

TECHNICAL MEMORANDUM

Prepared For: Truckee Donner Public Utility District

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Subject: Water Infrastructure Capital Improvement

Plan Development



1.0 BACKGROUND

The Truckee Donner Public Utility District (District) plans to undertake a water system rate study in the Spring of 2020. An updated Capital Improvement Plan (CIP) is needed to understand the financial and timing impacts that capital projects will have on the District, which will be reviewed to ensure water rates are sufficient for funding projects. In December of 2019, the District entered into an agreement with Farr West Engineering (Farr West) to prepare the District's Water Infrastructure CIP Development (Project) which will focus on the preparation of an updated 10-year Water Infrastructure CIP to assist in developing a rate study.

2.0 PROJECT SUMMARY

Farr West was directed by the District to develop a 10-year CIP beginning with projects in 2021. This 10-year CIP spans the timeframe of 2021-2030. The Request for Proposal (RFP) identified the following Project tasks:

- 1. Review Existing System Information.
- 2. Identify Existing Facilities Requiring Rehabilitation and/or Replacement.
- 3. Review Regulatory Impacts.
- 4. Conduct Power Supply Outage Analysis.
- 5. Conduct Time of Use Electrical Rate Analysis.
- 6. Develop Cost Estimating Criteria.
- 7. Develop 10-year CIP.
- 8. Prepare CIP Report.

Farr West evaluated the Project tasks and closely coordinated with District staff to develop a complete list of CIP Projects. Farr West received the following direction from the District as a guideline to establish CIP Projects:

- 1. Include 2012 CIP projects scheduled between the years 2012-2030 which have not been constructed.
- 2. Exclude projects that were originally proposed to accommodate additional capacity to serve growth. Based on discussion with District Staff, buildout projections are less than estimated in the 2012 Water System Master Plan. Projects included in the 2021 CIP will address maintenance and operational needs of existing District infrastructure. Projects to address maintenance and operations needs are expected to be rate funded.

- 3. Add projects determined necessary resulting from the review of regulatory impacts or power outage analysis.
- 4. The system goal is to provide water to all customers during a power outage scenario. However, depending on the length of a power outage, supply to large irrigation services may be suspended. Service priority will be to provide water to all residential customers for domestic use during a power outage scenario.
- 5. Incorporate additional projects as directed by the District.
- 6. Prioritize Projects:
 - a. High priority projects shall be considered critical to the continued operation of the water system and the ability of the District to provide water services to its customers.
 - b. Medium priority projects shall be considered necessary to comply with regulatory requirements and maintain the current condition of the existing water system assets.
 - c. All other projects shall be considered low priority.
- 7. Target an annual budget of \$2,250,000 for CIP Projects.
- 8. Develop cost estimating criteria and produce updated planning level costs for all 2021 CIP projects.

The Project scope excludes efforts to update planning elements such as hydraulic modeling, building analysis, tank coating conditions, identifying system deficiencies, condition/risk assessment, CCTV, GIS, SCADA, and any related field work.

The CIP will be a tool for the District to understand and plan for facility improvements by establishing rates to implement the plan. Implementing the plan in this manner will ensure the stability in utility rates over time, provide the ability for the District to perform capital projects, and provide reliable infrastructure for years to come.

3.0 REGULATORY IMPACTS

To consider potential regulatory impacts related to the District's system facilities rehabilitation and/or replacement within the next 10 years, a review of current and proposed water, air quality, and electrical regulations was conducted. Regulatory changes with the potential to impact the District's water utility system fall under local, state, and federal regimes. Regulatory agencies and relevant associations consulted and researched include the State Water Resource Control Board (SWRCB), Division of Drinking Water (DDW), the California Special Districts Association (CSDA), the Association of California Water Agencies (ACWA), the California Air Resources Control Board (CARB), the Northern Sierra Air Quality Management District (NSAQMD), the California Legislature, and the United States Environmental Protection Agency (US EPA). No Agency would provide certainty of any regulatory mandates and when they would be implemented over the next 10-years, but certain parameters were discussed and identified in the following sections. The District should routinely monitor all regulatory agencies for proposed changes. A summary of all identified current and proposed regulatory impacts is included in Appendix A.

