

Resolution 16- 059

RESOLUTION TO AUTHORIZE THE EXECUTION OF CHANGE ORDER 1 TO CONTRACT NUMBER 38, MONROE STREET PUMPING STATION AND FORCE MAIN AND MORRIS AVENUE GRAVITY SEWER

WHEREAS, the Rockaway Valley Regional Sewerage Authority (hereinafter the "Authority") entered into Contract 38 for the construction of the Monroe Street Pumping Station and Force Main and Morris Avenue Gravity Sewer with Tomar Construction Services, Inc., 6 Spruce Meadows Drive, Monroe, New Jersey (hereinafter the "Contractor"); and

WHEREAS, certain additions to the contract tasks are required to be made, namely, additional roadway/traffic signage; excavation and fill quantity adjustments; bypass force main constructability changes; replacement of previously repaired resident water services; and pump discharge pressure gauge seals, as well as, a deletion from the contract tasks relative to the elimination of access manhole #1, as more specifically set forth in the attached correspondence, dated April 28, 2016 from Mark A. Bean, P.E., CGP. LEED AP. FIGP, Principal Engineer, (Kleinfelder) to the Authority's Manager of Engineering, Carrie D. Feuer, P.E.; and

WHEREAS, the changes referred to in the above referenced correspondence are formalized in the Contract Change Order No. 1, dated May 6, 2016, and reflect a total increase in contract value of \$193,334 or approximately 4.4% of the original contract award, as follows:

Item #	Description	Cost
1	Additional Roadway/Traffic Signage	\$3,240
2	Excavation and Fill Quantity Adjustments	\$151,515
3	Bypass Force Main Constructability Changes	\$20,384
4	Replacement of Previously-Repaired Resident Water Services	\$17,937
5	Pump Discharge Pressure Gauge Seals	\$5,196
6	Elimination of Access Manhole #1	(\$4,938)
	Total Change Order Cost	\$193,334

WHEREAS, the Authority has reviewed the Contract Change Order attached hereto and made a part hereof, and is satisfied that it meets the requirements of N.J.A.C. 5:30-11.3, and

WHEREAS, funds are available therefore from line item EIT 38.

NOW, THEREFORE, BE IT RESOLVED by the Rockaway Valley Regional Sewerage Authority as follows:

1. Subject to receipt of New Jersey Department of Environmental Protection approval, the Authority hereby approves Change Order No. 1 in the amount of \$193,334.
2. Upon receipt of New Jersey Department of Environmental Protection approval, the Executive Director is hereby authorized and directed to execute a Contract Change Order substantially in the form as that attached hereto, in the foregoing amount.
3. This Resolution shall take effect as provided by law.

CERTIFICATION

I hereby certify that this Resolution was adopted at a meeting of the Rockaway Valley Regional Sewerage Authority held on May 12, 2016,

On motion of Glenn Corbett

Second by Thomas Andes

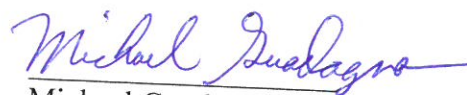
And a Roll Call Vote as Follows:

Yeas: (7) Andes, Cegelka, Corbett, Guadagno, Lowell, Rossi, Schorno

Nays: (0) None

Abstain: (2) Recchia and Vincitore

Absent: (1) Secco



Michael Guadagno
Board Secretary

CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE

1. ISSUING OFFICE Rockaway Valley Regional Sewerage Authority	2. PROJECT NO. S340821-06	3. CONTRACT NO. 38	4. MODIFICATION NO. Number 1
5. TO (CONTRACTOR) Tomar Construction Services, Inc. 18 Connerty Court, Suite B East Brunswick, NJ 08816		6. PROJECT LOCATION AND DESCRIPTION RVRSA Contract 38: Monroe St. Pumping Station and Force Main & Morris Ave. Gravity Sewer Boonton, NJ	

7. A proposal is required for making the hereinafter described change in accordance with specification and drawing revisions cited herein or listed in attachment hereto. Submit your proposal in space indicated on page 2, attach detailed breakdown of prime and sub-contract costs (See the clause of this contract entitled, "Changes". DO NOT start work under this proposed change until you receive a copy signed by the Contracting Officer or a directive to proceed).

5/12/2016

JoAnn Mondsini, Executive Director

Date

Type Name and Title

Signature

8. DESCRIPTION OF CHANGE: Pursuant to the clause of this contract covering changes, the contractor shall furnish all labor and material, and all work necessary to accomplish the following described work:

1. Provide and install additional roadway and traffic signage, as required by the host municipality, that was not included in the Contract.
2. Increases in Contract Quantities for Bid Items 9A, 9B, 9C, 11, and 12A to allow continued performance of required excavation and backfill work in accordance with unit price bid items.
3. Changes in materials (ductile iron pipe and fittings in lieu of specified PVC pipe) as required in the field to effect installation of the 24" bypass force main.
4. Replace two (2) residential water services, at the request of the host municipality, which were previously repaired in accordance with the Contract.
5. Provide in-line annular pressure gauge seals in pump discharge piping in lieu of specified diaphragm seals.
6. Credit change for the elimination of Access Manhole #1.

As a result of the above, the contract price is revised as follows:

ITEM NO.	ITEM DESCRIPTION	UNIT PRICE	ESTIMATED QUANTITY	TOTAL COST
1	Additional Roadway/Traffic Signage	\$3,240.00	Lump sum	\$3,240.00
2	Excavation & Fill Quantity Adjustments	Per Bid	Allowance	\$151,515.00
3	Bypass Force Main Constructability Changes	\$20,834.00	Lump sum	\$20,384.00
4	Replacement of Resident Water Services	\$17,937.00	Lump sum	\$17,937.00
5	Pump Discharge Pressure Gauge Seals	\$5,196.00	Lump sum	\$5,196.00
6	Elimination of Access Manhole #1	(\$4,938.00)	Lump sum	(\$4,938.00)

TOTAL COST OF THIS MODIFICATION \$ 193,334.00

The contract time is hereby: increase decrease or remains the same by _____ calendar days as a result of this modification.

The foregoing modification is hereby accepted:

_____ CONTRACTOR	_____ OWNER	_____ (NJPE SEAL) ENGINEER
BY: <u>Sobhan B. Nallamothu</u>	BY: <u>JoAnn Mondsini, Exec. Director</u>	BY: <u>Mark A. Bean, P.E.</u>
DATE: <u>May 12, 2016</u>	DATE: <u>May 12, 2016</u>	DATE: <u>May 12, 2016</u>

APPROVAL:

STATE OF NEW JERSEY

DATE

CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE

9. ISSUING OFFICE Rockaway Valley Regional Sewerage Authority	10. PROJECT NO. S340821-06	11. CONTRACT NO. 38	12. MODIFICATION NO. Number 1
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13. CONTRACTOR'S PROPOSAL – CHANGE IN CONTRACT PRICE
 (Detailed breakdown, attach additional sheets as necessary)

(Proposed)

Please See Attached – Affixed to Change Order Recommendation by Mark A. Bean of Kleinfelder dated April 28, 2016.

NET INCREASE
\$193,334.00

NET DECREASE

\$

CALENDER DAYS INCREASE

 0 DAYS

DATE:
 May 12, 2016

TYPE NAME AND TITLE:
 Sobhan B. Nallamothu, Project Engineer

SIGNATURE:

CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE

14. ISSUING OFFICE & PROJECT NO. Rockaway Valley Regional Sewerage Authority S340821-06	15. CONTRACT NO. <p style="text-align: center;">38</p>	16. MODIFICATION NO. <p style="text-align: center;">Number 1</p>
17. ORIGINAL CONTRACT BID PRICE \$ <u>4,359,223.00</u> TOTAL OF PREVIOUS CHANGE ORDERS \$ <u>0.00</u> TOTAL CONTRACT COST INCLUDING CHANGE ORDERS ... \$ <u>4,552,557.00</u>		
18. NECESSITY FOR CHANGE AND REASON FOR OMISSION FROM PLANS AND SPECIFICATIONS: Please see attached Change Order Recommendation by Mark A. Bean of Kleinfelder dated April 28, 2016.		
19. OTHER IMPACTS RESULTANT OF THIS CHANGE: None.		
20. RESUME OF NEGOTIATIONS OR RECOMMENDATIONS (Loanee's Representative) : Please see attached Change Order Recommendation by Mark A. Bean of Kleinfelder dated April 28, 2016.		
DATE: May 12, 2016	TYPE NAME AND TITLE OF LOANEE'S REPRESENTATIVE: Mark A. Bean, P.E., CGP, LEED AP, FIGP Principal Engineer Kleinfelder	SIGNATURE:



April 28, 2016

Via Email & Copy Via USPS

Ms. Carrie D. Feuer, P.E.
Manager of Engineering
Rockaway Valley Regional Sewerage Authority
RD #1, 99 Greenbank Road
Boonton, New Jersey 07005-9602

**RE: MONROE STREET PUMPING STATION & FORCE MAIN AND
MORRIS AVENUE GRAVITY SEWER
RVRSA CONTRACT NO. 38; NJEIT LOAN PROJECT S340821-06
CHANGE ORDER RECOMMENDATION –
CO #1 – FORCE MAIN & RELATED PIPING CONSTRUCTABILITY ADJUSTMENTS**

Dear Ms. Feuer:

Pursuant to our inspections and consequent negotiations with the Contractor, Tomar Construction Services, Inc. (Tomar), Kleinfelder is recommending that the Authority approve Change Order #1 in the amount of **\$193,334** to make appropriate constructability adjustments with regard to the force main and other related piping associated with the new Monroe Street Pumping Station. Background and other pertinent information related to each item of Additional Work, to share with your Infrastructure Committee and your larger Board of Commissioners, is presented below.

Item 1 – Additional Roadway/Traffic Signage

Background

As you are aware, a major component of the project entails the construction of a new 12"-diameter ductile iron force main emanating from the new pumping station site on Monroe Street and running for nearly half a mile along the entire length of Lincoln Street. There is also considerable work within Monroe St. for the installation of new gravity sewerage, localized decommissioning of the existing 39"-diameter Jersey City Trunk Sewer, and installation of a new 24"-diameter PVC bypass force main that crosses Washington St. (Rt. 202).

