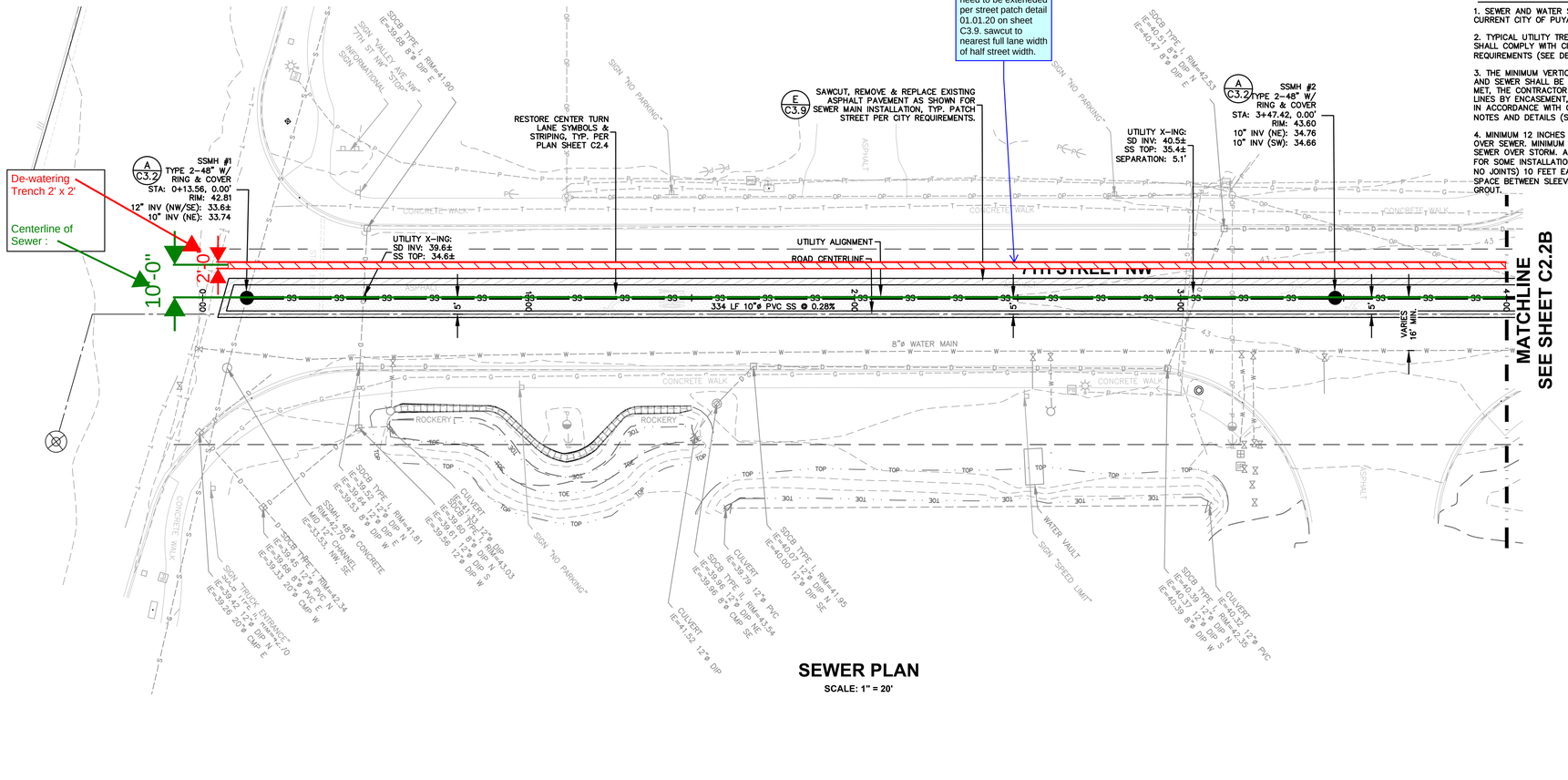
DEWATERING PLAN

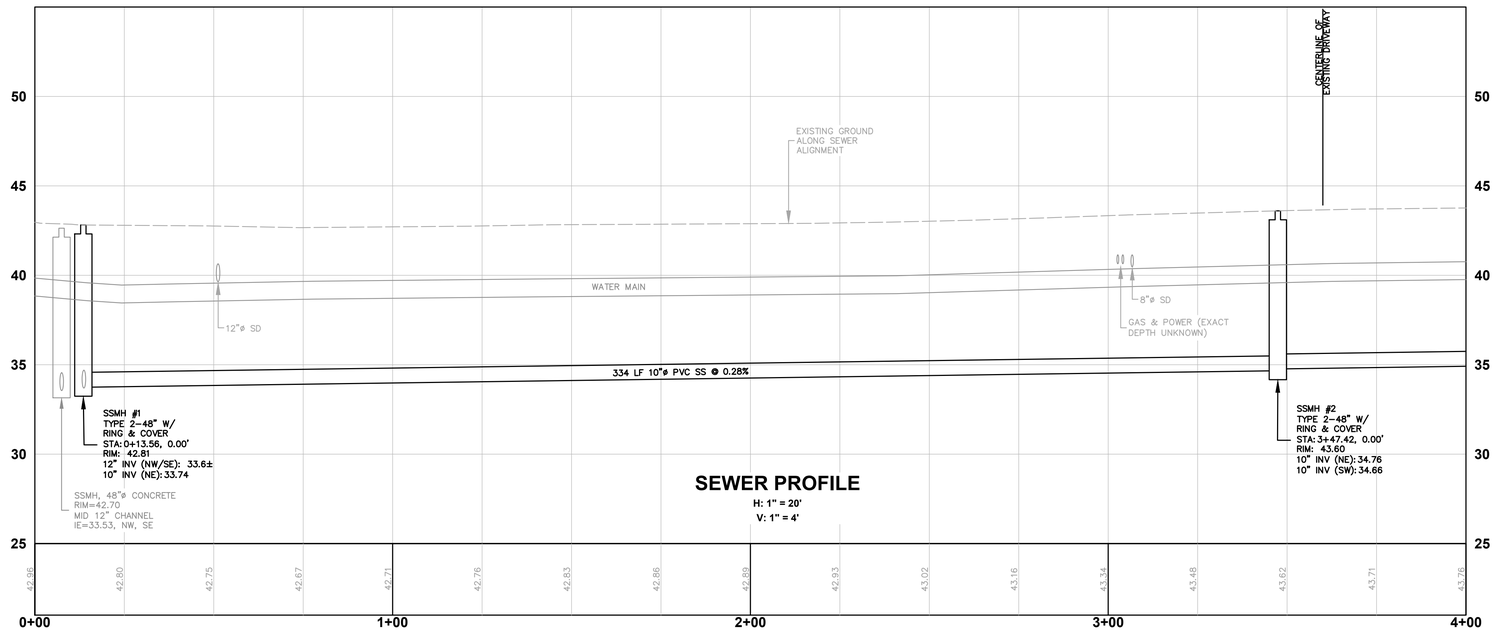


SEWER PLAN

SCALE: 1" = 20'

GENERAL NOTES

1. SEWER AND WATER SYSTEM SHALL BE CONSTRUCTED TO CURRENT CITY OF PUYALLUP STANDARDS.
2. TYPICAL UTILITY TRENCH EXCAVATION, BEDDING AND BACKFILL SHALL COMPLY WITH CITY STANDARD DETAIL 06.01.01 REQUIREMENTS (SEE DETAIL F/C3.10).
3. THE MINIMUM VERTICAL SEPARATION BETWEEN CROSSING WATER AND SEWER SHALL BE 18 INCHES. IF THIS CRITERION CANNOT BE MET, THE CONTRACTOR SHALL ISOLATE THE SEWER AND WATER LINES BY ENCASEMENT, SHIELDING, OR OTHER APPROVED METHODS IN ACCORDANCE WITH CITY OF PUYALLUP WATER MAIN CROSSING NOTES AND DETAILS (SEE DETAIL B/C3.3 & C/C3.3).
4. MINIMUM 12 INCHES VERTICAL SEPARATION BETWEEN STORM OVER SEWER. MINIMUM 18 INCHES VERTICAL SEPARATION BETWEEN SEWER OVER STORM. ADDITIONAL PROTECTION MAY BE REQUIRED FOR SOME INSTALLATIONS: PROVIDE PVC SLEEVE (SINGLE SECTION, NO JOINTS) 10 FEET EACH SIDE OF CROSSING & FILL ANNULAR SPACE BETWEEN SLEEVE AND STORM PIPE W/ NON-SHRINK GROUT.



