11.5.15 ck 11582

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393	SEITZ BROTHERS	2857 ROUTE 611

Service/Description	Amount
WATER CHARGE	102.51

Due Date	Pay After Due Date	Pay By Due Date
02/16/16	103.36	102.51

Service Period		Meter Reading		
From	To	Previous	Current	Usage
10/02/15	01/06/16	438880	449570	10690

WATER UNITS = 1.70 SEWER UNITS = 0.00

pd 102.51 2-4-16 ck 11885

Office

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393-1	SEITZ BROTHERS	2859 ROUTE 611/LEARN ROAD

Service/Description	Amount
WATER CHARGE	61.34

Due Date	Pay After Due Date	Pay By Due Date
02/13/15	61.85	61.34

Service Period		Meter Reading		
From	To	Previous	Current	Usage
10/02/14	01/07/15	116990	123680	6690

WATER UNITS = 1.00 SEWER UNITS = 0.00

pd 61.34 2/5/15 ck 10636

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393-1	SEITZ BROTHERS	2859 ROUTE 611/LEARN ROAD

Service/Description	Amount
WATER CHARGE	54.17

Due Date	Pay After Due Date	Pay By Due Date
05/14/15	54.62	54.17

Service Period		Meter Reading		
From	To	Previous	Current	Usage
01/07/15	04/06/15	123680	127610	3930

WATER UNITS = 1.00 SEWER UNITS = 0.00

If you are paying bill at office, due to the bridge work you can only reach our location by entering Mill Creek Rd from N. Fifth St. (Rte. 191).

pd 54.17 5/7/15 ck 10948

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393-1	SEITZ BROTHERS	2859 ROUTE 611/LEARN ROAD

Service/Description	Amount
WATER CHARGE	56.82

Due Date	Pay After Due Date	Pay By Due Date
08/14/15	57.29	56.82

Service Period		Meter Reading		
From	To	Previous	Current	Usage
04/06/15	07/06/15	127610	132560	4950

WATER UNITS = 1.00 SEWER UNITS = 0.00

IF YOU ARE PAYING BILL AT OFFICE, DUE TO THE BRIDGE WORK YOU CAN ONLY REACH OUR LOCATION BY ENTERING MILL CREEK RD FROM N.FIFTH ST (RTE.191).

pd 56.82 8/6/15 ck # 11241

house

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393-1	SEITZ BROTHERS	2859 ROUTE 611/LEARN ROAD

Service/Description	Amount
WATER CHARGE	56.56

Due Date	Pay After Due Date	Pay By Due Date
11/13/15	57.03	56.56

Service Period		Meter Reading		
From	To	Previous	Current	Usage
07/06/15	10/02/15	132560	137410	4850

WATER UNITS = 1.00 SEWER UNITS = 0.00

pd 57.03 11-5-15 ck 11532

KEEP THIS PORTION FOR YOUR RECORDS (SEE BACK FOR IMPORTANT INFORMATION)

Account Number	Name	Service Address
07393-1	SEITZ BROTHERS	2859 ROUTE 611/LEARN ROAD

Service/Description	Amount
PREVIOUS BALANCE	-0.47
WATER CHARGE	57.31

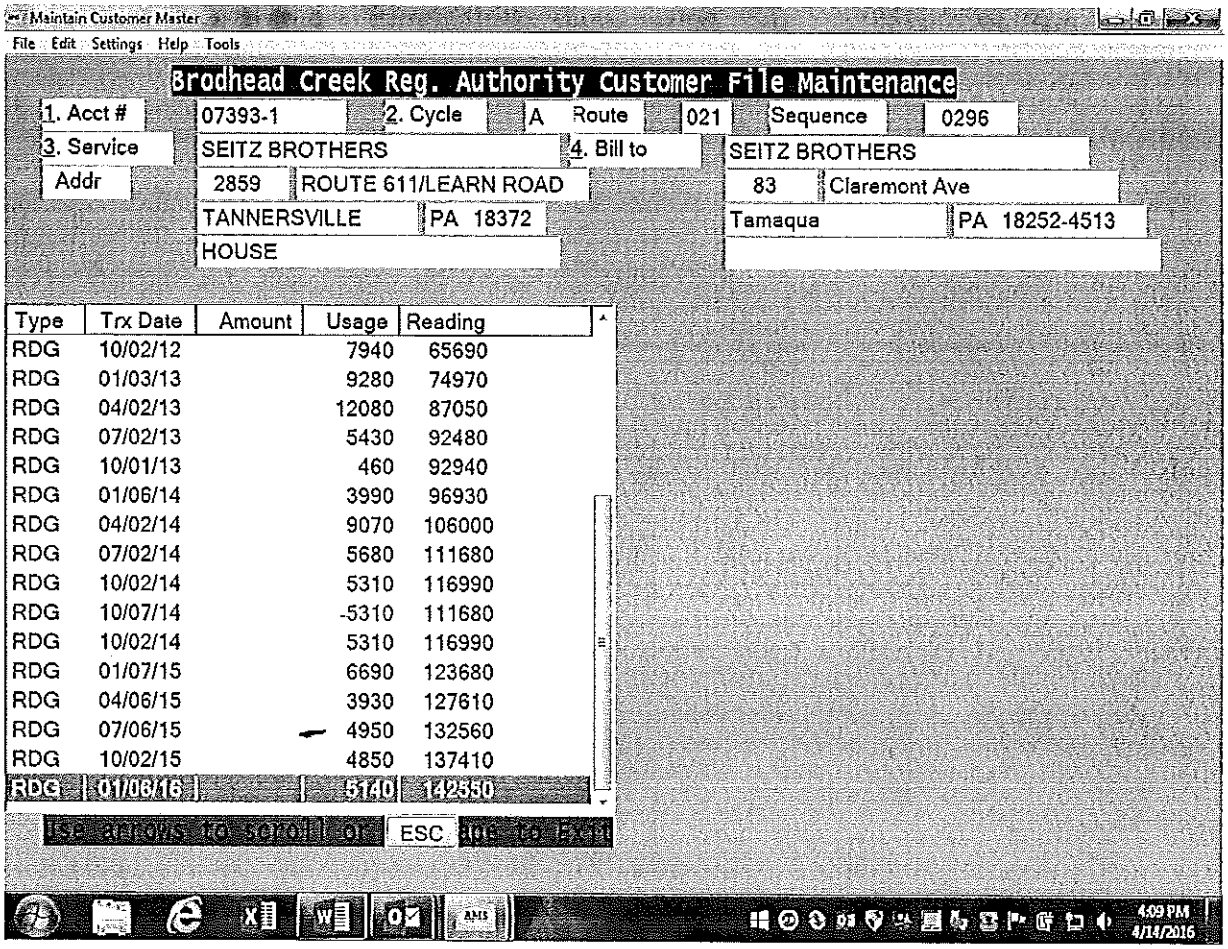
Due Date	Pay After Due Date	Pay By Due Date
02/16/16	57.31	56.84

Service Period		Meter Reading		
From	To	Previous	Current	Usage
10/02/15	01/06/16	137410	142550	5140

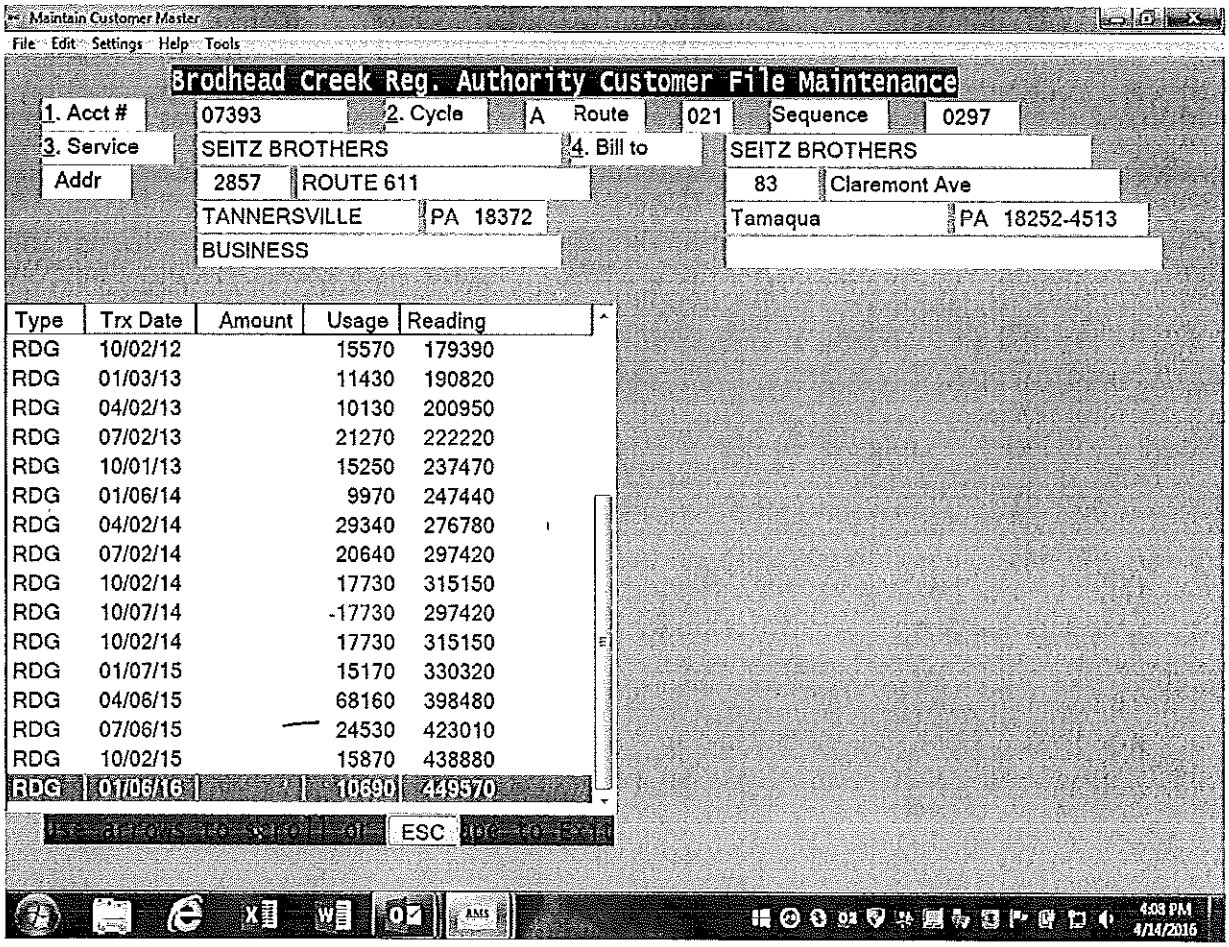
WATER UNITS = 1.00 SEWER UNITS = 0.00

pd 56.84 2-4-16 ck 12885

House


Maintain Customer Master
File Edit Settings Help Tools
Brodhead Creek Reg. Authority Customer File Maintenance
1. Acct # 07393-1
2. Cycle A
Route 021
Sequence 0296
3. Service Addr
SEITZ BROTHERS
2859 ROUTE 611/LEARN ROAD
TANNERSVILLE PA 18372
HOUSE
4. Bill to
SEITZ BROTHERS
83 Claremont Ave
Tamaqua PA 18252-4513
Type Trx Date Amount Usage Reading
RDG 10/02/12 7940 65690
RDG 01/03/13 9280 74970
RDG 04/02/13 12080 87050
RDG 07/02/13 5430 92480
RDG 10/01/13 460 92940
RDG 01/06/14 3990 96930
RDG 04/02/14 9070 106000
RDG 07/02/14 5680 111680
RDG 10/02/14 5310 116990
RDG 10/07/14 -5310 111680
RDG 10/02/14 5310 116990
RDG 01/07/15 6690 123680
RDG 04/06/15 3930 127610
RDG 07/06/15 4950 132560
RDG 10/02/15 4850 137410
RDG 01/06/16 5140 142550
Use arrows to scroll or ESC age to Exit
4:09 PM
4/14/2016

House 1 EDU



Business

1.1 EDU

= 2 EDU

POCONO TOWNSHIP AND HAMILTON TOWNSHIP REGIONAL SEWER SYSTEM
SEWER SERVICE INQUIRY

The purpose of this form is to aid Pocono Township in addressing the questions and concerns of its sewer users. The form should be filled out with as much information as possible by the PROPERTY OWNER. Attach additional supporting information (such as water usage data or an existing NPDES Permit) to assist the Township to address your concerns. You may attach additional sheets if needed. Please print or type forms.

Once submitted, Pocono Township will review the information provided and place the inquiry on the agenda at the Township's Commissioners meeting, where a decision may be rendered. All Township Meetings are open to the public.

Completed Sewer Customer Inquiry forms can be hand delivered or mailed to: Pocono Township Commissioners, P.O. Box 197, Tannersville, PA 18372 RE: SEWER SERVICE INQUIRY.

PROPERTY TAX MAP ID: 12/8/2/46/ DATE: 4/21/16

PROPERTY INFORMATION: POCONO TWP. ✓ HAMILTON TWP. ____

PROPERTY OWNER NAME: Robert + Roseann Grimaldi

BUSINESS NAME: Rabbit INC / GAbels

SEWER SERVICE ADDRESS: RT 611 + Algerkd Tannersville, PA 18372

*Provide a specific property name, if applicable (Example XYZ Plaza)

PROPERTY OWNER'S CONTACT INFORMATION

MAILING ADDRESS: 428 Cherry Lane Rd E. STBG. PA 18301

PHONE NUMBER: 570-656 7817

PROPERTY OWNER'S REPRESENTATIVE'S CONTACT INFORMATION:

PERSON CALLING: N/A

RELATIONSHIP TO OWNER: _____

PHONE NUMBER: _____

MAILING ADDRESS: _____

INQUIRY: Provide as much detail as to the nature of the inquiry as possible. (Attach supporting information)

Please See Attached EMAil

PROPERTY USE: Provide information regarding all the existing uses of the property in question. (for example, if the property in question as several business's, please provide the name and description of each business. If the existing use is a multifamily residence, provide number of apartments.)

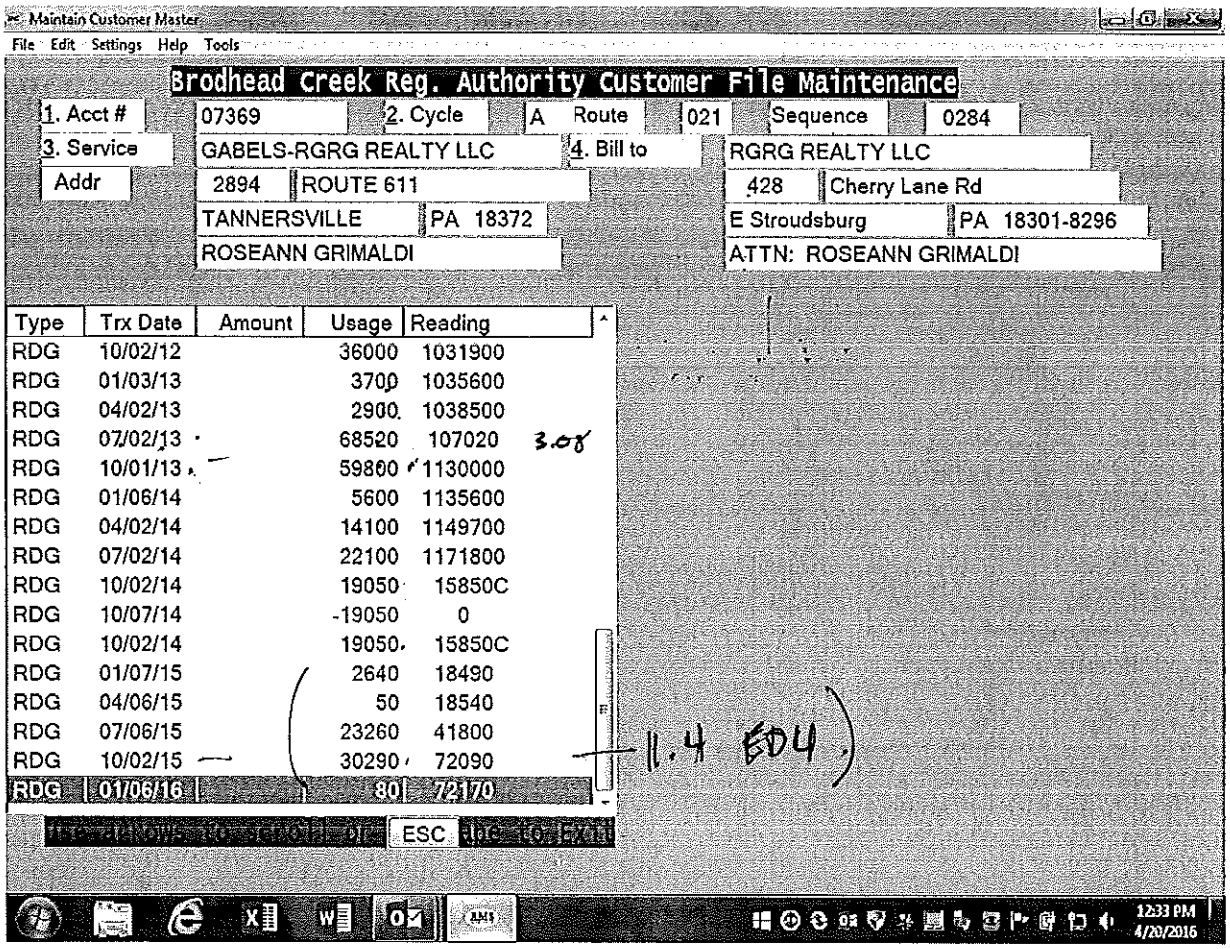
Seasonal Business. Closed 6 months A year. Please See Attached EMAil.

WATER SUPPLIER: Is the property served by public water system: YES ✓ NO ____ (Check one) IF PUBLIC: BCRA ✓, PJWA ____ (Check one)

TOWNSHIP USE ONLY

ESTIMATED ASSIGNED FLOW:	TABLE NO.
ESTIMATED ASSIGNED EDU'S:	ESTIMATED USER RATE:
HOW WAS FLOW DETERMINED?	ESTIMATED TAPPING FEE:

COMMENTS:


Maintain Customer Master
File Edit Settings Help Tools
Brodhead Creek Reg. Authority Customer File Maintenance
1. Acct # 07369
2. Cycle A
Route 021
Sequence 0284
3. Service Addr
GABELS-RGRG REALTY LLC
2894 ROUTE 611
TANNERSVILLE PA 18372
ROSEANN GRIMALDI
4. Bill to
RGRG REALTY LLC
428 Cherry Lane Rd
E Stroudsburg PA 18301-8296
ATTN: ROSEANN GRIMALDI
Type Trx Date Amount Usage Reading
RDG 10/02/12 36000 1031900
RDG 01/03/13 3700 1035600
RDG 04/02/13 2900 1038500
RDG 07/02/13 68520 107020
RDG 10/01/13 59800 1130000
RDG 01/06/14 5600 1135600
RDG 04/02/14 14100 1149700
RDG 07/02/14 22100 1171800
RDG 10/02/14 19050 15850C
RDG 10/07/14 -19050 0
RDG 10/02/14 19050 15850C
RDG 01/07/15 2640 18490
RDG 04/06/15 50 18540
RDG 07/06/15 23260 41800
RDG 10/02/15 30290 72090
RDG 01/06/16 80 72170
ESC
12:33 PM
4/20/2016

Jeffry Clapper

From: robert grimaldi <rgrimaldi2003@yahoo.com>
Sent: Wednesday, April 20, 2016 1:39 PM
To: Jeffry Clapper
Subject: Gabels Ice Cream request for EDU reveiw

Dear Jeff,
Thank you for the quick response to my request for an EDU/water flow report, I understand you have found my highest quarter to be 1.4 EDUs in 2015 thus requiring me to pay for 2 EDUs upon hook up. I strongly disagree with this assessment and I would like a chance to present my case before the Board of Commissioner's at the next sewer meeting. Gabels usage is 0 for 2 quarters a year and I would like that fact to be considered when making a final determination. Gabels has been a seasonal business for decades, and has been opening later in April and closing earlier in September as more and more franchises come into the area. This assessment is not only unfair but it will also cause another undue burden on a business that has been serving this community since 1956. I thank you for your time and would appreciate your reconsidering your recommendation of 2 EDUs to the board, please feel free to contact me anytime to discuss this matter further.

Robert Grimaldi
570-656-7817

Gregg Schuster

From: Jeffry Clapper
Sent: Tuesday, April 26, 2016 12:14 PM
To: Gregg Schuster
Subject: Sewer Service Problem

Gregg-

There is a problem with the property at 213 Lower Scot Run Drive. Mr. Jason Jurasits owns a home there. He is in the current service area but is separated from the connection point by Scot Run Creek. The commission should decide whether he has to connect or not. If he does, it will require a pressure system and a stream crossing with a long service lateral to his home resulting in an expensive installation. Please place this on the next sewer committee meeting.

Jeff

Jeffry D. Clapper
Pocono Township
Public Works Director
484-553-3336 cell
570-629-1922 x 217 office

AMENDED

POCONO / HAMILTON JOINT SEWER SYSTEM PROCEDURES MANUAL

Section 4

Initial Service Area Connection Procedures

Adopted: September 17, 2013

Resolution No. 2013 - 23

SECTION IV - INITIAL SERVICE AREA CONNECTION PROCEDURES

This section outlines the steps necessary for improved properties within the initial service area to connect to the Pocono / Hamilton Township Joint Sewer System (P/HTJSS). The steps described in this section shall only apply to Developed Properties within the Sewered Area as that Sewered Area existed on October 1, 2012 that receive a Connection Notice from either the Pocono Township Board of Commissioners or the Hamilton Township Board of Supervisors.

The initial service area boundaries are defined as follows: the State Route 611 corridor from Pocono/Paradise Township border to the Hamilton/Stroud Township Border on Frantz Road including spurs on the following roads; Swiftwater Road (Route 314) from the intersection at Route 611 to the intersections of Upper and Lower Swiftwater Road, all sections of Wiscasset and Scotrun Avenue (formerly State Route 168) in Scotrun & Swiftwater with the exception of Lower Scotrun Avenue, State Route 715 south from the intersection of Route 611 to Rail Road Ave. and approximately 500 feet west along Railroad Ave, Learn Road, Pigeon Way, Old Mill Road to one block south of Route 611, Alger Avenue from Route 611 to the unnamed tributary of Pocono Creek, Pocono Creek Lane and Barton Circle, Pocono Lane, Ridge View Drive and Dory Place, Bartonsville Ave. for approximately 560 feet north from Route 611 at Rim Rock Road, Cruver Lane and Kirk Lane.

4.01 CONNECTION PROCESS.

To connect to the (P/HTJSS) each Owner shall complete the steps described in this section.

- Obtain from Pocono Township, and complete, a Connection Permit Application Cover Sheet, Connection Permit Application, and Connection Permit Application Fee Agreement.
- Prepare plans and specifications for the Building Sewer connection.
- Submit the completed application documents along with four (4) sets of the Building Sewer connection plans, specifications and the appropriate fees to Pocono Township for review and approval. ***(The review process may require additional submittals before the plans are approved)***.
- After review and approval by Pocono Township, receive one set of plans and specifications marked "Approved for Construction" (the "Approved Plans") along with a copy of the Connection Permit Application with Section II signed by the designated representative of Pocono Township.
- Request an inspection schedule for the Building Sewer installation from the designated Pocono Township representative.
- Engage a competent contractor (Owners may opt to install the connection themselves). ***The Owner should be sure to provide a set of the Approved Plans to the contractor prior to the start of work***.
- Submit Contractor information and Insurance Certificate naming Pocono Township as an Additional Insured to Pocono Township.
- Schedule the construction inspections with Pocono Township.
- Install the Building Sewer and other required improvements.
- Test all components of the installation and have the testing observed by a designated representative of Pocono Township.
- Clean-out and abandon all on-lot sewage disposal systems (i.e. septic tanks, cess pools, etc.)
- Mark any deviations from the Approved Plans on a clean set of plans. These are the "As-built" drawings.
- Have Section III, Certificate of Completion of the Connection Permit Application signed by the designated representative of Pocono Township who inspected the installation of the Building Sewer & components.
- Submit the fully completed/executed Connection Permit Application along with two (2) sets of the "As-built" drawings to Pocono Township.
- Receive a Connection Permit from Pocono Township with the Account Number Assigned and Effective Billing Date filled in.

Once the Connection Permit is issued by Pocono Township, the Building Sewer connection process will be considered complete.

4.02 FORMS, FEES, PERMITS AND CERTIFICATES.

A. Submittals - Description and Approval.

This section outlines the necessary forms to be submitted and indicates how approvals are granted to Applicants to connect to the P/HTJSS in the initial service area.

If the Applicant is not the Owner, the Applicant must have an affidavit from the Owner authorizing the Applicant to act on the Owner's behalf with regard to all applications and contracts.

Examples of the application and other required forms can be found in **Appendix 4A** of this Section. Blank forms for completion and submittal may be obtained at the Pocono Township Municipal Building located at 112 Township Drive, Tannersville, PA 18372. The form is available in both electronic and hard copy format.

A Connection Permit Application Fee, as set forth on the most current Pocono or Hamilton Township (as applicable) rate resolution/fee schedule, shall be submitted to cover the costs for reviewing and processing the Connection Permit Application and conducting the inspections and testing of the Building Sewer installation. The fee for a single family residence utilizing a gravity connection will include:

- One review of the Connection Permit Application;
- Two field inspections;
- One Hydrostatic Test or Air Pressure test observation/field inspection.

If an application is returned to the Applicant as "Incomplete" or requiring revision, an additional fee for review or inspection may be charged based upon actual time spent.

If a test fails, subsequent retesting observations may be charged based upon actual time spent.

For any other proposed connection, the Connection Permit Application fee will be a deposit. All costs to review, process, inspect, and observe testing will be charged based upon time spent. Any unused portion of that deposit will be returned to the Applicant, any shortfall will be invoiced to the Applicant.

No Connection Permit will be issued until all outstanding fees are paid in full.