Contract Requirements

The Contract Documents made no explicit provisions for special signage or any other form of compliance with the NJ Manual of Uniform Traffic Devices as they may apply to the noted aspects of Work. Consequently, the Contractor made no provision for such and only anticipated the use of more common traffic control measures such as cones, barriers, and local, generic signs.

Local Requirements

As the project commenced and the Project Team worked to coordinate with the host municipality (Town of Boonton), the Town indicated that they required a Traffic Control Plan as well as additional signage notifying motorists and pedestrians. While their request was reasonable and justified, the Contract Documents, as previously noted, made no provisions for same. In the spirit of cooperation with the Town, duly noting the Town's concern for the safety of its residents, and in an effort to meet the municipal ordinances in this regard, the Contractor worked with the local police department, provided a Traffic Control Plan, and fabricated and installed additional signage to the satisfaction of the Town. This Additional Work has been diligently performed by the Contractor, at RVRSA's request, on Good Faith.

Cost

The total negotiated cost for this specific item of Additional Work is **\$3,240**. The cost includes the documented costs of the signage required (documented via actual invoices), a nominal amount of labor for the Contractor's efforts (which has been negotiated to a minimum), and (less than) Contract-allowable percentages for overhead and profit (OH&P).

Item 2 – Excavation and Fill Quantity Adjustments

Background

By and large, this construction Contract is a unit price contract, especially for the construction of the various pipelines that are not on the pumping station site. Accordingly, the Contract contains unit prices and the total Cost is based upon the "estimated" quantities for unit price items that were included in the Bid. The estimated quantities were determined by the designing Engineer-of-Record and are necessary to ensure that a uniform basis of Bid is established and that a total Contract price can be contracted. While it is always the Engineer's (and Owner's) intent that the estimated quantities be sufficient for the completion of Work, it is also always recognized that actual field conditions may impact the total quantity necessary. The advantage of having unit prices established in the Contract is that, should additional quantities become necessary, the pricing has been established as, ostensibly, the best possible pricing as a result of the Bid process. The only variable in assigning cost for additional quantities required would be the actual quantities, which are measurable. In this manner, transparency is maintained and the Owner is assured that the ultimate cost for these items is still the most advantageous cost. Whether the total cost was included in the original Bid or determined via Bid quantity plus additional quantities realized during Construction, the Owner will have still received the best pricing for the Work required.



The specific items of Work contemplated under this change include the following:

- Bid Item 9A - Earth Excavation and Backfill 0 – 8 feet
- Bid Item 9B - Earth Excavation and Backfill 8 – 12 feet
- Bid Item 9C - Earth Excavation and Backfill >12 feet
- Bid Item 11 - Furnishing and Placing Coarse Aggregate
- Bid Item 12A - Furnishing and Placing Dense Graded Aggregate

The areas of Work that have affected the quantities per these Bid Items include the installation of the 12"-diameter force main and the installation of the 24"-diameter bypass force main. Areas of Work that remain for which aspects of the Work are paid under these Bid Items include gravity sewer installation in Monroe Street, localized decommissioning of the Jersey City Trunk Sewer, new lateral connections for existing structures (including the Packard Building) on Monroe Street, installation of precast concrete structures on Lincoln Street, and work from the new vortex manhole structure at the end of Lincoln Street through the final connection of the new force main to the existing Jersey City Trunk Sewer.

Contract Requirements

The Contract Documents, through both verbiage in the Specifications and via details included on the Drawings, provide a payment basis for all of these items. The most relevant basis is that regarding the dimensional limits, or extents, for trench and other forms of excavation. The dimensional extents for excavation not only affect the estimated quantity for excavation, but, logically, affect the estimated quantity of materials to be placed back into those excavations. For trench excavation for piping, which accounts for the bulk of the Work thus far completed and for which these line items have been charged, the Contract Documents establish a trench width of 3 feet for the 12"-diameter force main and a trench width of 5 feet for the 24"-diameter bypass force main. Depths of excavations vary and are roughly indicated via the pipeline profiles included on the Drawings.

To summarize the quantities and costs included the Bid:

<i>Bid Item #</i>	<i>Description</i>	<i>Bid Quantity</i>	<i>Unit Price</i>	<i>Bid Price</i>
9A	Earth Excavation and Backfill 0 – 8 feet	2500 CY	\$40	\$100,000
9B	Earth Excavation and Backfill 8 – 12 feet	125 CY	\$80	\$10,000
9C	Earth Excavation and Backfill >12 feet	33 CY	\$150	\$4,950
11	Furnishing and Placing Coarse Aggregate	400 CY	\$35	\$14,000
12A	Furnishing and Placing Dense Graded Aggregate	2200 CY	\$25	\$55,000



Quantity Adjustment Justification

While actual subsurface field conditions necessitated larger trench widths, as will be subsequently discussed, it is even more important to note that the basis of the Bid Quantities does not adequately support the work that needs to be performed. As previously noted, the Drawings detail very narrow extents of trench excavation, especially with regard to installation of the 2,450 linear feet of 12"-dia. force main. The Drawings indicate a trench width of just 3 feet, which affords slightly less than 1 foot of working space on either side of the pipeline. Neglecting the size of the workmen that need to enter the trench to perform this work, the trench width specified is not sufficient to support the assembly of required restrained mechanical joint fittings. All such fittings require assembly utilizing various tools. The most important tool used is a calibrated torque wrench, which is critical in ensuring proper bolt tightness. For the size of the bolts required, the torque wrenches used have arms that are slightly longer than 18". As such, a bare minimum of 18" on each side of the pipe (ignoring that assembly flanges are actually of a larger diameter than the pipe and that some clearance is required between the end of the wrench handle and the trench wall) would thus be required for torquing of bolts. Proper assembly, however, also necessitates fastening and torquing bolts that are on the bottom of the pipe joint (at 6 o'clock, so to speak). Due to the diameter of the pipe, these bolts can only be accessed and torqued properly by a worker who can reach from a near prone position alongside the pipe. Accordingly, this would normally necessitate an even larger clearance, and 24" per side is a common measure. Affording this amount of access also allows for proper inspection of push-on joints, which were also utilized on the force main.

For these reasons, the Contract Documents should have afforded a larger trench width than that provided. It is of interest to note that larger trench widths are afforded in the trench details of many other firms. As an example, standard trench details for both Kleinfelder as well as AECOM (and others) afford a 5-foot trench width for piping of this size. The necessity for adequate room to assemble, inspect, and, generally, perform work within a trench and, often, at depth, is rather universally recognized.

Subsurface conditions also exacerbated the need to widen the trench. Excavation along virtually the entire length of the force main yielded a significant quantity of large boulders, which are, by definition, at least 24" in any one dimension. Many of the boulders encountered were in excess of 4' and sometimes 5' in maximum dimension. Depending upon their repose, they often required a widening of the trench for their removal. The presence of boulders was not documented in the geotechnical report provided with the Contract Documents.

Adjacent and crossing utilities also proved to be a challenge. Existing utilities riddled the path of both force mains, often necessitating adjustments in course. In addition, many of these utilities were installed in a rather loose fill, which reduced the stability of the excavations and required extra material to be removed for safety reasons. Use of a trenchbox, wood shoring, or driven sheeting was not typically plausible due to the myriad of and location of existing utilities around which the Contractor had to work.



The entire project team recognized the need to minimize excavation while affording for the safe and proper completion of the Work. The Contractor worked very diligently and deliberately to achieve this goal, even at the expense of increased production. Throughout the course of the Work, accurate records of excavation sizes and quantities were kept. Daily agreement was reached, and the Contractor has been transparent in including all excavation size and quantity calculations with every Payment Application made to date.

As an important testament to the Contractor's efforts, and noting that a 5' trench width is customary for this work, the average trench width for the 2,300+ lf of force main installed is only 4.59'. RVRSA can be assured that extreme diligence was employed to keep quantities to a minimum, with quantities realized only as truly needed to complete the Work.

Quantity Adjustments & Cost

At this juncture, the Contractor has already exceeded several Bid quantities, duly noting that Work remains to be billed against these items in the following areas:

1. Installation of vortex manhole and all work at terminus of force main
2. Installation of manhole structures in Lincoln Street
3. Installation of 8" gravity sewer in Monroe Street
4. Sewer lateral work for existing residences and Packard Bldg. on Lincoln Street
5. Existing overages from 12" DIP and 24" PVC force main installation

Accordingly, it is our recommendation that quantities (and costs) be structured on a not-to-exceed basis. In this fashion, the Contractor has a mechanism against which to bill as quantities are realized. The limit requested to be approved under this Changer Order represents the best estimate of potential quantities at this time, based upon our collective experience thus far. While it is hoped that no further adjustment would become necessary, it would be naïve to discount that possibility altogether.

It is recommended that the following be authorized as Additional Work:

<i>Bid Item #</i>	<i>Description</i>	<i>Additional Quantity</i>	<i>Unit Price</i>	<i>Additional Cost</i>
9A	Earth Excavation and Backfill 0 – 8 feet	2094 CY	\$40	\$83,760
9B	Earth Excavation and Backfill 8 – 12 feet	135 CY	\$80	\$10,800
9C	Earth Excavation and Backfill >12 feet	118 CY	\$150	\$17,700
11	Furnishing and Placing Coarse Aggregate	393 CY	\$35	\$13,755
12A	Furnishing and Placing Dense Graded Aggregate	1020 CY	\$25	\$25,500

The total not-to-exceed cost for this Additional Work is **\$151,515**. In accordance with the Contract Documents, the cost is based upon unit prices included in the Bid, which already includes overhead and profit (OH&P).

Item 3 – Bypass Force Main Constructability Changes

Background

A 24"-diameter "bypass" force main is scheduled to be constructed from the new pumping station to existing RVRSA manhole B-9 on RVRSA's existing 48" interceptor near the corner of Monroe Street and Washington Street. There are a considerable number of existing utilities that the new force main must traverse, most of them consolidated in tight quarters at the roadway intersection and proximate to the force main terminus in manhole B-9.