SEWER PROFILE

H: 1" = 20'
V: 1" = 4'

ZERVAS
ARCHITECTURE | INTERIOR DESIGN
zervasgroup.com
209 Prospect Street
Bellingham, WA 98225
360.734.4744

FREELAND & ASSOCIATES
220 West Champion Street, Suite 200 t: 360.650.1408
Bellingham, WA 98225 f: 360.650.1401

JAMES PATRICK MCEACHRON — STATE OF WASHINGTON — 49494 — REGISTERED PROFESSIONAL ENGINEER — 05/31/2024

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City of Puyallup Development Engineering ACCEPTED
LHollingsworth
07/25/2024
08:40:03

100% CD SET

REV	ISSUED FOR	DATE

PLAN NORTH | TRUE NORTH

SCALE: 1"=20' (0 — 20)

PSE - OPERATIONAL TRAINING CENTER

SEWER PLAN & PROFILE - 0+00 - 4+00

PROJECT No:	22219
DRAWN BY:	MPM
CHECKED BY:	THF
DATE ISSUED:	05/31/2024

C2.2A

DEWATERING PLAN

Treatment Center location #1:

Treatment Monitoring Conex;

Treatment Monitoring Pods (Actual treatment before Discharge)

Pump & Fuel Cell:

Storage tanks:

UG de-watering connection point and discharge point :

City Storm discharge point:

Individual PCV Lines to distribute water through system:

Steel Plate to allow UG Pump passage to treatment center

De-watering Trench 2' x 2'

Centerline of Sewer :

Pavement extents will need to be exteneded per street patch detail 01.01.20 on sheet C3.9. sawcut to nearest full lane width of half street width.

Pavement extents per street patch detail 01.01.20 on sheet C3.9.

Approved Civil appears to not have accurate ROW in 7th street. Confirm with survey markers that this does not encroach private property or provide written agreement from owner that use of private property is permitted.

Remove section of Concrete Sidewalk

Replace to the nearest full sidewalk panel

GENERAL NOTES

1. SEWER AND WATER SYSTEM SHALL BE CONSTRUCTED TO CURRENT CITY OF PUYALLUP STANDARDS.
2. TYPICAL UTILITY TRENCH EXCAVATION, BEDDING AND BACKFILL SHALL COMPLY WITH CITY STANDARD DETAIL 06.01.01 REQUIREMENTS (SEE DETAIL F/C3.10).
3. THE MINIMUM VERTICAL SEPARATION BETWEEN CROSSING WATER AND SEWER SHALL BE 18 INCHES. IF THIS CRITERION CANNOT BE MET, THE CONTRACTOR SHALL ISOLATE THE SEWER AND WATER LINES BY ENCASEMENT, SHIELDING, OR OTHER APPROVED METHODS IN ACCORDANCE WITH CITY OF PUYALLUP WATER MAIN CROSSING NOTES AND DETAILS (SEE DETAIL B/C3.3 & C/C3.3).
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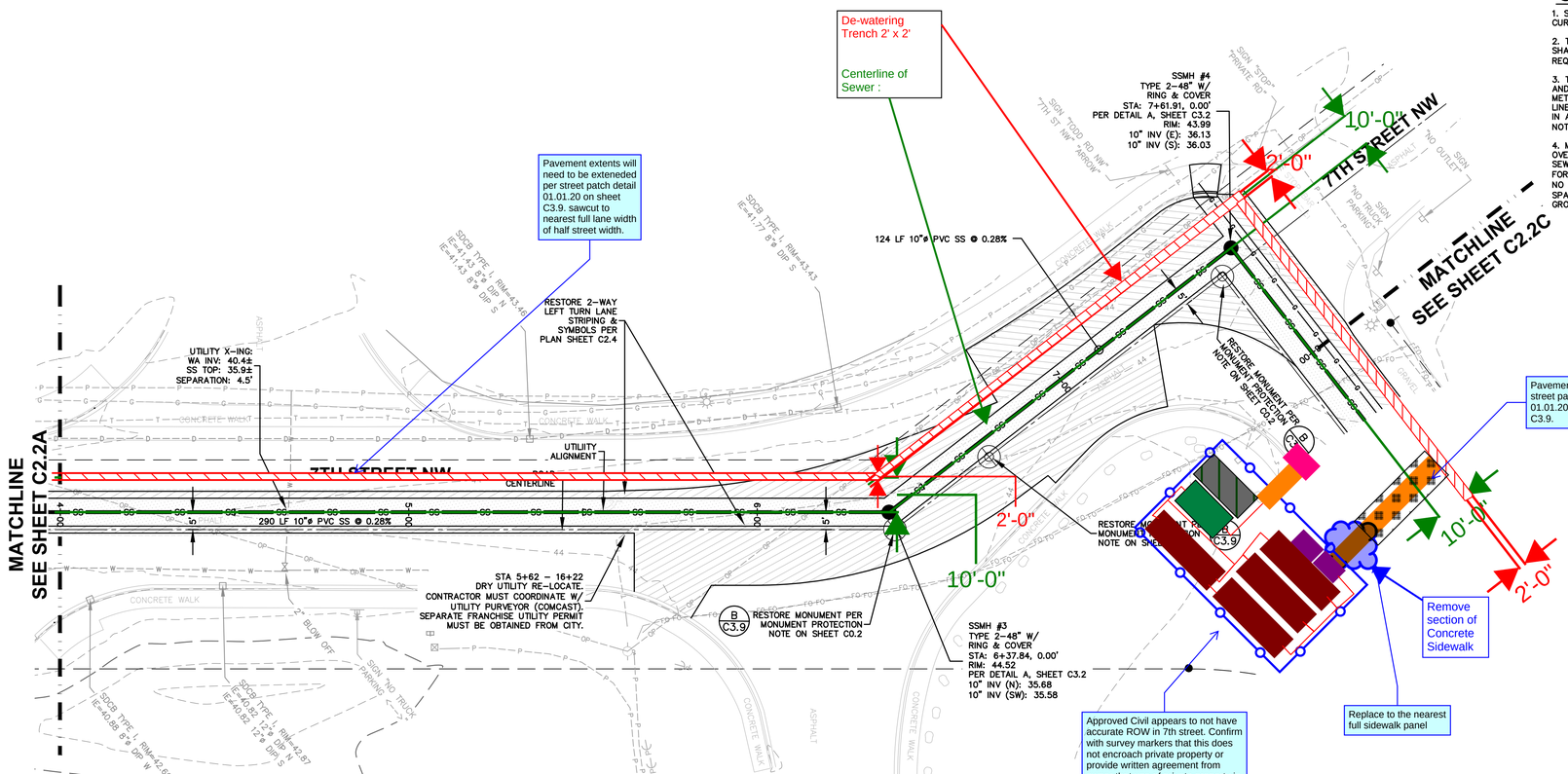
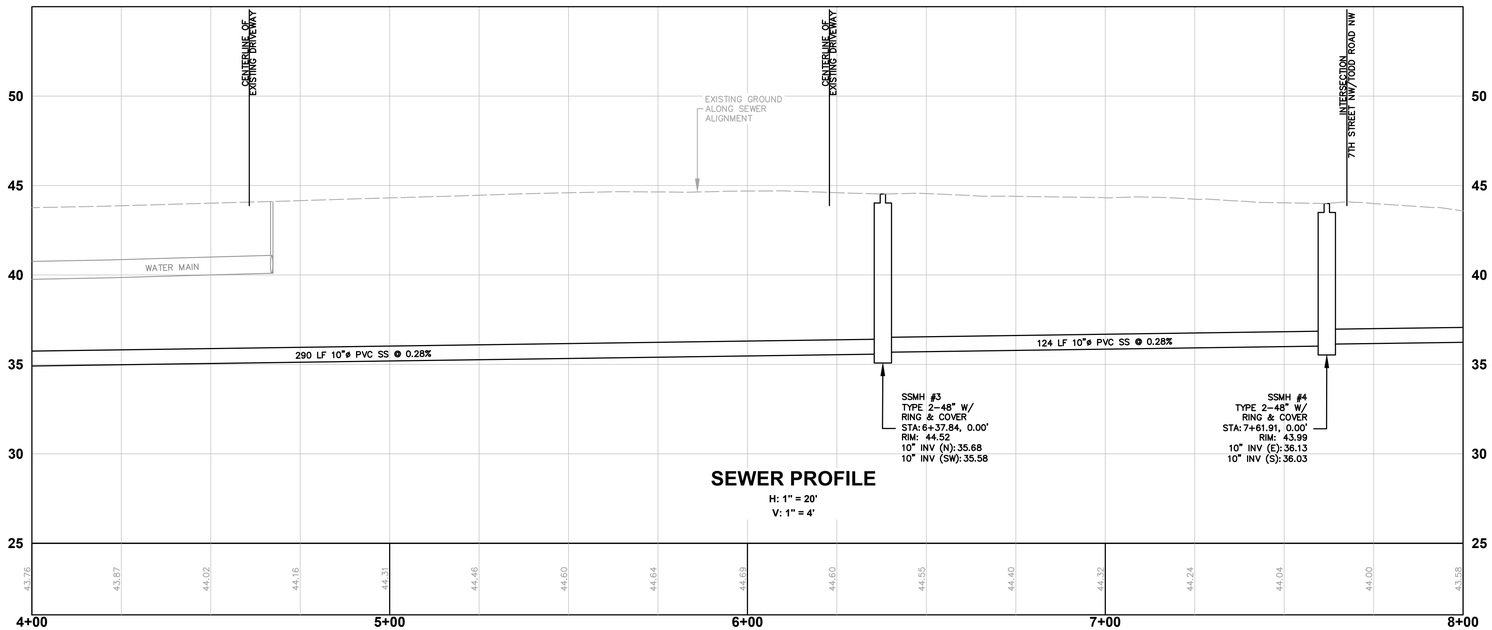