3.1 LOCAL WATER REGULATIONS

Local regulations potentially impacting the District's water system infrastructure in the coming years include requirements of the Truckee Sanitary District (TSD), the Tahoe-Truckee Sanitation Agency (T-TSA), and other Truckee River related requirements. TSD is responsible for wastewater collection throughout the Truckee area. The wastewater is sent to T-TSA facilities for wastewater treatment and eventual discharge into the Truckee watershed. TSD is one of five member agencies of the T-TSA, which protect the water quality of Lake Tahoe and the Truckee River under the Porter Cologne Act.

The District is permitted to discharge drinking water to the City storm drain system under the California Statewide General NPDES (National Pollutant Discharge Elimination System) Permit for Drinking Water System Discharges. Occasionally, the District allows water main flushing discharge into the sewer system through agreements with TSD and T-TSA. This activity typically occurs only during water main construction projects, and a permit is required from both TSD and T-TSA for temporary discharges into the

sewer system. The District should continue to obtain a Permit for Temporary Discharge into TSD facilities for each applicable construction project to allow flushing of water mains into the sanitary sewer.

3.2 STATE WATER REGULATIONS

State level regulatory requirements identified in this research include Urban Water Management Plans, Making Conservation a California Way of Life, and proposed legislative changes. Collectively these regulatory requirements include water loss calculations and improvements, reporting requirements, water loss audits, water shortage contingency plans, increasing efficiency standards, flood protection plans, and heightened drinking water quality standards including lead, perchlorate, chromium-6, and per- and polyfluoroalkyl substances (PFAS). Requirements pursuant to Making Conservation a California Way of Life may be the most relevant to the CIP. During 2020, the SWRCB is required to adopt performance standards for urban water suppliers which will include volumetric water loss reduction and other performance measures. By June 30, 2020, the SWRCB must adopt long-term standards for measures including indoor residential water use, outdoor irrigation of landscape areas, and water loss from water distribution systems. For more information and the status of proposed legislation, visit https://leginfo.legislature.ca.gov.

The District holds water right permits and statements for surface water sources (McGlashen, Southside, Tonini, Sheepherder, and Hofert Springs). These water rights are overseen by the SWRCB's Division of Water Rights. Additional state level regulatory considerations include maintaining the District's Division of Water Rights surface water Permits and Statements. Although the District is not currently using water under these rights, minimum reporting requirements should be maintained for compliance. If these rights are used in the future, the District should review the Water Code, Surface Water Treatment Rule, and other regulations to ensure compliance. Additional water planning, including Sustainable Groundwater Management Act (SGMA) and Integrated Regional Water Management (IRWM) initiatives should continue to be considered by the District. Although requirements under SGMA and IRWM are not currently applicable, the requirements should be monitored to ensure future compliance with all regulations.

The Truckee River basin is also protected by stormwater regulations. Stormwater discharges are regulated through NPDES permits. The existing SWRCB Region 6 (Lahontan Region) NDPES Municipal Permit includes South Lake Tahoe, Placer and Eldorado counties, but does not include Nevada County and the Truckee-Donner area. Stormwater protection requirements should be maintained to ensure compliance.

3.3 FEDERAL WATER REGULATIONS

Federal Level regulatory changes that may impact the District include proposed US EPA changes to water quality standards for perchlorate levels, chromium-6, PFAS, and potential regulatory changes for infrastructure permitting through the US Army Corps of Engineers (USACE) under the Clean Water Act and definitions of Waters of the United States.

3.4 ELECTRICAL REGULATIONS

Electrical regulation research focused on potential power supply outage requirements and regulations governing the use of emergency power generators which support the utility system. All portable generators require a permit to operate. The District should continue to maintain permits for portable generators. Air pollution standards for generators are regulated by the local air pollution district, in this case the NSAQMD. Natural gas or propane-fueled generators do not have air quality emissions restrictions. If the District uses diesel fueled generators during emergencies, there are currently no emissions restrictions. This includes generators used during a Public Safety Power Shutoffs (PSPS) event. However, if a diesel generator is used as a prime power source, strict emission regulations are imposed under CARB. California low sulfur (15 Parts Per Million) diesel fuel is required for all diesel generators. In addition, CARB regulations allow for the use of private and public back-up generators during PSPS, such as during high fire risk weather conditions. Legislative Assembly Bill 2182, introduced in 2020, proposes regulatory exemptions for

emergency backup generators at water and wastewater facilities. For more information on CARB regulations, visit www.arb.ca.gov.