Contract Requirements

The Contract Documents specify that the force main be of PVC construction and prescribe a route that runs parallel with an existing city water main. The Drawings include a note about requiring 10 feet of horizontal separation and/or 18" of vertical separation between the new force main and the existing water line, but do not illustrate the possibility of such. The Documents also indicate that existing manhole B-9 should be, essentially, dismantled and then re-assembled with a new riser section that would include a cast spigot in order to receive the new force main. Utilities known at the time of Document production are indicated on the Drawings, along with the typical requirement that Contractor dig test pits "as necessary" to verify utility locations.

Actual Conditions & Changes Implemented

The actual location and depth of the city water line and other existing utilities precluded the placement of the PVC force main as illustrated on the Drawings for the majority of its length. However, a new alignment was utilized that minimized proximity of the force main to the water line, which allowed the majority of the force to remain PVC as specified and mitigated a potentially costly change order. For only approximately 80 linear feet, minimum separations could not be achieved. Accordingly, the pipe materials needed to be changed from PVC to ductile iron for just this short section (to comply with NJDEP regulations), resulting in significantly less additional cost.

It is important to note that additional, unmarked subsurface utilities were discovered during the course of the Work, the most impactful of such being an unmarked water line buried directly beneath an existing gas line. The depth of the water line necessitated quick field engineering and both cooperation and reason from the Town of Boonton with regard to the best manner in which to address all possible concerns. While the Town was very reasonable and accommodating and field engineering efforts were implemented rapidly, additional time was incurred both performing the Work as well as minor delay as a consequence of acquiring special fittings that were now required to complete the Work.

Credits, however, have been received from the Contractor based upon changes at the connection of the force main to existing manhole B-9. If work was performed in accordance with the Documents, the manhole would need to be excavated, dismantled, inspected to determine the riser section jointing pattern, temporarily reassembled, and then dismantled and



reassembled once again when the new riser section was fabricated. Since the existing manhole was in very good condition, it was determined that the most efficient and effective manner to terminate the force main in the manhole would be by coring the manhole structure and utilizing a watertight, resilient boot. Proceeding in this fashion afforded a sound installation, dramatically minimized impact to the Town and traffic on Washington Street, and resulted in a credit used to offset some of the additional costs that were incurred.

This Additional Work has been diligently performed by the Contractor, at RVRSA's request, based on Good Faith.

Cost

The total negotiated cost for this specific item of Additional Work is **\$20,384**. The cost includes the documented differential costs of the materials and methods required, differential labor for the Contractor's efforts (which has been negotiated to a minimum in addition to labor credit being applied from the manhole work), and (less than) Contract-allowable percentages for overhead and profit (OH&P).

Item 4 – Replacement of Previously-Repaired Resident Water Services

Background

The new 12"-diameter force main from the pumping station traverses over 2,000 linear feet along the entire length of Lincoln Street. Lincoln Street is a residential street with many homes and, hence, many water service connections, gas service connections, and sewer laterals to service those homes that cross the path of the force main.

Contract Requirements

The Contract Documents naturally require a full utility mark-out as well as for the Contractor to dig test pits and do all that he feels necessary to satisfy himself as to the location of existing utilities. The Documents do not specifically indicate how impacted or damaged utilities are to be repaired. The Documents do provide an allowance via Bid Item #2 for "Utility Relocations," although the explicit verbiage for same does not apply to repair, replacement, or relocation work performed by the Contractor.

Actual Conditions & Work Contemplated

The Contractor was very diligent in his installation of the force main along the entire length of Lincoln Street. Of the dozens of utilities present, only two water services were impacted during the course of the Work. The Contractor broke the copper water service for #75 Grant Avenue which was not marked by the local utility. The Contractor also broke the copper water service for #510 Lincoln Street which was, indeed, properly marked by the local utility, but found to be installed more than 2 feet shallower than required by applicable building code. In both cases, the Contractor worked with the local utility and quickly repaired the water

services, effecting repairs utilizing appropriate materials suitable to maintain service without future disruption.

Upon completion of the repair work, the Town of Boonton indicated that they were under the impression that the designing Engineer-of-Record was to include for the requirement for full replacement of any damaged municipal utilities in the Contract Documents. Unfortunately, such was not the case. In an effort of good faith toward the host community, a cost to effect full replacement of the affected water services, from the corporation valve on the main to a new curb box behind the curblineline of the affected property, was solicited from the Contractor.

Cost

The negotiated proposed cost for this specific item of Additional Work is **\$17,937**. The cost includes all material, equipment, and labor as well as (less than) Contract-allowable percentages for overhead and profit (OH&P).

Item 5 – Pump Discharge Pressure Gauge Seals

Background

Within the valve chamber on the pumping station site, pressure gauges are required to be installed on the discharge piping of each individual pump. As raw sewage would very quickly clog and render useless a pressure gauge installed directly such a pipeline, seals are required to isolate the gauge from the pipeline fluid (raw sewage), with pressure being sensed through a clean fill fluid that is installed between the seal and the gauge itself.

Contract Requirements

The Contract Documents do, indeed, provide for seals for the four required pressure gauges in the valve chamber. However, these seals are small-diameter diaphragm-style seals that are installed in small-diameter pipe risers from the main discharge piping. A flushing connection and flushing water piping is also illustrated in a detail on the Drawings, however, no source of flushing water supply is illustrated elsewhere on the mechanical or civil plans.

Optimized Safety, Operation, and Maintenance + Change Order Mitigation

Pressure sensing in the manner illustrated on the Drawings is commonly prone to clogging. Flushing of the seals would be a regular, required maintenance item, assuming flushing water was to be made available. This potential issue was identified during reviews of the Documents prior to bidding, however, the constructive change to be subsequently explained was not implemented in the final version of the Documents.

It is recommended that the risers and diaphragm seals illustrated on the Documents be replaced with in-line annular seals. This style of seal not only affords more accurate pressure sensing, but it is not prone to clogging in any way. Thus, proceeding in this fashion will not just ensure more accurate gauging, but will eliminate the need for regular, manual flushing of the

seals and risers within the confined space of the valve chamber, which also represents a safety issue.

Effecting the proposed constructive change would also eliminate the need to provide potable water to the valve chamber, which not only mitigates the potential safety hazard of a cross-connection, but, more importantly, mitigates the potential for a more significant change order to actually provide for the potable water service since such is not currently required by the Contract Documents.

Cost

The negotiated proposed cost for this specific item of Additional Work is **\$5,196**. The cost includes all differential costs for proceeding in the manner proposed. Full and proper credit has been given for specified materials not used in lieu of the constructive change contemplated.

Item 6 – Elimination of Access Manhole #1

Background

There are various manhole structures along the length of the new 12”-diameter ductile iron force main along its length on Lincoln Street. One type of such structure is an Access Manhole, which provides a location in which RVRSA can obtain full-diameter access to the force main for maintenance or other purposes. Two such structures are required.

Contract Requirements

Two Access Manholes are required at different locations along the force main in accordance with the Contract Documents. Access Manhole #1 is illustrated as being installed at station 13+30 (1,330 feet from the beginning of the pipeline), which is between Harrison Street and Dixon Avenue. This structure entails the actual precast manhole structure in addition to a full 12” wye fitting (for access) inside of the manhole, as well as an isolation plug valve buried adjacent to the structure.

Site Constraints Prohibited Installation

The proposed location of Access Manhole #1 was actually in between two existing utilities in Lincoln Street – the existing gravity sewer and the existing water main. At the location proposed, and for a considerable distance both before and after the proposed location, the distance between the two existing pipelines does not physically afford enough room to install the proposed structure.

Fortunately, an Air Release Valve Manhole (ARV #3) is to be installed only 250 feet upstream from the location of Access Manhole #1. It was discussed and decided that shifting the access point to ARV #3 still afforded RVRSA sufficient access to the pipeline. Accordingly, Access Manhole #1 was eliminated and minor changes to ARV #3 were effected such that it could serve a dual purpose of housing necessary air valves and the relocated access function.



The ARV #3 manhole structure was made slightly larger (60"-diameter to 72"-diameter), and the tee fitting inside ARV #3 was changed from a 12"x12"x6" tee to a full size 12"x12"x12" tee to afford full-diameter access.

Cost

This Change represents a net credit to RVRSA. The elimination of Access Manhole #1, as slightly offset by the cost of noted changes to ARV #3, resulted in a net **credit to RVRSA of \$4,938.**

Total Change Order Cost

Tomar has provided cost information for performance of all requested Additional Work, as summarized below:

<i>Item #</i>	<i>Description</i>	<i>Cost</i>
1	Additional Roadway/Traffic Signage	\$3,240
2	Excavation and Fill Quantity Adjustments	\$151,515
3	Bypass Force Main Constructability Changes	\$20,384
4	Replacement of Previously-Repaired Resident Water Services	\$17,937
5	Pump Discharge Pressure Gauge Seals	\$5,196
6	Elimination of Access Manhole #1	(\$4,938)
TOTAL COST		\$193,334

Kleinfelder has reviewed the submitted costs and has found them both acceptable and, where applicable, in accordance with the Contractor's certified payrolls, invoiced materials amounts, actual labor expended, and Contract-allowable OH&P percentages. For some items as previously discussed, the Contractor has diligently performed Work, at RVRSA's request, on Good Faith.

Contract Time

At this juncture, the potential delay and/or any adjustment to Contract Time pursuant to the Additional Work contemplated by this Change Order has not yet been quantified. Discussions with the Contractor in this regard will be forthcoming, with the negotiated result of same being the subject of a potential future order to specifically address any justified adjustment to Contract Time to date.

Thus, in order to make the Contractor whole for (necessary) Additional Work already performed on Good Faith and to ensure that we have a contractual mechanism to pay the Contractor for ongoing and imminent Work as it is realized, it is recommended that the cost and quantity adjustments as outlined above be addressed via this Change Order #1 with any potential adjustment to Contract Time deferred to a potential future Change Order.