If the owner and/or the Applicant is a corporate or other legal entity, all signatories must be officers/signatories of the corporation or other legal entity with signatory rights to contract for that corporation or other legal entity, and the position within the corporation or other legal entity must be indicated.

1. Connection Permit Application.
This document has three sections.

Section I. **Application to construct a Building Sewer for the Owner's property** - Application must be accompanied by the required fees.

Section II. **Application & Plan Approval -** Approval by Pocono Township to proceed with the construction to connect to the P/HTJSS.

Section III. **Certificate of Completion -** Indicates the Applicant has complied with all of the Pocono Township requirements for construction and testing of the Building Sewer.

2. Connection Permit.
Evidences that the Building Sewer connection process is complete and that the Owner is authorized to commence discharging sewage to the P/HTJSS. It shall be issued only after payment of all required fees and compliance with all requirements of this Procedures Manual.

3. Plans and Specifications.
Construction plans and specifications shall be submitted to Pocono Township along with the completed Connection Permit Application before the commencement of any construction.

4. Inspections.
Depending on the extent of the installation, inspections, in addition to those set forth herein, may be required by Pocono Township, including follow-up inspections after a failed inspection or test.

B. Application.

A Connection Permit Application and required fee, along with plans, specifications and a description of the work to be undertaken and supporting documentation required by this Procedures Manual shall be submitted. The plans must show the location of the proposed Building Sewer, the proposed connection of the same to the Lateral, cleanouts, traps, and adapters. The location of the existing septic tank and associated sewer piping shall also be shown on the plans. The plans shall provide the pipe material, size, slope, cleanout locations, and installation details for the proposed Building Sewer and Lateral connection. The plans must also indicate the point of discharge of all roof drains, downspouts, floor drains and sump pumps. ***Connection of roof drains, downspouts, floor drains and sump pumps to the Building Sewer and lateral are prohibited.*** If, in the course of work, it is found necessary to make any change from the Approved Plans and specifications, amended plans and specifications shall be submitted and, if approved, a supplementary approval shall be issued to cover the change after the same conditions required to secure the original approval have been satisfied.

C. Building Sewer Construction Authorization.

Upon receipt and approval of a properly executed Connection Permit Application, and after receipt of the Application Fee, Pocono Township will sign Section II of the Connection Permit application and return a copy to the Applicant to authorize construction of the Building Sewer. Once the construction authorization has been issued the Applicant shall make and complete, within the time period required by the Connection Notice, the connection. No construction/installation shall commence until such construction authorization is issued.

D. Highway Occupancy/Roadway Encroachment Permit.

If any work is required within an improved road beyond the edge of the easement of Right-of-Way the Applicant shall secure a Highway Occupancy or Roadway Encroachment Permit or arrange for said Permit from the proper issuing entity before entering the roadway right-of-way to perform any work. For any highway occupancy permit wherein Pocono Township is the applicant a performance guaranty from the Applicant in favor of Pocono Township to cover the work, shall be required. Any and all requirements for encroachment on a public road right-of-way shall be met and satisfied in accordance with the Highway Occupancy/Roadway Encroachment Permit at the expense of the Applicant including proper restoration of the road after installation of any Building Sewer, Lateral or sewer extension.

E. Contractor Insurance.

As part of the Connection Permit Application, but in any event, before the commencement of any construction, the Applicant shall provide the following information to Pocono Township:

- Name, address, and telephone number of the Contractor and the Contractor's Representative.
- Contractor's License Number
- Insurance Certificate naming Pocono Township as an Additional Insured (see Appendix D for limits).

F. As-built Drawings

Upon completion of the Building Sewer installation, the Applicant shall furnish Pocono Township with two (2) copies of an "As-built" plan which accurately shows locations and elevations of the building, Building Sewer, gravity connection lateral and/or low pressure connection lateral, cleanouts, valves, traps, control panels, grinder pump, sewage pumps, etc. noting any deviations from the Approved Plans.

4.03 CERTIFICATE OF COMPLETION AND CONNECTION PERMIT.

The Owner shall not discharge any sewage into the P/HTJSS system until Pocono Township or an Authorized Representative of Pocono Township has signed the Certificate of Completion section of the Application, and issued a Connection Permit.

A. Preparation, Submittal and Review of Plans.

All plans shall be prepared and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania except for plans for a single family dwelling meeting the following conditions:

- A gravity connection Building Sewer to an existing gravity Lateral.

- Single Building Sewer passing only within the Owner's property.
  - Plans for a single family dwelling meeting these conditions may be prepared and submitted by a person qualified to prepare such plans.
- Pressure Sewer Laterals Associated with a Grinder Pumping System Serving a Residential Property
  - Design calculations indicating that the proposed pump and associated force main are properly sized to accommodate the proposed sewage flows shall be provided. These calculations can be prepared by either a Professional Engineer or the pump supplier.

B. Plans

The Applicant shall submit four (4) sets of plans and specifications to Pocono Township who shall forward two (2) sets to the Township's designated reviewer. If revisions are needed the reviewer will return one (1) set of marked-up plans to the Applicant. The Applicant shall have the plans revised and return four (4) sets of the revised plans to Pocono Township for review. It is the Applicant's responsibility to make sure all of the reviewer's comments are addressed and corrected. The review and re-submittal process will continue until the reviewer is satisfied that the plans are in conformance with these standards and can be approved. Once approved, Pocono Township shall return one (1) set of the plans and specifications stamped Approved for Construction to the Applicant. ***It is the Applicant's responsibility to provide a copy of the Approved Plans to their contractor.***

No work shall be performed to install the Building Sewer and no inspection shall be scheduled prior to issuance of the Approved Plan. Any work performed prior to receipt of the Approved Plans with the "Approved for Construction" stamp on them will be summarily rejected.

All Plans prepared for the construction of a Commercial Building Sewer, whether gravity or pressurized, shall comply with the following standards. Residential Building Sewer plans shall include as much information identified below to summarize how the proposed sewer connection will be constructed.

1. **Size.**
   All plans shall be on a minimum 8-1/2 by 11 inch sheets.
2. **Scale.**
   Plan and profile drawings shall be at a maximum scale of 1" = 50 ' horizontal and 1" = 5' vertical.
3. **Information to be Included.**

   Plans shall show:

   a. Street names.
   b. North arrow.
   c. The location of all utility lines, existing and proposed;
   d. Location of the existing on-lot sewage disposal system and piping;
   e. The size of the pipe proposed to connect to the P/HTJSS;
   f. The direction of flow;
   g. The location of any above-ground or below-ground structures on the property;
   h. The location of all existing manholes and proposed manholes cleanouts, tanks, grease traps etc;
   i. A profile of the proposed Building Sewer showing all existing sewer lines, water lines, storm sewers, electric lines and any other underground utilities that may be intersected;

j. Trench reconstruction details.

k. Clean-out detail.

l. Detail showing the connection of Building Sewer to the Lateral

m. Detail showing connection to existing Building Drain;

n. Erosion and sediment control measures;

o. Proposed easements/rights of way if and where required;

p. Details and procedures for abandonment of the existing septic tank, cesspool, on-site sewage treatment plant or grease trap.

q. All information required by the "Public Underground Utilities Act," and amendments, which lists the utilities within the work area shall be shown on the plans; and "PA One Call" serial number shall be indicated on the plans.

r. Testing specification and procedures

s. Installations that require either a grinder or sewage pump shall also include details of the pump station installation, including dimensions, float mechanism, check valve, tank vent, electrical junction box, circuit breakers or disconnect switches, control panel with visual and audible alarms, bedding material, concrete anchor, etc. Calculations for the sizing of the pump, pipe and appurtenances shall also be provided with the plans.

C. Plan Review and Revision Submittals.

All plans shall be submitted to Pocono Township. The submission shall be accompanied by payment of all applicable fees, charges, etc. The Application shall constitute a formal request for review by Pocono Township.

All subsequent revisions, regardless of the reason, shall also be submitted to Pocono Township and be subject to additional review fee charges, as appropriate.

Pocono Township shall issue a submission receipt each time plans are submitted. Subsequent submissions shall bear a revision date each time submitted and numbered. Four sets of plans shall be submitted as part of each submission. Upon final approval of the plans, they shall be stamped "Approved for Construction", whereupon one copy will be returned to the Applicant, one copy will remain with the Pocono Township Board of Commissioners, one copy will be retained by the Pocono Township Reviewer and one copy shall be forwarded to the Pocono Township Inspector.

4.04 CONSTRUCTION MATERIALS AND STANDARDS.

Construction standards for all Building Sewers, Laterals, including mechanical and electrical equipment will be as per the Pocono / Hamilton Joint Sewer System Procedures Manual, or if more stringent, the most stringent of the following:

- Regulations of the PaDEP enacted after the P/HJSS Procedures Manual was formally adopted;
- The latest edition of the International Plumbing Code (IPC) which is at least one year old when construction commences.

A. Pressure Building Sewer and Lateral.

Pipes for Building Sewers and Laterals under pressure shall be as follows:

1. Pipe less than three (3) inches in diameter shall be Sch. 40, 80, or DR 21 PVC or High-density Polyethylene pipe having a pressure rating of 150 PSI or greater, as a minimum. Fittings shall have a pressure rating equal to that of the pipe.

2. Pipe three (3) inches in diameter or greater shall be Sch. 80 or DR 21 PVC having a pressure rating of 150 PSI or greater or PVC class 150 pressure pipe conforming to AWWA Specification C-900 or Protecto 901 ceramic cement lined ductile iron for higher pressure applications.

3. Joints shall be braced with thrust blocking on low pressure lines and with thrust blocking and mechanical restraints for higher pressure applications

4. The minimum depth of all pressure pipes shall be four and one-half (4-1/2) feet measured from finished grade to the top of the pipe.

B. Gravity Laterals and Building Sewers.

Pipe for gravity Laterals and Building Sewers shall be a minimum of 4-inches in diameter and as follows:

1. All Pipe and fittings 4-inches internal diameter or greater shall be PVC schedule 40 or 80 conforming to ASTM D2665 or SDR 35 at a minimum.

2. The slope or grade of the pipe shall be no less than one-quarter (1/4) inch per foot of length sloping downward in the direction the waste material is to flow. (0.02 Ft /Ft and 2% are equivalent slopes to ¼-inch per foot)

3. The minimum depth of a Building Sewer or a gravity Lateral measured from finished grade to the top of the pipe shall be thirty six (36) inches.

4. Building Sewers serving single family residential properties require a clean out at the point of connection with the Building Drain, at the connection to the Lateral and every 50 feet in between for 4 inch pipe, or every 100 feet for 6 inch pipe. Clean outs are also required at all changes in pipe direction.

5. For other than single family residential properties, the Applicant must furnish the calculations verifying that the proposed Building Sewer is properly sized based on slope, volume, velocity, and pipe material.

C. Installation of Whole House Trap ("P" Trap)

The installation of a Whole House Trap or "P" trap shall be included in the installation of all new Building Sewers in the Township. "P" traps can be located either inside a building in the basement or in a conditioned crawl space if plumbing and available space allow or outside the building at a location where ground cover requirements of 42 inches over the trap permit. Installation details are shown in Figure 15.

D. Fittings and Adapters.

All fittings shall be designed for use with the pipe used in construction, and shall have a service rating equal to that of the pipe. Any fitting or tap-in which has an enlargement, chamber, or recess with a ledge, shoulder or reduction of pipe area, that offers an obstructed flow through the pipe, is prohibited. Connections between different types of pipe materials shall be made by adapter fittings or by means of an acceptable prefabricated sealing ring or sleeve specifically approved by Pocono Township. No cement mortar joints shall be permitted.

1. The connection to the Building Drain shall be made using the same class and diameter of pipe as the Building Sewer. If the existing pipe is of a different material type or class than the new pipe the connection shall be made using appropriate concentric PVC push-on type or compression adaptor couplings where possible. The use of a rubber style coupling with stainless steel band clamps will only be considered if either of these types of adaptor coupling is not manufactured for joining the two types of pipe involved and then only with the approval of Pocono Township.

2. The connection to the service roadway edge Lateral shall be made using SDR 35 PVC pipe for the first 5 to 10 feet at the edge of the property. Connections between the SDR 35 pipe and pipes of a different class shall be made using the appropriate concentric PVC push-on type adaptor couplings. Glued fittings shall **NOT** be permitted for making the connections within 10 feet of the Lateral. If the fitting at the end of the Lateral is damaged, it shall be replaced in-kind. No repairs to the existing fitting at the end of the Lateral shall be permitted. If the Lateral terminates with a pipe end, the pipe may be cut if it is damage. The pipe end must be beveled and a new section of SDR 35 PVC pipe installed to the edge of the property line so that the clean-out is not installed within the Right-of –Way or easement. Township approval is required in special circumstances where a clean-out must be installed in the Right-of-Way.

3. 90 degree elbows and Tees, other than tee fittings used for Clean-out Test Tees, shall be long radius sweep fittings. Two (20) 45 degree elbows may be used is series to accomplish 90-degree horizontal or vertical bends in lieu of a 90-degree sweep elbow.

4. Any Building Sewer that is proposed to connect to the P/HTJSS main at a location where a Lateral is not already provided shall connect to the sewer main with the use of a Pocono Township approved sewer saddle.

   a. Sewer saddles will be approved on an individual basis based upon project specific conditions. Sewer saddles shall be either a "CB" Style Sewer Saddle as manufactured by Romac Industries, Inc. or a Sealtite Sewer Pipe Saddle as manufactured by Geneco Products. The Applicant must submit shop drawings of the proposed sewer saddle to Pocono Township for review and approval with the plan submission.

   b. Installation of the Pocono Township approved sewer saddle on the Township's sewer main shall be in accordance with the manufacturer's instructions.

   c. In the special circumstance where a new gravity lateral "Wye" fitting and spool piece is to be installed on an existing sewer main a bolt-up compression style coupling will be required to connect the free end of the spool piece to the sewer main. The use of slip-on style couplings will not be allowed. The Applicant must submit shop drawings for both the Wye and coupler to Pocono Township with the plan submission for review and approval. Installation of the Wye and coupling on a gravity sewer main shall be in accordance with Figure 8d.

E. Pipe Bedding.

All piping shall be installed on suitable bedding material, a minimum 6-inches in depth consisting of either sand, PennDOT type No. 1B crushed stone, or other material approved by Pocono Township. The pipe bedding shall be placed on undisturbed earth or compacted material suitable for the loads imposed.

F. Select Backfill.

Select backfill shall be placed around the pipe and above the pipe to a height of one (1) foot above the pipe. The select backfill shall consist of sand, PennDot No. 1B crushed stone, or other material approved by Pocono Township. Select backfill shall contain no stone or rock exceeding one (1) inch in any dimension.

G. Backfill.

Backfill material to be placed above the Select Backfill shall not contain any rock larger than four (4) inches in any dimension. Backfill placed within a Township or PennDOT Right-of-Way shall comply with the requirements of any PennDOT Highway Occupancy or Township Roadway Encroachment Permit. Backfill placed in paved areas or driveways shall be PennDOT 2A crushed stone.

H. Compaction.

All backfill shall be compacted as follows:

1. Pipe Bedding and Select Backfill shall be firmly consolidated and chalked under and around the pipe using manual and mechanical means. The Select Fill shall be leveled in the trench above the pipe.

2. The initial lift of backfill placed above the Select Backfill shall be placed in a 1-foot lift, leveled and lightly tamped by mechanical means. Each subsequent lift of backfill shall be placed in loose lifts not to exceed eight (8) inches and compacted to ninety (90) percent of maximum density using approved compaction equipment in non-traffic locations and to ninety five (95) percent of maximum density in traffic areas.

I. Test Tee/Cleanout.

Each Building Sewer shall be equipped with a test tee/cleanout located at the Building Drain connection point. The test tee shall be installed to allow hydrostatic testing of the gravity Building Sewer and will serve as a cleanout after testing. It shall then be terminated to conform with the details shown in Figure 14.

J. Individual Sewage Pump Installations.

This section is for Building Sewers where an individual household sewage pump (capable of passing 2-inch solids) and grinder pump installation is required.

1. **General Requirements.**

a. Pumping units serving a single family dwelling shall be a single pump simplex system. Pumps serving multi-residential or commercial installations with a flow of 2 EDUs or more shall require duplex pumps. All necessary components shall be installed in a tank made for that purpose. The unit shall include the tank, tank cover, grinder or sewage pump and motor, quick disconnect system, check valve, junction box, start-stop level controls, motor high temperature shut-off, alarms, etc. Design calculations shall be provided with the plan and profile.

b. Conform to the requirements of Section 4.04A. The discharge pipe material shall, at a minimum, be Schedule 40, 80 or DR 21 PVC, SDRI 7 High-Density Polyethylene or equal having a minimum pressure rating of 150 psi at 70 degrees Fahrenheit.

c. All fittings, valves, and adapters shall be of similar material so as to make a complete pipeline suitable for working pressures of 150 psi.

d. A brass packer joint coupling with a stiffener shall be used to make all connections between SDRI 7 HDPE pipe and any other type of pipe, fitting or curb stop.

e. In areas served with a low pressure force main, a shut-off valve with curb box and an extended operator has been provided on the end of each existing Lateral at the property line. The Applicant shall install their pressure Building Sewer to that point and connect to the curb valve as shown on Figures 2a and 4a in Appendix 4B.

f. In areas where service is provided by a gravity sewer main the Applicant shall provide a pressure Building Sewer to gravity Building Sewer transition 10 feet from the Lateral. A gravity sewer Building Sewer clean out shall be installed where the gravity Building Sewer connects to the Lateral. The connection to the existing gravity Lateral shall be made as shown on Figures 2b and 4b in Appendix 4B.

g. Where there is no Lateral provided the Applicant shall be responsible to install both the Building Sewer and the Lateral and provide the shut-off valves & cleanouts as necessary to comply with Figure 2a for connection to a low pressure main or Figure 2b for connection to a gravity main in **Appendix 4B**. Details for installation of a new Building Sewer are provided in Figure 8a, b and c in **Appendix 4B**. If a tapping saddle is the method of choice for making the connection to a P/HTJSS low pressure force main the saddle must be pressure rated for a minimum of 150 psi. A template should be used to lay-out the hole location on the main. Holes should be cut in the main using a mechanical hole-cutter, de-burred and beveled to provide a smooth hole that conforms to the shape of the fitting.

h. The installation shall be made in accordance with the manufacturer's specifications, the IPC or PaDEP regulations, whichever are more stringent.

i. The pump tank shall be installed outside the building and shall have a concrete anti-floatation collar cast around it, if necessary.

j. It shall be the responsibility of the Owner to maintain all the components on his/her property.

2. **Individual Residential Pressure Building Sewer - Grinder Pump.**
(for connection to Low Pressure Force mains or gravity sewer mains)

a. The individual residential pressure Building Sewer for a grinder pump installation shall be either 1-1/4 inch or 1-1/2-inch diameter, depending on the individual design requirements. The 1-1/2-inch diameter pipe may only be used where the Building Sewer connects to a Lateral, at either of the two (2) 6-inch Laterals in Swiftwater, any of the three (3) locations where a 1-1/2 or 2-inch diameter Lateral is provided in Bartonsville or the one (1) location where a 1-1/2 inch service connection is provided in Tannersville.

b. Grinder pump units shall be an E/One Sewer System as manufactured by Environmental One Corporation; 2773 Balltown Rd.; Niskayuna, NY; www.eone.com or Barnes Easy Electric Ultra Cap2 or J-box or Ecotran with compatible pump to be selected by the designer as manufactured by Crane Pumps & Systems; 420 third Street; Piqua, Oh; www.cranepumps.com or a Pocono Township approved equal.

3. **Individual Residential Pressure Building Sewer - Sewage Pump.**
(for connection to gravity sewer mains)

a. If connecting to a gravity sewer the Applicant may use a residential sewage pump or ejector pump capable of passing 2-inch solids or a grinder pump. The pump size shall be determined as part of the Building Sewer design and the pump calculations submitted for review with the plans.

b. The individual residential pressure Building Sewer for a sewage pump installation shall be either 3-inches or 4-inches in diameter, depending on the individual design requirements to maintain a scour velocity in the pressure portion of the Building Sewer.

c. All pressure Building Sewers shall be connected to a gravity Building Sewer ten (10) feet upstream of the Lateral connection. A gravity cleanout shall be provided at the Lateral connection.

K. Grease Traps and Interceptors.

Grease traps or interceptors shall be required for any commercial property that serves, prepares or processes food or any business that releases any fatty, oily or greasy waste. Any such property that does not have an existing grease trap or interceptor shall be required to install a new grease trap in accordance with the provisions of section J. 1 below. Properties that have an existing grease trap or interceptor shall follow the provisions in section J. 2 to determine if the existing unit may be connected to the (P/HTJSS). Each new or replacement grease trap and grease interceptor shall be installed and connected so that it is easily accessible for inspection, sampling, cleaning and removal of the intercepted grease.

Properties that require a grease trap must furnish the following additional information with the Connection Permit Application submittal;

For new installations or modifications/additions to existing traps:

- Shop drawings
- Sizing calculations.
- Show the location of the grease trap on the plans that are submitted.
- Provide an operation and maintenance plan and pump-out schedule.

For existing traps with or without modifications or augmentation:

- A sketch of the existing grease trap showing the diameter of the pipe connections, length, depth and width of the tank.
- Show the location of the grease trap on the Plans submitted.
- An operation and maintenance plan and pump-out schedule.
- Testing information to show compliance with the grease content of the effluent from the grease trap.

1. **New Installations**

a. Where determined necessary and where none is already provided grease traps shall be installed so as to intercept greasy wastes prior to entering the sewer system. The traps may be installed either outside or inside the building. The Grease Trap must be located so as to collect waste from the grease source only and no other sanitary waste from the building shall pass through the Grease Trap. Grease traps should be located as close as possible to the source of the waste so as to minimize blockage of pipes.

b. Grease traps installed outside of the building may be either pre-cast concrete or steel. Grease traps to be installed in-ground must be made of pre-cast concrete constructed in accordance with the Figure 9 provided in **Appendix 4B**. Above ground installations may be either pre-cast concrete or steel. Shop drawings and directions for installation must be submitted for grease traps that are to be installed above ground. Alternative designs for grease traps will be considered by Pocono Township upon submission and review.

c. Indoor in-line type grease traps may be acceptable providing that the owner submits calculations verifying adequate size, manufacturers shop drawings and directions for installation and operation.

d. Grease traps shall be sized in accordance with **Schedule A** below based on the EPA-2 Model:

Note: If no cooking/frying occurs and the User engages in preparation of pre-cooked food only then an adequately sized 20, 30, 40 pound grease trap may be provided; based on flow per the current edition of the IPC.

Schedule A

Type of Food Service Fixture	Flow Rate	No. of Fixtures	Amount
Restaurant Kitchen Sink	15 gpm	_____	_____
Single Compartment Sink	20 gpm	_____	_____
Double Compartment Sink	25 gpm	_____	_____
2, Single Compartment Sinks	25 gpm	_____	_____
2, Double Compartment Sinks	35 gpm	_____	_____
Triple Sink, 1½ or 2 in. Drain	35 gpm	_____	_____
Trash Can Washing Station	35 gpm	_____	_____
30 Gal. Dishwasher	15 gpm	_____	_____
50 Gal. Dishwasher	25 gpm	_____	_____
50 – 100 Gal Dishwasher	40 gpm	_____	_____
Garbage Disposal	40 gpm	_____	_____
	Totals:	N_____	F_____

Note Calculate average flow rate per fixture

A - Ave. Flow Rate/Fixture = _____ gpm(F)/ _____ (N) = _____ gpm

Restaurant Type and Sizing Factors:
Fast Food (no dishes) = .50
Dine-in (0-100 seats) = .50
Dine-in (> 100 seats) = .60
Cafeteria – Buffet = .75
Food Production = .80

B - Sub Total = A x Sizing Factor, _____ gpm x _____ Factor = _____ gpm

C - Sub Total = B x 60 min. = avg. flow for 1 hour = _____ x 60 = _____ gph

Total = C x 2 hrs. retention time = trap volume = _____ x 2 = _____ gal

2. **Existing Installations**

a. Properties that are already equipped with a grease trap or interceptor may be permitted to keep that unit provided that the Property Owner can demonstrate that the discharge does not exceed the maximum allowable FOG concentration of 87 milligrams per liter (mg/L) and that the trap and associated piping do not allow infiltration of water. If it is determined that the discharge from the existing unit can not meet the maximum 87 mg/L grease discharge and/or the trap is found to be leaking then the Applicant shall be required to replace, repair and/or augment the existing unit. The cost of the testing for acceptance of the existing trap shall be the responsibility of the Applicant.

b. Testing for fat, oil and grease concentration in the discharge shall be by EPA Method 1664 Rev. B Standard Method 5520-B-2001 or ASTM Method D7066-04 commonly known as a FOG test. Collection and testing samples shall be performed by a PA DEP certified testing lab. Four separate 24-hour composite samples taken over 4 consecutive weeks shall be required. The FOG concentration in the discharge will be determined by the average of the four samples. If the average of the four analyses is at or below the 87 mg/L allowable concentration the Applicant will be permitted to continue to use the existing unit without modification provided the trap and associated piping pass a leak test. If the average of the four tests is above 87 mg/L allowable concentration then the Applicant will be required to replace the existing unit; provided, however, that augmentation or modification of the trap will be permitted provided a leak test is performed on the unit and the FOG test is repeated with satisfactory results after the modifications are complete.

c. If the concentration of FOG in the discharge from the existing trap is below the allowable limit then the trap and associated piping shall be tested for infiltration by hydrostatic testing. The test must be witnessed by an authorized representative of Pocono Township. To test the trap remove FOG and fluids then plug the inlet and outlet pipes. Before removing the liquids from the tank the Applicant should verify that the tank will not float. The Applicant is responsible to take any and all precautions that may be necessary to prevent the tank from floating due to ground water when empty.

1) **For traps with any portion of the trap below ground water table** - Keep the plugs in place for a minimum of 4 hours. At the end of the test period measure the depth of any water that accumulates at the bottom of the trap. Calculate the volume of water by multiplying the depth of the water by the surface area of the bottom of the trap. Convert the result into Gallons then divide by the length of the perimeter of the trap in feet and the total time of the test in Hours. The result will give an answer in Gallons per hour per foot of trap perimeter G/Hr-Ft. That leakage, may not exceed 0.0032 G/Hr-Ft.