Electric utilities in Northern California and Northern Nevada have developed policies to implement PSPS in extreme fire-risk situations. Particular environmental conditions, such as strong wind events, high temperatures, and low humidity, warrant the de-energization of power lines and equipment to prevent destructive and deadly wildfires.

The District receives its electrical transmission from NV Energy (NVE) in Nevada; therefore, the District is not subject to the requirements of the Cal ISO system. NVE administers PSPS under their Public Safety Outage Management (PSOM) policy. PSPS have recently been initiated in Northern California when environmental conditions warrant but have yet to be initiated by NVE. If NVE initiates PSPS triggered by the PSOM policy the District will be greatly impacted.

3.5 REGULATORY DISCUSSION AND RECOMMENDATIONS

The areas of strongest regulatory concern are treatment requirements and water audit and loss prevention. It is understood that arsenic is the water quality constituent of greatest concern for the District. The District currently treats one well source to reduce arsenic levels and other well sources report arsenic levels near the MCL limit. Currently, there are no planned regulatory changes to the arsenic MCL.

However, other contaminants are under review for potential inclusion into regulations. Water utility regulatory agencies have not identified any known regulatory changes within the next 10 years which warrant projects to address changes to treatment requirements. The District is recommended to remain informed regarding changes to treatment regulations, as well as MCL limits, and begin a testing regimen for contaminants under consideration for regulatory inclusion.

The District currently considers water loss auditing and prevention a high priority. Projects have previously been undertaken to reduce leaks in compromised water mains and establish system metering of all services, sources, and pump stations. Several regulations are forthcoming regarding water auditing and loss prevention, stemming from the Making Conservation and California Way of Life legislation. SWRCB is required to establish regulations identifying specific goals or targets for auditing and reduction over the next several years. The District is encouraged to utilize improved system metering to identify and continue to fund pipeline replacement projects to remove leaking water mains from the system. The District is recommended to remain informed regarding updates to the regulations and adjust the CIP, if necessary, to comply.

The District should be prepared for future power outages of their power supply due to PSPS. Further evaluation, discussion, and recommendations of power supply outage analysis is included in Section 4.0.

4.0 POWER SUPPLY OUTAGE ANALYSIS

New regulations allow power utilities to shutoff transmission and distribution lines during extreme fire risk conditions to minimize the risk of a wildfire. Impacts to the District's water system resulting from a 7-day power outage were evaluated using several demand scenarios. The results were used to suggest new District projects in preparation of PSPS.

The system water consumption was analyzed using the following scenarios for a 7-day power outage event:

- 1. Maximum Day Demand (MDD) with tanks full.
- MDD with tanks half full.
- 3. Winter Day Demand (WDD) with tanks full.
- 4. Stage 3 Water Conservation Demand with tanks full.
- 5. Stage 3 Water Conservation Demand with tanks half full.

MDD and WDD were included for evaluation during a power outage, which represent the hypothetical maximum and minimum system demands. Stage 3 Water Conservation demands were also evaluated as a

moderate demand scenario during a power outage. It is understood that at this time, the District has not determined the target demand allowance or potential restrictions which will be implemented during a power outage.

MDD and Stage 3 Conservation Demand scenarios with both storage tanks full and storage tanks half full were evaluated during a power outage scenario to understand the effects on system production. MDD with storage tanks half full represents a worst-case scenario and WDD with tanks full represents a best-case scenario when evaluating limiting system operations during a power outage.