Funds Availability

As you are aware, the Project is funded through a loan by the New Jersey Environmental Infrastructure Trust. As such, your total loan amount includes a contingency in the amount of 5% of the total Contract cost. Your original Contract cost for this project is \$4,359,223.00. Based on this amount, your total loan amount includes a contingency in the amount of \$217,961.15. To date, no other Change Orders have been contemplated. Accordingly, the entire contingency amount is available.

Inclusive of this Change Order, the cost of all Change Orders is \$193,334.00, which represents 4.4% of the original Contract cost. Based upon the progress of the project to date, remaining work to be completed, and the potential for future Change Order work (inclusive of anticipated credit change orders) to present itself, it is anticipated that sufficient contingency funds (\$24,627.15) will remain after approval/execution of this Change Order.

The Work anticipated by this Change Order fits the purpose and description of Work typically allowable and acceptable by NJDEP under this contingency.

It is our understanding that this Change Order is currently scheduled to be discussed during the working session of the Infrastructure Committee of the larger Board of Commissioners on Tuesday, May 3. Kleinfelder will be present to facilitate discussion and assist you and the Committee at that time. The costs and other supporting information provided by Tomar have also been enclosed for your use and reference.

It is our recommendation that the Authority draft and execute a resolution formally authorizing this Change Order and adjusting the Contract Amount from its current (and initial) amount of \$4,359,223 to a new amount of \$4,552,557. Kleinfelder will then complete requisite paperwork, inclusive of NJDEP's "Contract Modification Proposal and Acceptance" form, and forward same accordingly for processing by NJDEP/NJEIT.

It is our pleasure to be of continued service to the Authority in the administration of this important construction contract. Should you have any questions or require any further information, please do not hesitate to contact me directly via telephone at (609) 454-4570 or via email to mbean@kleinfelder.com.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Bean".

Mark A. Bean, P.E., CGP, LEED AP, FIGP
Principal Engineer



Enclosures:

- Supporting documentation re: Change Order #1, Item #1 (3 pages)
- Supporting documentation re: Change Order #1, Item #2 (7 pages)
- Supporting documentation re: Change Order #1, Item #3 (6 pages)
- Supporting documentation re: Change Order #1, Item #4 (2 pages)
- Supporting documentation re: Change Order #1, Item #5 (5 pages)
- Supporting documentation re: Change Order #1, Item #6 (2 pages)

- c: J. Mondsinì – Executive Director, RVRSA
S. Allen - RVRSA
T. Bradley, w/o enclosure
2045U, w/enclosure

Supporting Documentation Change Order #1

Item #1



TOMAR

CONSTRUCTION SERVICES, INC.

Redefining Engineering Construction

April 18, 2016

Via. Email

Mark Bean
Kleinfelder
321 Wall St.
Princeton, NJ 08540

**RE: Rockaway Valley Sewerage Authority (RVRSA)
Monroe St. Pumping Station & FM & Morris Ave. Gravity Sewer| Contract No. 38
Change Order # 1 – Additional Roadway/Traffic Signs as required by Town of Boonton**

Dear Mr. Bean,

Pursuant to requirement by Town of Boonton, additional signage had to be procured and installed while working on the 12-inch FM on Lincoln St.

The total cost for furnishing & installing these signages, inclusive of O&P shall be **\$3,239.14**. The attached document itemizes the cost for furnishing and installing the above notated signages.

Please note that Tomar reserves the right to claim for any time delay incurred as a result of this additional work. A document summarizing the time delay for this activity shall be forthcoming. Feel free to contact us should you have any questions.

Thank You.

Sincerely,

Robin Varghese
Project Engineer
cc. Tomar file

327-6050
888-260-3246



TRAFFIC SAFETY & EQUIPMENT CO., INC.
457 State Highway 17 • Mahwah, NJ 07430
www.TrafficSafetyDirect.com
www.PlowPartsDirect.com



CUSTOMER'S ORDER NO. 973-713-0737 DATE 11/6/15

NAME Kulpeksha
ADDRESS Eriary
Kulpeksha Enterprises
Kulpeksha

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RET'D.	PAID OUT	PRICE	AMOUNT	
QTY.	DESCRIPTION								
2							75	150	
	36" x 30" OR. HIP (Lincoln St. Closed)								
2							60	120	
	30" x 24" OR. HIP (Lincoln St. Closed)								
1							60	60	
	30" x 24" OR. HIP (NO THRU TRAFFIC)								
							TAX	23.10	
RECEIVED BY							TOTAL	353.10	

C PRODUCT 613 All claims and returned goods must be accompanied by this bill.

172750

Thank You



TRAFFIC SAFETY & EQUIPMENT CO., INC.
457 State Highway 17 • Mahwah, NJ 07430
www.TrafficSafetyDirect.com
www.PlowPartsDirect.com



CUSTOMER'S ORDER NO. 201-038-0552 DATE 11/3/15

NAME Louis Caruso
ADDRESS Loucaruso13@gmail.com
Kulpeksha
Hard.

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RET'D.	PAID OUT	PRICE	AMOUNT	
QTY.	DESCRIPTION								
8							75	600.00	
	30" x 24" OR. HIP CUSTOM (4 Detour + 4 Detour →)								
2							56.25	112.50	
	24" x 18" OR. HIP CUSTOM (Sidewalk Closed)								
1							18	18	
	24" x 6" OR. HIP dibond (Dawson Ave)								
4							150	600	
	Right Type III Paradeades								
							TAX	1330.50	
RECEIVED BY							TOTAL		

C PRODUCT 613 All claims and returned goods must be accompanied by this bill.

172686

Thank You

Supporting Documentation Change Order #1
Item #2



TOMAR

CONSTRUCTION SERVICES, INC.

Redefining Engineering Construction

April 18, 2016

Via. Email

Mark Bean
Kleinfelder
321 Wall St.
Princeton, NJ 08540

**RE: Rockaway Valley Sewerage Authority (RVRSA)
Monroe St. Pumping Station & FM & Morris Ave. Gravity Sewer| Contract No. 38
Change Order # 2 – Excavation & Fill Quantity Adjustments**

Dear Mr. Bean,

As you are well aware, Tomar bid the job by furnishing a unit price for Item 9: Excavation & Backfill quantities enumerated in the bid documents. However upon proceeding with the work it was soon realized that the actual quantities will far exceed the estimated quantities.

Attached below is a tabulation of additional excavation & backfill quantities for work performed for the 12-inch FM on Lincoln St. and the 24-inch by-pass FM on Monroe St. The tabulation also includes estimated quantities for installation of 8-inch gravity sewer line and sewer laterals on Monroe St, remaining work to connect 12-inch FM on Lincoln St. and installation of manhole structures on Lincoln St.

Tabulated below are additional quantities for the above notated work based on Item 9: Excavation & Backfill of the contract documents.

S.NO	ITEM	UNIT	12 INCH FM QTY/LINCOL N ST	24 INCH FM QTY / MONROE ST	8 INCH SEWER QTY/MONRO E ST	TOTALS	QTY. IN THE BID	DIFFERENCE	25% Contingency	Total Additional Quantities	PRICE IN BID	AMOUNT
1	BID ITEM 9A: EXCAVATION UP TO 8 FT	CY	2764	735	676	4175	2500	1675	419	2094	40	83,760.00
2	BID ITEM 9B: EXCAVATION FROM 8 -12 FT	CY	59	34	140	233	125	108	27	135	80	10,800.00
3	BID ITEM 9C: EXCAVATION > 12 FT	CY	111	0	16	127	33	94	24	118	150	17,700.00
4	BID ITEM 11: COARSE AGGREGATE	CY	413	216	85	714	400	314	79	393	35	13,755.00
5	BID ITEM 12A: DGA	CY	1934	315	767	3016	2200	816	204	1020	25	25,500.00
	TOTAL CHANGE ORDER											151,515.00



TOMAR

Kleinfelder
Mark Bean
April 18, 2016
Page 2 of 2

The total cost for this work including work remaining, inclusive of O&P shall be **\$151,515.00**. Should the quantities exceed the estimated quantities for the remaining work, the quantities shall be tabulated and priced per the unit price rate.

Please note that a document summarizing the time delays associates with excavation and backfill of additional material shall be forthcoming. Feel free to contact us should you have any questions.

Thank You.