SEWER PLAN

SCALE: 1" = 20'



SEWER PROFILE

H: 1" = 20'
V: 1" = 4'

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Bellingham, WA 98225
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Bellingham, WA 98225 f: 360.650.1401

JAMES PATRICK MCEATHRON
STATE OF WASHINGTON
19494
REGISTERED PROFESSIONAL ENGINEER
05/31/2024

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City of Puyallup Development Engineering ACCEPTED
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PLAN NORTH | TRUE NORTH

SCALE: 1"=20'

PSE - OPERATIONAL TRAINING CENTER

SEWER PLAN & PROFILE - 4+00 - 8+00

PROJECT No:	22219
DRAWN BY:	MPM
CHECKED BY:	THF
DATE ISSUED:	05/31/2024

C2.2B

DEWATERING PLAN

Treatment Center location #1:

Treatment Monitoring Conex;

Treatment Monitoring Pods (Actual treatment before Discharge)

Pump & Fuel Cell:

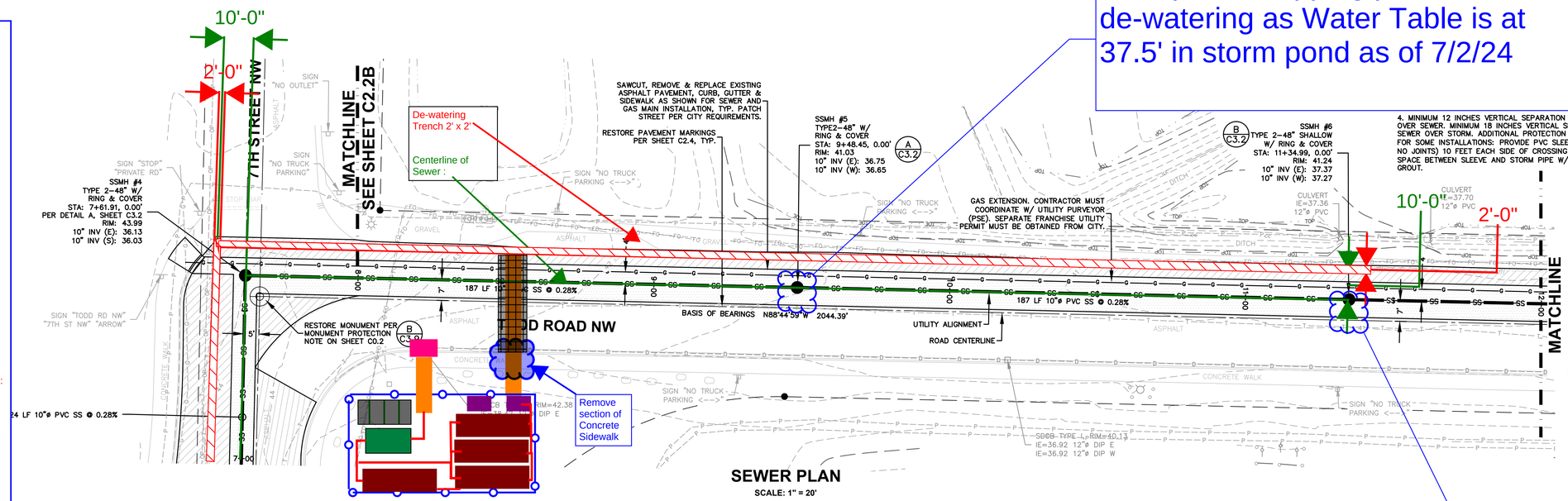
Storage tanks:

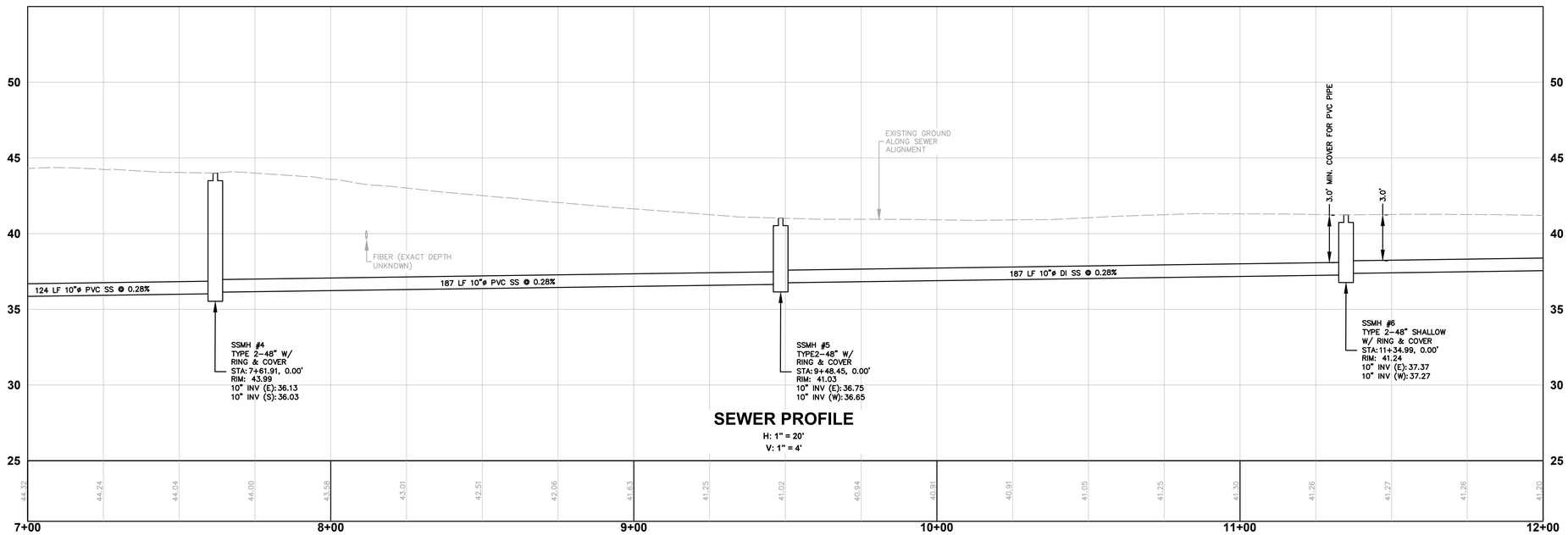
UG de-watering connection point and discharge point :

City Storm discharge point:

Individual PCV Lines to distribute water through system:

Steel Plate to allow UG Pump passage to treatment center





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JAMES PATRICK MCARTHUR — STATE OF WASHINGTON — 19494 — REGISTERED PROFESSIONAL ENGINEER — 05/31/2024

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REV	ISSUED FOR	DATE

PLAN NORTH | TRUE NORTH

SCALE: 1"=20' (0 — 20)