To aid in analysis, Farr West prepared a modification of the District System HGL Map that is included in Appendix B. The exhibit included MDD and WDD for pump stations and production rates for wells. Facilities with existing generators are highlighted yellow and those without generators are highlighted in pink. Tanks highlighted blue indicate that they contain sufficient storage to supply their dependent zone for at least 7 days at WDD. The MDD and the WDD values were taken from the Inter-Zone Transfers 2018 Water Demands figure provided by the District. The Martiswoods Tower storage tank was not considered in the analysis due to District plans to demolish the tank and replace it with a hydropneumatic pump station. The intent of this map was to place all applicable system operational data for review and use. The map presented tanks and the zones they feed and identified the flow of water from wells to given tanks. Farr West analyzed this map to understand if any tanks of a higher HGL could back-feed into a lower tank zone to aid in providing supplemental storage capacity to meet demand requirements for power outage durations.

A Stage 3 Water Conservation scenario was analyzed by applying a 30% reduction in water use to MDD values for each zone. Compliance is mandatory under Stage 3 Conservation efforts, with irrigation restricted to 3 days per week. The District's Water Conservation Program was taken from the 2015 Urban Water Management Plan. The various stages are identified in Table 1.

Table 1: Water Conservation Stages

Stage	Water Conservation Requirement	Compliance Level
1	Targeted 10% Reduction in Usage	Voluntary
2	Targeted 20% Reduction in Usage	Mandatory
3	Targeted 30% Reduction in Usage	Mandatory
4	Targeted 40% Reduction in Usage	Mandatory
5	Targeted 50% Reduction in Usage	Mandatory

Each pressure zone was analyzed based on the storage tank capacity of that system and daily water consumption. If a pressure zone did not have a dedicated storage tank, the water demand was included with the demand of the tank fed pressure zone providing the water supply. This data provided information on the number of days a storage tank could serve the applicable zone(s) with no District wells feeding the system.

The District's system currently has 31 active storage tanks which range in capacity from 100,000 gallons to 1,500,000 gallons, with the average capacity at 240,000 gallons. The inventory excludes Martiswoods Tower, which is planned for demolition, and 3 inactive storage tanks. Most zones are served by a single storage tank with the larger zones with higher demands served by two or three storage tanks. The Truckee System has 31 storage tanks and the Hirschdale System had 1 storage tank.

System production was analyzed to determine the additional water volume needed to meet demands during MDD, WDD, and Stage 3 Water Conservation conditions. The well capacities used in each analysis were taken from the Inter-Zone Transfers 2018 Water Demands figure, except for the Hirschdale Well. The Hirschdale Well production rate was taken from the 2012 Water System Master Plan since it is not included

in the 2018 Inter-Zone Transfers Water Demands figure. The system demand versus storage analysis is included in Appendix C.

The District currently has 11 active potable well sites throughout the system. Ten wells are located within the Truckee System and one well within the Hirschdale System. The Truckee System's wells range in production rates from 0.41 to 3.89 MGD and the Hirschdale System's well has a production of 0.050 MGD.

Fire flow demand is not included in the power supply outage demand analysis. The addition of a fire demand during a power outage will greatly affect available storage. Immediate implementation of the most stringent water use restrictions would be recommended for a fire event occurring during a power outage.

The District currently has a well site (Well A) serving a zone with a higher Hydraulic Grade Line (HGL) and would potentially be an option to back feed into lower HGL zones with the installation of a new pressure relief valve. However, the well is currently out of service and the District does not foresee reactivating the well for potable water use in the future.

4.1 MAXIMUM DAY DEMAND (MDD) ANALYSIS

The MDD for each zone was used to determine the highest anticipated total water consumption over a 7-day power outage. The MDD value assumes minimal or no conservation efforts are in effect during that time, including limited or normal irrigation and a suggested decrease in indoor water use.

4.1.1 MDD Water Tank Storage

Three storage tanks in the system had the capacity to serve the MDD through a 7-day power outage if the tanks were at full capacity at the start of the outage. No storage tanks in the system had the capacity to serve any zones for 7 days under half full conditions. Table 2 identifies the storage tanks with the available capacity when full to serve the applicable zone(s) during a 7-day power outage.