Sincerely,

Robin Varghese
Project Engineer
cc. Tomar file

Potential Change Order #1 - Item #2 - Adjustment in Excavation & Fill Quantities

Quantities Associated with Work on Lincoln Street									
DISTANCE IN LF	AVERAGE WIDTH IN LF	HMA SURFACE AREA IN SF	EXCAVATION DEPTH IN LF	Excavation depth less 6" for bedding	VOLUME OF EARTH IN CFT UP TO 8 FT	VOLUME OF EARTH IN CFT FROM 8 FT - 12 FT	VOLUME OF EARTH IN CFT >12 FT	VOLUME OF DGA IN CFT	REMARKS
MEASURED QUANTITIES BELOW									
0 Feet -20 Feet	3.31	66.2	5.00	4.50	297.9				
20-40	3.26	65.2	5.00	4.50	293.4			264.8	Starting Point at
40-60	3.39	67.8	6.50	6.00	406.8			260.8	Chainage at 1+.50
60-80	3.16	63.2	6.00	5.50	347.6			372.9	per Drawing P-2
80-100	3.24	64.8	5.00	4.50	291.6			316.0	
100-120	2.96	59.2	5.00	4.50	266.4			259.2	
120-140	2.76	55.2	5.00	4.50	248.4			236.8	
140-160	3.22	64.4	5.50	5.00	322.0			220.8	
160-180	4.81	96.2	5.50	5.00	481.0			289.8	
180-200	3.33	66.6	5.50	5.00	333.0			432.9	
200-220	3.33	66.6	5.50	5.00	333.0			299.7	
220-240	3.33	66.6	5.50	5.00	333.0			299.7	
240-260	3.31	66.2	5.50	5.00	331.0			297.9	
260-280	4.65	93.0	5.50	5.00	465.0			418.5	
280-300	3.58	71.6	5.50	5.00	358.0			322.2	
300-320	2.58	51.6	5.50	5.00	258.0			232.2	
320-340	2.58	51.6	6.00	5.50	283.8			232.2	
340-360	2.58	51.6	6.50	6.00	387.6			258.0	
360-380	3.23	64.6	7.00	6.50	512.2			355.3	
380-400	3.94	78.8	7.00	6.50	484.9			472.8	
400-420	3.73	74.6	7.00	6.50	501.8			447.6	
420-440	3.86	77.2	7.00	6.50	520.0			463.2	
440-460	4.00	80.0	6.50	6.00	655.2			480.0	
460-480	5.46	109.2	6.50	6.00	727.2			600.6	
480-500	6.06	121.2	7.00	6.50	812.5			666.6	
500-520	6.25	125.0	7.00	6.50	638.3			750.0	
520-540	4.91	98.2	7.00	6.50	631.8			589.2	
540-560	4.86	97.2	7.00	6.50	630.5			583.2	
560-580	4.85	97.0	7.50	7.00	856.8			582.0	
580-600	6.12	122.4	7.50	7.00	791.0			795.6	
600-620	5.65	113.0	7.50	7.00	991.2			734.5	
620-640	7.08	141.6	7.50	7.00	702.8			920.4	
640-660	5.02	100.4	7.50	7.00	644.0			652.6	
660-680	4.60	92.0	6.60	6.10	488.0			598.0	
680-700	4.00	80.0	6.00	5.50	498.3			448.0	
700-720	4.53	90.6	6.00	5.50	550.0			453.0	
720-740	5.00	100.0	5.50	5.00	470.0			500.0	
740-760	4.70	94.0	7.00	6.50	624.0			423.0	
760-780	4.80	96.0	6.50	6.00	612.0			576.0	
780-800	5.10	102.0	7.00	6.50	1023.1			561.0	
800-820	7.87	157.4	7.00	6.50	1310.4			944.4	
820-840	10.08	201.6	7.00	6.50	761.8			1209.6	
840-860	5.86	117.2	7.00	6.50	605.8			703.2	
860-880	4.66	93.2	7.00	6.50	546.0			559.2	
880-900	4.20	84.0	7.00	6.50	481.0			504.0	
900-920	3.70	74.0	7.00	6.50	508.3			444.0	
920-940	3.91	78.2	7.50	7.00	602.0			469.2	
940-960	4.30	86.0	8.00	7.50	574.5			559.0	
960-980	3.83	76.6	8.00	7.50	601.5			536.2	
980-1000	4.01	80.2	7.50	7.00	635.6			561.4	
1000-1020	4.54	90.8	7.00	6.50	588.9			590.2	
1020-1040	4.53	90.6	7.00	6.50	598.0			543.6	
1040-1060	4.60	92.0	7.00	6.50	624.0			552.0	
1060-1080	4.80	96.0	7.00	6.50	679.9			576.0	
1080-1100	5.23	104.6	7.00	6.50	581.1			627.6	
1100-1120	4.47	89.4	7.00	6.50	520.0			536.4	
1120-1140	4.00	80.0	7.00	6.50	520.0			480.0	
1140-1160	4.00	80.0	7.00	6.50	520.0			480.0	
1160-1180	4.00	80.0	6.50	6.00	483.6			480.0	
1180-1200	4.00	80.0	6.00	5.50	499.2			443.3	
1200-1220	4.03	80.6	6.50	6.00	499.2			457.6	
1220-1240	4.16	83.2	6.50	6.00	483.6			457.6	
1240-1260	4.16	83.2	6.50	6.00	555.6			443.3	
1260-1280	4.03	80.6	6.50	6.00	699.6			509.3	
1280-1300	4.63	92.6	6.50	6.00	516.0			641.3	
1300-1320	5.83	116.6	6.50	6.00	528.0			473.0	
1320-1340	4.30	86.0	6.50	6.00	657.6			484.0	
1340-1360	4.40	88.0	6.50	6.00	555.6			602.8	
1360-1380	4.40	88.0	6.50	6.00	499.2			509.3	
1380-1400	5.48	109.6	6.50	6.00	499.2			457.6	
1400-1420	4.63	92.6	6.50	6.00	499.2			457.6	
1420-1440	4.16	83.2	6.50	6.00	480.0			440.0	
1440-1460	4.16	83.2	6.50	6.00	480.0			440.0	
1460-1480	4.00	80.0	6.50	6.00	480.0			440.0	
1480-1500	4.00	80.0	6.50	6.00	480.0			440.0	
1500-1520	4.00	80.0	6.50	6.00	480.0			440.0	
1520-1540	4.00	80.0	6.50	6.00	480.0			440.0	
1540-1560	4.00	80.0	5.50	5.00	400.0			400.0	
1560-1580	4.00	80.0	5.50	5.00	400.0			360.0	
1580-1600	4.00	80.0	5.50	5.00	400.0			360.0	
1600-1620	4.00	80.0	5.50	5.00	400.0			360.0	
1620-1640	4.00	80.0	5.50	5.00	400.0			360.0	
1640-1660	4.90	98.0	5.66	5.16	412.8			372.8	
			5.66	5.16	505.7			456.7	

Potential Change Order #1 - Item #2 - Adjustment in Excavation & Fill Quantities

Quantities Associated with Work on Lincoln Street

DISTANCE IN LF	AVERAGE WIDTH IN LF	HMA SURFACE AREA IN SF	EXCAVATION DEPTH IN LF	Excavation depth less 6" for bedding	VOLUME OF EARTH IN CFT UP TO 8 FT	VOLUME OF EARTH IN CFT FROM 8 FT - 12 FT	VOLUME OF EARTH IN CFT >12 FT	VOLUME OF DGA IN CFT	REMARKS
1660-1680	4.80	96.0	5.66	5.16	495.4			447.4	
1680-1700	5.87	117.4	5.66	5.16	605.8			547.1	
1700-1720	4.33	86.6	5.66	5.16	446.9			403.6	
1720-1740	4.59	91.8	5.66	5.16	473.7			427.8	
1740-1760	4.66	93.2	5.66	5.16	480.9			434.3	
1760-1780	4.66	93.2	5.66	5.16	480.9			434.3	
1780-1800	4.66	93.2	5.66	5.16	480.9			434.3	
1800-1820	6.06	121.2	5.66	5.16	625.4			564.8	
1820-1840	7.77	155.4	5.66	5.16	801.9			724.2	
1840-1860	6.33	126.6	5.66	5.16	653.3			590.0	
1860-1880	5.00	100.0	5.66	5.16	516.0			466.0	
1880-1900	4.97	99.4	5.66	5.16	512.9			463.2	
1900-1920	4.83	96.6	5.66	5.16	498.5			450.2	
1920-1940	4.83	96.6	5.66	5.16	498.5			450.2	
1940-1960	4.83	96.6	5.66	5.16	498.5			450.2	
1960-1980	4.96	99.2	5.66	5.16	511.9			462.3	
1980-2000	4.00	80.0	5.66	5.16	412.8			372.8	
2000-2020	4.00	80.0	5.66	5.16	412.8			372.8	
2020-2040	4.53	90.6	5.66	5.16	467.5			422.2	
2040-2060	4.66	93.2	5.66	5.16	480.9			434.3	
2060-2080	4.66	93.2	5.66	5.16	480.9			434.3	
2080-2100	5.50	110.0	5.66	5.16	567.6			512.6	
2100-2120	8.35	167.0	5.50	5.00	835.0			751.5	
2120-2140	7.42	148.4	5.50	5.00	742.0			667.8	
2140-2160	4.98	99.6	5.50	5.00	498.0			448.2	
2160-2180	5.13	102.6	5.50	5.00	513.0			461.7	
2180-2200	5.90	118.0	5.50	5.00	590.0			531.0	End of Pavement on Lincoln
ESTIMATED QUANTITIES BELOW									
2200-2220	10.00	0.0	6.00	5.50	1100.0			1000.0	
2220-2240	10.00	0.0	6.00	5.50	1100.0			1000.0	
2240-2260	10.00	0.0	6.00	5.50	1100.0			1000.0	
2260-2280	10.00	0.0	6.00	5.50	1100.0			1000.0	
2280-2300	20.00	0.0	20.00	19.50	3200.0	1600.0	3000.0	0.0	End of 12" FM at Vortex MH
2300-2320	5.00	100.0	7.00	6.50	650.0			600.0	Starting Point Chainage
2320-2340	5.00	100.0	7.00	6.50	650.0			600.0	at 1+.50 per Drg P-2
2340-2360	5.00	0.0	7.00	6.50	650.0			0.0	up to Chainage 0+00
2360-2380	5.00	0.0	7.00	6.50	650.0			0.0	
2380-2400	5.00	0.0	7.00	6.50	650.0			0.0	
2400-2420	5.00	0.0	7.00	6.50	650.0			0.0	
2420-2440	5.00	0.0	8.00	7.50	750.0			0.0	
2440-2450	5.00	0.0	8.00	7.50	750.0			0.0	
TOTALS		10297.4			71376.4	1600.0	3000.0	58527.7	Meter Chamber Connection

QUANTITIES BELOW ROUNDED TO THE NEAREST DIGIT (NO FRACTIONS)

EARTHWORK FOR 12 INCH FM UP TO 8 FEET	=	2643.6	2644.0
ESTIMATED EARTHWORK FOR 4 MANHOLES:		118.5	120.0
TOTAL BID ITEM 9A:			2764.0
BID ITEM 9B: EARTHWORK FOR 12 INCH FM 8 TO 12 FT:		59.3	59.0
BID ITEM 9C: EARTHWORK FOR 12 INCH FM >12 FEET:		111.1	111.0
HMA BASE QUANTITY FOR 12 INCH FM (SY)	=	1144.2	1144.0
DGA QUANTITY FOR 12 INCH FM	=	2167.7	2168.0
LESS 1/2 OF 12 INCH DIP VOLUME		1163.6	43.0
LESS HMA VOLUME		5148.70	190.69
BID ITEM 12A: NET DGA QUANTITY			1934.00
BID ITEM 11: STONE BASE FOR PIPE @ 1'		381.4	381.0
BID ITEM 11: LESS 1/2 OF 12 INCH DIP VOLUME			43.0
BID ITEM 11: STONE BASE FOR PIPE - ADD ESTIMATE FOR VORTEX AREA			75.0
TOTAL FOR BID ITEM 11:			413.00