PSE - OPERATIONAL TRAINING CENTER

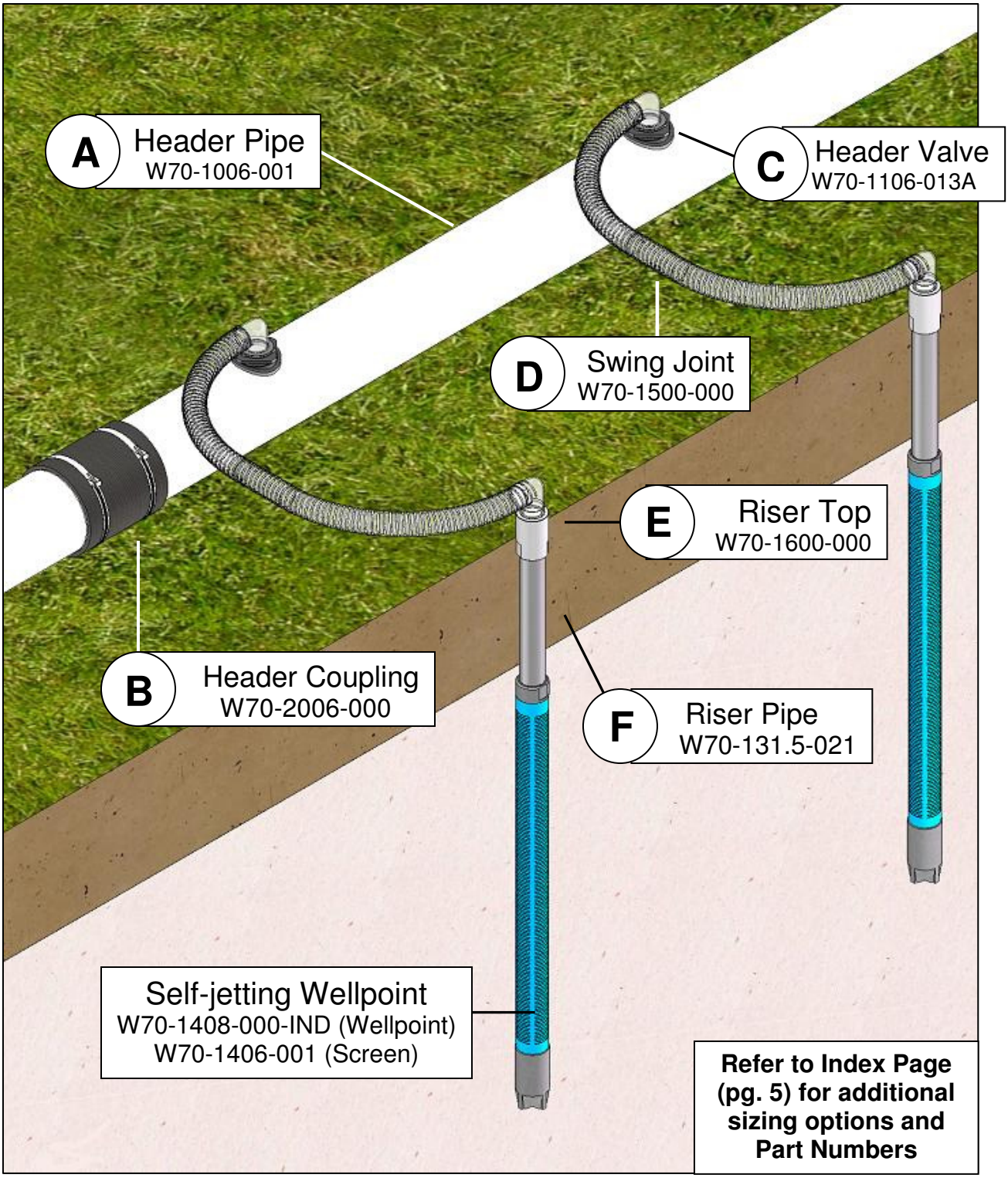
SEWER PLAN & PROFILE - 8+00 - 12+00

PROJECT No:	22219
DRAWN BY:	MPM
CHECKED BY:	THF
DATE ISSUED:	05/31/2024

C2.2C

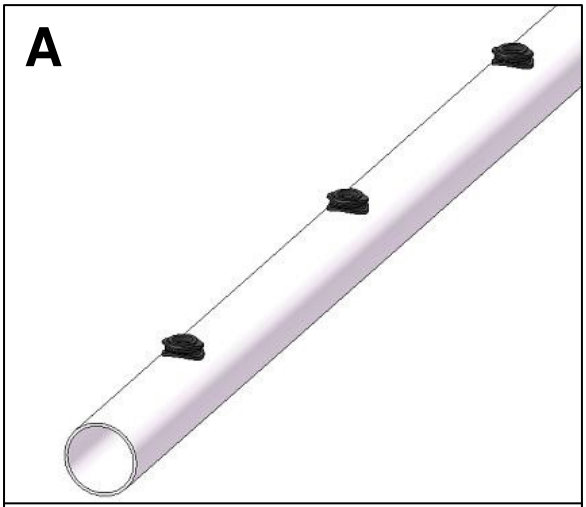
Wellpoint Systems and Accessories

THOMPSON PUMP
EXPERIENCE INNOVATION



Standard Wellpoint Installation and Components

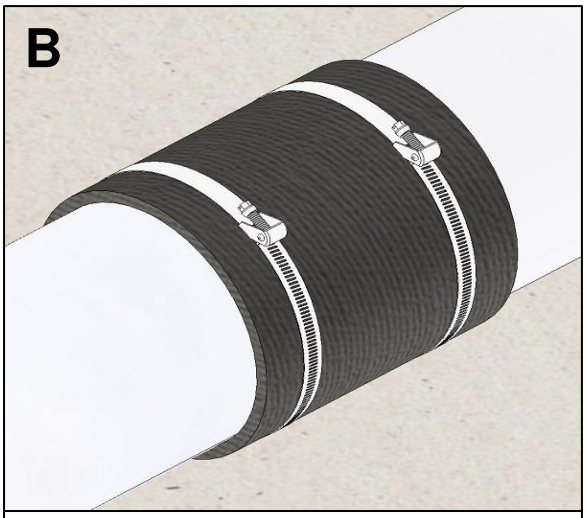
A



Header Pipe – Choice of standard 6” or 8” diamaters. Used to direct ground water to the pump.

P#: W70-1006-0001 (6”)
P#: W70-1008-0001 (8”)

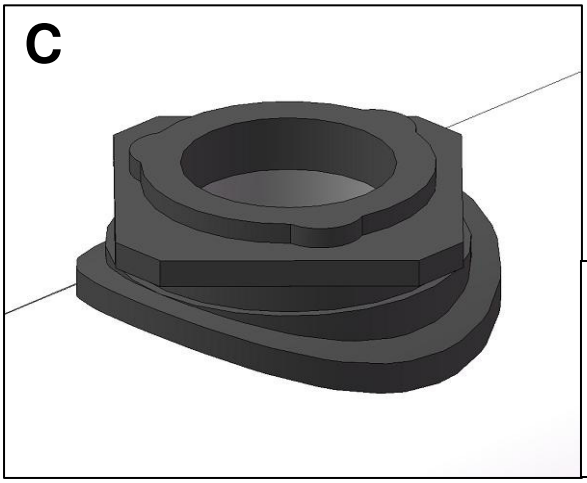
B



Header Coupling – Flexible rubber sleeve with stainless steel clamps to temporarily connect header pipes.

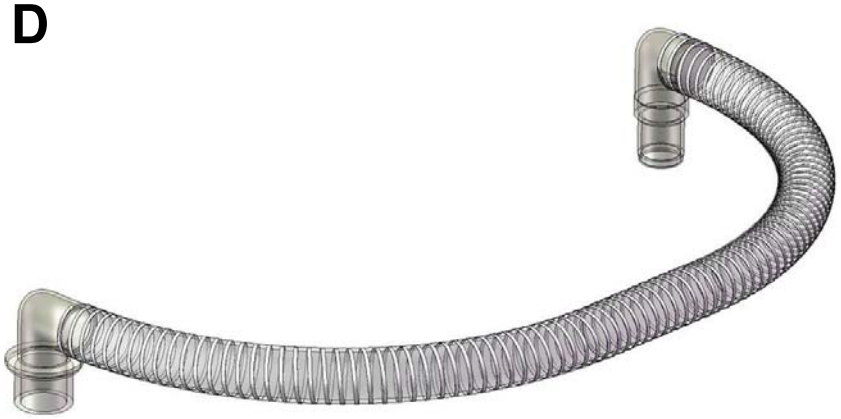
P#: W70-2006-000 (6”)
P#: W70-2008-000 (8”)

C



Header Valve – Adjustable plastic valves that control water and air flow into the Header Pipe from the Wellpoints. **P#: W70-1106-013A (6”)**
P#: W70-1108-013A (8”)

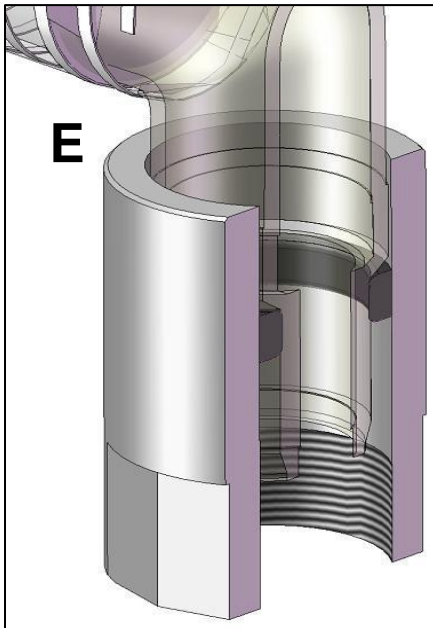
D



Swing Joint – Clear flexible hose that connects the riser pipe to the header valve assembly.