Table 2: Tanks with	Available Storage	Capacity	Under Full Conditions

Tank	Zone	7-Day MDD (MG)	Storage Capacity (MG)
Soma Sierra	Soma Sierra, Donner Trails	0.196	0.200
Ski Run	Upper Ski Run, Lower Ski Run	0.091	0.100
Hirschdale	Hirschdale	0.070	0.100

The storage tanks shown in Table 2 do not have the capacity to share stored water with a downstream neighboring zone during a 7-day power outage without stressing the currently served zone. Additionally, the MDD in neighboring zones is too high for it to make a significant impact, therefore, it was determined a new pump station or pressure relief station for interzone transfer during a Public Safety Power Shutoff is not warranted.

The 29 system storage tanks without 7-day MDD storage capacity (not identified in Table 2) have the available storage to serve the applicable zone(s) for 0.6 to 2.5 days during MDD if the tanks were at full capacity. If these 29 tanks are at half capacity, they would have the available storage to serve the applicable zone(s) for less than one day during MDD. The storage tanks identified in Table 2 would have available storage to sustain the applicable zones for approximately 4 days with the tanks at half capacity during MDD. Appendix C details the available storage, the demand, and the number of days a tank can serve a zone under full tank and half tank MDD conditions.

During the MDD analysis, it was determined that three storage tanks, identified in Table 3, do not have the capacity to serve the applicable zones under MDD and full storage conditions for one day. The zones supplied by these tanks have a higher demand than available storage and can be sustained for less than one day. It is recommended to immediately implement the most stringent water use restrictions for these zones and fill the storage tanks to full capacity ahead of a suspected power outage.

Table 3: Tanks with Less than One Day of Service at Full Capacity

Tank	Zone	1-Day MDD (MG)	Storage Capacity (MG)
Wolf Estates	Donner Lake-6124, Red Mountain Hydro, Wolfe Hydro	0.275	0.230
Ponderosa Palisades	Ponderosa Palisades, West Palisades Hydro, Palisades Hydro, Martiswoods	0.512	0.400
Glenshire Lower	Glenshire 2, Waterloo, Icknield	1.312	0.740

4.1.2 MDD Water System Supply

The additional water volume required to meet the 6.28 MGD (full tank) and 6.91 MGD (half tank) MDD system demands over a 7-day power outage was determined using the difference from the daily water consumption and the available storage for each zone.

When all tanks are full at 8.79 MG storage, approximately 6.28 MGD of additional supply is needed to supplement storage volume to account for the total system MDD requirement. Currently, only two production facilities (Airport Well and Prosser Village Well) have back up power supply. The total production available to the District during a power outage is from these two wells yielding a total of 3.11 MGD, 3.17 MGD short of the required system production demand. The District has identified installation of a generator at the Martis Valley No. 1 Well as a high priority project in the 2021 CIP. When the generator at the Martis Valley No. 1 Well is installed, total production during a power outage will increase to 5.34 MGD but will be 0.94 MGD short of the required demand. Additional generators are needed at other production facilities to sustain complete MDD system demands during a power outage.

A second review of the complete MDD system demand scenario was analyzed if tanks were not completely full prior to a power outage. Without understanding the District's storage tank operational parameters and SCADA, not part of this Project, a scenario was reviewed with all storage tanks at half full levels. This analysis can provide a range of possibilities to allow the District to better understand the range of impacts and severities when considering priority facilities.

If tanks are not at full capacity at the time of a power outage, the production deficit increases by approximately 0.63 MGD to 6.91 MGD. Table 4 compares the system demand with the production capacities of well sites with proposed and existing permanent generators.

Table 4: MDD Well Production

Well Site	Capacity (MGD)*	Permanent Generator	MDD (Tanks at Full Capacity)	MDD (Tanks at Half Capacity)
Airport	1.95	Yes (50% production capacity due to shared generator with pump station)	(29 MCD	(01 MCD
Prosser Village	1.16	Yes	6.28 MGD (Production	6.91 MGD (Production
Total (Without Martis Valley No. 1)	3.11		needed in addition to	needed in addition to
Martis Valley No. 1	2.23	Planned	storage)	storage)
Total (With Martis Valley No. 1)	5.34			

^{*} Production Capacities taken from the Inter-Zone Water Transfers 2018 Water Demands Figure. Airport well production when running on generator reduced by half since existing generator supplying well and pump station does not have power to run both facilities at maximum capacity.