Potential Change Order #1 - Item #2 - Adjustment in Excavation & Fill Quantities

Quantities Associated with 24" Force Main Work on Monroe Street

DISTANCE IN LF.	AVERAGE WIDTH IN LF.	AVERAGE AREA	HMA SURFACE AREA IN SF.	AVE. EXCAVATION DEPTH IN LF.	Excavation Depth less 6" for bedding	VOLUME OF EARTH IN CFT. UP TO 8 LF	VOLUME OF EARTH IN CFT. UP TO 8 LF-12 LF	VOLUME OF DGA IN CFT	REMARKS
A	B	A*B	A*B	D	D-.5	A*B*(D-.5= or <8)	F=A*B*(D-8 if D>8 &<12)		
0 Feet -20 Feet	9.10	182.00	182.00	9.00	8.50	1456.00	91.00		
20-40	8.20	164.00	164.00	9.50	9.00	1312.00	164.00	1365.00	Starting Point at MH B-9
40-60	9.60	192.00	192.00	9.50	9.00	1536.00	192.00	1312.00	
60-80	7.97	159.40	159.40	9.50	9.00	1275.20	159.40	1536.00	
80-100	7.67	153.40	153.40	9.00	8.50	1227.20	159.40	1275.20	
100-120	7.70	154.00	154.00	7.00	6.50	1001.00	76.70	1150.50	
120-140	7.00	140.00	140.00	7.00	6.50	910.00	0.00	847.00	
140-160	6.70	134.00	134.00	6.50	6.00	804.00	0.00	770.00	
160-180	6.80	136.00	136.00	6.50	6.00	816.00	0.00	670.00	
180-200	7.07	141.40	141.40	7.00	6.50	919.10	0.00	680.00	
200-220	10.30	206.00	51.50	8.00	7.50	1545.00	0.00	777.70	
220-240	8.00	160.00	0.00	8.50	8.00	1280.00	80.00	1339.00	HMA/DGA from 200-205
240-260	8.00	160.00	0.00	9.50	9.00	1280.00	160.00	0.00	Asphalt Curb at 205 LF
260-280	7.00	140.00	0.00	7.50	7.00	980.00	0.00	0.00	
280-300	7.00	140.00	0.00	7.50	7.00	980.00	0.00	0.00	
300-320	7.00	140.00	0.00	7.00	6.50	910.00	0.00	0.00	
320-340	7.00	140.00	0.00	6.50	6.00	840.00	0.00	0.00	
340-360	7.00	140.00	0.00	6.00	5.50	770.00	0.00	0.00	
TOTAL		2782.20	1607.70			19841.50	923.10	11722.40	

QUANTITIES BELOW ROUNDED TO NEAREST DIGIT (NO FRACTIONS)

ESTIMATED EARTHWORK QUANTITY FOR THE 24" FM

BID ITEM 9A: EARTHWORK UP TO 8 FEET	734.87	735.00
BID ITEM 9B: EARTHWORK FROM 8 TO 12 FEET	34.19	34.00
DGA QUANTITY FOR 24 INCH FM	434.16	434.00
LESS HALF VOLUME OF 24" PIPE	13.90	14.00
LESS HMA VOLUME	29.77	30.00
LESS ADDITIONAL AGGREGATE PIPE CROSSINGS		75.00
BID ITEM 12A: NET DGA QUANTITY		315.00
STONE BASE QUANTITY FOR PIPE	154.57	155.00
LESS HALF VOLUME OF 24" PIPE		14.00
ADDITIONAL COARSE AGGREGATE AT PIPE CROSSINGS		75.00
BID ITEM 11: COARSE AGGREGATE		216.00

Potential Change Order #1 - Item #2 - Adjustment in Excavation & Fill Quantities

Quantities Associated with 8" Gravity Sewer Work on Monroe Street

DISTANCE IN LF.	AVERAGE WIDTH IN LF.	AVERAGE AREA	HMA SURFACE AREA IN SF.	AVE. EXCAVATION DEPTH IN LF.	Excavation Depth less 6" for Bedding	VOLUME OF EARTH IN CFT. UP TO 8 FT	VOLUME OF EARTH IN CFT. FROM 8 FT - 12 FT	VOLUME OF EARTH IN CFT. > 12 FT	VOLUME OF DGA IN CFT	REMARKS
0 Feet -20 Feet	6.00	120.00	120.00	8.00	7.50	900.00	0.00	0.00	860.40	
20-40	6.00	120.00	120.00	8.00	7.50	900.00	0.00	0.00	860.40	Starting Point at MH 1
40-60	6.00	120.00	120.00	9.00	8.50	960.00	60.00	0.00	980.40	
60-80	6.00	120.00	120.00	9.50	9.00	960.00	120.00	0.00	1040.40	
80-100	6.00	120.00	120.00	11.00	10.50	960.00	300.00	0.00	1220.40	Near MH 2
100-120	6.00	120.00	120.00	12.00	11.50	960.00	420.00	0.00	1340.40	
120-140	6.00	120.00	120.00	13.00	12.50	960.00	480.00	60.00	1460.40	
140-160	6.00	120.00	120.00	13.00	12.50	960.00	480.00	60.00	1460.40	
160-180	6.00	120.00	120.00	15.00	14.50	960.00	480.00	300.00	1700.40	Near MH 3
180-200	6.00	120.00	120.00	12.00	11.50	960.00	420.00	0.00	1340.40	
200-220	6.00	120.00	120.00	7.00	6.50	780.00	0.00	0.00	740.40	Near MH 5
220-240	6.00	120.00	120.00	7.00	6.50	780.00	0.00	0.00	740.40	
240-260	6.00	120.00	120.00	7.00	6.50	780.00	0.00	0.00	740.40	
260-280	6.00	120.00	120.00	7.00	6.50	780.00	0.00	0.00	740.40	
280-300	6.00	120.00	0.00	12.50	12.00	960.00	0.00	0.00	740.40	Near MH 6 & 7
300-320	6.00	120.00	0.00	11.00	10.50	960.00	480.00	0.00	1400.40	Near MH 3 towards MH 4
320-340	6.00	120.00	0.00	10.00	9.50	960.00	300.00	0.00	1220.40	
340-360	6.00	120.00	0.00	9.00	8.50	960.00	180.00	0.00	1100.40	
360-380	6.00	120.00	0.00	8.00	7.50	960.00	60.00	0.00	980.40	
380-400	6.00	120.00	0.00	8.00	7.50	900.00	0.00	0.00	860.40	
TOTAL		2400.00	1680.00	8.00	7.50	900.00	0.00	420.00	21648.00	Near MH 4

QUANTITIES BELOW ROUNDED TO NEAREST DIGIT (NO FRACTIONS)

ESTIMATED EARTHWORK QUANTITY FOR THE 8 INCH SEWER

BID ITEM 9A: EARTHWORK UP TO 8 FEET

675.56 676.00

BID ITEM 9B: EARTHWORK FROM 8 TO 12 FEET

140.00 140.00

BID ITEM 9C: EARTHWORK > 12 FEET

15.56 16.00

DGA QUANTITY FOR 8 INCH SEWER

801.78 802.00

LESS 1/2 OF 8 INCH PIPE VOLUME

110.78 4.10 4.00

LESS HMA VOLUME

840.00 31.11 31.00

BID ITEM 12A: NET DGA QUANTITY

767.00

STONE BASE QUANTITY FOR PIPE @ 1'

89.00

LESS HALF VOLUME OF 8 IN PIPE

4.00

BID ITEM 11: COARSE AGGREGATE

85.00

Supporting Documentation Change Order #1
Item #3



CONSTRUCTION SERVICES, INC.

Redefining Engineering Construction

April 18, 2016

Via. Email

Mark Bean
Kleinfelder
321 Wall St.
Princeton, NJ 08540

**RE: Rockaway Valley Sewerage Authority (RVRSA)
Monroe St. Pumping Station & FM & Morris Ave. Gravity Sewer| Contract No. 38
Change Order # 3 – By-Pass Force Main Line Constructability Changes**

Dear Mr. Bean,

The attached price proposal comprises of the following:

- 1) Price Differential in core drilling MH B-9 as opposed to installing a new riser section.
- 2) Changes in piping configuration of 24-inch by-pass line due to unforeseen site conditions

Price Differential in core drilling MH B-9 as opposed to installing a new riser section.

Per contract drawing PR – 6, a manhole section had to be procured and installed for the existing MH B-9 to tie-in the new 24-inch by-pass force main line. Upon review and evaluation of site conditions an alternate method was discussed and approved. This involved coring a 30-inch opening on the existing manhole section in lieu of installing a new pre-cast manhole raiser section. The attached document tabulates the cost difference in core drilling the existing manhole section as opposed to installing a new riser section.

Changes in piping configuration of 24-inch by-pass line due to unforeseen site conditions

Per contract documents, a new 24-inch PVC by-pass FM had to be installed from the existing manhole (MH B-9) to the Monroe St. pump station. However upon proceeding with the installation several unforeseen conditions including unmarked/incorrect utility mark-outs were encountered, necessitating a change in piping configuration to navigate around these obstructions. The attached document tabulates cost for procuring additional materials and additional manpower expended in finishing this task. It is also noted that there was considerable amount of time lost in working through unanticipated obstructions and time lost as a result of procuring special fittings to accomplish the task. A document tabulating these delay shall be forthcoming.



TOMAR

Kleinfelder
Mark Bean
April 18, 2016
Page 2 of 2

The total cost on this change order inclusive of O&P is **\$20,383.75**. This amount includes cost as a result of changes to the 24-inch by-pass piping and also credit for core drilling existing manhole B-9 as opposed to installing a new precast riser section.

Feel free to contact us should you have any questions.