2) **For traps installed completely above the ground water table** fill the tank to the top with water. Allow the water to remain in the tank for a minimum of 4-hours. At the end of the test period refill the trap to the top with a measured amount of water. Record the volume of water used to re-fill the trap in Gallons. Divide the number of Gallons used to refill the trap by the length of the perimeter of the trap in feet and the total time of the test in Hours. The resulting G/Hr-Ft must not exceed 0.0032 G/Hr-Ft.

3) Test the pipe leading into and out of the trap by following the instructions for the Hydrostatic Leak Testing Procedures in Section 4.05 B.3.a.

c. If the Applicant chooses to augment or modify the existing trap to reduce the FOG concentration in the discharge the additional grease trap shall be designed so that the total size of the new and the existing trap combined is equal to or greater than the size of the trap calculated in the formula in section 4.04 J.1 above. The design must be performed by an Engineer licensed in the Commonwealth of Pennsylvania.

d. If the original trap is permitted to be connected to the (P/HTJSS) it must be cleaned-out at the Applicant's expense prior to connection. The requirement to clean the trap may be waived by Pocono Township provided that the Applicant can provide documentation that the trap has been clean-out within the past 3 months.

e. If the Applicant chooses to replace the existing grease trap then the new trap shall be sized and installed in accordance with section 4.04 J.1 above.

3. **Maintenance**

The Applicant shall provide a maintenance plan and pump out schedule for the grease trap as part of the Connection Permit Application. The grease trap shall be maintained by the Owner at their own expense in a manner to provide satisfactory and effective removal of grease, fats and oils. If a problem arises in any Pocono Township, Hamilton Township or BCRA facility from non-maintenance of the grease trap, the Owner shall be held responsible for any cost to remedy the problem.

4.05 INSPECTION AND TESTING.

This section describes the requirements for inspection and testing for all connections made to the P/HTJSS. Any Building Sewers installed or connections made to the system without direct observation and verification of testing by a representative from Pocono Township will be rejected. The Owner shall be responsible for the cost of any repairs to the Lateral or sewer main. If any sewage is discharged into the P/HTJSS System through any such rejected installation, the Owner shall be subject to any fines, penalties and fees as prescribed by Pocono Township. The Owner will also be required to uncover any sections of the installation requested by Pocono Township or their authorized representative for inspection and testing. The cost of any excavation, testing and revisions to the installation will be borne by the Owner in addition to any fines, penalties and fees. Pocono Township shall not be held responsible for any damage that may result when an uninspected Building Sewer or Lateral is exposed for inspection and testing.

A. **Inspection.**

In order to ensure compliance with the approved plans and specifications, all work related to installation of a Building Sewer to the sewer system shall be inspected by Pocono Township or a designated agent/representative of Pocono Township. There will be a minimum of three (3) inspections during installation of the Building Sewer. In some cases, such as for a short gravity Building Sewer for a single family home, it may be possible to have the installation and all inspections completed in a single day and for the third inspection to include the witnessing of the testing. For low pressure Building Sewers, commercial properties, multi-family housing units and single family homes requiring longer gravity Building Sewers the Applicant is advised to discuss the construction schedule with their contractor and request an inspection schedule from Pocono Township. The Applicant will be held responsible for all inspection costs beyond the initial inspection deposit.

1. **General.**

a. Appointments must be made with Pocono Township for an inspection at least 48 hours prior to the date of the proposed start of the Building Sewer installation. Inspections are subject to the schedule of Pocono Township's designated agent.

b. Pocono Township and/or its designated agent shall determine the frequency of inspection when making the initial appointment. The Agent shall have the discretion to revise the schedule as they deem appropriate once on-site and after witnessing the contractor's work.

c. No changes in the work from the Approved Plans are to be made without approval from Pocono Township.

d. After installing the pipe but before testing and making the connection to the Lateral, flush the Building Sewer to remove debris. Collect and dispose of flushing water and debris.

e. Do **NOT** make the connections between the Building Sewer and the Building Drain or the Lateral until after flushing is completed.

2. **Gravity Building Sewers.**

a. Pocono Township's Inspector shall observe the condition of the excavated trench prior to placement of the pipe bedding. The trench should be excavated to the depth(s) and slope(s) shown on the approved plans. The bottom of the trench should be smooth and free of rocks, roots, concrete rubble or other matter that could act as a shear point on the pipe. It should also be free of standing water and well tamped.

b. After acceptance of the trench the bedding may be placed in the trench. Bedding shall be placed in a minimum 6-inch depth layer and graded to the design slope of the pipe and tamped lightly for consolidation. A cradle matching the curvature of the pipe shall be formed in the surface of the bedding with a template. Any rocks or debris larger than ½ inch in any dimension shall be removed from the bedding.

c. The pipe shall be assembled in the trench with clean-out risers at the locations and spacing shown on the plans. The slope of the pipe should be verified to insure that it matches the design. The test tees should be installed at the service lateral and building sewer connections at this time. Clean out risers and test tee should be cut to a length so that the tops are at the same elevation as the test-tee/clean-out outside of the building.

d. Once the pipe and bedding are accepted the select fill can be placed to the top of the pipe. Place select fill around the sides of the pipe but not over the pipe. The fill along the sides of the pipe should be consolidated using a shovel to chalk the stone around the pipe. The pipe is now ready for Hydrostatic Leak Testing or Air Pressure Testing.

e. Testing of the Building Sewer by the Hydrostatic Leak Testing or Air Pressure Testing Methods shall be performed with the top of the pipe exposed. The procedure for Hydrostatic Leak Testing is presented in 4.05 B. 4 below and the procedure for Air Pressure Testing is presented in 4.05 B.5 below. For larger installations such as may be required for a commercial properties, multi-family dwellings or where the trench may be exceedingly long, and leaving the trench open for extended periods of time would pose an unacceptable safety risk the trench may be backfilled in segments and testing completed after the installation is complete.

f. Once the Testing requirements have been successfully completed the test tee at the Lateral connection shall have the riser pipe removed and be plugged.

g. Select fill shall be placed to a minimum 12-inch depth over the top of the pipe and to the full depth and width of the excavation around the Lateral. The fill shall be chalked around the Lateral connection to insure that all voids are filled and that the stone is adequately consolidated.

h. Backfilling of the trench can then be completed as described in Section 4.04 D through G above.

i. In conjunction with the completion of trench backfilling the clean-outs should be trimmed and curb boxes installed to final grade and capped with an FSPT X FNPT adapter and treaded cap as per the approved plans. Cleanouts shall be cut below finished grade and be within a valve box.

3. **Low Pressure Building Sewers.**

a. The Pocono Township Inspector shall observe the condition of the excavated trench prior to placement of the pipe bedding. The trench shall be excavated to a minimum 5-foot depth. The bottom of the trench should be smooth and free of rocks, roots, concrete rubble or other matter that could act as a shear point on the pipe. It should also be well tamped and free of standing water.

b. After acceptance of the trench the bedding may be placed in the trench. Bedding shall be placed in a minimum 6-inch depth layer and graded to the design slope of the pipe and tamped lightly for consolidation. A cradle matching the curvature of the pipe shall be formed in the surface of the bedding with a template. Any rocks or debris larger than ½ inch in any dimension shall be removed from the bedding.

c. The Building Sewer may be installed progressively as the bedding is placed or after the bedding is completed. The pipe and bedding may be inspected concurrently. The pipe shall be assembled in the trench. Clean-outs, if required, should be installed at the locations shown on the plans.

d. Connections to a low pressure Lateral shall be made in accordance with Figure 4a in Appendix 4B. Connections made to a gravity Lateral shall be made in accordance with Figure 4b in Appendix 4B. If the Applicant wishes to install a low pressure Building Sewer at a location other than where a Lateral is provided or if the connection requires a larger diameter pipe than is provided, the connection shall be made in accordance with Figure 8c in Appendix 4B. When connecting to the Lateral the use of glued fittings shall **NOT** be permitted within 10 feet of the road Right-of-Way. If the fitting at the end of the existing Lateral is damaged it shall be replaced in-kind. No repairs to an existing fitting at the end of the Lateral shall be permitted. If the Lateral terminates with a pipe end the pipe may be cut if it is damaged. The pipe end must be beveled and a new section of similar pipe installed to the edge of the property line so that the curb stop valve at the end of the Building Sewer is not installed within the Right-of–Way or easement.

e. Do **NOT** connect the Building Sewer to the outlet port of the pump unit at this time. Leave this end free for connection of the hydrostatic pressure test head assembly.

f. Install concrete reaction support blocking at all wyes, tees and elbows. Allow concrete to set a minimum of 24-hours before testing.

g. Place select fill around the sides of the pipe and consolidated using a shovel to chalk the stone around the pipe.

h. Leak testing of the Lateral shall be by either the Low Pressure Hydrostatic Leak Test method or the Air Pressure Test Method. The procedure for both of these test methods is presented in Section 4.05. Do not place fill over the pipe until after testing is successfully completed.

i. Select fill shall be placed to a minimum 12-inch depth over the top of the pipe and well consolidated.

j. Backfilling of the trench can then be completed as described in section 4.04 D. through G. above.

k. In conjunction with the completion of trench backfilling, the clean-outs should be trimmed and the curb boxes on the curb stops set to final grade. The caps should be installed on the clean-outs as per the approved plans.

B. **Testing.**

This section presents the testing requirements and procedures for both gravity and low pressure Building Sewers. All Building Sewers shall be tested before final connection to the Lateral.

1. No part of the installation shall be covered until it has been visually inspected, and accepted by an authorized representative of Pocono Township.

2. The pipe is not to be covered for either the Hydrostatic Leakage Test, Air Pressure Test, or Low Pressure Hydrostatic Leak Test methods for performing the leakage testing. This will allow the locations of the leaks to be identified and corrected.

3. Gravity Building Sewers, including the gravity section of a pressure Building Sewer between the building test tee/clean-out and the pump unit, shall be tested by either the Hydrostatic Leak Testing Method or the Air Pressure Testing Method. Lateral pipes are not to be covered until the Testing process is accepted by the Township inspector.

4. Hydrostatic Leakage Test Procedures.

   a. Plug the test tees or cleanouts at the Building Drain and Lateral connections using an inflatable ball plug.

b. Fill the Building Sewer with water to the brim of the test tee/clean-out riser at the Building Drain connection.

c. After one-half hour of stabilization, refill the Building Sewer with water to brim of test tee/clean-out riser at the Building Drain connection.

d. Observe joints and fittings under test. Remove and replace any cracked pipes, joints and fittings showing visible leakage.

e. After one hour, if there is no drop in water, the hydrostatic test passes. If there is a drop in water, the contractor shall find the leak, repair the leak and re-test the Building Sewer.

f. No leakage shall be permitted for this portion of the installation.

5. Air Pressure Test Procedures.

a. Plug the test tees or cleanouts at the Building Drain and Lateral connections using an inflatable ball plug.

b. Pressurize the lateral with air to a pressure of 5 psi and hold for a period of 10 minutes.

c. If the pressure in the pipe does not hold at 5 psi locate any leaks and remove and replace the damaged pipe, joint or fitting showing signs of damage.

d. After the pipe is repaired or replaced the air test shall be performed again at a pressure of 5 psi for 10 minutes. If there is no drop in pressure observed on the pressure gauge the air pressure test passes.

e. No leakage shall be permitted for this portion of the installation.

f. Air Pressure Testing shall not be used in lateral installations using push-in joint type pipe due to joint separation under pressure.

6. Where a pressure Building Sewer connects to a gravity Lateral the section of pipe between the new ball valve curb stop and the clean-out at the end of the Lateral will not require testing. This section will only require visual inspection by Pocono Township for acceptance.

7. The low pressure Building Sewer connection between the ball valve curb stop and check valve in the pump unit shall be included in the Low Pressure Hydrostatic Leak Test.

8. The low pressure Building Sewer connection to a low pressure Lateral at the existing ball valve curb stop shall not require leak testing. This portion of the connection will only require visual inspection by Pocono Township for acceptance.

9. Low Pressure Hydrostatic Test Procedures and Equipment

a. Required Equipment

- Hydrostatic pump
- Suction Hose
- Pressure hose
- Volumetric Measuring devise calibrated in ounces
- Test tap-in
- Pressure gauge, calibrated to 0.1 lbs. /sq. in.
- Pressure relief valve

b. Low Pressure Hydrostatic Leakage Test.

1) Test each low-pressure Building Sewer, including any valved section thereof, hydrostatically at 50 psi.

2) Slowly fill the section to be tested with water, expelling air from the pipeline at the high points. Install corporation stops at high points if necessary. After all air is expelled, close air vents and corporation stops and raise the pressure to the specified test pressure.

3) Observe joints, fittings and valves under test. Remove and replace cracked pipe, joints fittings, and valves showing visible leakage.

4) After visible deficiencies are corrected repeat the test as described above.

10. No leakage shall be permitted for this portion of the installation.

11. The Applicant's contractor shall, at no expense to Pocono Township, determine and correct the causes of test failure and re-test until successful test results are achieved. The cost for inspection of the repairs and observation of additional testing are the responsibility of the Applicant.

4.06 SEPTIC TANK, CESS POOL AND ON-LOT TREATMENT SYSTEM ABANDONMENT

Upon completion of the connection to the Pocono / Hamilton Joint Sewer main the Owner shall abandon the existing on lot sewage system on that property. The following procedure should be used for abandoning an on-lot disposal system

A. Have licensed hauler pump or vacuum all liquids and sludge out the septic tank or cesspool. Dispose of the contents in a DEP approved facility.

B. Disconnect the piping from the inlet and outlet of the cesspool or septic tank. The Building Drain and building test Tee/Clean Out can be used for the new Building Sewer provided they pass leak testing.

C. Cap the end of the outlet pipe that is away from the infiltration area.

D. Excavate and remove or break through the top of the tank so that all chambers are exposed.

E. Wash-down the inside of the tank and have the liquid and sludge removed and disposed of by a licensed hauler to a PA DEP approved facility.

F. Break the bottom of each chamber.

G. Fill each chamber to the top with sand or AASHTO # 57, # 67, # 7 or PennDOT #2B or # 2 crushed stone. Place a layer of geotextile (landscaping) fabric over the top of the stone.

H. Fill the area above the stone with soil removed from excavation of the tank to the within 4 to 6-inches of the surrounding grade in lawn areas or to the bottom of the sub-base in paved areas. Place the soil in 8-inch lifts and compact to 90% of the Maximum Dry Density.

I. In lawn areas, place a 4 to 6-inch layer of topsoil over the excavated area with light compaction. Spread seed, fertilizer and lime over the topsoil and cover with hay or straw mulch or erosion control matting.

J. In areas that are paved with concrete or asphalt or stabilized with stone, match the profile of the existing surface treatment with the same materials and depths as the existing final cover.

K. Water lawn areas regularly until the grass obtains a satisfactory growth.

APPENDIX 4A

FORMS

POCONO/HAMILTON TOWNSHIP
CONNECTION PERMIT APPLICATION
COVER SHEET

(To be completed by the Applicant and attached at the front of the application documents)

CONNECTION PERMIT APPLICATION

- ☐ Completed Connection Permit Application form
- ☐ Provide copy of Connection Notice received from Pocono Township
- ☐ Check made payable to "Pocono Township" in the amount of the applicable Tapping Fee as stated in the Connection Notice, or as otherwise determined by Pocono Township if different from the number in the Connection Notice (provide written documentation of the alternate determination by Pocono Township).
- ☐ Check for applicable Application and Inspection fees made payable to "Pocono Township"

ADDITIONAL REQUIRED DESIGN INFORMATION FOR SPECIAL CASES

- ☐ Flow calculations for non-single family structures.
- ☐ Grease trap sizing calculations for any property with a commercial kitchen or food preparation.
- ☐ Pump sizing calculations

HIGHWAY OCCUPANCY/ROADWAY ENCROACHMENT PERMIT
(Include only if encroachment on State or Township Road Right-Of-Way is necessary to install the lateral)

- ☐ Encroachment on Roadway Right-of-Way required – Permit Attached
- ☐ No Encroachment necessary

PLEASE REVIEW THE FOLLOWING PRIOR TO SUBMITTING YOUR CONNECTION PERMIT APPLICATION

- ☐ Have you provided the information requested on the Connection Permit Application Cover Sheet listed above?
- ☐ Have you completed the UCC Plumbing Permit Application and Folder for the required Uniform Construction Code Sewer Hook-up permit?
- ☐ If your property requires a Grinder Pump have you completed an Electrical Permit Application and provided the specifications on the pump and the pump sizing calculations?
- ☐ Have you completed the Department of Environmental Protection Permit required for the abandonment of your on-lot septic tank or cesspool?

INCOMPLETE OR PARTIAL SUBMISSIONS WILL NOT BE ACCEPTED

Each check should be made out separately with the notes "Tapping Fee", "Application/Inspection Fees" written in the Memo and the individual check attached to the appropriate form. DO NOT COMBINE THE FEES ON A SINGLE CHECK. Applications received with a single check for the combined amounts of the fees will be returned without review. Connection to the system must still be completed within the time period set forth in the Connection Notice issued by Pocono Township.

POCONO/HAMILTON TOWNSHIP
CONNECTION PERMIT APPLICATION

PIN:	DATE:
PROPERTY ADDRESS:	
OWNER NAME:	APPLICANT NAME: (If not owner)
ADDRESS:	ADDRESS:
TELEPHONE #:	TELEPHONE#:
EMAIL ADDRESS:	EMAIL ADDRESS:

The undersigned does hereby apply for a Connection Permit to make a connection from the above referenced property to the Pocono/Hamilton Township Joint Sewer System, and in making this Application does hereby agree to conform with all the Ordinances, rules and regulations of Pocono Township/Hamilton Township (as applicable), including but not limited to the Pocono/Hamilton Townships Joint Sewer System Procedures Manual concerning said system and connections thereto.

The Applicant hereby requests that the Pocono Township Board of Commissioners issue a Connection Permit for _____ EDUs for the above property.

Method used for calculating EDUs:

(Circle One) (1) Attributed by Pocono/Hamilton Township in the Connection Notice

(2) OTHER Approved by Pocono Township per Appendix 4C or BCRA Water Meter

Calculation of Amount Due:

$(Applicable Tapping Fee) $_____ X _____EDUs = $_____

Enclosed is a check in the amount of $_____ for the Tapping Fee for _____ EDUs.

The application must be accompanied by the supporting materials described in the Pocono/Hamilton Townships Joint Sewer System Procedures Manual.

If the Property Owner is making the application for a number of EDUs that is different from the number of EDUs attributed to the property by Pocono Township, the revised number of EDUs must be approved by the Pocono Township prior to issuing this permit. If the revised number of EDUs is not acceptable and this application is not approved, the check will be returned to the Applicant. Otherwise, the Tapping Fee is non-refundable.

It is the responsibility of the Applicant(s) to arrange for an inspection of the installation of the Building Sewer by the Pocono Township Inspector by calling the Pocono Township Office Manager at 570-629-1922 at least 48-hours in

advance of the planned inspection.
Attached hereto on a separate sheet(s) (at least 8 ½ x 11) is a plan and profile indicating all property lines, buildings, proposed building sewers, traps, cleanouts, adapters, bends, points of discharge of all other drains on the premises, the new Building Sewer, and the location of the Lateral. The same information should be provided if a portion of an existing building sewer remains in service, including the diameter and type of sewer pipe.

Print Name _____ Signature _____

If Corporation or other legal entity, Name & Title of Signatory Applicant (s)

_____

Name Corporate Seal

_____

Title

****

Application: (Approved) (Disapproved) by the Pocono Township Board of Commissioners on _____.

Pocono Township Board of Commissioners

By: _____
Township Manager

****

SECTION II PLAN APPROVAL

The above Application and attached plan are approved and the Applicant is authorized to proceed with the work outlined. The Applicant shall notify the Pocono Township designated Sewer Inspector at least 48 hours before the time of any inspection required.

_____ _____

DATE AUTHORIZED POCONO TOWNSHIP

SECTION III CERTIFICATE OF COMPLETION

The completed work authorized by this Application and the approved plans has been inspected, tested and found to be acceptable for its intended use.

_____ _____

DATE POCONO TOWNSHIP INSPECTOR

CONNECTION PERMIT APPLICATION FEE AGREEMENT

THIS AGREEMENT MADE THE _____ day of _____, 2____, by and between POCONO TOWNSHIP, hereinafter called the "Township", and _____ of _____, hereinafter called the "APPLICANT(s)."

WHEREAS, Pocono Township has adopted the Pocono/Hamilton Townships Joint Sewer System Procedures Manual, as the same may be amended/supplemented from time to time (the "Procedures Manual"), and,

WHEREAS, said Procedures Manual provides that the APPLICANT(s), upon the submission of Plans for review by Pocono Township (and/or Pocono Township Solicitor, if necessary), shall place certain funds on deposit to pay for said review.

NOW, THEREFORE, in consideration of the terms, conditions and covenants set forth hereunder the parties hereto agree as follows:

Single Family Residence – Gravity Building Sewer

Along with any submission for review by Pocono Township, the APPLICANT(s) shall simultaneously remit a Connection Permit Application Fee in the amount established by resolution by the Pocono Township Commissioners. Failure of the APPLICANT(s) to submit said fee shall result in the submission being deemed incomplete, and the same will not be accepted by the Township for review.

All other properties shall remit a Connection Permit Application deposit in the amount established by resolution by the Pocono Township Commissioners. It is mutually agreed and expressly understood between the parties that all professional review fees and costs incurred by the Township in reviewing the APPLICANT(s) submission and for field inspections are the sole responsibility of the APPLICANT(s). This responsibility shall not be affected in any way by the Township approval/disapproval of said submission. If the Connection Permit Application deposit is insufficient to pay all applicable review and inspection fees and costs, , the APPLICANT(s) shall pay all additional amounts owed prior to the Township's decision on said submission. Failure of the APPLICANT(s) to promptly pay said costs shall be deemed the granting of a waiver by the APPLICANT(s) to the Township, of any statutory time limitation that would mandate a decision by the Township. Any unused portion of the Connection Permit Application deposit will be refunded to the Applicant.

The parties hereto intend to be legally bound hereby.

IN WITNESS WHEREOF the parties have set their hands the date first mentioned above.

ATTEST

_____

POCONO TOWNSHIP

SEAL:

ATTEST

_____

OWNER/APPLICANT

_____

NAME

_____

TITLE IF CORPORATE

CORPORATE SEAL

APPENDIX 4B

STANDARD DETAILS

LIST OF FIGURES

1 .....GRAVITY BUILDING SEWER

2 .....LOW PRESSURE BUILDING SEWER

2a. – Low Pressure Lateral

2b. – Gravity Lateral

3 .....TYPICAL TRENCH DETAIL

4 .....LOW PRESSURE BUILDING SEWER DETAILS

4a. - Connection to Existing Low Pressure Lateral

4b. - Connection to Existing Gravity Lateral

5 .....LOW PRESSURE BUILDING SEWER CLEAN-OUT DETAIL

6 .....GRAVITY BUILDING SEWER DETAILS

6a. – Connection to Lateral with Existing Clean-Out Wye

6b. – Connection to Lateral with Spigot-End

6c. – Connection to Lateral with Bell-End

7 .....GRAVITY LATERAL CLEAN-OUT DETAIL

8 .....NEW LATERAL CONNECTION DETAILS

8a. - Gravity Service Lateral Connection to 8 to 12-inch Dia. Gravity Main

8b. - Gravity Service Lateral Connection to 8 to 12-inch Dia. Deep Gravity Main

8c. - Low Pressure Service Lateral Connection to Low Pressure Main

8d. – Gravity Lateral Connection on a Main > 12-inch Diameter (any Depth)

9 .....TYPICAL GREASE TRAP DETAIL

10.....SIMPLEX GRINDER PUMP UNIT

11.....SEWAGE PUMP DETAIL

12.....MANHOLE DETAILS

12a – Standard 4-foot Diameter Manhole

12b – Standard 4-foot Diameter Drop Manhole

12c – 4-foot Diameter Deep Manhole

12d – 4-foot Diameter Deep Drop Manhole

12e – Standard Manhole Frame & Cover

12f – Standard Manhole Notes & Step Detail

13.....THRUST BLOCKING DETAILS & SCHEDULE

14..... TEST TEE DETAILS - Low Pressure Building Sewer test Tee & Gravity Building Sewer Test Tee

15……BUILDING TRAP INSTALLATION DETAIL

APPENDIX 4C

EDU ATTRIBUTIONS

TABLE C.1 –EDU ATTRIBUTIONS

Classification	Equivalent Dwelling Units
Two (2) Family Dwelling (per each family unit)	1
Multi-Family Dwelling (per each family unit)	1
High-rise and Multi Apartment Complex (per each family unit)	1
Apartment House (per each family Unit)	1
Mobile Homes, Trailers	1
Each Hotel, Motel or Boarding House (per each four (4) rental Units or fraction thereof)	1
Barber Shop, whether or not attached to or forming a part of owners residence/property, per each two (2) chairs	1
Each retail store, business, industry or office attached to or forming a part of owner's residence/property:	
(1) Having ten (10) or fewer employees	1
(2) Each additional ten (10) employees or fraction thereof	1
Each retail store, business, industry or office not attached to or forming part of owner's residence/property	
(1) Having five (5) or fewer employees	1
(2) Having six (6) to ten (10) or fewer employees	2
(3) Each additional ten (10) employees or fraction thereof	1
Each restaurant, tavern and club with or without alcoholic beverages, per fifteen (15) seats or fraction thereof; or drive-in, per four (4) car spaces or fraction thereof	1
(1) Each additional fifteen (15) seats or fraction thereof	1
Each service station, garage, and automobile repair shop, without car wash facilities	1
Each shop, with carwash facilities, each bay	5
Each Laundromat, per washer	½
Beauty shop, whether or not attached to or forming part of owner's residence/property per each two (2) chairs	1
Each commercial swimming pool	3

TABLE C.1 –EDU ATTRIBUTIONS
(Continued)

Classification	Equivalent Dwelling Units
Each school, public or private, or daycare facility having:	
(1) Toilet facilities only, per twenty five (25) pupils* or fraction thereof	1
(2) Toilet facilities and kitchen per twenty (20) pupils* or fraction thereof	1
(3) Toilet facilities and gymnasium with shower facilities per fifteen (15) pupils or fraction thereof	1
(4) Toilet facilities, kitchen, and gymnasium with shower facilities per twelve (12) pupils or fraction thereof	1
*Pupils shall include students, employees, teachers, aids, administrative personnel, supervisory personnel, custodians and kitchen personnel.	
Each business or industry providing showers for employees:	
(1) Seven (7) or fewer employees	1
(2) Each additional seven (7) employees or fraction thereof	1
Fraternal or Social Service Club (per 30 seats or fraction thereof)	1
Gym/Fitness Center:	
(1) With showers and toilets (per fifteen (15) patrons or fraction thereof)	1
(2) Without showers but with toilets (per twenty (20) patrons or fraction Thereof)	1
Racquet or Tennis Club:	
(1) First four (4) courts	1
(2) For each additional court in excess of four (4)	¼
Church Complex (including hall) or Community Building	1
Parsonage and/or Rectory	1
Post Office, Fire House (less social Quarters)	1
Nursing Home/Hospital, per bed	½
Funeral Home	2
Stadium (with toilet facilities)	1

TABLE C.1 –EDU ATTRIBUTIONS
(Continued)

Classification	Equivalent Dwelling Units
Commercial Banquet Hall	1
Non-profit Service Hall	1
Municipal Building (having ten (10) or fewer employees and Occupants)	1
Municipal Building (having more than ten (10) employees and Occupants)	2
Outdoor picnic area	1
Movie Theaters and Drive-In Theaters, per seventy-five (75) seats or seventy-five (75) car spaces	1
Any user having a commercial (i.e., three-quarters (3/4) HP or greater) garbage grinder per each such grinder	1
Warehouse, Distribution Center of Trucking Terminal (based on the number of full-time office employees) per ten (10) employees or fraction thereof.	1

The commercial rate for a business which is comprised of more than one classification shall be the total of the classifications comprising the business.