P#: W70-1500-000

E

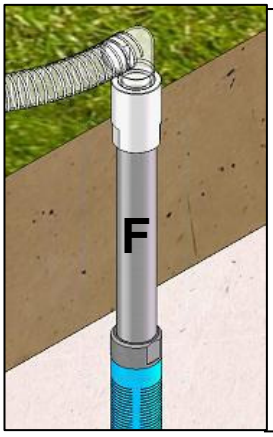


Aluminum Riser Top – Aluminum cap for the galvanized Wellpoint system. Threaded to receive the riser pipe on one end, with a small washer fitted in the center to create a seal with the swing joint on the other.

P#: W70-1600-000 (cap)

P#: W70-1600-001 (small washer)

F



Standard Steel Riser Pipe – Used to lengthen the wellpoint to achieve a desired depth. Riser pipes are available in galvanized steel (standard) or PVC, and are typically between 8’ and 21’ in length, depending on the application (shown smaller for illustrative purposes).

P#: W70-131.5-021 (21’)

Standard Wellpoint Accessories

Merchant Coupling – Used to connect smaller sections of riser pipe together to create the desired length.

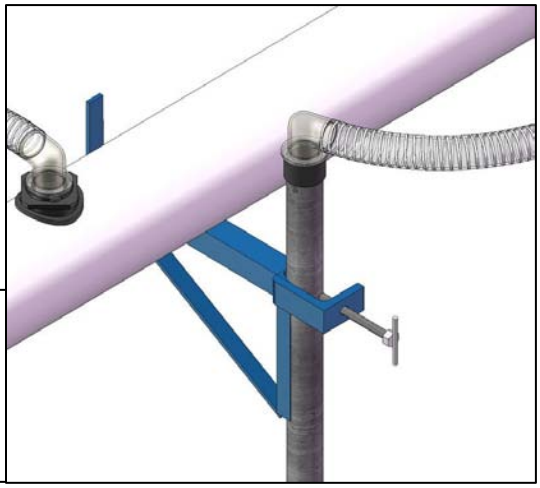
P#: W70-1600-003 (1.5")

Valve Wrench – A wrench specifically designed to be used for the closing and opening of Header Valves (**C**). Used to control the air flow into the header pipe from the wellpoints.

P#: W70-1601-001

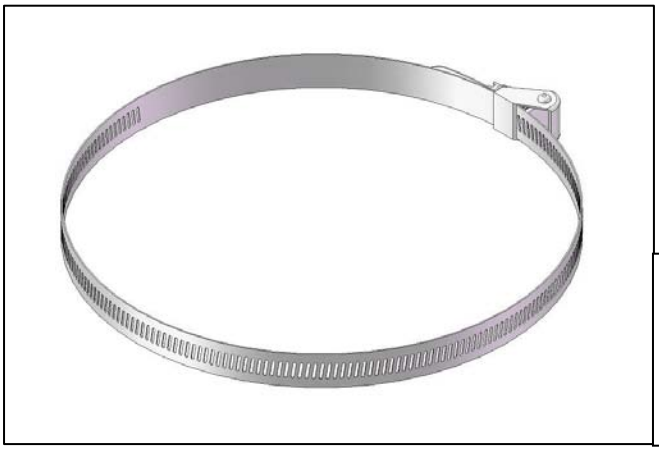
Wellpoint Puller – Removes wellpoints from the ground, either by hand or by machine depending on wellpoint depth.

P#: W70-1601-002



Header Support – Bracket that supports the header pipe, with a vice that tightens over the steel riser pipe to stabilize the installation.

P#: W70-1601-003



Hose Straps – Ratchet straps used primarily to tighten pipe connections, such as the Header Couplings (**B**).

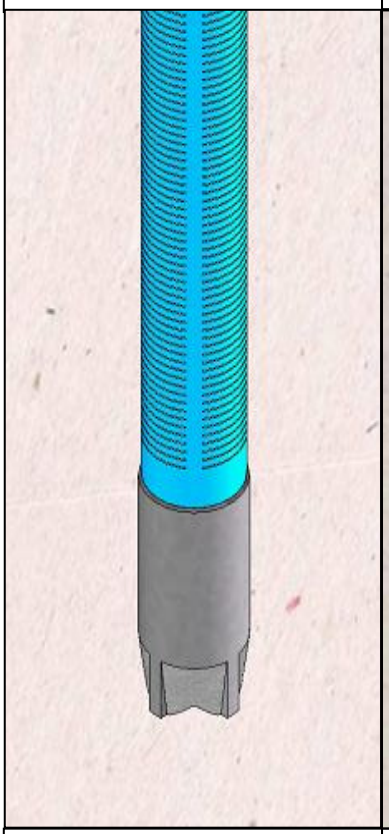
P#: W70-2006-128 (6")

Wellpoints

The screen within the wellpoint is the quintessential component of the wellpoint system. The steel, self-jetting wellpoint is the standard, but other options include both the premium and economy PVC models.

Self-Jetting Steel Wellpoint

The standard, self-jetting wellpoint uses a combination of both aluminum and PVC. It features a drop tube which is inserted inside the screen, enabling the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation. Also, the addition of aluminum "teeth" at the bottom makes the wellpoint "self-jetting", or capable of jetting its own installation point.

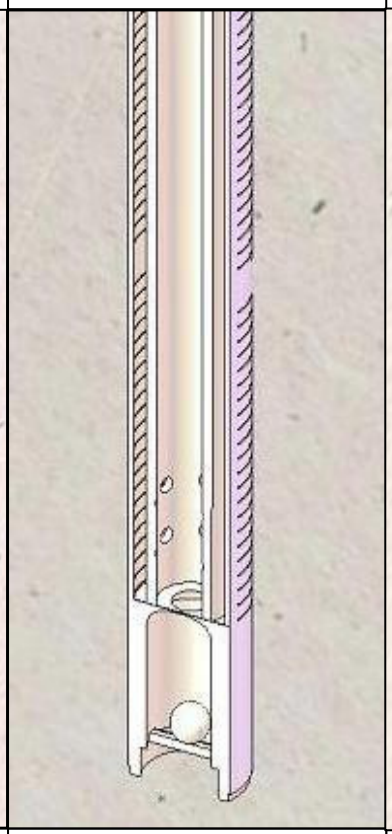


P#: W70-1408-000-IND

Standard

GAT Wellpoint

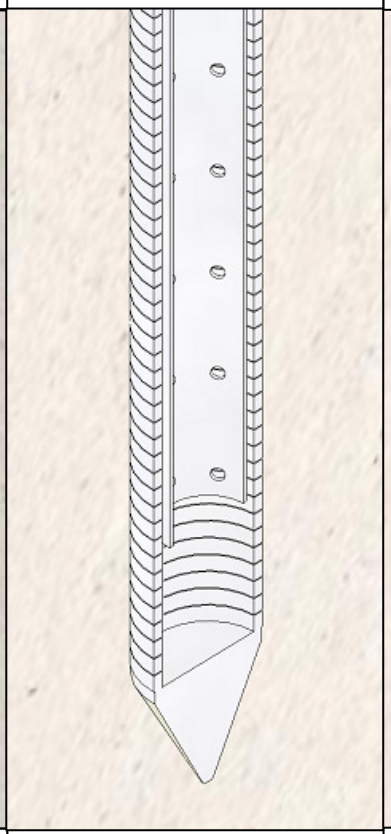
The GAT wellpoint is made entirely of PVC and features a a 1" drop tube which is inserted inside the screen, which enables the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation. Also, it has a unique "self-jetting" head which enables self-installation in certain soils.



P#: W70-1405-000

Premium PVC Wellpoint

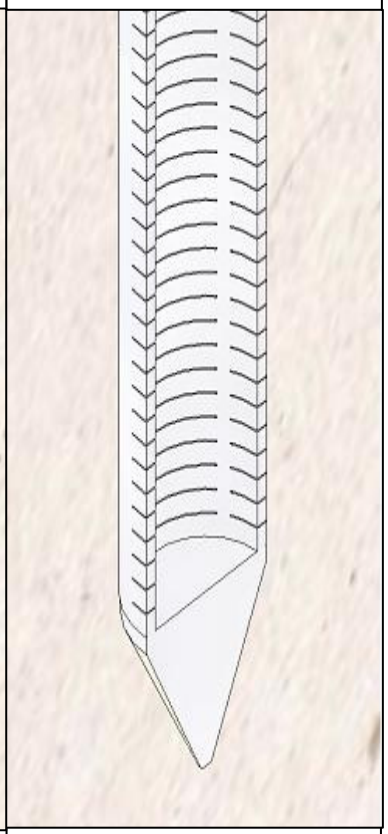
The Premium Wellpoint is the top of the line in PVC wellpoints. Like the self-jetting steel model, the premium PVC wellpoint features a 1" drop tube inserted within the screen, which enables the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation.