4.2 WINTER DAY DEMAND (WDD) ANALYSIS

The WDD for each zone was used to determine the most conservative total water consumption over a 7-day power outage. The WDD value is reflective of a low demand period when no outdoor irrigation is occurring. WDD values were provided by District staff during this analysis as values were not present in past reports.

4.2.1 WDD Water Tank Storage

The six storage tanks identified in Table 5 have the capacity to serve the WDD through a 7-day power outage, if the tank was at full storage capacity when the power outage began.

Table 5: Tanks with Available Storage Capacity Under Full Conditions

Tank	Zone	7-Day WDD (MG)	Storage Capacity (MG)
Soma Sierra	Soma Sierra, Donner Trails	0.070	0.200
Ski Run	Upper Ski Run, Lower Ski Run	0.014	0.100
Glacier	Glacier, Upper Skislope, Middle Skislope, Lower Skislope	0.140	0.150
Prosser Annex, Prosser Heights	Prosser Heights (includes original Upper Lakeview), Heights Hydro	0.385	0.430
Glenshire Upper	Glenshire 1	0.490	0.490
Hirschdale	Hirschdale	0.042	0.100

The storage tanks identified in Table 5 do not have the capacity to share stored water with a downstream neighboring zone during a 7-day power outage without stressing the currently served zone. The WDD in neighboring zones is too high for it to make a significant impact; therefore, it was determined a new pump station or pressure relief station for interzone transfer during a PSPS is not warranted.

The remaining 26 storage tanks in the system have the available storage to serve the applicable zone(s) for 2.5 to 5.1 days, if the tanks were at full capacity. These tanks would require supplemental supply from well production facilities to serve the zone during a 7-day power outage event. Appendix C details the available storage, the demand, and the number of days a tank can serve a zone under full tank WDD conditions.

4.2.2 WDD Water System Supply

When tanks are full at 8.79 MG storage, approximately 1.25 MGD of production is needed to match WDD. Currently, only two production facilities (Airport Well and Prosser Village Well) have back up power supply. The total production from these two wells during a power outage is 3.11 MGD. Table 6 compares the system demand with the production capacities of well sites with proposed and existing permanent generators.

Table 6: WDD Well Production

Well Site	Capacity (MGD)*	Permanent Generator	WDD (Tanks at Full Capacity)
Airport	1.95	Yes (50% production capacity due to shared generator with pump station)	
Prosser Village	1.16	Yes	1.25 MGD
Total (Without Martis Valley No 1)	3.11		(Production needed in addition to storage)
Martis Valley No. 1	2.23	Planned	
Total (With Martis Valley No 1)	5.34		

^{*} Production Capacities taken from the Inter-Zone Water Transfers 2018 Water Demands Figure. Airport well production when running on generator reduced by half since existing generator supplying well and pump station does not have power to run both facilities at maximum capacity.

The additional water volume required to meet the remaining 1.25 MGD WDD system demand over a 7-day power outage is less than the 3.11 MGD total production from the Airport and Prosser Village Well sites. Under these conditions, an additional permanent generator is not needed in the system.

4.3 STAGE 3 WATER CONSERVATION

The District's Stage 3 Water Conservation enforces a mandatory 30% reduction in water use and restricts irrigation to 3 days per week. For this analysis, the MDD values for each zone were reduced to 70% of the full demand value.

4.3.1 Stage 3 Water Conservation Water Tank Storage

Three storage tanks have the capacity to serve the applicable zones during a 7-day power outage. As with the MDD and WDD analysis, the storage tanks identified in Table 7 do not have the capacity to share stored water with a neighboring zone during a 7-day power outage without stressing the currently served zone.