END OF SECTION

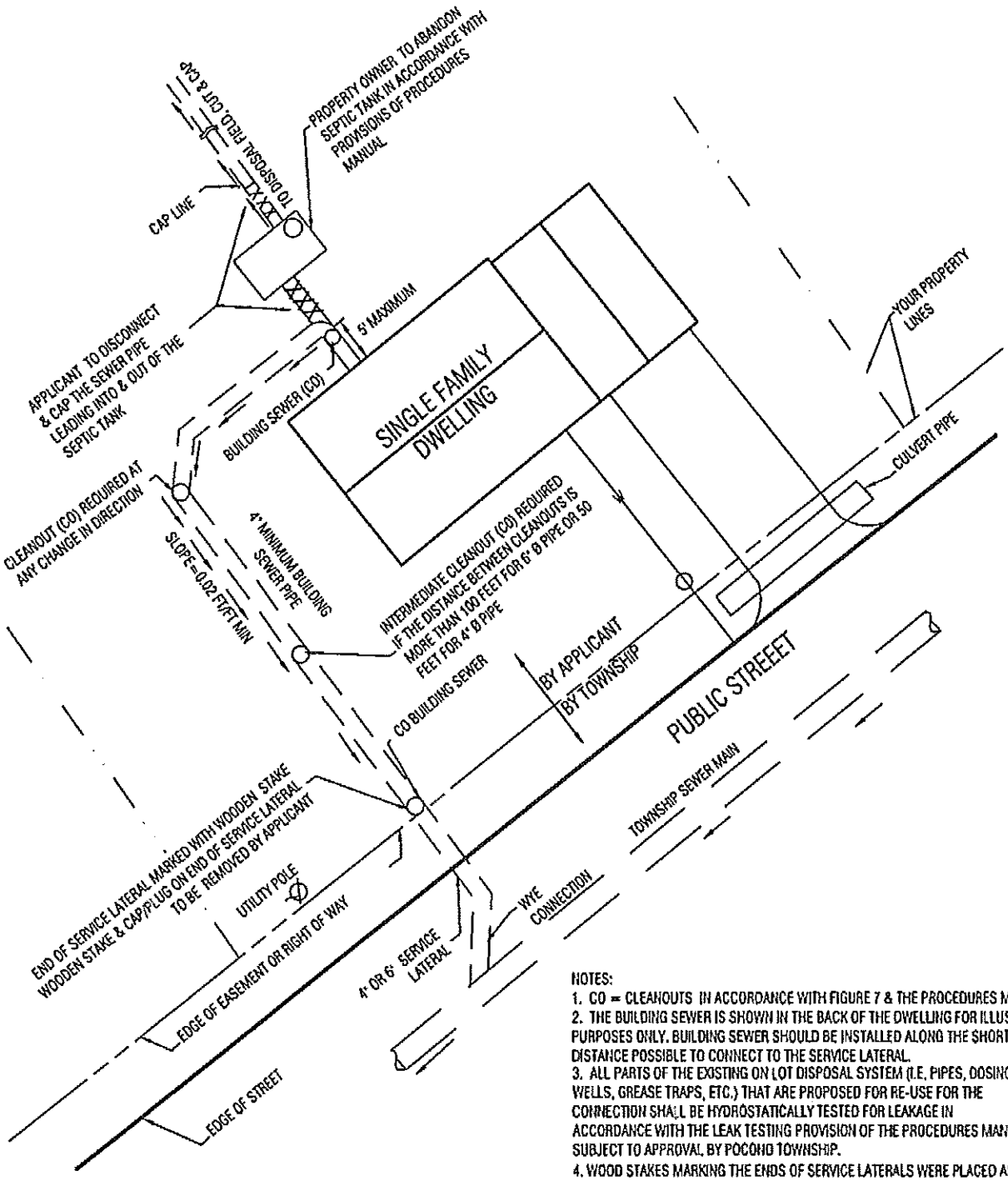
APPENDIX 4D

INSURANCE

Insurance Requirements

1)	Workman's Compensation -	Statutory
2)	Vehicles -	$100,000.00
3)	General Liability -	$100,000.00

END OF SECTION



NOTES:

1. CO = CLEANOUTS IN ACCORDANCE WITH FIGURE 7 & THE PROCEDURES MANUAL.
2. THE BUILDING SEWER IS SHOWN IN THE BACK OF THE DWELLING FOR ILLUSTRATIVE PURPOSES ONLY. BUILDING SEWER SHOULD BE INSTALLED ALONG THE SHORTEST DISTANCE POSSIBLE TO CONNECT TO THE SERVICE LATERAL.
3. ALL PARTS OF THE EXISTING ON LOT DISPOSAL SYSTEM (I.E. PIPES, DOSING TANKS, WET WELLS, GREASE TRAPS, ETC.) THAT ARE PROPOSED FOR RE-USE FOR THE CONNECTION SHALL BE HYDROSTATICALLY TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LEAK TESTING PROVISION OF THE PROCEDURES MANUAL AND SUBJECT TO APPROVAL BY POCONO TOWNSHIP.
4. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE BUILDING SEWER WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.
5. ALL 90° BENDS TO BE 90° LONG RADIUS SWEEP ELBOWS OR TWO (2) 45° ELBOWS IN SERIES. TEES OTHER THAN THE TEST TEE CLEANOUT TO BE LONG SWEEP TEE FITTINGS.

FIGURE 1

PROJECT MANAGER	DESIGNED BY	GRAVITY BUILDING SEWER	AUTHORIZED USE:
ROS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-09-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.052054		

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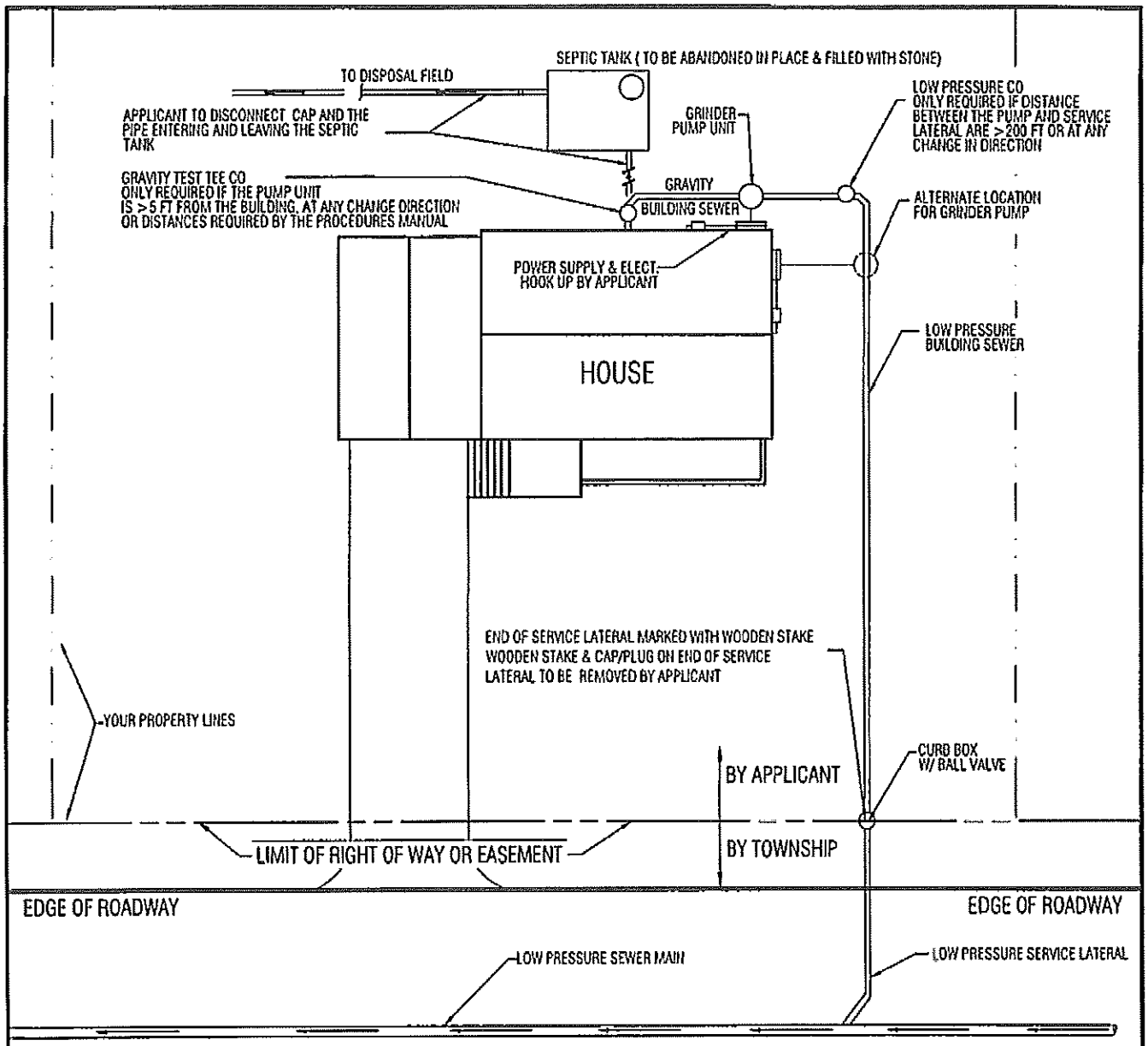

NOTES:

1. CO = CLEANOUTS SHOWN ON FIGURE 5 FOR CLEANOUT ON LOW PRESSURE SECTION & FIGURE 7 FOR GRAVITY SECTION AND AS REQUIRED BY THE PROCEDURES MANUAL.
2. THE BUILDING SEWER IS SHOWN IN THE BACK OF THE DWELLING FOR ILLUSTRATIVE PURPOSES ONLY. BUILDING SEWER SHOULD BE INSTALLED ALONG THE SHORTEST DISTANCE POSSIBLE TO CONNECT TO THE SERVICE LATERAL.
3. ALL PARTS OF THE EXISTING ON LOT DISPOSAL SYSTEM (I.E. PIPES, DOSING TANKS, WET WELLS, GREASE TRAPS, ETC.) THAT ARE PROPOSED FOR RE-USE FOR THE CONNECTION SHALL BE HYDROSTATICALLY TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LEAK TESTING PROVISION OF THE PROCEDURES MANUAL AND SUBJECT TO APPROVAL BY POCONO TOWNSHIP.
4. CURB STOPS & WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL, THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE CONNECTION LATERAL WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.
5. USE OF THE ELECTRICAL SYSTEM AND POWER SUPPLY FROM AN EXISTING ON LOT DISPOSAL SYSTEM WILL BE SUBJECT TO APPROVAL BY THE POCONO TOWNSHIP CODE ENFORCEMENT OFFICER.
6. ALL 90° BENDS TO BE 90° LONG RADIUS SWEEP ELBOWS OR TWO (2) 45° ELBOWS IN SERIES. TEES OTHER THAN THE TEST TEE CLEANOUT TO BE LONG SWEEP TEE FITTINGS.

FIGURE 2a

LOW PRESSURE SERVICE LATERAL

PROJECT MANAGER	DESIGNED BY	LOW PRESSURE BUILDING SEWER	AUTHORIZED USE
RDS	ORC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
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NTS	10130.0520054		

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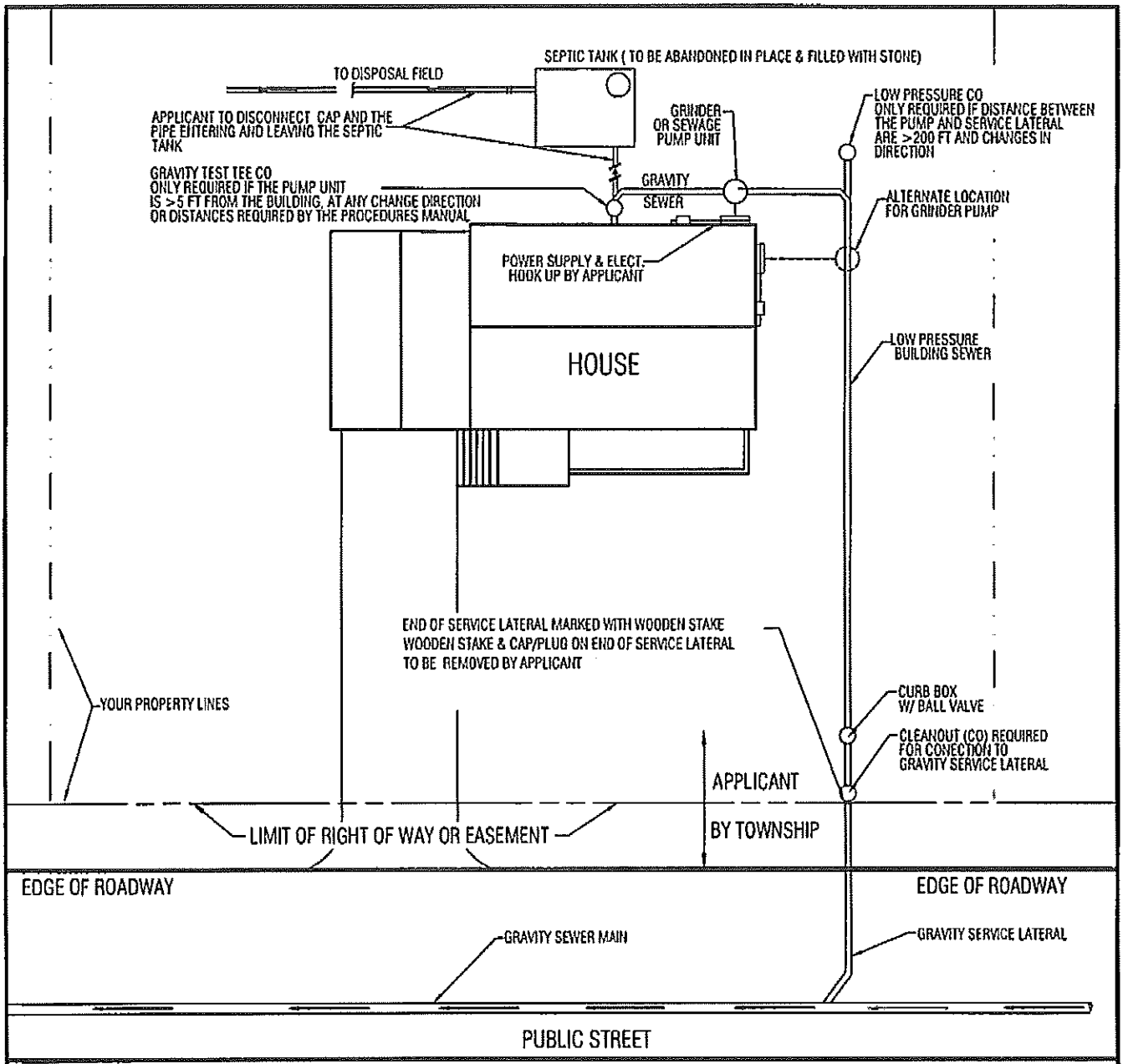

NOTES:

1. CO = CLEANOUTS AS REQUIRED BY THE PROCEDURES MANUAL FIGURE 5 FOR CLEANOUT ON LOW PRESSURE SECTION & FIGURE 7 FOR GRAVITY SECTION.
2. THE BUILDING SEWER IS SHOWN IN THE BACK OF THE DWELLING FOR ILLUSTRATIVE PURPOSES ONLY. BUILDING SEWER SHOULD BE INSTALLED ALONG THE SHORTEST DISTANCE POSSIBLE TO CONNECT TO THE SERVICE LATERAL.
3. ALL PARTS OF THE EXISTING ON LOT DISPOSAL SYSTEM (I.E. PIPES, DOSING TANKS, WET WELLS, GREASE TRAPS, ETC.) THAT ARE PROPOSED FOR RE-USE FOR THE CONNECTION SHALL BE HYDROSTATICALLY TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LEAK TESTING PROVISION OF THE PROCEDURES MANUAL AND SUBJECT TO APPROVAL BY POCONO TOWNSHIP.
4. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE CONNECTION LATERAL WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.
5. USE OF THE ELECTRICAL SYSTEM AND POWER SUPPLY FROM AN EXISTING ON LOT DISPOSAL SYSTEM WILL BE SUBJECT TO APPROVAL BY THE POCONO TOWNSHIP CODE ENFORCEMENT OFFICER.
6. ALL 90° BENDS TO BE 90° LONG RADIUS SWEEP ELBOWS OR TWO (2) 45° ELBOWS IN SERIES. TEES OTHER THAN THE TEST TEE CLEANOUT TO BE LONG SWEEP TEE FITTINGS.

FIGURE 2b GRAVITY SERVICE LATERAL

PROJECT MANAGER	DESIGNED BY
ROS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-09-2013
SCALE	PROJECT NO.
NTS	10130.0520054

LOW PRESSURE BUILDING SEWER

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

AUTHORIZED USE:

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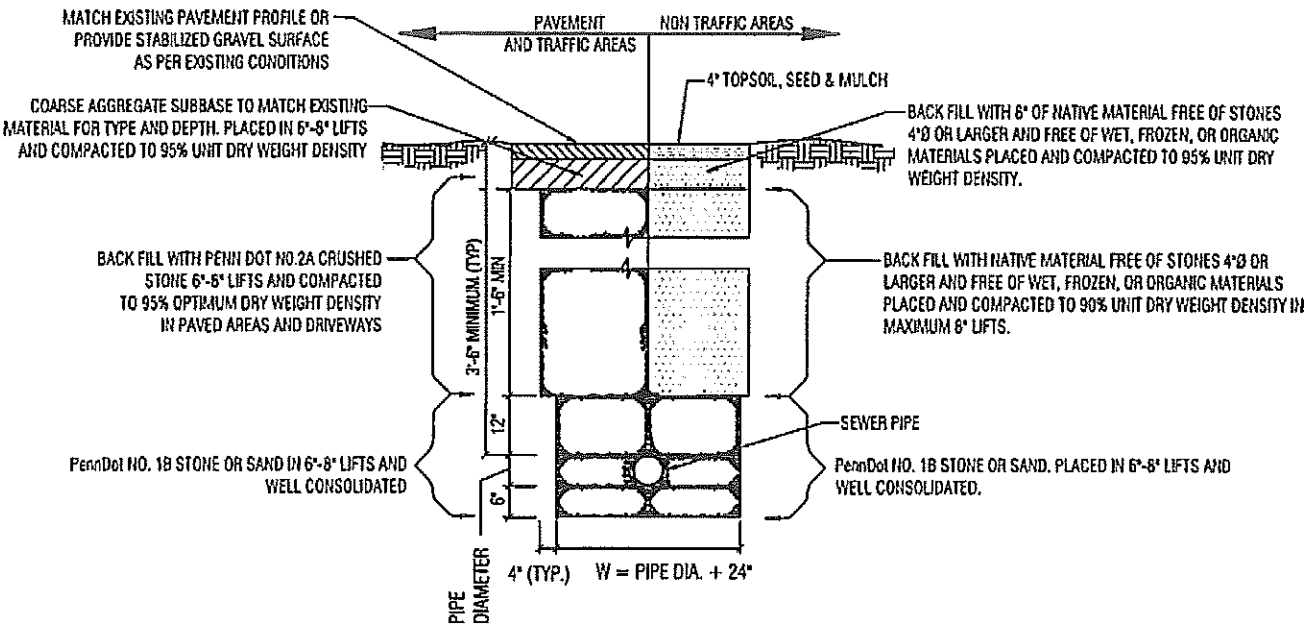

TYPICAL LATERAL TRENCH DETAIL

NTS

NOTES:

1) PENNDOT 2A AGGREGATE BACKFILL IS REQUIRED WHEREVER THE LATERAL IS WITHIN 3 FEET OF THE SHOULDER OR WITHIN 7 FEET OF EDGE OF PAVEMENT IN UNIMPROVED SHOULDER AREAS, ALONG TOWNSHIP OR STATE ROADS.
2) PROPERTY OWNER IS RESPONSIBLE TO OBTAIN PAVEMENT REQUIREMENTS FROM POCONO TOWNSHIP FOR RESTORATION WITHIN A TOWNSHIP ROADWAY AND FROM PENNDOT FOR RESTORATION WITHIN A STATE ROADWAY.

PIPE SIZE	"W"
1 1/4"-12"	PIPE DIA + 24"
>12"	2 X PIPE DIA.

FIGURE 3

PROJECT MANAGER	DESIGNED BY
ROS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-03-2013
SCALE	PROJECT NO.
NTS	10130.0520054

TYPICAL TRENCH DETAIL

PDCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

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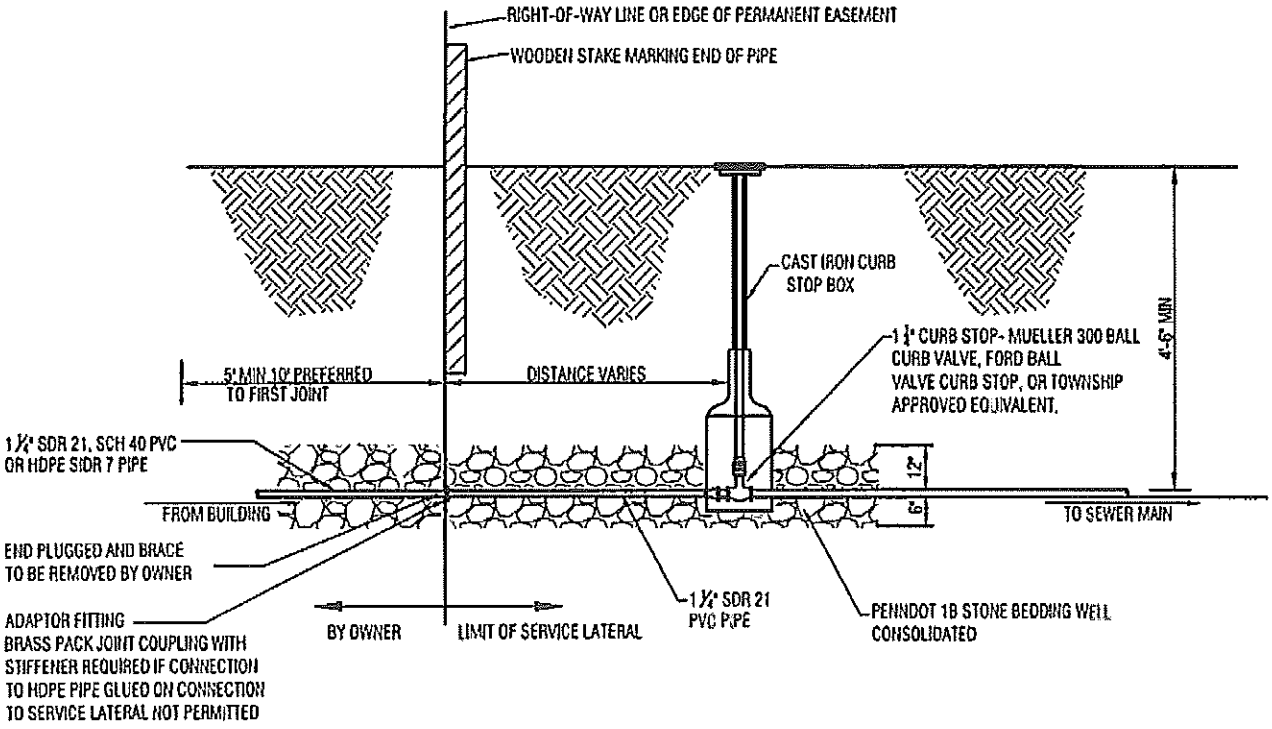

CONNECTION TO EXISTING LOW PRESSURE SERVICE LATERAL

NTS

NOTE:

1. REFER TO FIGURE 3 FOR TRENCH BEDDING, BACKFILL AND SURFACE RESTORATION FOR INSTALLATION OF THE BUILDING SEWER LATERAL.

2. CURB STOPS & WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE BUILDING SEWER WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.