Thank You.

Sincerely,

Robin Varghese
Project Engineer
cc. Tomar file



CAPITOL SUPPLY CONSTRUCTION PRODUCTS, INC.

149 OLD TURNPIKE ROAD WAYNE, NJ 07470
(973) 627-5200 • FAX (973) 627-1790

**** ORIGINAL INVOICE ****
Invoice #: S1284562.016
Invoiced : 03/02/16
Rel #:
P/O #: MONROE ST PS & FM
Terms: NET
Page : 1

Bill To:
KULPEKSA LANDSCAPING 4
248 FRANKLIN AVENUE
ROCKAWAY, NJ 07866

Ship To:
KULPEKSA LANDSCAPING /JOB #38 4
MONROE ST PS & FORCE MAIN & SEWE
Intersection of Monroe & Lincoln
BOONTON, NJ 07005

Order Date	Ship Date	Wrtr->	STEVE MANN'S	Ship Via	Ordered By
09/18/15	03/02/16	Slsm->		OT OUR TRUCK	Gary

Ord Qty	Ship Qty	Product Description	Unit Price	Net
60ft	60ft	24" USP DIP CLASS 52 20'	94.00ft	5640.00
2ea	2ea	24" FIELD LOK GASKET	581.00ea	1162.00
		** Above not returnable ini — **		
4ea	4ea	24" SIGMA ONE LOK GLAND PACK	389.21ea	1556.84
		** Above not returnable ini — **		
2ea	1ea	24" T/U MJ 45 C153 USA	1713.31ea	1713.31
Net Amount				10072.15
Freight				0.00
Sales Tax				0.00
Total				10072.15

OK to Pay

[Signature]

A FINANCE CHARGE AT THE RATE OF 1 1/2% PER MONTH (18% ANNUM) WILL BE CHARGED ON INVOICES UNPAID AFTER 30 DAYS FROM DATE OF INVOICE. DELINQUENT ACCOUNTS WILL HAVE ATTORNEY'S FEES ADDED THERETO IF PLACED FOR COLLECTION.

The seller shall not be liable for any incidental, special or consequential damage which results in any way from the use of this product. All warranties are limited to the manufacturers warranties. Seller is not offering any express or implied warranties and seller specifically excludes any warranties of merchantability and fitness for particular purpose. MINIMUM 20% HANDLING CHARGE ON RETURNED MERCHANDISE. ANY MATERIAL FURNISHED REMAINS THE PROPERTY OF "CAPITOL SUPPLY CONSTRUCTION PRODUCTS INC." UNTIL FULLY PAID FOR.



CAPITOL SUPPLY CONSTRUCTION PRODUCTS, INC.

149 OLD TURNPIKE ROAD WAYNE, NJ 07470

(973) 627-5200 • FAX (973) 627-1790

**** ORIGINAL INVOICE ****
 Invoice #: S1292565.001
 Invoiced : 03/11/16
 Rel #:
 P/O #: CHANGE ORDER
 Terms: NET
 Page : 1

Bill To:
 KULPEKSA LANDSCAPING 4
 248 FRANKLIN AVENUE
 ROCKAWAY, NJ 07866

Ship To:
 KULPEKSA LANDSCAPING /JOB #38 4
 MONROE ST PS & MORRIS AVE SEWER
 BOONTON, NJ 07005

Order Date	Ship Date	Wrtr->	STEVE MANNS	Ship Via	Ordered By
03/08/16	03/11/16	Slsm->		OT OUR TRUCK	

Ord Qty	Ship Qty	Product Description	Unit Price	Net
20ft	20ft	18" USP DIP CLASS 52 20'	70.00ft	1400.00
1ea	1ea	** Above not returnable ini ** 24" X 18" MJ SEB REDUCER C153 USA	1586.47ea	1586.47
1ea	1ea	** Above not returnable ini ** 24" X 18" T/U MJ REDUCER C153 USA	1533.49ea	1533.49
1ea	1ea	** Above not returnable ini ** 24" SIGMA ONE LOK GLAND PACK	415.85ea	415.85
2ea	2ea	** Above not returnable ini ** 18" SIGMA ONE LOK PACK	266.67ea	533.34
2ea	2ea	24" RODDING BAND TYPE 304 SS	1100.00ea	2200.00
4ea	4ea	RECTANGULAR WASHERS TYPE 304 SS DRILLED FOR 3/4" ROD	46.00ea	184.00
4ea	4ea	3/4" X 6' SIGMA ALL THREAD ROD TYPE 304 SS	38.50ea	154.00
4ea	4ea	3/4" SIGMA EYE BOLT TYPE 304 SS	25.50ea	102.00
8ea	8ea	3/4" SIGMA NUT TYPE 304	1.70ea	13.60
8ea	8ea	3/4" WASHERS TYPE 304	0.85ea	6.80

*** Continued on Next Page ***

A FINANCE CHARGE AT THE RATE OF 1 1/2% PER MONTH (18% ANNUM) WILL BE CHARGED ON INVOICES UNPAID AFTER 30 DAYS FROM DATE OF INVOICE. DELINQUENT ACCOUNTS WILL HAVE ATTORNEY'S FEES ADDED THERETO IF PLACED FOR COLLECTION.

The seller shall not be liable for any incidental, special or consequential damage which results in any way from the use of this product. All warranties are limited to the manufacturers warranties. Seller is not offering any express or implied warranties and seller specifically excludes any warranties of merchantability and fitness for particular purpose. MINIMUM 20% HANDLING CHARGE ON RETURNED MERCHANDISE. ANY MATERIAL FURNISHED REMAINS THE PROPERTY OF "CAPITOL SUPPLY CONSTRUCTION PRODUCTS INC." UNTIL FULLY PAID FOR.



CAPITOL SUPPLY CONSTRUCTION PRODUCTS, INC.

149 OLD TURNPIKE ROAD WAYNE, NJ 07470

(973) 627-5200 • FAX (973) 627-1790

**** ORIGINAL INVOICE ****
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Bill To:
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 248 FRANKLIN AVENUE
 ROCKAWAY, NJ 07866

Ship To:
 KULPEKSA LANDSCAPING /JOB #38 4
 MONROE ST PS & MORRIS AVE SEWER
 BOONTON, NJ 07005

Order Date	Ship Date	Wrtr->	STEVE MANNS	Ship Via	Ordered By
03/08/16	03/11/16	Slsm->		OT OUR TRUCK	

Ord Qty	Ship Qty	Product Description	Unit Price	Net
1ea	1ea	** Above not returnable ini — ** Freight Charge ESTIMATED FRT FOR REDUCERS	250.00ea	250.00
			Net Amount	8379.55
			Freight	0.00
			Sales Tax	0.00
			Total	8379.55

A FINANCE CHARGE AT THE RATE OF 1 1/2% PER MONTH (18% ANNUM) WILL BE CHARGED ON INVOICES UNPAID AFTER 30 DAYS FROM DATE OF INVOICE. DELINQUENT ACCOUNTS WILL HAVE ATTORNEY'S FEES ADDED THERETO IF PLACED FOR COLLECTION.

The seller shall not be liable for any incidental, special or consequential damage which results in any way from the use of this product. All warranties are limited to the manufacturers warranties. Seller is not offering any express or implied warranties and seller specifically excludes any warranties of merchantability and fitness for particular purpose. ANY MATERIAL FURNISHED REMAINS THE PROPERTY OF "CAPITOL SUPPLY CONSTRUCTION PRODUCTS INC." UNTIL FULLY PAID FOR.

Supporting Documentation Change Order #1

Item #4



TOMAR

CONSTRUCTION SERVICES, INC.

Redefining Engineering Construction

April 18, 2016

Via. Email

Mark Bean
Kleinfelder
321 Wall St.
Princeton, NJ 08540

**RE: Rockaway Valley Sewerage Authority (RVRSA)
Monroe St. Pumping Station & FM & Morris Ave. Gravity Sewer| Contract No. 38
Change Order # 4 – Replacement of Water Services**

Dear Mr. Bean,

Per your request please find attached pricing for replacing two previously repaired water service lines along the path of the 12-inch FM on Lincoln St.

The water service line on #75 Grant Ave was improperly marked by the water utility company whereas the line at #510 Lincoln St. was uncharacteristically found shallower than applicable building code. Although these lines were broken during excavation, they were both repaired immediately without any extended service disruption.

The total cost for this work including material, labor and O&P shall be **\$ 17,936.26**. The time delay associated with this change order shall be documented and shall be submitted after completion.

Feel free to contact us should you have any questions.

Thank You.

Sincerely,

Robin Varghese
Project Engineer
cc. Tomar file

Supporting Documentation Change Order #1

Item #5



TOMAR

CONSTRUCTION SERVICES, INC.

Redefining Engineering Construction

April 18, 2016

Via. Email

Mark Bean
Kleinfelder
321 Wall St.
Princeton, NJ 08540

**RE: Rockaway Valley Sewerage Authority (RVRSA)
Monroe St. Pumping Station & FM & Morris Ave. Gravity Sewer| Contract No. 38
Change Order # 5 – Pump Discharge Pressure Gauge**

Dear Mr. Bean,

Per your request please find attached quote for replacing the pressure gauge connection with diaphragm seal & snubber per detail on drawing PR -6 with annular style Red Valve pressure gauges.

The price differential for furnishing and installing the annular style gauges in lieu of the specified diaphragm seal & snubber type assembly is **\$5,196.00**.

Feel free to contact us should you have any questions.

Thank You.

Sincerely,

Robin Varghese
Project Engineer
cc. Tomar file

Mark Bean

From: Robin Varghese <robin@tomarconstruction.com>
Sent: Monday, April 11, 2016 4:50 PM
To: Mark Bean
Cc: 'Sobhan Nallamothu'
Subject: RE: Annular Seals - Red Valve

Mark,

Price differential is \$5196.00.