P#: W70-1403-040

Economy PVC Wellpoint

The screen of the economy wellpoint maintains structural integrity while reducing dewatering costs and providing high labor productivity. Flexibility is the key to dewatering efficiency with the economy wellpoint from Thompson Pump.



P#: W70-1402-000

Optional

Standard Wellpoint Installation and Components Index

Header Coupling - Flexible rubber sleeve with stainless steel clamps to temporarily connect header pipes.

- COUPLING, HEADER RBR 6" **P#: W70-2006-000**
- COUPLING, HEADER RBR 8" **P#: W70-2008-000**
- COUPLING, HEADER RBR 10" **P#: W70-2010-000**
- COUPLING, HEADER RBR 12" **P#: W70-2012-000**

Header Pipe - Choice of standard 6" or 8" diamaters. Used to direct ground water to the pump.

- PIPE, HEADER PVC 8" 3' CENTERS **P#: W70-1008-001**
- PIPE, HEADER PVC 8" 18"CENTERS **P#: W70-1008-002**
- PIPE, HEADER PVC 6" 3' CENTERS **P#: W70-1006-001**
- PIPE, HEADER PVC 6" 18"CENTERS **P#: W70-1006-002**
- PIPE, HEADER PVC 10" 18" CENTERS **P#: W70-1010-002**

Header Support – Bracket that supports the header pipe, with a vice that tightens over the steel riser pipe to stabilize the installation.

- SUPPORT, HEADER STEEL **P#: W70-1601-003**

Header Valve – Adjustable plastic valves that control water and air flow into the header pipe from the wellpoints.

- VALVE, ASSY PVC 6" COMPLETE **P#: W70-1106-013A**
- VALVE, ASSY PVC 8" COMPLETE **P#: W70-1108-013A**

Hose Straps – Ratchet straps used primarirly to tighten pipe connections, such as the Header Couplings (**B**).

- STRAP, HEADER COUPLING 6" **P#: W70-2006-128**
- STRAP, HEADER COUPLING 8" **P#: W70-2008-152**
- STRAP, HEADER COUPLING 10" **P#: W70-2010-188**
- STRAP, HEADER COUPLING 12" **P#: W70-2012-232**

Merchant Coupling (Galv) – Used to connect smaller sections of riser pipe together to create the desired length.

- COUPLING, MERCHANT GALV 1.5" **P#: W70-1600-003**

Riser Pipe (Galv) – Used to lengthen the wellpoint to achieve a desired depth. Riser pipes are available in galvanized steel (standard) or PVC, and are typically between 8' and 21' in length, depending on the application (shown smaller for illustrative purposes).

- PIPE, RISER GALV 2"x 21' **P#: W70-1302-021**
- PIPE, RISER GALV 3' X 1.5" **P#: W70-131.5-003**
- PIPE, RISER GALV 6' X 1.5" **P#: W70-131.5-006**
- PIPE, RISER GALV 9' X 1.5" **P#: W70-131.5-009**
- PIPE, RISER GALV 12' X1.5" **P#: W70-131.5-012**
- PIPE, RISER GALV 15' X1.5" **P#: W70-131.5-015**
- PIPE, RISER GALV 18' X 1.5" **P#: W70-131.5-018**
- PIPE, RISER GALV 20'x1.5" **P#: W70-131.5-020**
- PIPE, RISER GALV 21' X 1.5" **P#: W70-131.5-021**

Riser Top (Aluminum) – Aluminum cap for the galvanized Wellpoint system. Threaded to receive the riser pipe on one end, with a small washer fitted in the center to create a seal with the swing joint on the other.

- TOP, RISER ALUM 1.5" W/WASHER **P#: W70-1600-000**
- WASHER, RISER TOP SMALL **P#: W70-1600-001**

Steel Wellpoint (Galv) – The standard, self-jetting wellpoint uses a combination of both galvanized steel and PVC. It features a a 1" drop tube which is inserted inside the screen, and which enables the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation. Also, the addition of galvanized "teeth" at the bottom makes the wellpoint "self-jetting", or capable of jetting its own installation point.

- WELLPOINT, STEEL 1.5" STD / INDIAN SELF JETTING W/DROPTUBE
  P#: W70-1408-000-IND
- WELLPOINT, STEEL 1.5" STD / SELF JETTING WITH DROPTUBE
  P#: W70-1408-000

Swing Joint – Clear flexible hose that connects the riser pipe to the header valve assembly.

- SWING, STANDARD 3' X 1.5" PVC **P#: W70-1500-000**
- SWING, 7' X 1.5" PVC **P#: W70-1501-000**

Valve Wrench – A wrench specifically designed to be used for the closing and opening of Header Valves (**C**). Used to control the air flow into the header pipe from the wellpoints.

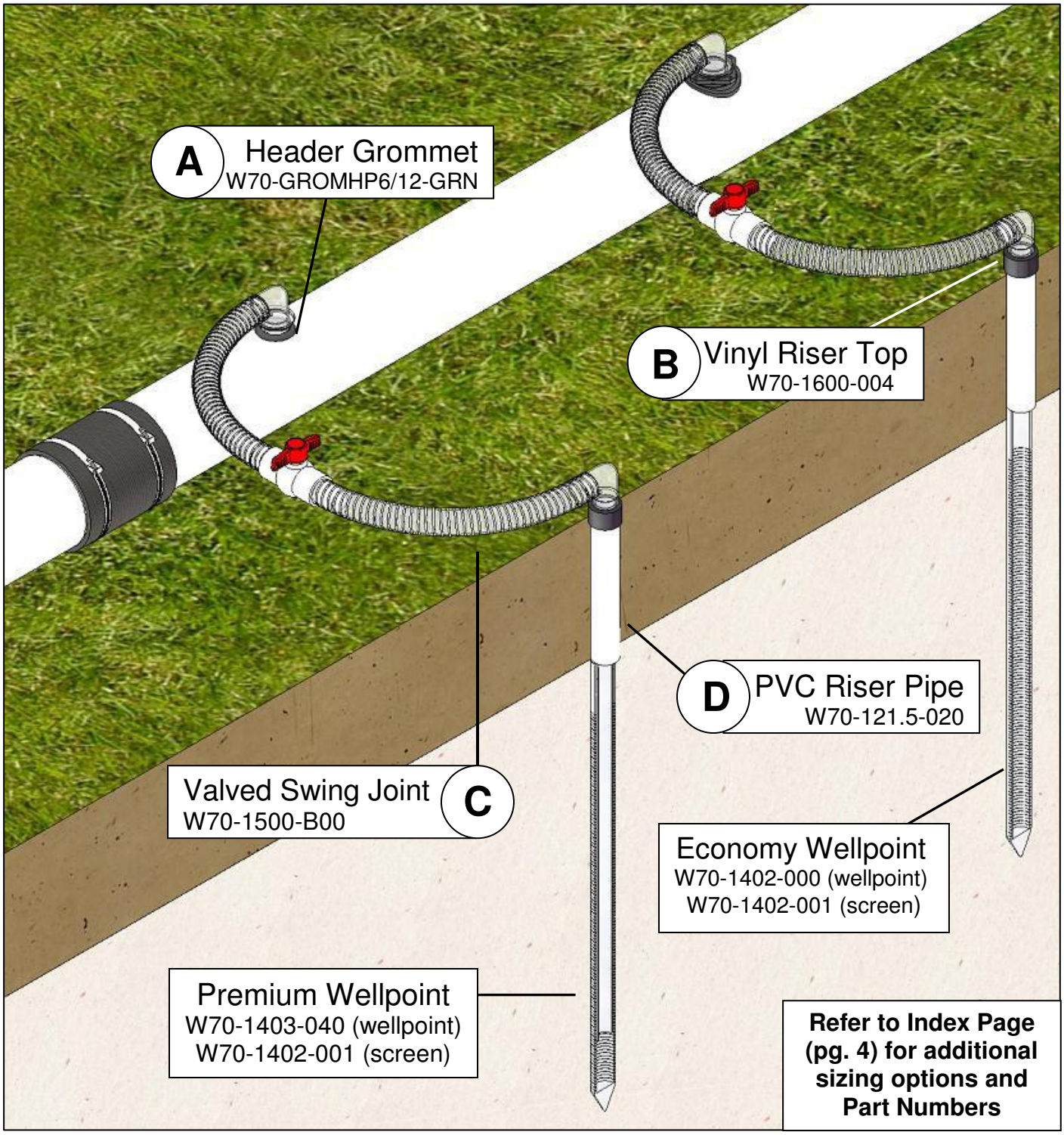
- WRENCH, VALVE STD **P#: W70-1601-001**

Wellpoint Puller – Removes wellpoints from the ground, either by hand or by machine depending on wellpoint depth.