FIGURE 4 a

PROJECT MANAGER	DESIGNED BY	LOW PRESSURE BUILDING SEWER DETAIL	AUTHORIZED USE
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
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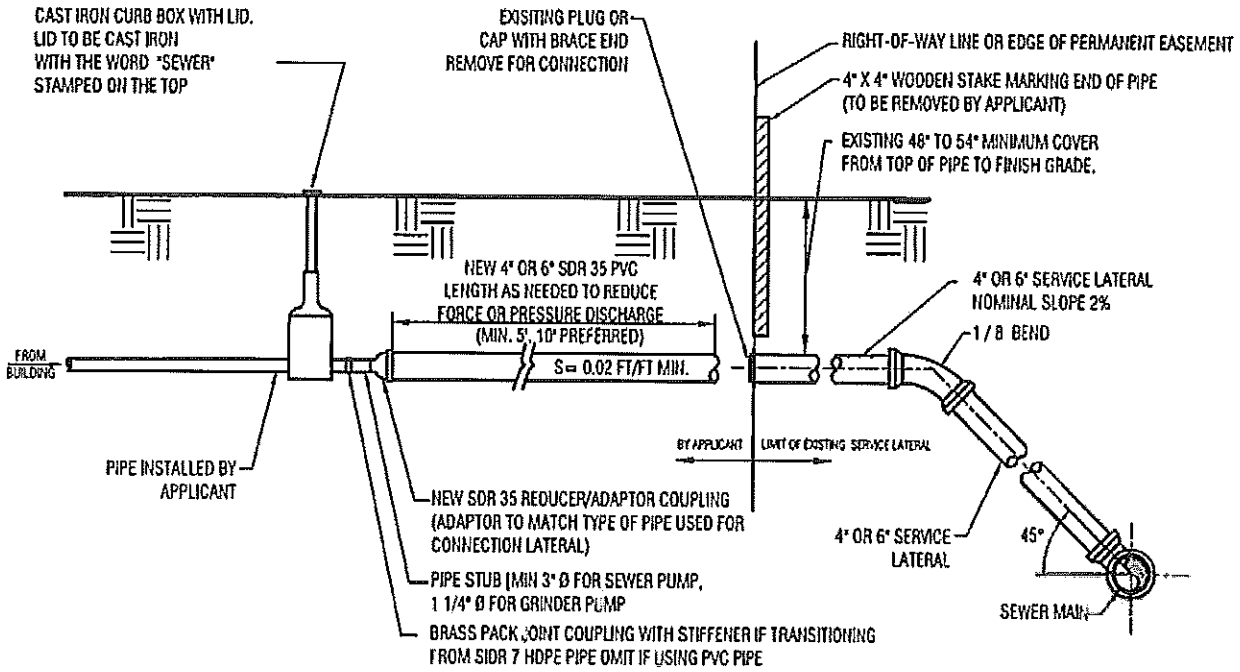

ELEVATION

CONNECTION TO EXISTING GRAVITY SERVICE LATERAL

NTS

NOTE:

1. REFER TO FIGURE 3 FOR TRENCH BEDDING, BACKFILL AND SURFACE RESTORATION FOR INSTALLATION OF THE BUILDING SEWER.
2. ALL PIPING FOR SERVICE LATERAL TO BE SCH. 40, 80 OR SDR 21 PVC OR HDPE PIPE.
3. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE BUILDING SEWER WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.

FIGURE 4 b

PROJECT MANAGER	DESIGNED BY
RDS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-03-2013
SCALE	PROJECT NO.
NTS	10130.0520054

LOW PRESSURE BUILDING SEWER DETAIL

PDCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

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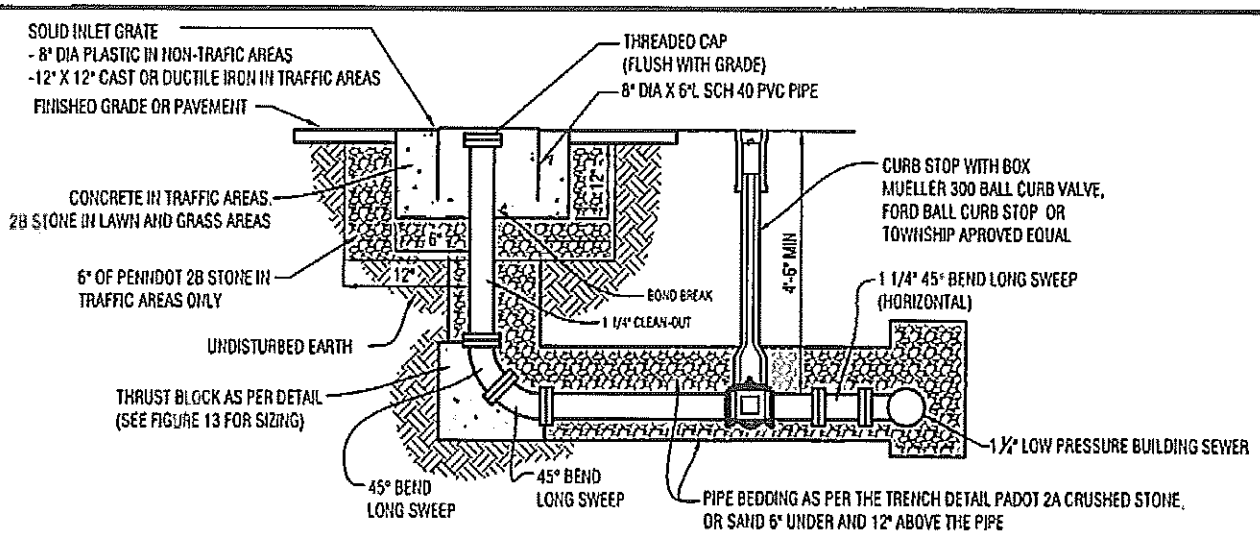
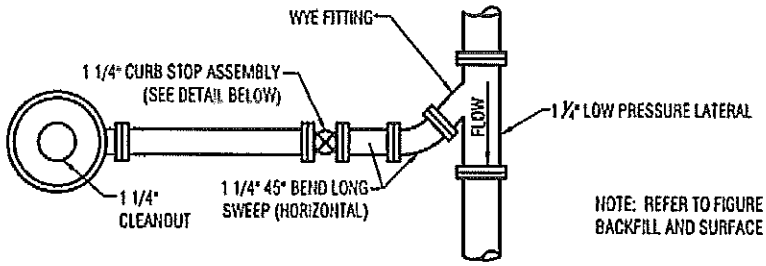


NOTE
ANY LIQUID REMAINING IN THE RISER SECTION AFTER FLUSHING SHALL BE SUCTIONED OUT TO PREVENT FREEZING.

PRESSURE BUILDING SEWER CLEANOUT - PROFILE

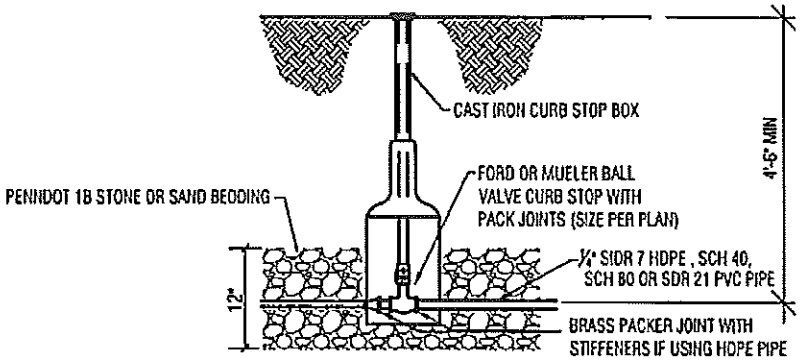
NTS



NOTE: REFER TO FIGURE 3 FOR TRENCH BEDDING, BACKFILL AND SURFACE RESTORATION DETAILS.

PRESSURE LATERAL CLEANOUT - PLAN VIEW

NTS



NOTE:
CLEANOUT REQUIRED AT CHANGE IN DIRECTION AND/OR IF THE DISTANCE FROM THE PUMP UNIT TO THE CONNECTION TO THE SERVICE LATERAL IS GREATER THAN 200 FEET.

CURB STOP & BOX INSTALLATION FOR PRESSURE SEWER BUILDING SEWERS

NTS

FIGURE 5

PROJECT MANAGER	DESIGNED BY	LOW PRESSURE BUILOING SEWER CLEANOUT DETAIL	AUTHORIZED USE:
RDS	ORC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
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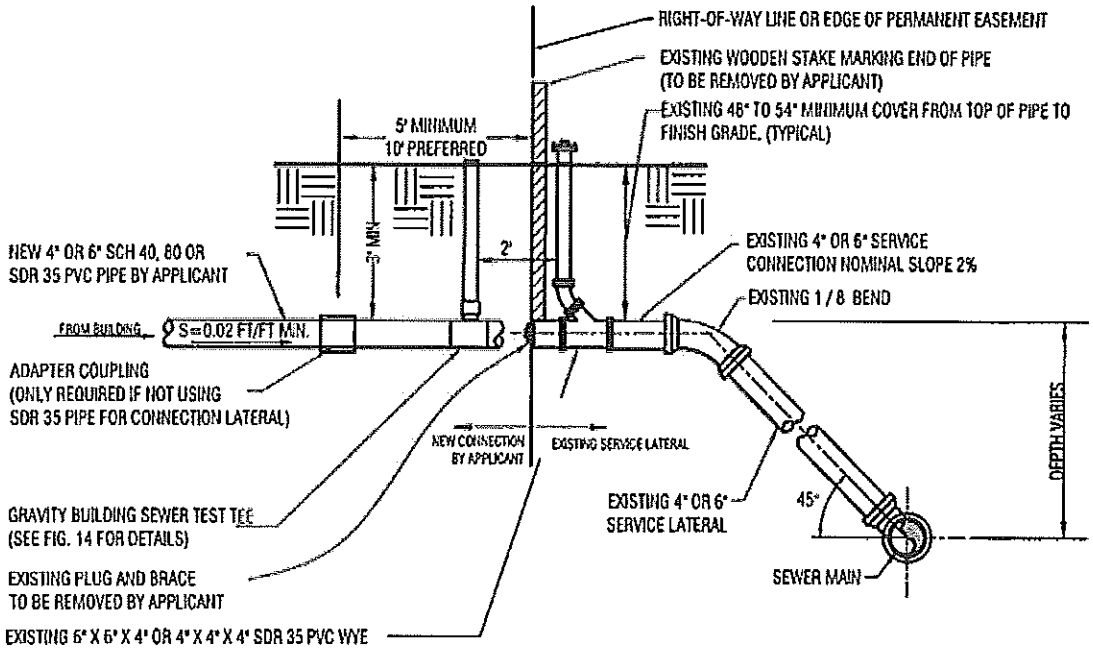

NOTE: REFER TO FIGURE 3 FOR TRENCH BEDDING, BACKFILL AND SURFACE RESTORATION FOR INSTALLATION OF THE BUILDING SEWER.

ELEVATION

CONNECTION TO SERVICE LATERAL WITH EXISTING CLEAN-OUT WYE

NTS

NOTES:
EXISTING GRAVITY SERVICE LATERAL IS TERMINATED AT THE EDGE OF THE RIGHT OF WAY IN ONE OF THREE WAYS:

1. PLUG IN BELL END OF PIPE.
2. CAP ON SPIGOT END OF PIPE.
3. PLUG IN UPSTREAM SIDE OF CLEANOUT WYE
   (ONLY IN TANNERSVILLE BETWEEN RTE 715 & CHERRY LANE ROAD).
4. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE CONNECTION LATERAL WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.

FIGURE 6 a

PROJECT MANAGER	DESIGNED BY	GRAVITY BUILDING SEWER DETAILS	AUTHORIZED USE:
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
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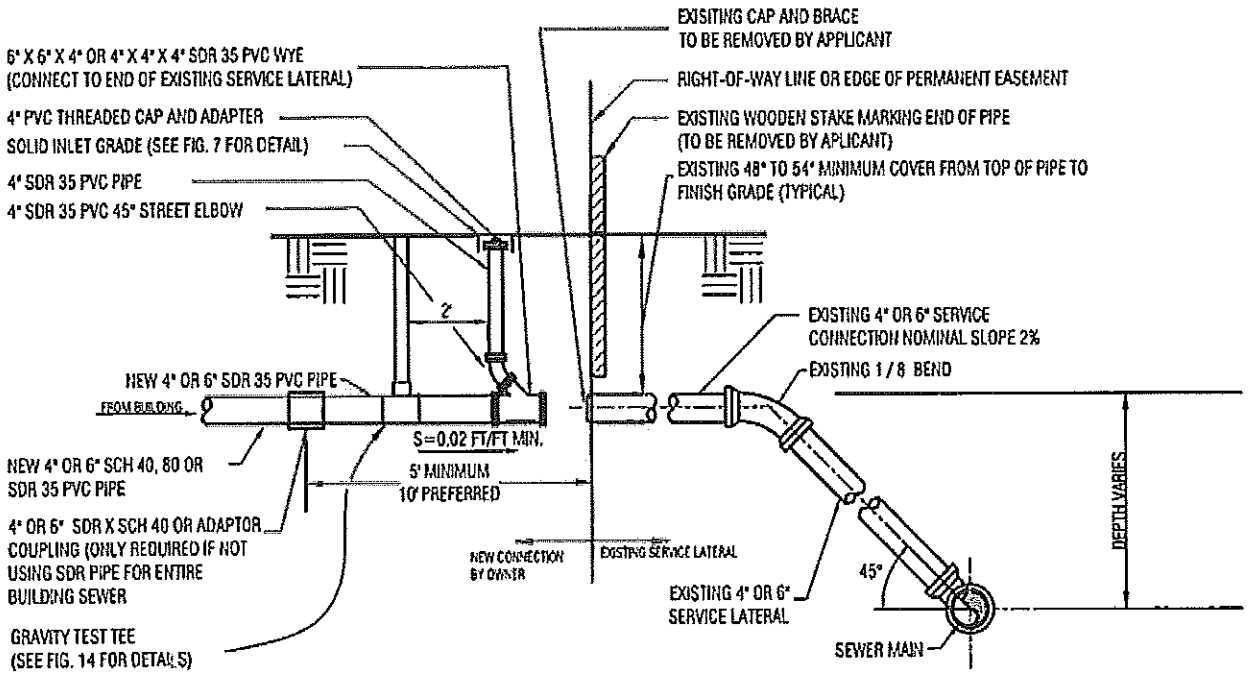

NOTE: REFER TO FIGURE 3 FOR TRENCH BEDDING, BACKFILL AND SURFACE RESTORATION FOR INSTALLATION OF THE BUILDING SEWER.

ELEVATION

CONNECTION TO SERVICE LATERAL WITH SPIGOT END

NTS

NOTES:
EXISTING GRAVITY SERVICE LATERAL IS TERMINATED AT THE EDGE OF THE
RIGHT OF WAY IN ONE OF THREE WAYS:
1. PLUG IN BELL END OF PIPE.
2. CAP ON SPIGOT END OF PIPE.
3. PLUG IN UPSTREAM SIDE OF CLEANOUT WYE
(ONLY IN TANNERSVILLE BETWEEN RTE 715 & CHERRY LANE ROAD).
4. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL.
THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE BUILDING SEWER WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.

FIGURE 6 b

PROJECT MANAGER	DESIGNED BY	GRAVITY BUILDING SEWER DETAILS	AUTHORIZED USE:	R·KRHESS
RDS	DRC			A DIVISION OF UTRS
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS		Civil Engineers • Environmental Engineers • Surveyors
MCS/MJK	DRC	JOINT MUNICIPAL SEWERAGE SYSTEM		112 North Courtland Street, P.O. Box 268, East Stroudsburg, Pa. 18301
DATE	CHECKED DATE			Telephone (570) 421-1550, Fax (570) 421-6720
5-28-13	7-03-2013			Website: www.rkrhess.com Email: engr@rkrhess.com
SCALE	PROJECT NO.	MONROE COUNTY, PA		©2013 All rights reserved
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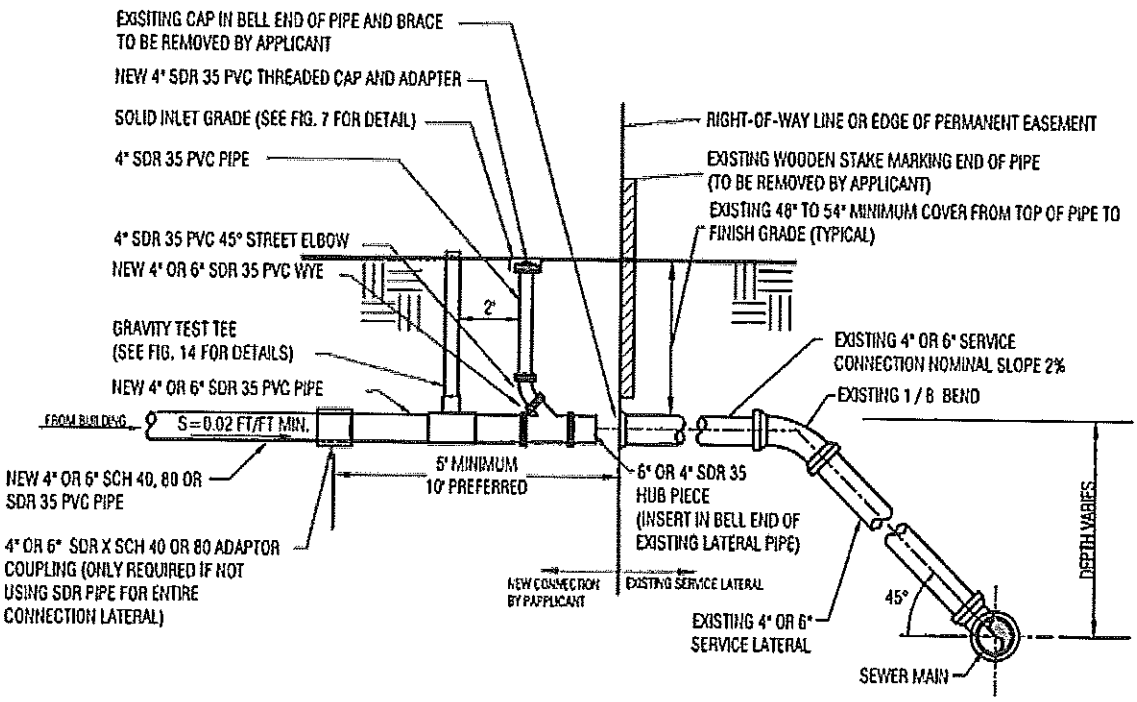

NOTE: REFER TO FIGURE 3 FOR TRENCH BEDDING, BACKFILL AND SURFACE RESTORATION FOR INSTALLATION OF THE BUILDING SEWER.

ELEVATION

CONNECTION TO SERVICE LATERAL WITH BELL END

NTS

NOTES:
EXISTING GRAVITY SERVICE LATERAL IS TERMINATED AT THE EDGE OF THE RIGHT OF WAY IN ONE OF THREE WAYS:
1. PLUG IN BELL END OF PIPE.
2. CAP ON SPIGOT END OF PIPE.
3. PLUG IN UPSTREAM SIDE OF CLEANOUT WYE (ONLY IN TANNERSVILLE BETWEEN RTE 715 & CHERRY LANE ROAD).
4. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE CONNECTION LATERAL WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.

FIGURE 6 c

PROJECT MANAGER	DESIGNED BY	GRAVITY BUILDING SEWER DETAILS	AUTHORIZED USE:
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
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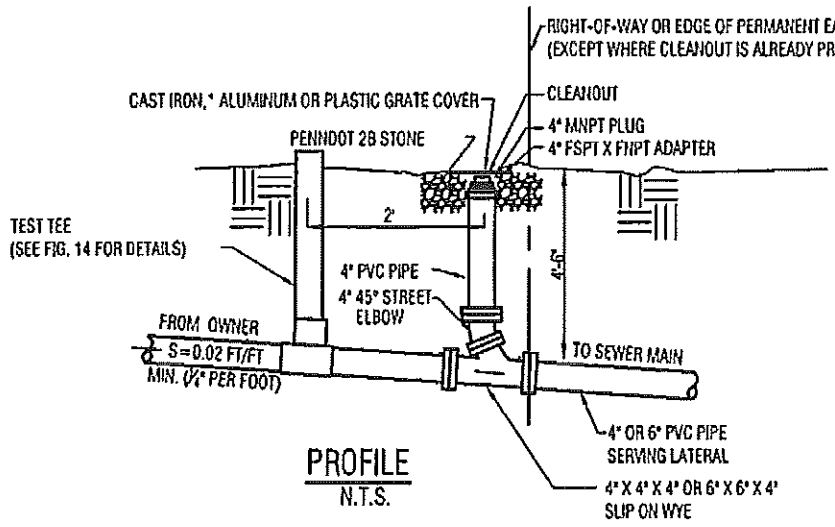
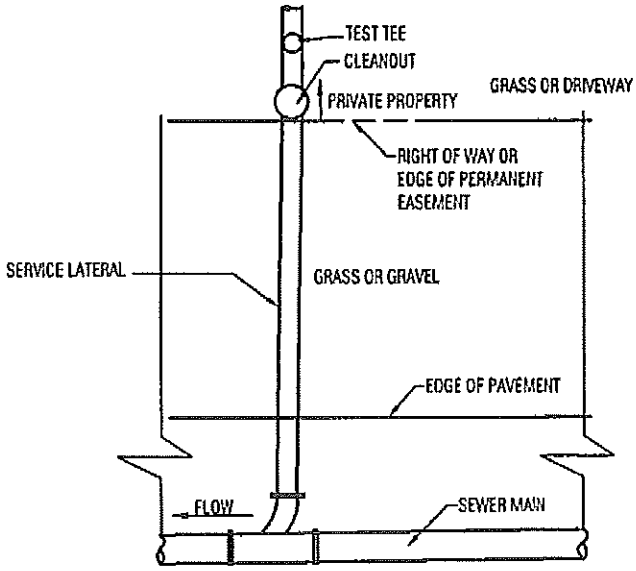
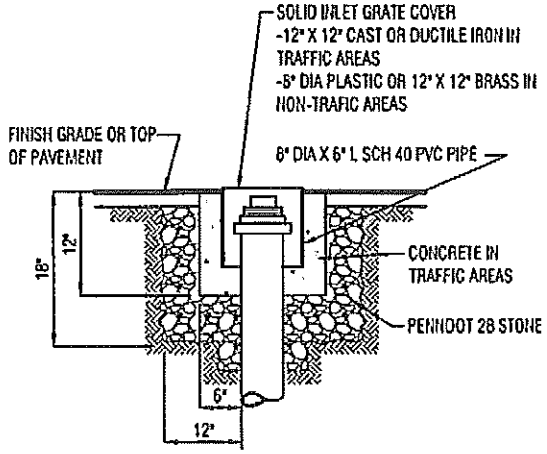


PROFILE
N.T.S.



GRAVITY LATERAL CLEANOUT DETAIL
N.T.S.



SOLID INLET GRATE DETAIL
N.T.S.

NOTES:

1. ALL LATERALS FROM BUILDING SEWER TO END PLUG AT R.O.W. OR EDGE OF PERMANENT EASEMENT SHALL BE SCH 40, 80 OR SDR 35 PVC PIPE AND FITTINGS OF THE SAME MATERIAL.
2. THE STANDARD SERVICE LATERAL CLEANOUT DETAIL MAY NOT DEPICT THE ACTUAL SITE CONDITIONS. IT IS THE PROPERTY OWNERS RESPONSIBILITY TO VERIFY THE ACTUAL SITE CONDITION AND TO ENSURE THAT THE FINAL PRODUCT MEETS THE REQUIREMENTS OF THE PROCEDURES MANUAL.
3. ONE CLEANOUT SHALL BE REQUIRED WITHIN 5 FT OF THE BUILDING (TEST TEE / CLEANOUT) & ONE AT THE PROPERTY LINE/ EDGE OF EASEMENT/ RIGHT-OF-WAY AND EVERY 50 FT FOR 4" Ø LATERAL OR EVERY 100 FT FOR 6" Ø LATERAL.
4. USE CAST IRON HAND BOX IN TRAFFIC AREAS.*
5. WOOD STAKES MARKING THE ENDS OF SERVICE LATERALS WERE PLACED AS CLOSE TO THE EDGE OF THE EASEMENT / RIGHT OF WAY AS PRACTICAL. THE APPLICANT IS RESPONSIBLE FOR DETERMINING THAT ALL WORK REQUIRED TO INSTALL THE CONNECTION LATERAL WILL BE WITHIN THEIR PROPERTY AND THAT NO ROADWAY ENCROACHMENT PERMIT IS NEEDED.