Regards,
Robin John Varghese

Tomar Construction Group
18 Connerty Court,
East Brunswick, NJ 08816
Tel: 785-393-6108
Off: 732-238-0700
Fax: 732-238-0701

From: Mark Bean [mailto:MBean@kleinfelder.com]
Sent: Monday, April 11, 2016 9:27 AM
To: Robin Varghese
Cc: 'Sobhan Nallamothu'
Subject: RE: Annular Seals - Red Valve

Thanks Robin... need to temper that with a credit for the "regular" pressure gauge riser, which includes the riser, the gauges, the diaphragm seals, and the flushing line – all per the detail on PR-6.

Thanks.

Best,
Bean

...

Mark A. Bean, P.E., CGP, LEED AP, FIGP
Principal Engineer

Kleinfelder
321 Wall Street
Princeton, NJ 08540
o| 609-924-8821 ext. 120
d| 609-454-4570
m| 732-485-8594
f| 609-924-8831



From: Robin Varghese [<mailto:robin@tomarconstruction.com>]
Sent: Monday, April 11, 2016 9:14 AM
To: Mark Bean <MBean@kleinfelder.com>
Cc: 'Sobhan Nallamothe' <bob@tomarconstruction.com>
Subject: RE: Annular Seals - Red Valve

Mark,

Here you go.

Regards,
Robin John Varghese

Tomar Construction Group
18 Connerty Court,
East Brunswick, NJ 08816
Tel: 785-393-6108
Off: 732-238-0700
Fax: 732-238-0701

From: Mark Bean [<mailto:MBean@kleinfelder.com>]
Sent: Monday, April 11, 2016 8:52 AM
To: Robin Varghese
Cc: 'Sobhan Nallamothe'
Subject: Annular Seals - Red Valve

Robin,

Could you let me know how you made out with Red Valve? I want to try and put the PCO for annular seals in the CO I'm trying to get processed for next month. Need it ASAP I'm afraid...

Thanks.

Best,
Bean

...

Mark A. Bean, P.E., CGP, LEED AP, FIGP
Principal Engineer

Kleinfelder
321 Wall Street
Princeton, NJ 08540
o| 609-924-8821 ext. 120

d| 609-454-4570
m| 732-485-8594
f| 609-924-8831

Red Valve Company, Inc.

600 N. Bell Avenue -- Carnegie, PA 15106 -- www.redvalve.com

Phone: 412 279-0044

Fax: 412 279-7878

Reference: **Monroe St. Pump Station**

Quote Number: 616120KT

Quote Date: 25-Feb-16

Quote Expires: 25-Mar-16

To: **Robin Varghese**
Tomar Construction Co.

Email: robin@tomarconstruction.com

Authorized Sales Representative:

Mr. Keith Thompson
Koester Associates, Inc.
170 Kinnelon Road
Suite 37
Kinnelon, NJ 07405
USA

Phone: 973-492-0400

Fax: 973-492-9581

Description

**RED VALVE SERIES 40W
PRESSURE SENSOR**

Body Material: 316 Stainless Steel

Sleeve Material: Viton

Flange Drilling: 125# ANSI

Fill Fluid: Silicone Oil

Gauge: Ashcroft Model No. 1379SS (6" Diameter Dial/0-60 psi Range)

Lead Time: 4-6 Weeks After Receipt of Approval Drawings

Item	Quantity	Size	Unit Price	Extended Price
1	2	8.0"	\$1,688.00	\$ 3,376.00
2	2	10.0"	\$1,860.00	\$ 3,720.00

Total Net Price: \$ 7,096.00

Total: \$ 7,096.00

Payment Terms: 100% Net 30, No Retainage

Shipping Terms: Prepaid and Add

F.O.B. Terms: Carnegie, PA

Prepared by: Joan E. Moran

We reserve the right to re-quote upon receipt of formal specifications.

All prices are quoted in United States Dollars, exclude applicable taxes, and are subject to credit approval.

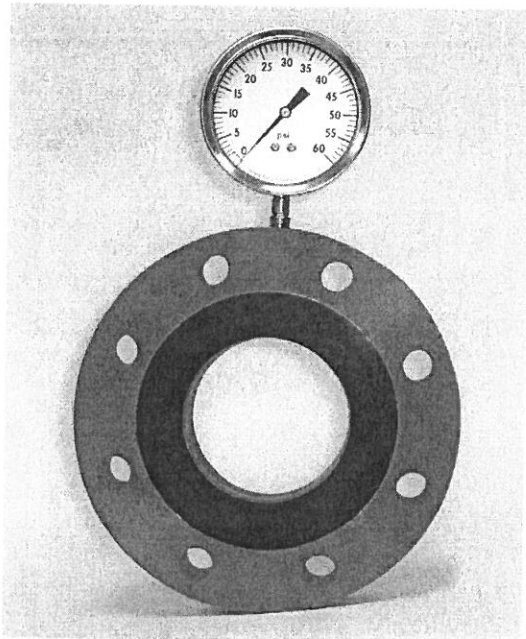
Please see Terms and Conditions of Sale on reverse side.

SERIES 40W

Pressure Sensor

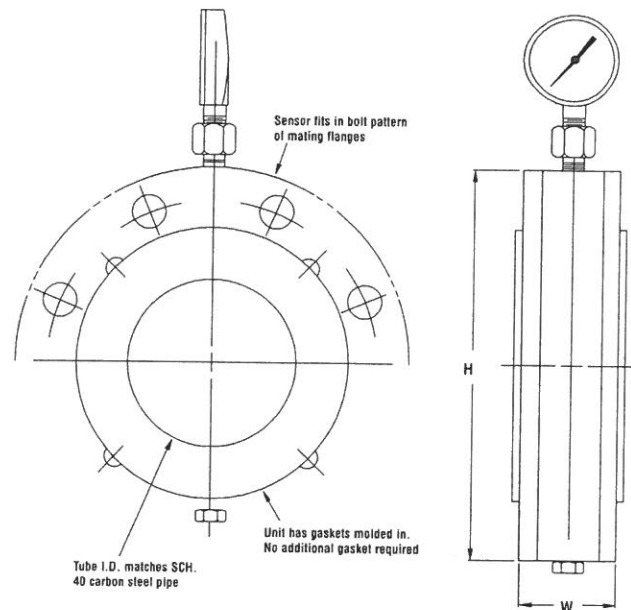


- ▶ No wetted metal parts
- ▶ No gaskets required
- ▶ Non-clogging, protects instrumentation
- ▶ Bolt through design - positive alignment, secure connection



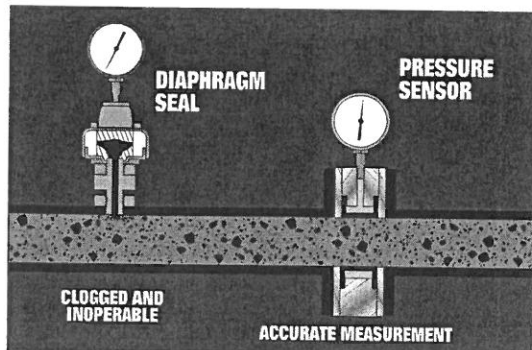
The Series 40W pressure sensor isolates and protects instrumentation. The full-port design eliminates clogging, ensuring accurate pressure measurement under the most difficult conditions. The elastomer sleeve senses pressure 360 degrees around the inner circumference of the unit, overcoming problems like plugging and fouling of traditional diaphragm seals.

Combinations of elastomers and sensing fluids provide an operating range of -20°F to $+400^{\circ}\text{F}$. Standard units are rated at 300 psi operating pressure and 450 psi surge pressure. All areas exposed to the process media are elastomer covered. Depending on the type of media being handled, elastomers can be specified to offer the best combination of chemical and abrasion resistance characteristics. The elastomer sleeve extends to the full face of the flange, eliminating the need for additional gaskets.



Materials of Construction

- ▶ ANSI Class 125/150
- ▶ Body available in Carbon or Stainless Steel
- ▶ Sleeve available in Pure Gum Rubber, Neoprene, Hypalon®, Chlorobutyl, Buna-N, EPDM and Viton®



Series 40W Pressure Sensor

Valve Size	H	W
1"	4 1/2"	1 7/8"
1 1/2"	5"	1 7/8"
2"	6"	1 7/8"
2 1/2"	7"	1 7/8"
3"	7 1/2"	1 7/8"
4"	9"	2 1/8"
6"	11"	2 1/4"
8"	13 1/2"	2 1/2"

If size larger than 8" is required, see Red Valve Series 40 and Series 48.

Supporting Documentation Change Order #1
Item #6



TOMAR

CONSTRUCTION SERVICES, INC.

Redefining Engineering Construction

April 18, 2016

Via. Email

Mark Bean
Kleinfelder
321 Wall St.
Princeton, NJ 08540

**RE: Rockaway Valley Sewerage Authority (RVRSA)
Monroe St. Pumping Station & FM & Morris Ave. Gravity Sewer| Contract No. 38
Change Order # 6 – Elimination of ACC MH # 1 & Increase in Size of ARV MH # 3**

Dear Mr. Bean,

Please find attached cost proposal for the following:

- 1) Credit for Elimination of Access Manhole # 1 (ACC MH # 1)
- 2) Cost for Increase in Size of Air Release Manhole # 3 (ARV # 3)

Credit for Elimination of Access Manhole # 1

Per review comment from Submittal 02726-01-A – Manholes, it was noted that ACC MH # 1 is to be eliminated. Attached in the proposal is a credit for furnishing and installing the manhole structure per line item 21A of the Schedule of Values. The proposal also includes a credit for piping, fittings and valves inside the manhole and also the 12-inch buried MJ plug valve outside the structure.

Cost for Increase in Size of Air Release Manhole # 3

Per review comment from Submittal 02726-01-A – Manholes, it was noted that the size of ARV MH # 3 be increased to 72-inch from 60-inch. It was also determined that the 12''X6'' Tee be changed to a 12''X12'' Tee. The proposal below includes the price differential for increase in size of the manhole and change from 12-inch X 6-inch Tee to a 12'' X 12'' Tee.

The net outcome of these aforementioned changes results in a \$ 4938.49 credit to the Owner. Feel free to contact us should you have any questions.

Sincerely,

Robin Varghese
Project Engineer
cc. Tomar file