Table 7: Tanks with Available Storage Capacity Under Full Conditions

Tank	Zone	7-Day SW3C (MG)	Storage Capacity (MG)
Soma Sierra	Soma Sierra, Donner Trails	0.140	0.200
Ski Run	Upper Ski Run, Lower Ski Run	0.070	0.100
Hirschdale	Hirschdale	0.063	0.100

During the Stage 3 Water Conservation analysis, it was determined that the Glenshire Lower storage tank does not have the capacity to serve the applicable zones under Stage 3 Water Conservation efforts and full storage conditions for one day. The Glenshire 2, Waterloo, and Icknield zones have a higher demand than available storage and can be sustained for less than one day. It is recommended to immediately implement more stringent water use restrictions for these zones and load the storage tank to full capacity ahead of a power outage.

The remaining 29 storage tanks in the system have the available storage to serve the applicable zone(s) for 0.8 to 3.5 days if the tanks were at full capacity. If the tanks are at half capacity, the remaining 29 storage tanks have the available storage to serve the applicable zone(s) for 0.4 to 1.76 days. The storage tanks identified in Table 7 would have available storage to sustain the applicable zones for approximately 4 days if the tanks were at half capacity. Appendix C details the available storage, the demand, and the number of days a tank can serve a zone under full tank and half tank MDD conditions.

4.3.2 Stage 3 Water Conservation Water System Supply

When tanks are full at 8.79 MG storage, approximately 4.04 MGD of supply is needed to match Stage 3 Water Conservation Water System demands of 5.28 MGD. Currently, only two production facilities (Airport Well and Prosser Village Well) have back up power supply. The total production from these two wells during a power outage is 3.11 MGD. The District has identified installation of a generator at the Martis Valley No. 1 Well as a high priority project in the 2021 CIP. When the generator at the Martis Valley No. 1 Well is installed, total production during a power outage will increase to 5.34 MGD. Table 8 compares the system demand with the production capacities of well sites with proposed and existing permanent generators.

Table 8: Stage 3 Water Conservation Well Production

Well Site	Capacity (MGD)*	Permanent Generator	Stage 3 (Tanks at Full Capacity)	Stage 3 (Tanks at Half Capacity)
Airport	1.95	Yes (50% production capacity due to shared generator with pump station)	4.04 MCD	4.65 MCD
Prosser Village	1.16	Yes	4.04 MGD (Production	4.65 MGD (Production
Total (Without Martis Valley No 1)	3.11		needed in addition to	needed in addition to
Martis Valley No. 1	2.23	Planned	storage)	storage)
Total (With Martis Valley No 1)	5.34			

^{*} Production Capacities taken from the Inter-Zone Water Transfers 2018 Water Demands Figure. Airport well production when running on generator reduced by half since existing generator supplying well and pump station does not have power to run both facilities at maximum capacity.

Production from the Airport and Prosser Village wells is not sufficient to satisfy demands during a power outage with Stage 3 Water Conservation implemented. However, after a generator is installed at the Martis Valley No. 1 Well (as currently planned), Stage 3 Water Conservation demands (with tanks full or half full) would not require additional water production facilities to be operational during a power outage scenario.

4.4 HIRSCHDALE WATER SYSTEM

The Hirschdale water system is a separate system within District boundaries, consisting of one well, one storage tank, and one pressure zone. Demands for this system were provided by the District using data collected from February 2019 (WDD) and July 2019 (MDD). At full capacity, the storage tank can sustain the system for more than 7 days under MDD, WDD, and Stage 3 conditions. The Hirschdale Well can produce approximately 35 gallons per minute, with system demands of approximately 9 gallons per minute for MDD, 4 gallons per minute for WDD, and 6 gallons per minute for Stage 3 conditions.

The District anticipates connecting the Hirschdale System to the Truckee System in the future. It is not recommended to install a permanent generator on the well site, as the well may be taken out of service when the connection is made to relieve the District from maintaining the arsenic, iron, and manganese treatment system. The District should consider the interconnection as a priority over other Hirschdale improvements. Until the interconnection to the Truckee System can be made, it is recommended to fill the storage tank to full capacity ahead of a potential power outage.