FIGURE 7

PROJECT MANAGER	DESIGNED BY	GRAVITY SEWER CLEANOUT DETAIL	AUTHORIZED USE
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.0520054		

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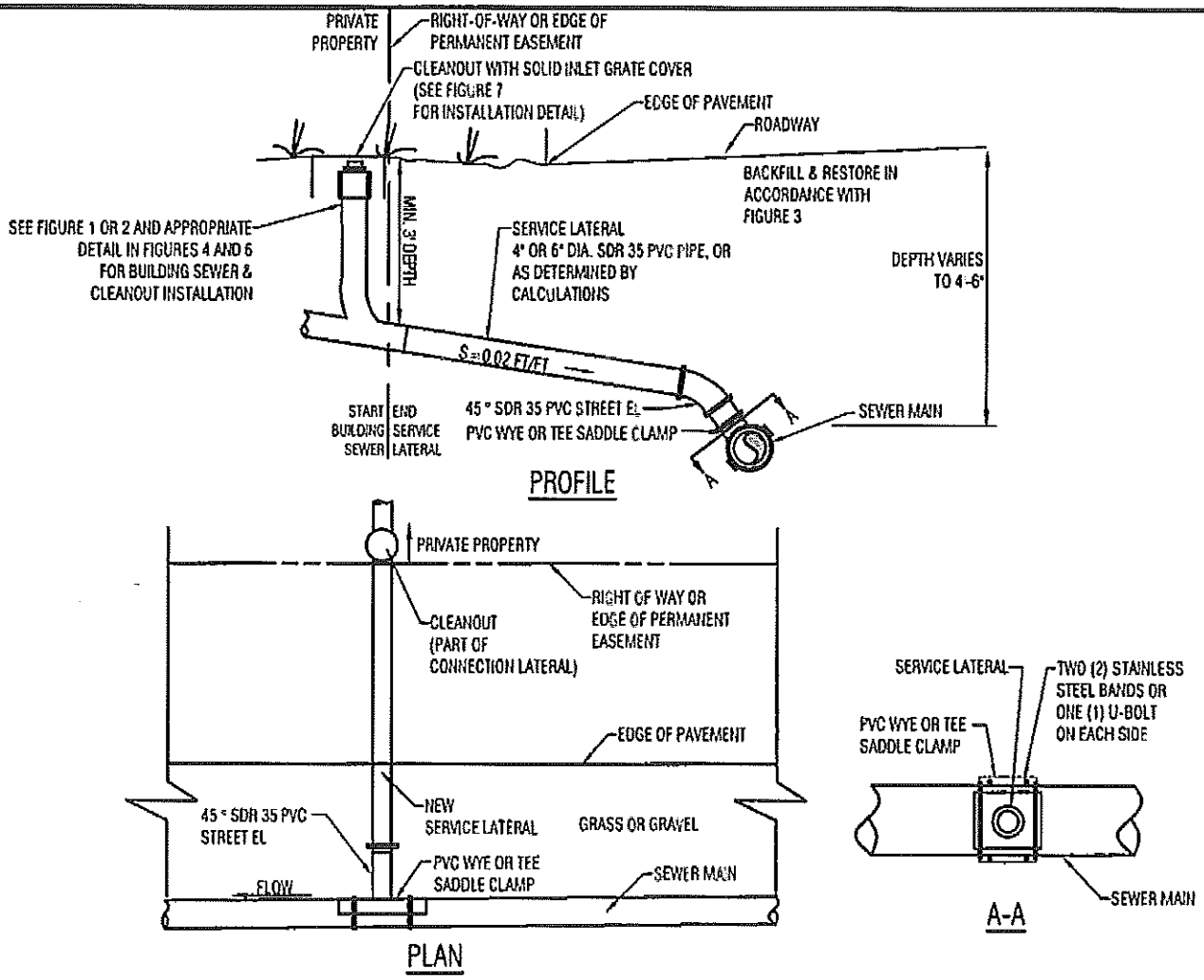

GRAVITY SERVICE LATERAL CONNECTION TO 8 TO 12 INCH GRAVITY SEWER MAIN

TABLE OF SEWER MAIN PIPE DIAMETERS (Continued on Figure 8 b)

SECTION	BEGINNING & END OF SECTION	Pipe Dia. (In)
Swiftwater - North of Lower Swiftwater Rd		
Rte 611S Corridor	Paradise Twp Line to manhole upstream of pump station	15
Rte 611N Spur #1	Route 611N, Manholes north of Marion Drive	8
Rte 611N Spur #2	Route 611N, Manholes north Gas/convenience Store	8
Rte 314S Spur	Church to manhole at Rte 611N	12
Swiftwater - South of Discovery Drive to Northern End of Wiscasset Rd.		
Rte 611N Corridor	Discovery Drive to northern end Lower Wiscassette Road	18
MCTA Drive Spur	MCTA Drive	8
Scotrun - Northern End of Wiscasset Rd. to northern end of The Crossings North Parking Lot		
Rte 611 Corridor	Northern end Lower Wiscasset Rd to MH @ tributary of Scotrun south of post office	18
Scotrun Ave Spur	Northern end Scotrun Ave at Rte 611 to Pocono Psychiatric	8
Rte 611N Spur # 3	DeHavens excavating to Shine Hill Road	8
Rte 611N Spur # 3	Shine Hill Rd to Lower Scotrun Ave	12
Rte 611 Corridor	MH @ tributray of Scotrun south of post officeto The Crossings North parking lot	24
Rte 611N Spur # 4	Candy Shoppe to Scotrun Plaza	8

FIGURE 8 a

PROJECT MANAGER	DESIGNED BY	NEW SERVICE LATERAL CONNECTION DETAILS	AUTHORIZED USE:
RDS	DRC		
DRAWN BY	CHECKED BY		
MCS/MJK	DRC		
DATE	CHECKED DATE	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
5-28-13	7-03-2013		
SCALE	PROJECT NO.		
NTS	10130.0520054	MONROE COUNTY, PA	

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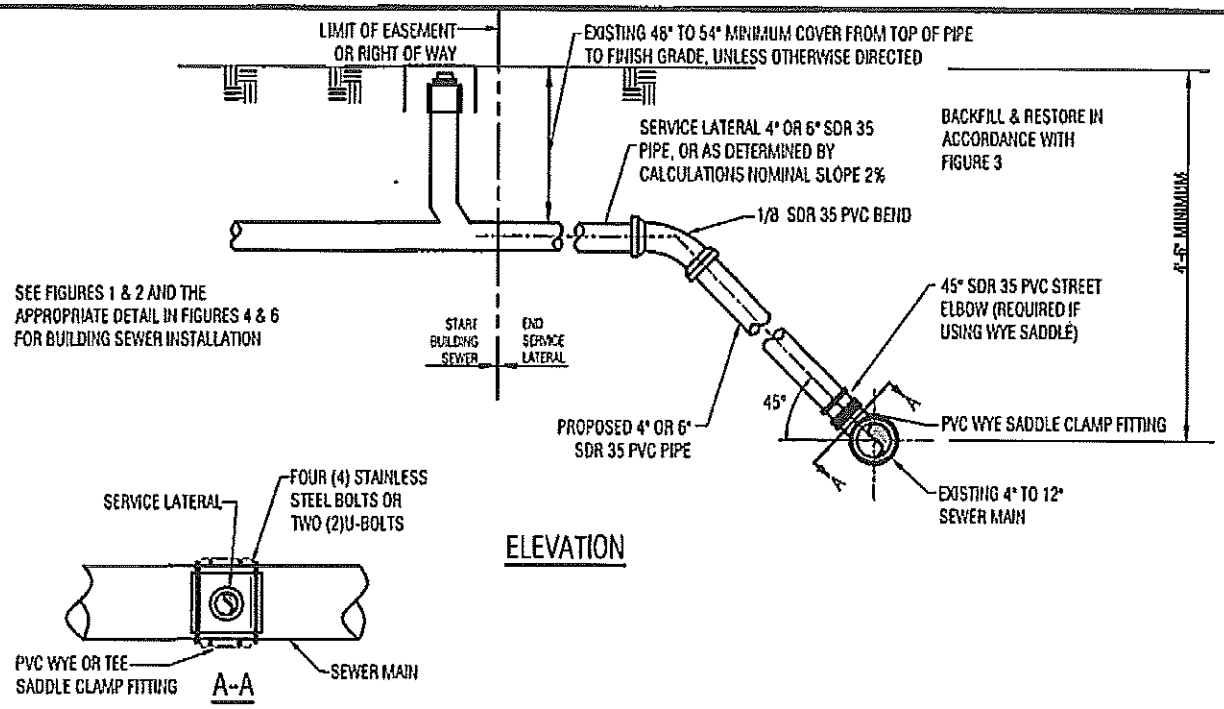

GRAVITY SERVICE LATERAL CONNECTION TO 8 TO 12 INCH DEEP GRAVITY MAIN

(ALL PIPE FITTINGS TO BE SDR 35 PVC)

NTS

TABLE OF SEWER MAIN PIPE DIAMETERS (Continued From Figure 8 a)

Tannersville - South of the northern end of The Crossings North Parking Lot to Learn Rd at Rd		PIPE DIA
Route 611 Corridor	North end of The Crossings Parking to Cherry Lane Rd	24
Rail Road Ave Spur	Route 715S 5 feet back from intersection	8
Route 715S	Railroad Ave to Convenience/gas Store	8
Route 715S	Convenience/gas Store to Sullivan's Trail	12
Sullivan's Trail Spur	United Curch of Christ to Rte 715 S	8
Rte 611N Spur # 5	From 2793 Rte 611N to Howells Lane	8
Weis Plaza Spur	Manhole at ESSA bank across Werkheiser Garden Center	6
Old Mill Rd Spur	Rear of CVS to Alger Ave	12
Learn Road Spur	Rear of 2803 Rte 611N to Cherry Lane Rd	12
Learn Road Subspur	Learn Rd spur @ Rte 611N @ Old Mill to Pigeon Way	8
Alger Ave Spur	End of Ally @ rear of Gabel's to unamed culvert crossing	8
Learn Rd Main	Cherry Lane Rd thru Pocono Farm Stand	24
DePue Spur	Between Depue Plaza & 1st Northern Bank	8
Learn Rd Southern Spur	Crest of hill to Southern end of Learn Rd	8
Bartonsville - Rte 611 at Learn Rd & Rd to Hamilton/Stroud Township Line		
Rte 611 Corridor	Southern end Learn Rd to northern end of Bartonsville Ave	24
Stadden Rd Spur	611S from Stadden Rd to Cranberry Creek Culvert	8
Pocono Lane Main	Northern end of Pocono Lane to Golden Slipper Road	8
RidgeView Drive Main	Crest of hill on RidgeView Drive to Golden Slipper Road	8
West of Rte 611	Northern side of Golden Slipper Road to pump station along Pocono Creek	12
Bartonsville Ave Main	Southern end Bartonsville Ave, 300 Ft north of Rte 611N to Frantz Road	8
Rim Rock spur	Northern side of Rim Rock Road to along Rte 611S to Rte 611N	8
Frantz Road Main	Stroud/Hamilton Twp Line to Rte 611S @ Turtle Way	8
Turtle Way Main	Rte 611N @ Frantz Rd to pump station	12

FIGURE 8 b

PROJECT MANAGER	DESIGNED BY
RDS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-03-2013
SCALE	PROJECT NO
NTS	10130.0520054

NEW SERVICE LATERAL CONNECTION DETAIL

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

AUTHORIZED USE:

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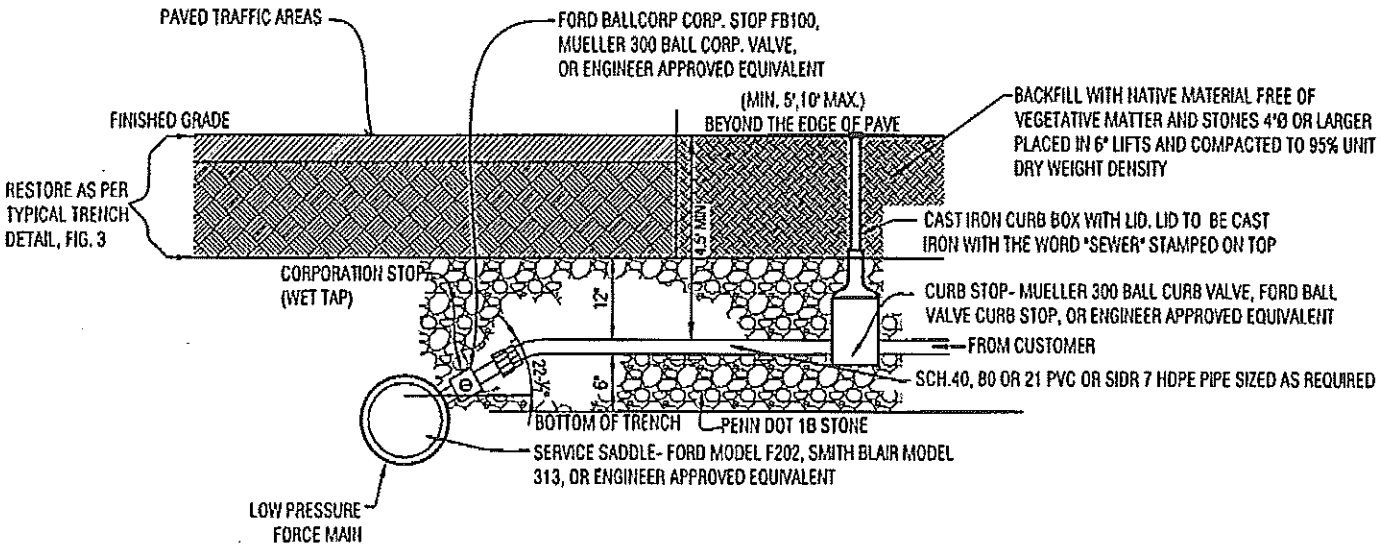

LOW PRESSURE SERVICE LATERAL CONNECTION TO LOW PRESSURE MAIN

NTS

NOTE:
1. ALL CONNECTIONS MADE TO A LOW PRESSURE MAIN REQUIRE THE USE OF GRINDER PUMPS.
2. CONNECTION TO ANY SEWER MAIN WILL REQUIRE A ROADWAY ENCROACHMENT PERMIT. IT IS THE APPLICANT'S RESPONSIBILITY TO SECURE SUCH PERMIT FROM POCONO OR HAMILTON TOWNSHIP OR PENNDOT.

FIGURE 8 c

PROJECT MANAGER	DESIGNED BY	NEW SERVICE LATERAL CONNECTION TO EXISTING MAINS	AUTHORIZED USE:
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.0520054		

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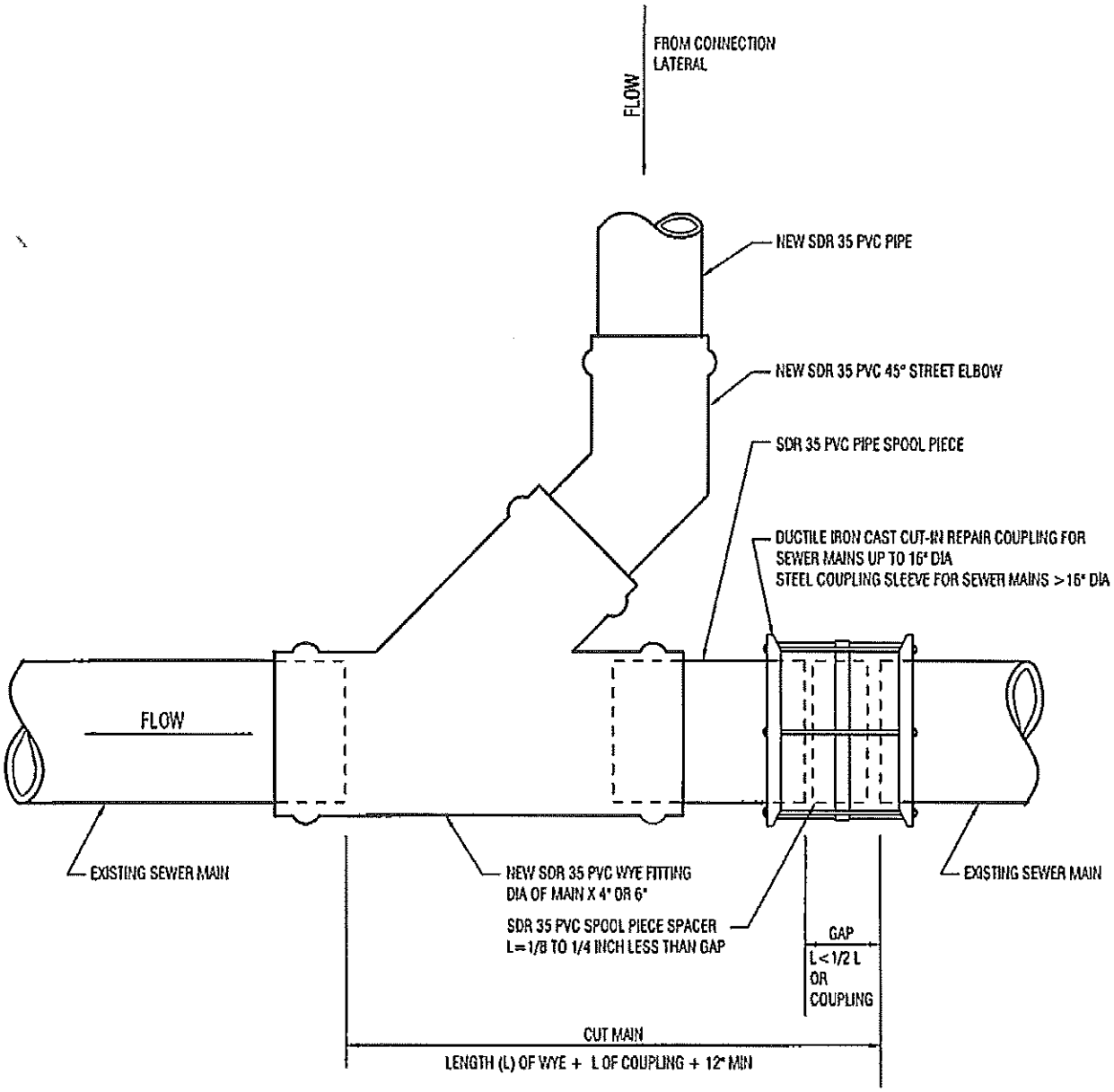

NOTE:
REFER TO FIGURES 8a OR 8b FOR ORIENTATION OF THE WYE & STREET ELBOW DEPENDING ON DEPTH OF THE SEWER MAIN.

GRAVITY LATERAL CONNECTION ON MAIN >12" IN DIA.

(ANY DEPTH) NTS

FIGURE 8 d

PROJECT MANAGER	DESIGNED BY
RDS	DRC
DRAWN BY	CHECKED BY
MJK	DRC
DATE	CHECKED DATE
6-27-13	7-03-13
SCALE	PROJECT NO.
NTS	10130.0520054

NEW SERVICE LATERAL CONNECTION DETAILS

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

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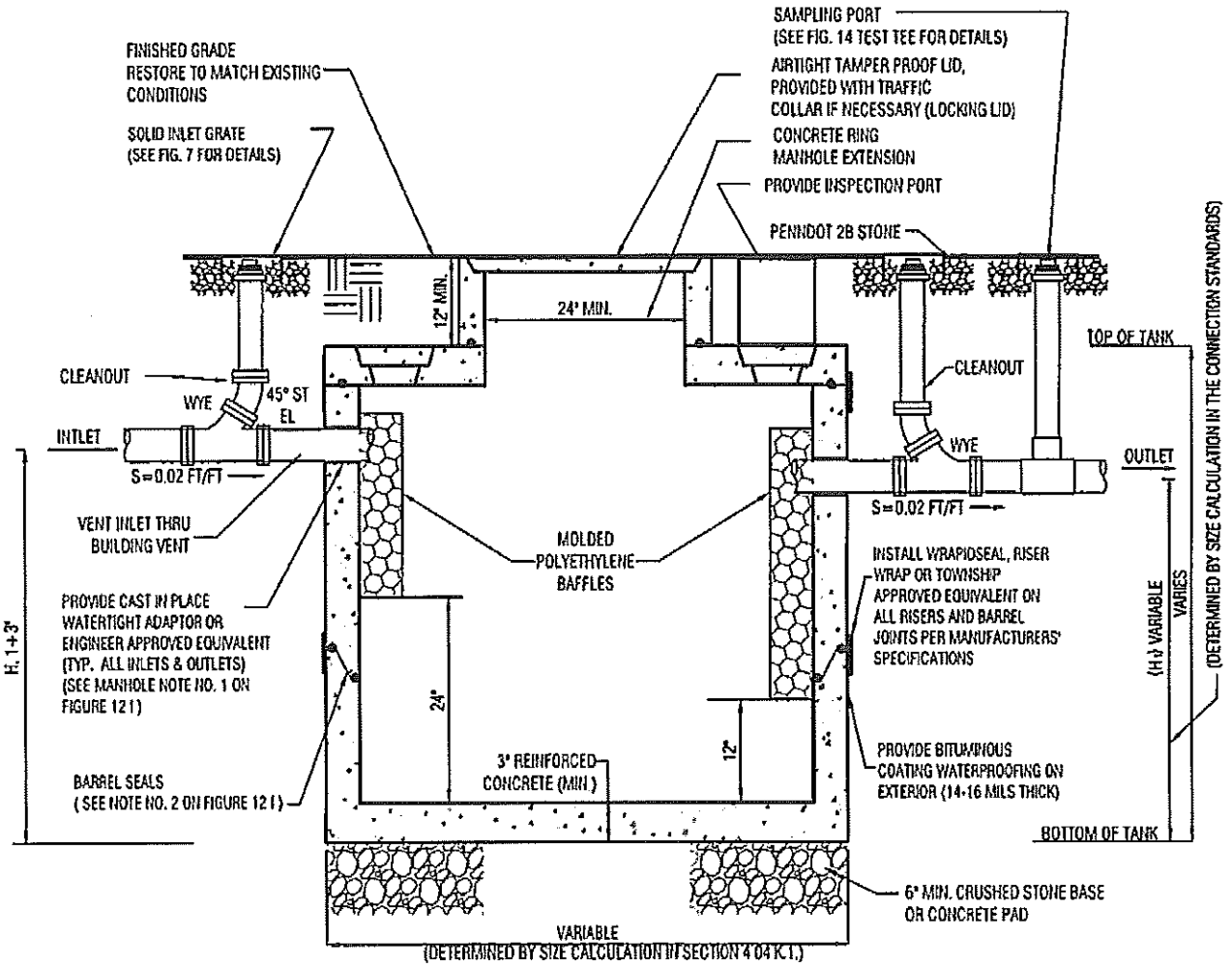

TYPICAL REINFORCED CONCRETE GREASE TRAP

N.T.S.

NOTE:
1. SPECIAL PRECAUTIONS MAY BE REQUIRED TO PREVENT FLOTATION ON SITES WITH GROUNDWATER DEPTHS THAT ARE ABOVE THE LEVEL OF THE BOTTOM OF THE TANK.

FIGURE 9

PROJECT MANAGER	DESIGNED BY	TYPICAL GREASE TRAP DETAIL	AUTHORIZED USE:	RKRHESS
RDS	DRC			A DIVISION OF UTRS
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS		Civil Engineers • Environmental Engineers • Surveyors
MCS/MJK	DRC	JOINT MUNICIPAL SEWERAGE SYSTEM		112 North Courtland Street, P.O. Box 268, East Stroudsburg, Pa. 18301
DATE	CHECKED DATE			Telephone (570) 421-1550, Fax (570) 421-6720 ©2013
5-28-13	7-03-2013	MONROE COUNTY, PA		Website: www.rkrhess.com Email: engr@rkrhess.com All rights reserved
SCALE	PROJECT NO.			
NTS	10130.0520054			

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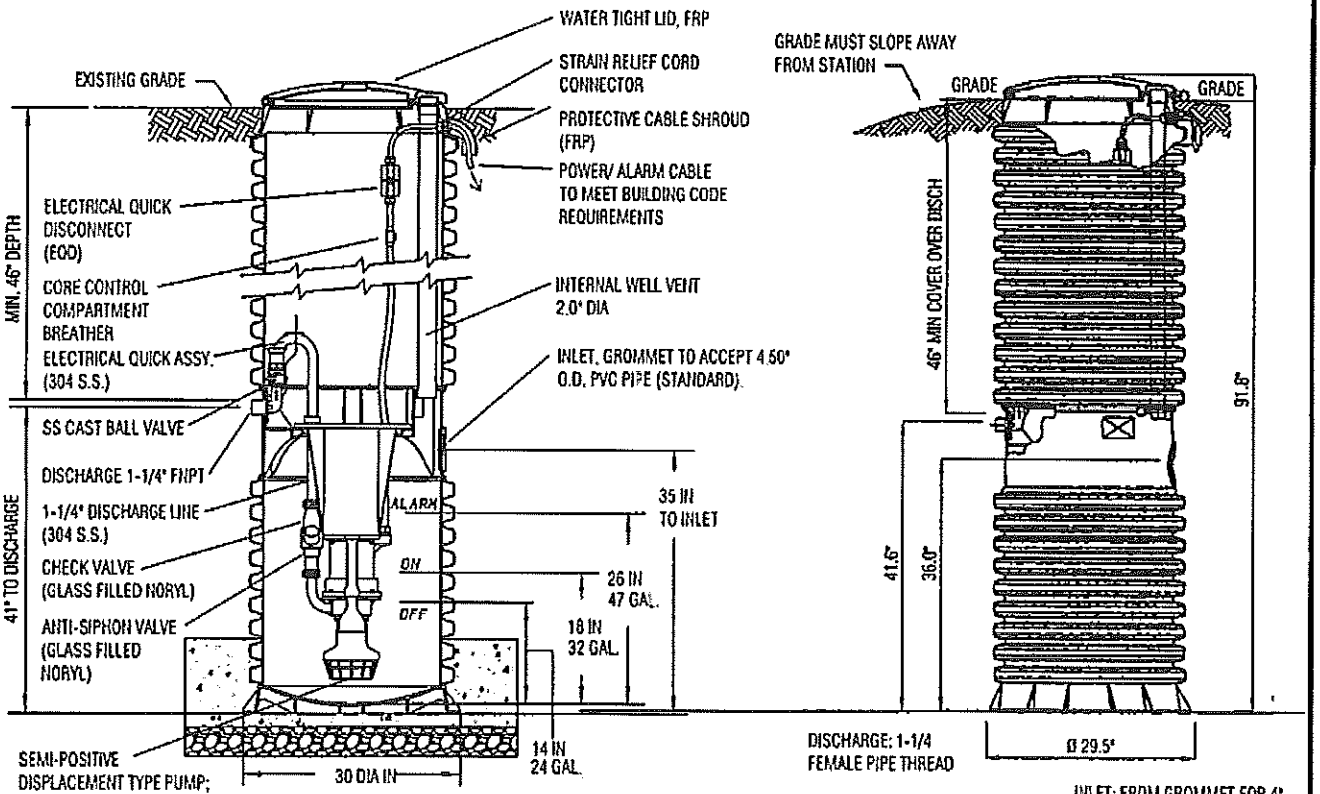

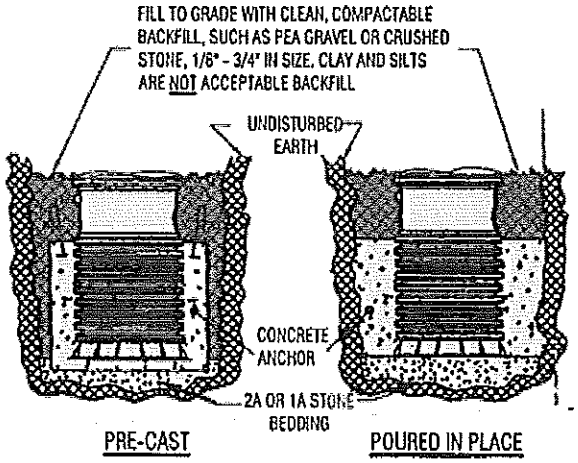

NOTE:
A CONCRETE ANT-FLOATATION ANCHOR OF 2600 LBS (17.3 CU FT) OR LARGER AS RECOMMENDED BY PUMP UNIT MANUFACTURER IS REQUIRED. ACTUAL ANTI-FLOATATION ANCHOR SHALL BE DESIGNED BASED ON ACTUAL SITE CONDITIONS.