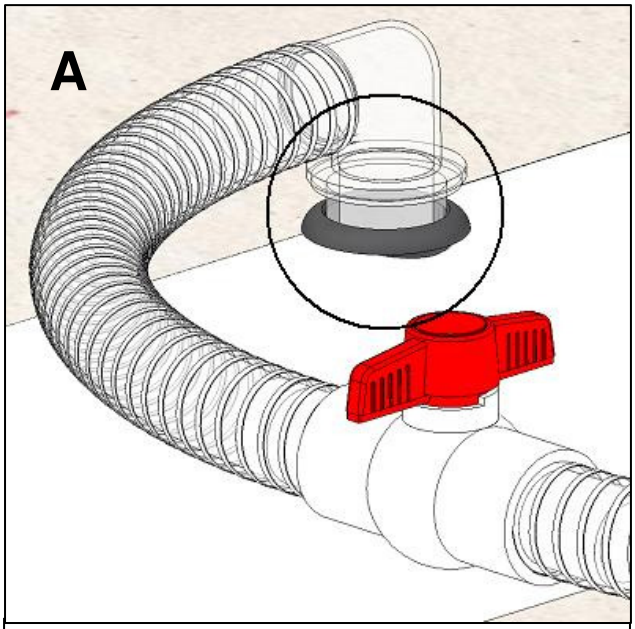
- PULLER, WELLPOINT STEEL STD **P#: W70-1601-002**
- PIN, LOCKING WELLPOINT PULLER **P#: W70-1601-002P**

Wellpoint Systems and Accessories

THOMPSON PUMP
EXPERIENCE INNOVATION

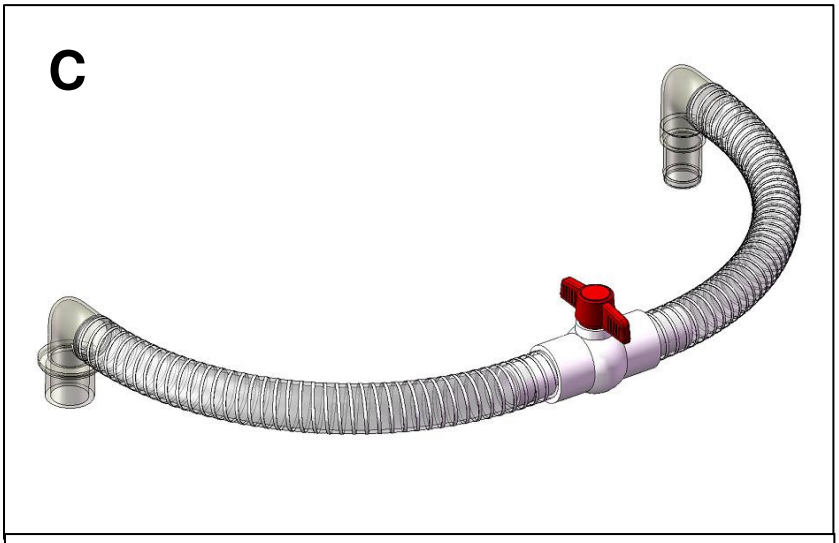


Optional Wellpoint Components



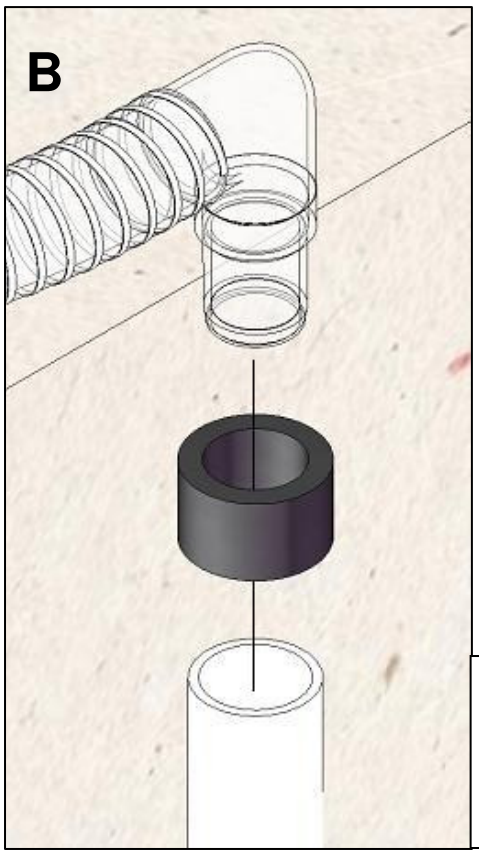
Header Grommet – Rubber fitting for creating a seal between the header pipe and the swing. The lack of a valve is supplemented by integral valves in the swings.

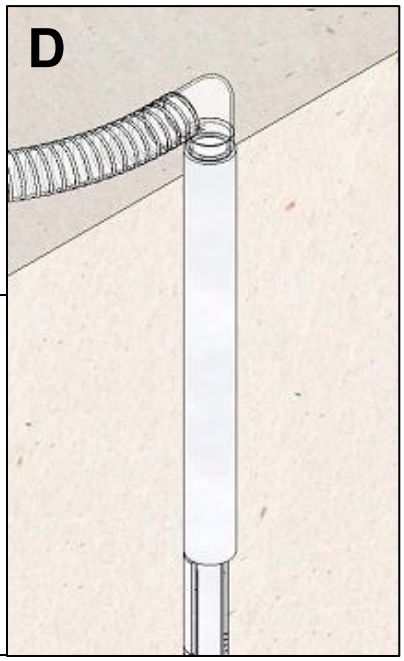
P#: W70-GROMHP6/12-GRN (6-12")



Valved Swing Joint – Swing joint with an integral ball valve fitted in the center, which can supplement the header valves by controlling the flow of air and water to the header pipe from the wellpoints.

P#: W70-1500-B00





PVC Riser Pipe – Used to lengthen the wellpoint to achieve a desired depth. Riser pipes are available in PVC and galvanized steel - typically between 8' and 21' in length, depending on the application (shown smaller for illustrative purposes).

P#: W70-121.5-020 (1.5" x20')

Vinyl Riser Top – Rubber cap for the PVC riser pipe that helps create an air tight seal between the swing and the riser pipe.

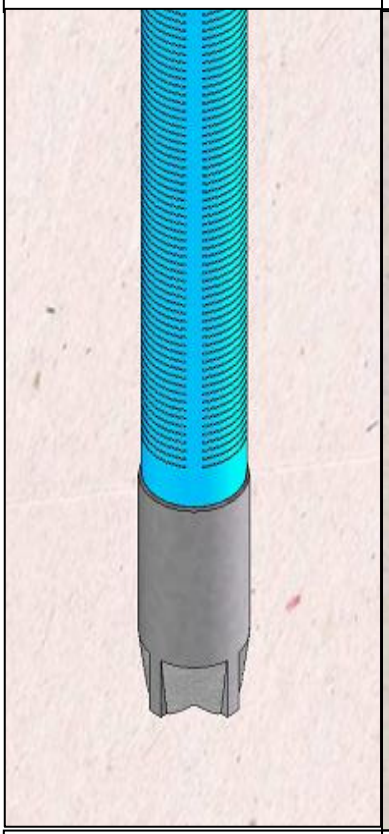
P#: W70-1600-004

Wellpoints

The screen within the wellpoint is the quintessential component of the wellpoint system. The steel, self-jetting wellpoint is the standard, but other options include both the premium and economy PVC models.

Self-Jetting Steel Wellpoint

The standard, self-jetting wellpoint uses a combination of both aluminum and PVC. It features a drop tube which is inserted inside the screen, enabling the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation. Also, the addition of galvanized "teeth" at the bottom makes the wellpoint "self-jetting", or capable of jetting its own installation point.