PROPOSED GRINDER PUMP STATION

NTS

FIGURE 10

PROJECT MANAGER	DESIGNED BY	SIMPLEX GRINDER PUMP UNIT	AUTHORIZED USE
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.0520054		

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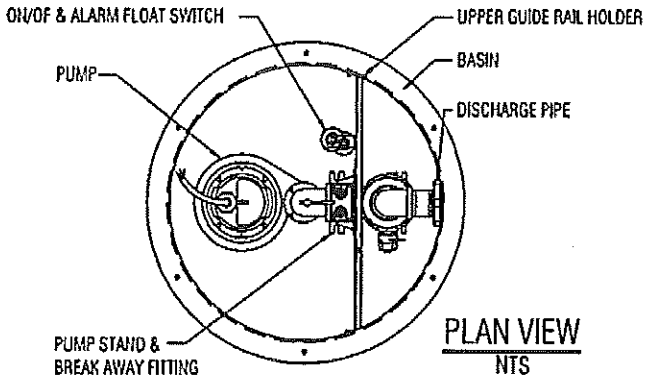
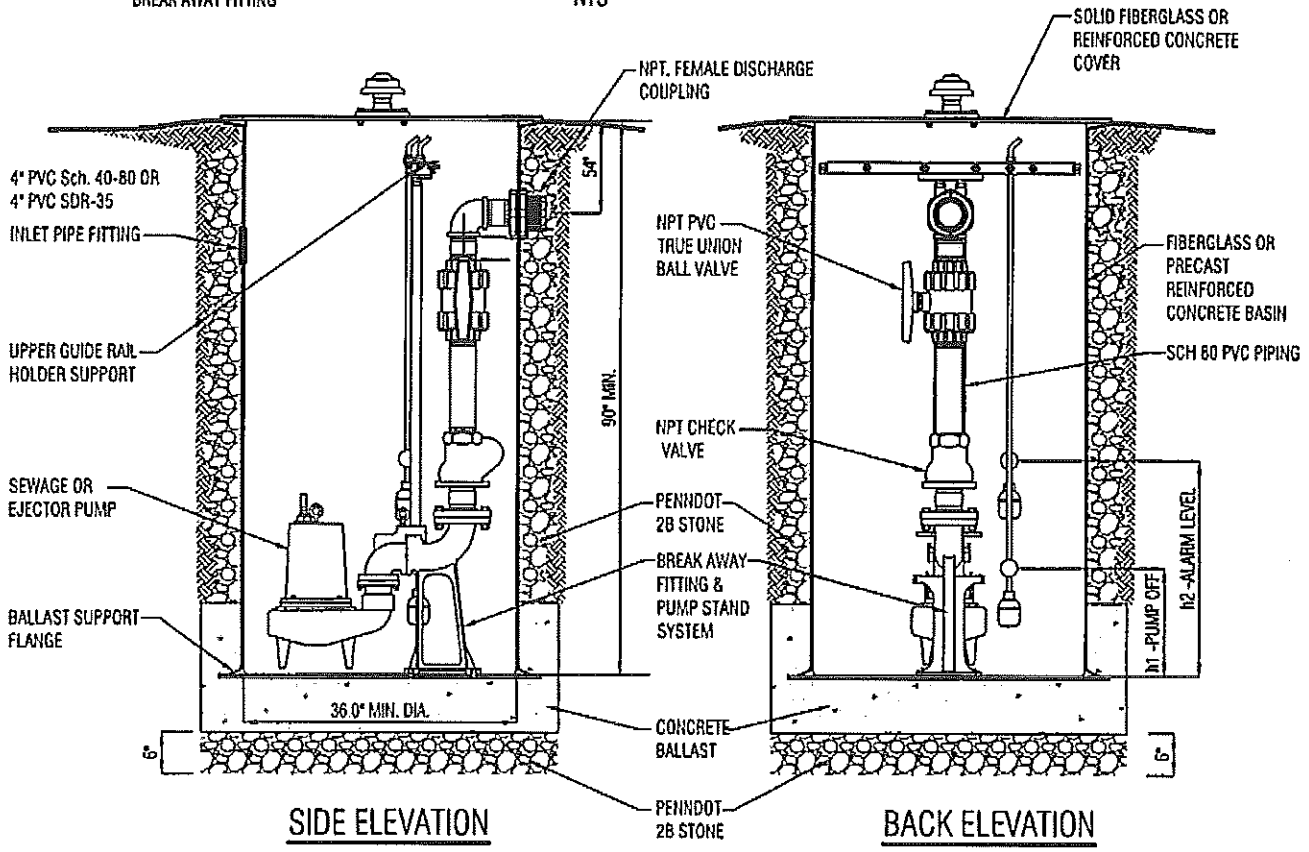


PLAN VIEW
NTS

PUMP STATION SHALL NOT BE INSTALLED IN A TRAFFIC AREA UNLESS A SITE SPECIFIC DESIGN IS PROVIDED.



SIDE ELEVATION
NTS

BACK ELEVATION
NTS

NOTES

1. ALL DIMENSIONS TO BE ± 1/4" UNLESS OTHERWISE SPECIFIED.
2. INTERMEDIATE SUPPORT REQUIRED FOR DEPTHS 13 FT. AND DEEPER.
3. CONSULT BASIN MANUFACTURER FOR VOLUME OF CONCRETE FOR BALLAST, DESIGN BASED ON SITE CONDITIONS.
4. LEVEL CONTROLS MUST BE INSTALLED OUT OF THE INFLUENT FLOW TO AVOID TURBULENCE.
5. ELECTRICAL CONDUIT & FITTINGS TO BE INSTALLED ACCORDING TO BUILDING CODE REQUIREMENTS.
6. PROVIDE NEMA 4X WEATHER TIGHT THERMOPLASTIC ENCLOSURE IF CONTROLS AND/OR ALARMS ARE INSTALLED OUTDOORS.
7. PIPE DIAMETER TO BE DETERMINED BY APPLICANT'S SYSTEM DESIGNER.
8. PUMP HORSE POWER & OUTLET DIAMETER TO BE DETERMINED BY APPLICANT'S SYSTEM DESIGNER.
9. BASIN WALL & BOTTOM THICKNESS TO BE DETERMINED BY THE APPLICANT'S SYSTEM DESIGNER IF BASIN IS TO BE MADE OF PRECAST REINFORCED CONCRETE.
10. REFER TO STANDARD MANHOLE DETAIL FIGURE 12e FOR SEALS ON PIPE PENETRATIONS & BARREL JOINTS IF BASIN IS TO BE MADE OF PRECAST REINFORCED CONCRETE.
11. h1 & h2 TO BE DETERMINED BY APPLICANT'S SYSTEM DESIGNER.

FIGURE 11

PROJECT MANAGER	DESIGNED BY
RDS	ORC
DRAWN BY	CHECKED BY
MJK	DRC
DATE	CHECKED DATE
7-02-13	7-03-13
SCALE	PROJECT NO.
NTS	10130.0520054

SEWAGE PUMP DETAILS

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

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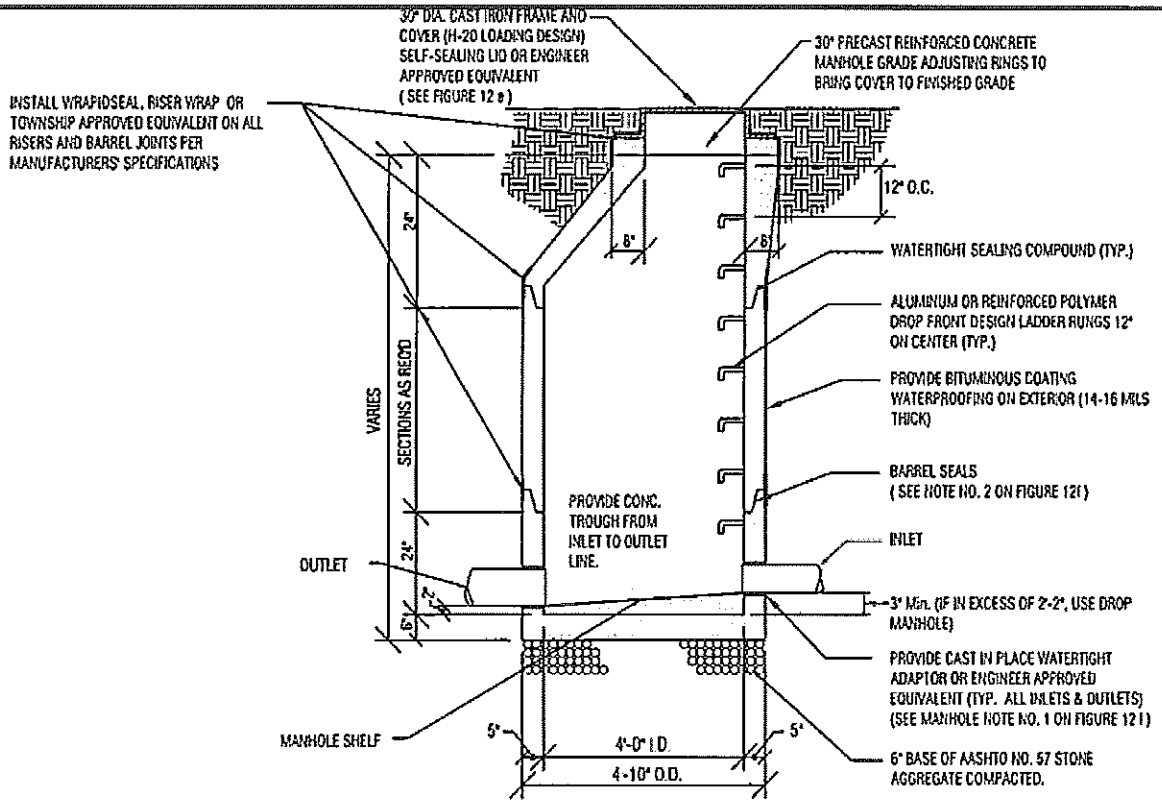
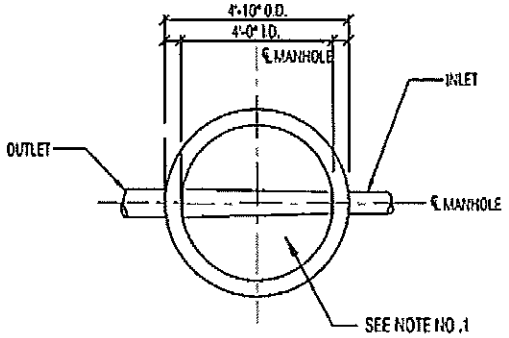


STANDARD 4' DIA. MANHOLE PROFILE

N.T.S.

NOTE:

1. STANDARD MANHOLE DEFINED AS MANHOLES WITH DEPTH LESS THAN 15 FEET, MEASURED FROM MANHOLE SHELF TO BOTTOM OF MANHOLE LID FRAME.
2. REFER TO NOTES ON FIGURE 12 f.



TYPICAL 4' DIA. STANDARD MANHOLE BASE SHAPED CHANNEL DETAIL

N.T.S.

FIGURE 12 a

PROJECT MANAGER	DESIGNED BY	MANHOLE DETAILS	AUTHORIZED USE
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130 0520054		

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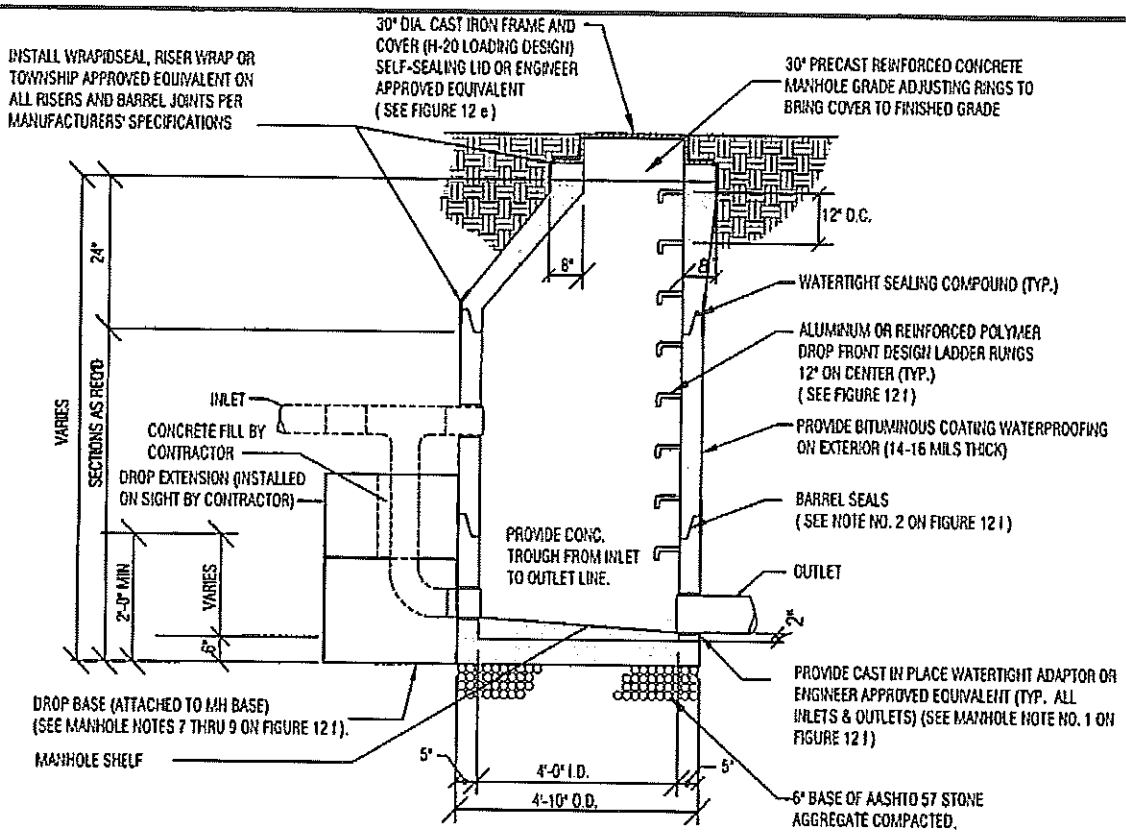
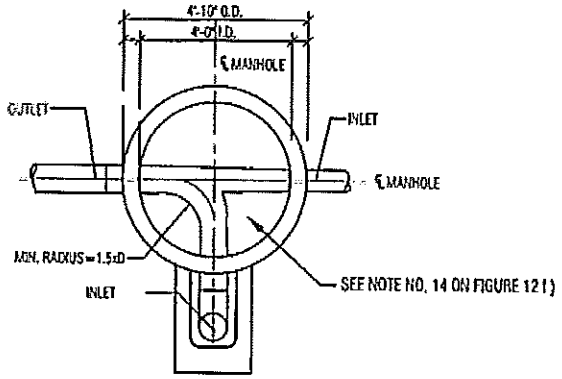


STANDARD 4' DIA. DROP MANHOLE PROFILE

N.T.S.

NOTE:

1. STANDARD MANHOLE DEFINED AS MANHOLES WITH DEPTH LESS THAN 15 FEET, MEASURED FROM MANHOLE SHELF TO BOTTOM OF MANHOLE LID FRAME.
2. REFER TO NOTES ON FUGURE 12 f.



TYPICAL DROP MANHOLE BASE SHAPED CHANNEL DETAIL

N.T.S.

FIGURE 12 b

PROJECT MANAGER	DESIGNED BY
RDS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-03-2013
SCALE	PROJECT NO.
NTS	10130.0520054

MANHOLE DETAILS

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

AUTHORIZED USE:

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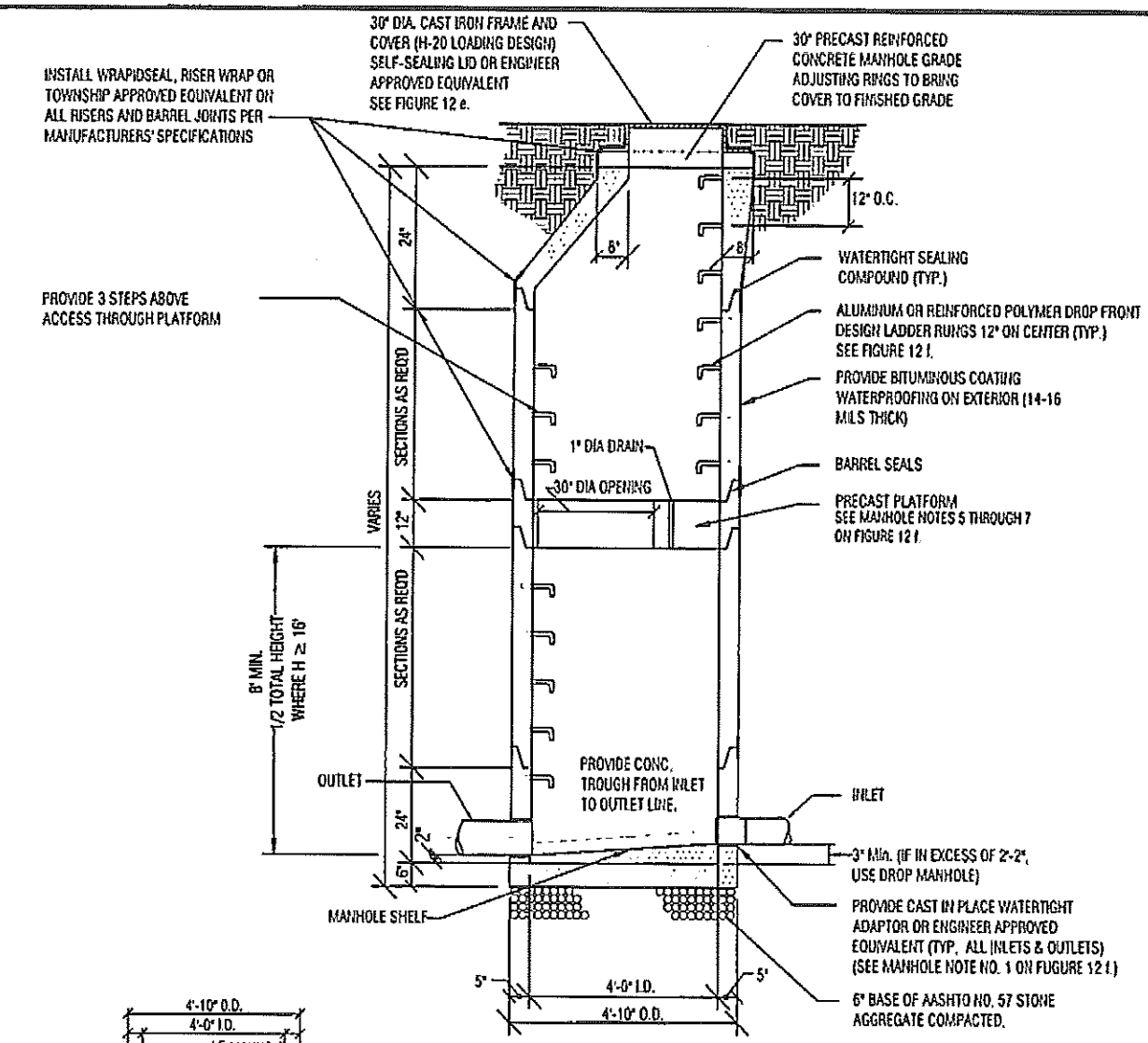
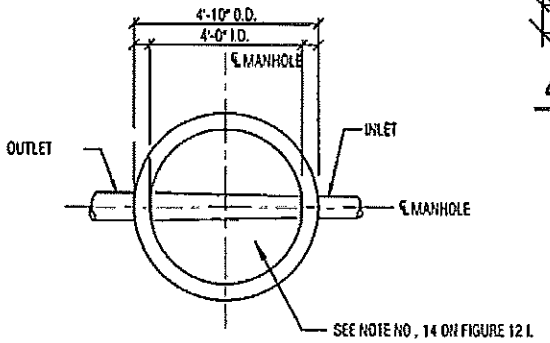


4' DIA. DEEP MANHOLE PROFILE

N.T.S.



TYPICAL STANDARD MANHOLE BASE SHAPED CHANNEL DETAIL

N.T.S.

NOTE:
1. STANDARD MANHOLE DEFINED AS MANHOLES WITH DEPTH LESS THAN 15 FEET, MEASURED FROM MANHOLE SHELF TO BOTTOM OF MANHOLE LID FRAME.
2. REFER TO NOTES ON FUGURE 12 f.

FIGURE 12 c

PROJECT MANAGER	DESIGNED BY
RDS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-03-2013
SCALE	PROJECT NO.
NTS	10130.0520054

MANHOLE DETAILS

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

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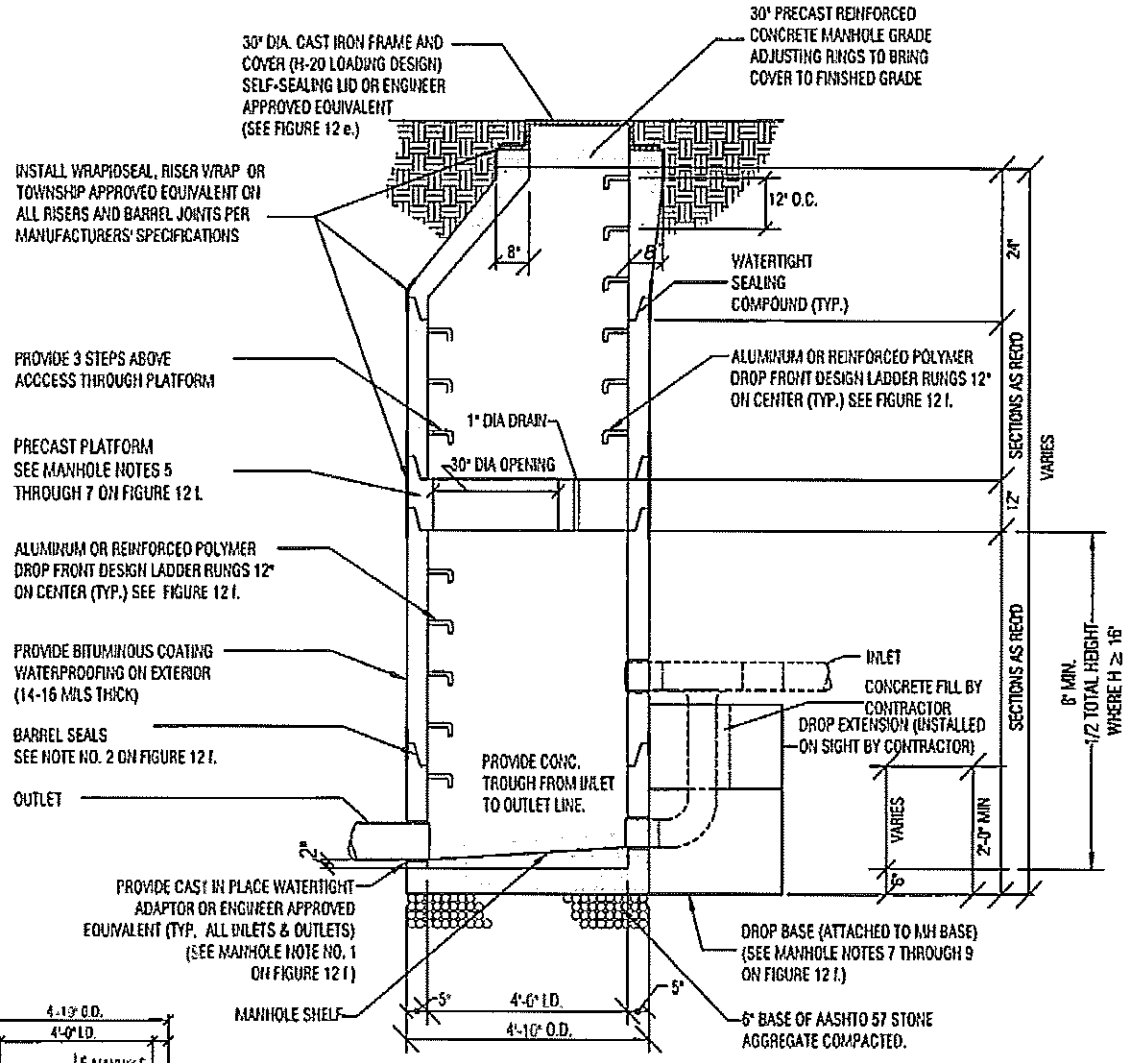
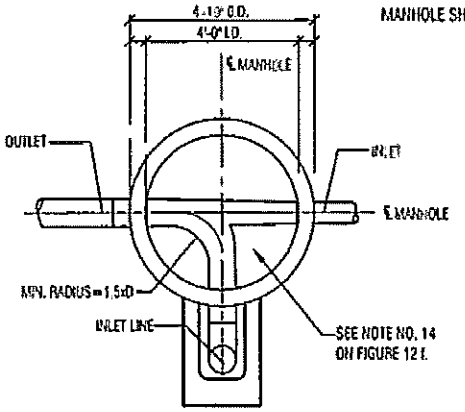


4' DIA. DEEP DROP MANHOLE PROFILE

N.T.S.

NOTE:

1. STANDARD MANHOLE DEFINED AS MANHOLES WITH DEPTH LESS THAN 15 FEET, MEASURED FROM MANHOLE SHELF TO BOTTOM OF MANHOLE LID FRAME.
2. REFER TO NOTES ON FUGURE 12 f.



TYPICAL DROP MANHOLE BASE SHAPED CHANNEL DETAIL

N.T.S.

FIGURE 12 d

PROJECT MANAGER	DESIGNED BY
RDS	DRC
DRAWN BY	CHECKED BY
MCS/MJK	DRC
DATE	CHECKED DATE
5-28-13	7-03-2013
SCALE	PROJECT NO.
NTS	10130.0520054

MANHOLE DETAILS

POCONO & HAMILTON TOWNSHIPS
JOINT MUNICIPAL SEWERAGE SYSTEM

MONROE COUNTY, PA

AUTHORIZED USE:

RKRHESS
A DIVISION OF UTRS
Civil Engineers • Environmental Engineers • Surveyors
112 North Courtland Street, P.O. Box 268, East Stroudsburg, Pa. 18301
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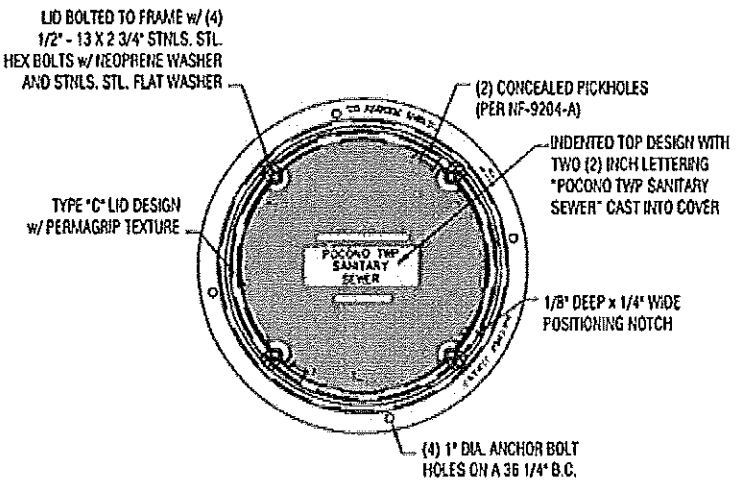
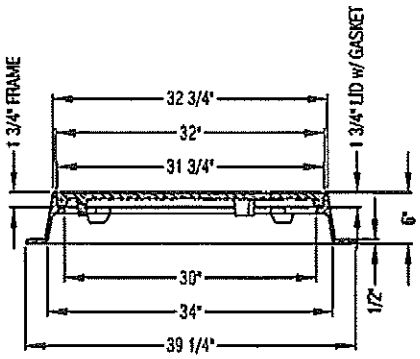
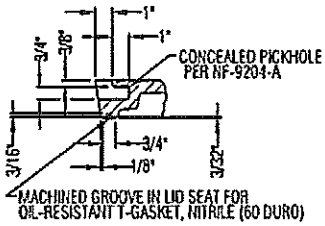


WATERTIGHT MANHOLE FRAME AND COVER DETAIL

NTS

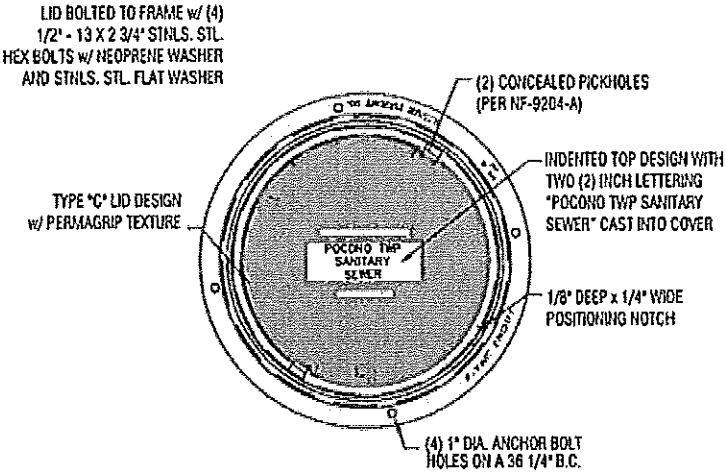


NOTE: A WATER TIGHT MANHOLE FRAME AND COVER MODEL R-1916-H1 (AS SHOWN), AS MANUFACTURED BY NEENAH FOUNDRY COMPANY, MODEL 1012A BOLTED AND GASKETED, AS MANUFACTURED BY BRIDGESTATE FOUNDRY CORPORATION OR TOWNSHIP APPROVED EQUIVALENT, WILL BE USED IN AREAS WHERE THE MANHOLE WILL BE LOCATED WITHIN THE FLOODPLAIN OR POORLY DRAINED SOIL AS DIRECTED BY POCONO TOWNSHIP.



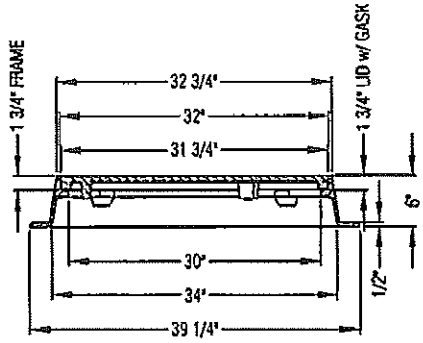
T-SEAL / CONCEALED PICKHOLE DETAIL

NTS



STANDARD MANHOLE FRAME AND COVER DETAIL

NTS



NOTE: A STANDARD SELF SEALING MANHOLE FRAME AND COVER MODEL R-1743 (AS SHOWN), AS MANUFACTURED BY NEENAH FOUNDRY COMPANY, MODEL 1012A, AS MANUFACTURED BY BRIDGESTATE FOUNDRY CORPORATION, OR TOWNSHIP APPROVED EQUIVALENT, WILL BE USED IN AREAS WHERE THE MANHOLE WILL BE LOCATED OUTSIDE THE FLOODPLAIN.

FIGURE 12 e

PROJECT MANAGER	DESIGNED BY	MANHOLE DETAILS	AUTHORIZED USE:	R.K.R.HESS
RDS	ORC			A DIVISION OF UTRS
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM		Civil Engineers • Environmental Engineers • Surveyors
MCS/MJK	ORC			112 North Courtland Street, P.O. Box 268, East Stroudsburg, Pa. 18301
DATE	CHECKED DATE			Telephone (570) 421-1550, Fax (570) 421-6720
5-28-13	7-03-2013			Website: www.rkrhess.com Email: engr@rkrhess.com
SCALE	PROJECT NO.	MONROE COUNTY, PA		
NTS	10130.0520054			

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MANHOLE NOTES:

1. CONNECTION BY SEWER PIPING TO PRECAST CONCRETE MANHOLE PASSES SHALL BE MADE USING A CAST IN PLACE RUBBER GASKET TYPE SEAL SIMILAR TO OR EQUAL TO DURA-SEAL III AS MANUFACTURED BY BLACKHORN, INC. OR Z-LOC MANUFACTURED BY A-LOC PRODUCTS, INC. OR POCONO TOWNSHIP APPROVED EQUIVALENT. CAST IN PLACE CONNECTOR MUST BE USED, EXCEPT WHEN CONNECTING TO EXISTING MANHOLES.

2. MANHOLE SECTIONS SHALL BE JOINED USING A PREFORMED PLASTIC SEALING COMPOUND. THE SEALING COMPOUND SHALL BE SUPPLIED IN EXTRUDED ROPE FORM OF SUITABLE CROSS SECTION. THE SIZE OF THE SEALING COMPOUND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND SUFFICIENT TO OBTAIN SQUEEZE-OUT OF THE MATERIAL AROUND THE ENTIRE INTERIOR AND EXTERIOR CIRCUMFERENCE WHEN THE JOINT IS COMPLETED. JOINT SURFACES SHALL BE PRIMED, SEALING COMPOUND APPLIED AND JOINT MADE IN STRICT CONFORMANCE WITH THE WRITTEN SPECIFICATIONS OF THE SEALING COMPOUND MANUFACTURER.

3. A STANDARD SELF SEALING MANHOLE FRAME AND COVER AS SHOWN AND SPECIFIED ON FIGURE 12 c OR TOWNSHIP APPROVED EQUIVALENT, WILL BE USED IN AREAS WHERE THE MANHOLE WILL BE LOCATED OUTSIDE THE FLOODPLAIN.

4. A WATER TIGHT MANHOLE FRAME AND COVER AS SHOWN AND SPECIFIED ON FIGURE 12 e OR TOWNSHIP APPROVED EQUIVALENT, WILL BE USED IN AREAS WHERE THE MANHOLE WILL BE LOCATED WITHIN THE FLOODPLAIN OR POORLY DRAINED SOIL AS DIRECTED BY THE ENGINEER.

5. IF OVERALL INSIDE DEPTH OF MANHOLE IS GREATER THAN 15 FEET, MANHOLE SHALL BE CLASSIFIED AS DEEP MANHOLE (MEASURED FOR THE MANHOLE SHELF TO THE BOTTOM OF THE MANHOLE LID FRAME) THEN FURNISH AND INSTALL PRECAST PLATFORM UNLESS DIRECTED OTHERWISE.

6. PRECAST PLATFORM SHALL BE INSTALLED WITH A MINIMUM OF 8 FEET HEADROOM MEASURED FROM THE TOP OF THE MANHOLE CHANNEL THE BOTTOM OF THE PRECAST PLATFORM OR AT THE APPROXIMATE MID POINT OF THE MANHOLE.

7. DO NOT USE A PRECAST PLATFORM IN DROP MANHOLES WHERE THE INVERT OF IN INFLUENT PIPE IS ABOVE THE TOP OF THE PLATFORM.

8. FOR DROP MANHOLES WITH SEWER PIPES 15 INCH DIAMETER OR LESS USE PRECAST OUTSIDE DROP MANHOLE BASE.

9. FOR DROP MANHOLES WITH SEWER PIPES LARGER THAN 15 INCH DIAMETER OUTSIDE DROP PIPING TO BE ENCASED IN CONCRETE ON SITE.

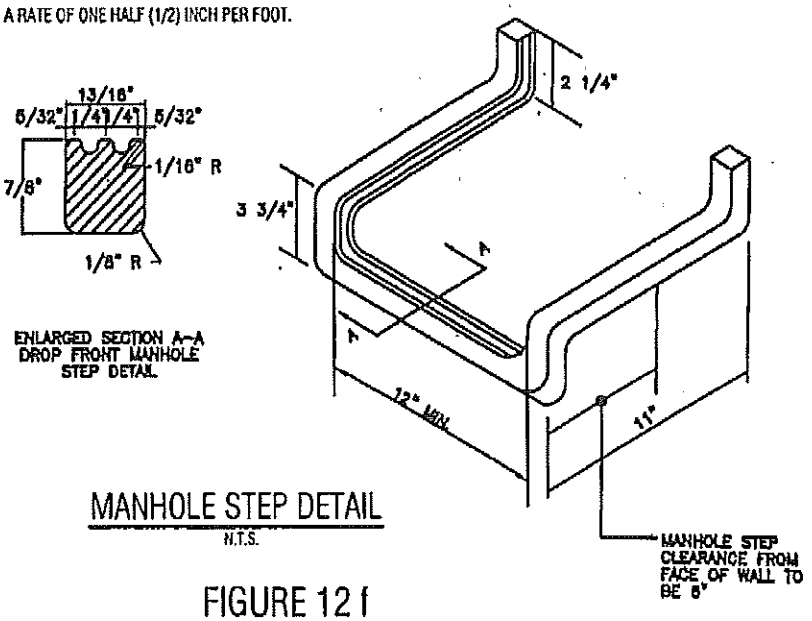
10. FURNISH A 5 FOOT DIAMETER MANHOLE IF ANY OF THE EFFLUENT AND/OR INFLUENT SEWER PIPES ARE 24 INCHES IN DIAMETER OR GREATER.

11. WHEN USING A 5 FOOT DIAMETER MANHOLE, PROVIDE A CONVERSION CONE TO BRING THE FINAL MANHOLE DIAMETER TO 4 FOOT.

12. CONTRACTOR SHALL VERIFY ACTUAL GRADE ELEVATIONS AND ADJUST THE INSTALLATION OF MANHOLES ACCORDINGLY SO THAT MANHOLE FRAME AND COVER WILL BE FLUSH WITH THE ACTUAL GRADE ELEVATION.

13. FOR PROPOSED MANHOLES LOCATED ON PAVED ROADWAYS/SHOULDERS/DRIVEWAYS, APPROPRIATE SLOPED MANHOLE GRADE ADJUSTMENT RINGS SHALL BE PROVIDED TO MATCH SLOPE OF SUCH ROADWAYS/SHOULDERS/DRIVEWAYS SO THAT MANHOLE FRAME AND COVER WILL BE FLUSH WITH THE ACTUAL SLOPED GRADE ELEVATION.

14. MANHOLE BASE SHALL HAVE PRECAST CONCRETE CHANNEL. INVERTS SHALL BE FORMED DIRECTLY IN THE CONCRETE CHANNEL AND BE SMOOTH AND ACCURATELY SHAPED TO A SEMI-CIRCLE BOTTOM CONFORMING TO THE INSIDE OF THE ADJACENT SEWER SECTIONS. CHANGES IN THE SIZE AND GRADE SHALL BE MADE GRADUALLY. ALL SHELF AREAS SHALL SLOPE TO THE INVERT CHANNELS AT A RATE OF ONE HALF (1/2) INCH PER FOOT.



MANHOLE STEP DETAIL

N.T.S.

FIGURE 12 f

PROJECT MANAGER	DESIGNED BY	MANHOLE DETAILS	AUTHORIZED USE
RDS	ORC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.0520054		

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Website www.rkrhess.com Email: engr@rkrhess.com

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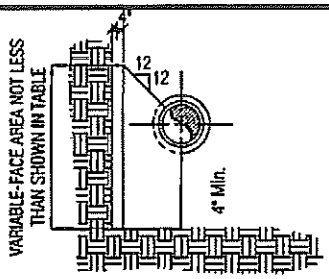
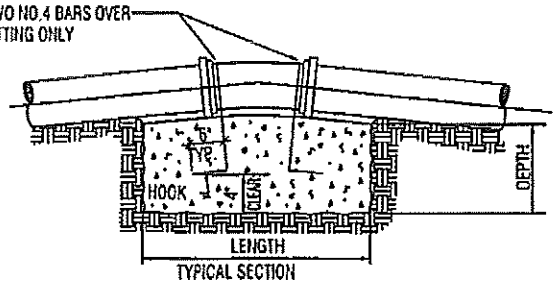
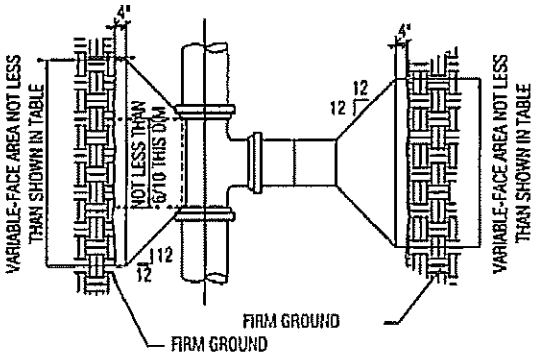


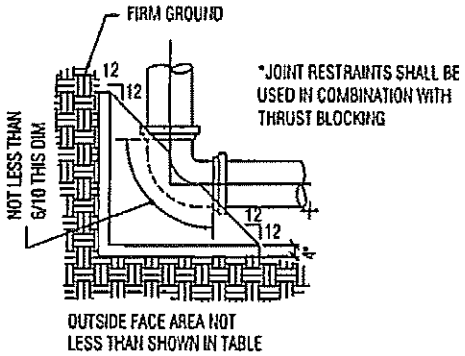
APPLICABLE TO TEES
WYES & BENDS
N.T.S.



BLOCKING FOR BENDS*
(VERTICAL) N.T.S.



BLOCKING FOR TEES & PLUGS
N.T.S.



BLOCKING FOR BENDS*
(HORIZONTAL) N.T.S.

ANCHORAGE SCHEDULE										
PIPE SIZE	11-1/4° BEND		22-1/2° BEND		45° BEND		90° BEND		TEE	
	L	D	L	D	L	D	L	D	L	D
TO 6"	18"	12"	18"	12"	24"	12"	3'-6"	12"	2'-5"	12"
8"	18"	12"	24"	12"	3'-6"	12"	4'-0"	18"	3'-0"	12"
10"	18"	12"	3'-0"	12"	2'-6"	2'-0"	4'-0"	2'-6"	3'-6"	2'-0"
12"	2'-0"	12"	2'-6"	18"	4'-0"	2'-0"	4'-6"	3'-0"	3'-6"	3'-0"
14"	2'-6"	12"	3'-6"	18"	4'-0"	2'-6"	5'-6"	3'-6"	4'-6"	3'-0"
16"	2'-6"	18"	3'-6"	2'-0"	4'-6"	3'-0"	6'-0"	4'-0"	5'-0"	5'-0"

L = LENGTH; D = WIDTH

NOTES:

GENERAL

1. NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE.
2. PLASTIC SHEET TO BE PLACED BETWEEN CONCRETE BLOCK AND PORTION OF PIPE BEING ANCHORED

VERTICAL PIPES

1. VERTICAL THRUSTS UPWARD (UP TO 150 psi WORKING PRESSURE)
2. REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE
3. ALL EXPOSED STEEL TO BE PAINTED WITH TWO COATS ASPHALTIC PAINT

THRUST BLOCKING FOR PRESSURE CONNECTION LATERALS

FIGURE 13

PROJECT MANAGER	DESIGNED BY	THRUST BLOCKING DETAILS & SCHEDULE	AUTHORIZED USE:
RDS	DRC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MCS/MJK	DRC		
DATE	CHECKED DATE		
5-28-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.0520054		

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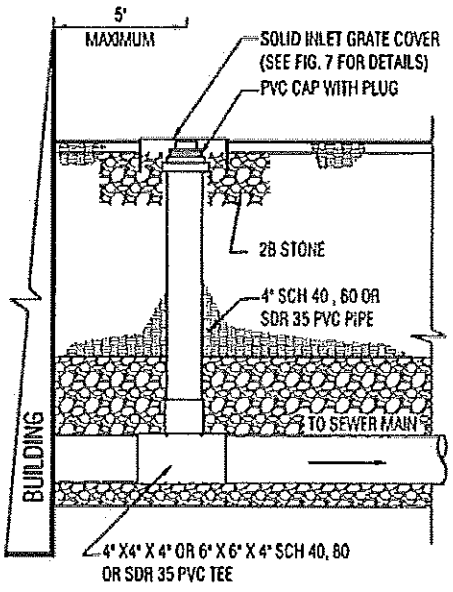
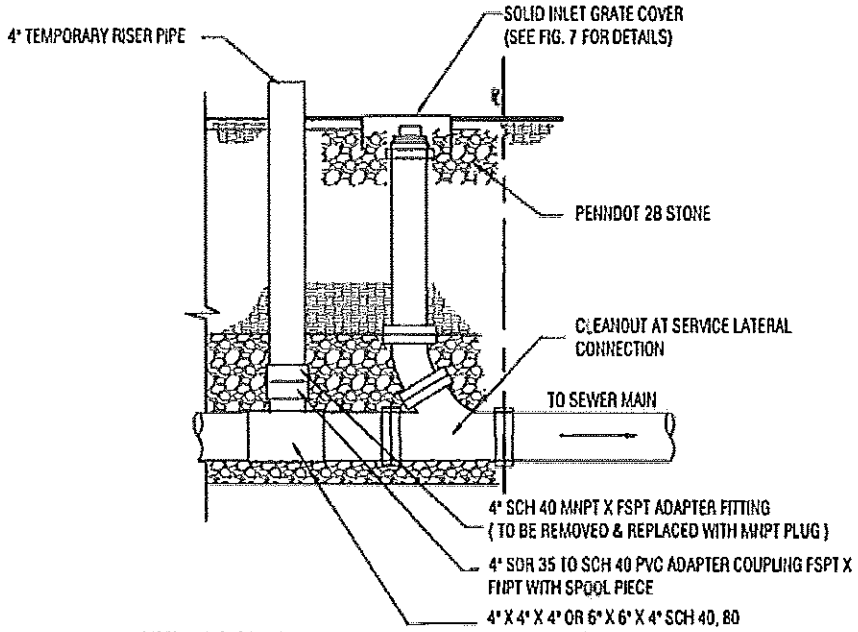


BUILDING TEST TEE / CLEANOUT

N.T.S.



NOTE:
AFTER TESTING IS COMPLETE REMOVE TEMPORARY RISER AND CAP THE TEE WITH A THREADED PLUG TO MATCH FITTING SERVICE RATING

GRAVITY BUILDING SEWER TEST TEES

N.T.S.

FIGURE 14

PROJECT MANAGER	DESIGNED BY	TEST TEE DETAILS	AUTHORIZED USE
RDS	ORC		
DRAWN BY	CHECKED BY	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM	
MJK	DRC		
DATE	CHECKED DATE		
6-18-13	7-03-2013		
SCALE	PROJECT NO.	MONROE COUNTY, PA	
NTS	10130.0520054		

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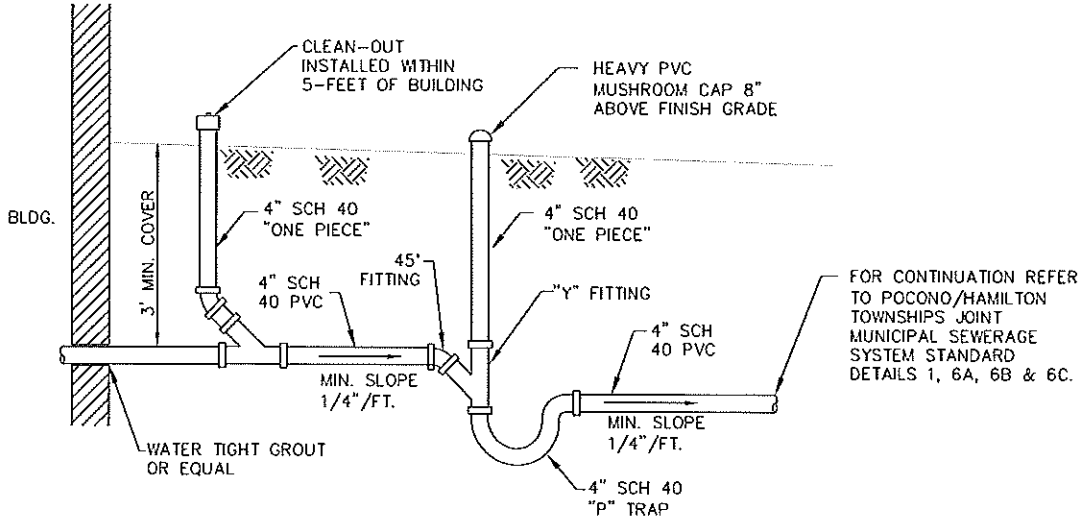
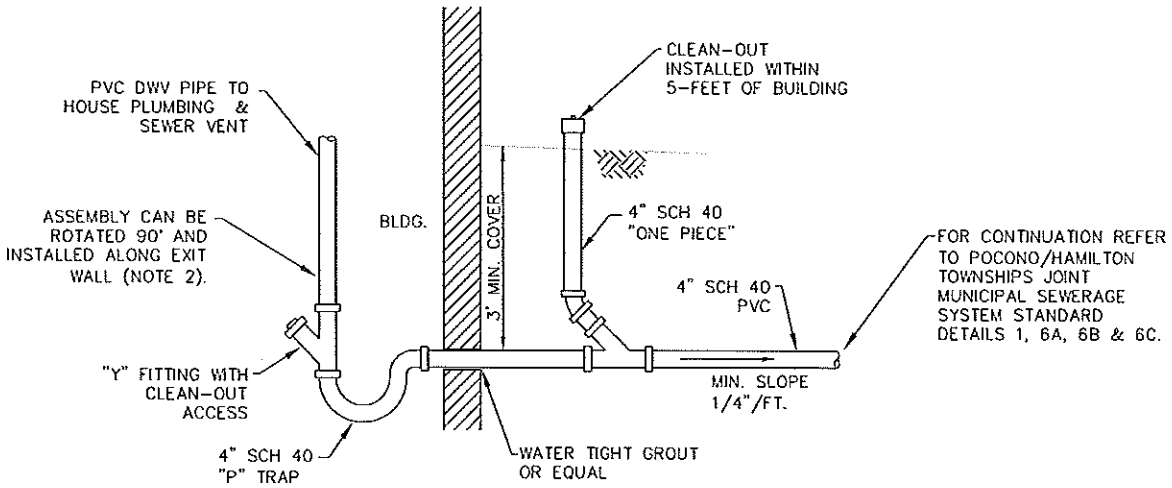
STANDARD DETAIL	POCONO & HAMILTON TOWNSHIPS JOINT MUNICIPAL SEWERAGE SYSTEM				
SEWER LATERAL INSTALLATION	T&M ASSOCIATES		6/15	FIGURE 15	
BUILDING TRAP INSTALLATION	*CONSULTING ENGINEERS*	APP'D.	DATE	DRAWING NUMBER	REV.



INSTALLATION OUTSIDE OF BUILDING

ELEVATION



INSTALLATION INSIDE OF BUILDING

ELEVATION

NOTES:

1. TRAPS SHALL BE INSTALLED IN A CONDITIONED CRAWL SPACE OR BASEMENT WHERE POSSIBLE.
2. WHEN INSTALLED IN BASEMENTS TRAPS SHALL BE INSTALLED ALONG THE EXIT WALL OR AS CLOSE TO THE EXIT WALL AS POSSIBLE.
3. ALL INSIDE INSTALLATIONS SHALL INCLUDE A "Y" CLEAN-OUT AS SHOWN.
4. OUTSIDE INSTALLATIONS SHALL HAVE A MINIMUM COVER OF 42-INCHES MEASURED FROM THE TOP OF THE TRAP TO FINISHED GRADE. SITE CONDITIONS MAY REQUIRE A DEEPER INSTALLATION OR OTHER MEASURES NECESSARY TO PREVENT FREEZING.
5. INSTALLATION MUST COMPLY WITH ALL APPLICABLE BUILDING CODES.