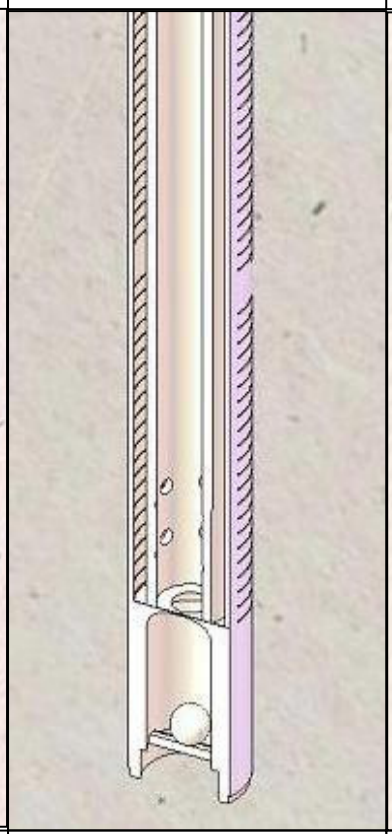


P#: W70-1408-000-IND

Standard

GAT Wellpoint

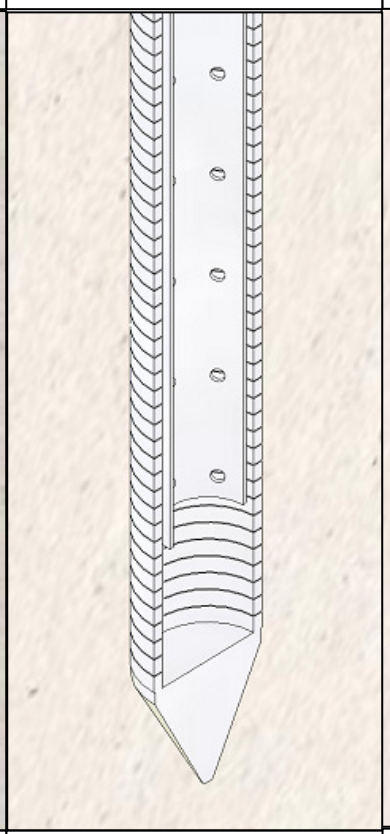
The GAT wellpoint is made entirely of PVC and features a a 1" drop tube which is inserted inside the screen, which enables the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation. Also, it has a unique "self-jetting" head which enables self-installation in certain soils.



P#: W70-1405-000

Premium PVC Wellpoint

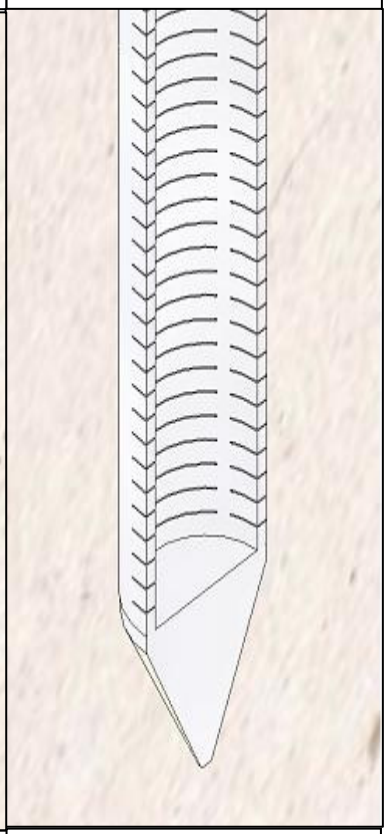
The Premium Wellpoint is the top of the line in PVC wellpoints. Like the self-jetting steel model, the premium PVC wellpoint features a 1" drop tube inserted within the screen, which enables the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation.



P#: W70-1403-040

Economy PVC Wellpoint

The screen of the economy wellpoint maintains structural integrity while reducing dewatering costs and providing high labor productivity. Flexibility is the key to dewatering efficiency with the economy wellpoint from Thompson Pump.



P#: W70-1402-000

Optional

Optional Wellpoint Components Index

Economy PVC Wellpoint - The screen of the economy wellpoint maintains structural integrity while reducing dewatering costs and providing high labor productivity. Flexibility is the key to dewatering efficiency with the economy wellpoint from Thompson Pump.

- WELLPOINT, PVC 1.5" ECONOMY / CLASS160 WITHOUT DROPTUBE
  P#: W70-1402-000

GAT Wellpoint –

- WELLPOINT, PVC 1.5" GAT / SELF JETTING WITH DROPTUBE
  P#: W70-1405-000

Header Grommet - Rubber fitting for creating a seal between the header pipe and the swing. The lack of a valve is supplemented by integral valves in the swings.

- GROMMET, HEADER 6"-12" PIPE **P#: W70-GROMHP6/12-GRN**

Premium PVC Wellpoint - The Premium Wellpoint is the top of the line in PVC wellpoints. Like the self-jetting steel model, the premium PVC wellpoint features a 1" drop tube inserted within the screen, which enables the wellpoint to draw water from the bottom end of the screen, achieving the maximum draw-down in any given situation.

- WELLPOINT, PREMIUM PVC 1.5" / SCH40 WITH DROPTUBE
  P#: W70-1403-040

PVC Riser Pipe – Used to lengthen the wellpoint to achieve a desired depth. Riser pipes are available in PVC and galvanized steel - typically between 8' and 21' in length, depending on the application.

Item Number Description

- PIPE, RISER PVC 1.25" CLASS160 **P#: W70-121.25-020**
- PIPE, RISER PVC 1.5" X 20' **P#: W70-121.5-020**
- PIPE, RISER PVC 1.5" X 20' **P#: W70-121.5-020A**
- PIPE, RISER PVC 1.5" SCH40 **P#: W70-12.5-020**
- PIPE, RISER PVC 2"x 20' SCH 80 **P#: W70-1303-020**
- PIPE, RISER PVC 3' X 1.5" 160 **P#: W70-1320-003**
- PIPE, RISER PVC 6' X 1.5" 160 **P#: W70-1320-006**
- PIPE, RISER PVC 9'x1.5" 160 **P#: W70-1320-009**
- PIPE, RISER PVC 10'x1.5" 160 **P#: W70-1320-010**
- PIPE, RISER PVC 12'x1.5" 160 **P#: W70-1320-012**
- PIPE, RISER PVC 15'x1.5" 160 **P#: W70-1320-015**
- PIPE, RISER PVC 18'x1.5" 160 **P#: W70-1320-018**
- PIPE, RISER PVC 20'x1.5" 160 **P#: W70-1320-020**
- PIPE, RISER PVC 20' X 2" 160 **P#: W70-1320-020-02**

Sock Tape – Used to connect sections of sock together like a Header Coupling would for standard pipe.

- TAPE, SOCK 2" / ROLL **P#: W70-GP70**

Vinyl Riser Top – Rubber cap for the PVC riser pipe that helps create an air tight seal between the swing and the riser pipe.

- TOP, RISER VINYL 1.5" **P#: W70-1600-004**

Valved Swing Joint – Swing joint with an integral ball valve fitted in the center, which can supplement the header valves by controlling the flow of air and water to the header pipe from the wellpoints.

- SWING, 3' X 1.5" W/BALL VALVE / SWING END TO RISER **P#: W70-1500-B00**
- SWING, 7' X 1.5 W/BALL VALVE / W/BALL VALVE **P#: W70-1501-B00**

Wellpoint Sand – Once the hole is jetted for the wellpoint, the rest of the area around the hole is filled in with this fine sine, creating a better vacuum and acting as a screen to filter out unwanted silt and debris.

- SAND, WELLPOINT **P#: W70-WELLPOINT-SAND**

Wellpoint Clay – Used to patch and seal minor leaks or cracks in various parts of the wellpoint system, such as cracks in a header pipe, sealing the base of a swing to the valve, etc.

- CLAY, WELLPOINT 1LB WRAPPED **P#: C89-WLCLA-01**

Wellpoint Systems and Accessories

THOMPSON PUMP
EXPERIENCE INNOVATION

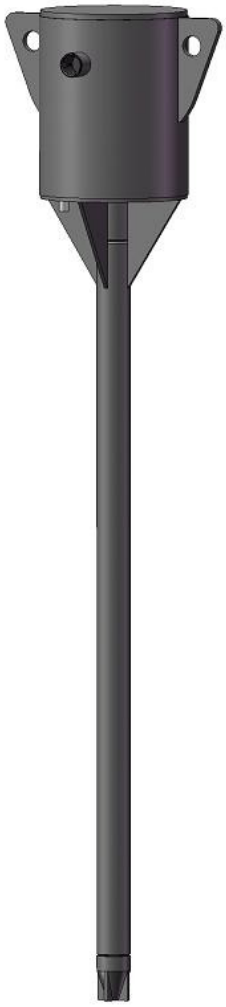
Jetting Equipment

All wellpoint installations are conducted utilizing different jetting systems. Water is forced at high pressures through long steel tubes (or self-jetting wellpoints) to create holes in the ground for which to insert the wellpoints. The **A. Casing** is generally used for installing wellpoints in cohesive soil conditions, such as hard pan, hard clay and course rock, which allows sanding around the wellpoint to provide maximum flow to the pump. The **B. Punch** is used for installing wellpoints into soft clay and sand. The **C. Stinger** is considerably smaller and lighter, and is generally used for softer sandy soil conditions. It also helps provide an economic solution, with not only a lower rental cost, but the ability to operate them by hand without the need for a backhoe. The **D. Jet Fitting Assembly** attaches to the water source via the elbow, and then to a self-jetting wellpoint, where the water is pressurized through the tip of the wellpoint itself.

A. Jet Casing

P#: W70-2808-015

B. Jet Punch



P#: W70-2704-015

C. Stinger

P#: W70-2750-001.5

D. Jet Fitting

P#: W70-1601-000B

Jetting Equipment and Components