4.5 POWER OUTAGE ANALYSIS DISCUSSION AND RECOMMENDATIONS

It is understood that the District wishes to provide service to all customers during the entire duration of a potential 7-day power outage event. Allowable customer demands on the system will largely govern the scope and extent of projects to satisfy customer demands. The analysis in this study did not include evaluation of additional system water storage as an option to satisfy system demands during a power outage. Therefore, the means to keep customers supplied with water service will focus on ensuring emergency power (generators) is established at facilities necessary to achieve system supply. The District is recommended to consider additional system water storage in future system analyses.

The District currently has permanent generators at 20 pump stations and water production facilities throughout the system. Two portable generators are currently assigned specifically to the Donner Trails and Soma Sierra Pump Stations.

As described in Section 4.0, an analysis was performed to understand the flow path of water from production wells to storage tanks. Ultimately, this analysis was able to identify which pump stations are critical to supplying water throughout the District's water system. Upon evaluation, existing generators allow for water to be supplied and conveyed throughout most of the water system during a power outage.

During a power outage, system operation is dependent upon generators having sufficient fuel capacity to continue operation during power outages. To fully understand a fuel consumption analysis of the District's generators, additional detailed information would be required, and an in-depth study performed which is beyond the scope of this memorandum. This complex effort should involve evaluation of an extended simulation of the system hydraulic water model and operational requirements and specifications of system generators. The District is encouraged to further evaluate the fuel consumption needs of system generators during a power outage and develop a plan for operation necessary for water conveyance.

4.5.1 Pump Stations

District pump stations have the capacity to match, and in most cases, greatly exceed the demands of the zone(s) supplied. Many pump stations throughout the system already have available emergency generators, either permanent or mobile. Table 9 summarizes current generator status at pump stations throughout the system. The District currently has the capability to provide emergency power at all but one of the critical pump stations in the system through permanent or mobile generators. Critical pump stations are assumed to be a single pathway for water to feed into the next zone and to supply each water storage tank.

The system is comprised of both traditional and hydropneumatic pump stations. Traditional pump stations supply zones which include a storage tank. Hydropneumatic pump stations supply zones without storage tanks. In a power outage situation, hydropneumatic zones would not have a water supply, even temporarily, unless the associated pump station was supplied power from a generator. Zones with storage tanks would have a temporary water supply from tanks, but in most cases, this supply is not enough to support zone demands during WDD, Stage 3 Water Conservation, or MDD conditions. Therefore, generators are necessary for both traditional and hydropneumatic pump stations.

Pump station facilities that do not have permanent generators include Gateway Hydropneumatic, Soma Sierra, Donner Trails, Falcon Point, Alder Creek, West Palisades Hydropneumatic, and Martiswoods. The Gateway hydropneumatic pump station currently has neither a permanent generator or a dedicated trailer mounted generator and is the only existing critical facility without backup power. The Falcon Point and Alder Creek pump stations are assumed to be redundant to the Innsbruck and Herringbone pump stations, respectfully, and therefore do not require generators for critical water conveyance. The Donner Trails and Soma Sierra pump stations are currently assigned mobile, trailer-mounted generators. The Soma Sierra, Donner Trails, West Palisades, and Martiswoods pump stations are scheduled to have permanent generators installed in 2021 as part of the 2021 CIP.

Installation of permanent generators at Soma Sierra and Donner Trails Pump Stations would alleviate mobile generators assigned to these facilities for use at other sites or as emergency back-up for permanent generators. The District may also consider the option of converting the mobile generators to permanent generators at the Donner Trails and Soma Sierra pump stations if both meet current emissions standards. This would reduce capital cost by removing the purchase of two new generators.

The District should consider an in-depth analysis of generators, pump stations, and zone demands to understand system requirements. All pump stations in the system are over-sized and can convey current demands for MDD, WDD, and Stage 3 Water Conservation conditions. Existing generators for all pump stations are assumed to be appropriately sized and have the capacity to serve the facility demand during emergency situations.

Table 9: Generator Status at System Pump Stations

Pump Station	Capacity (MGD)	MDD (MGD)	WDD (MGD)	Stage 3 Cons. (MGD)	Generator Status
Airport	Unknown	-	-	-	Existing Permanent
Gateway Hydro	1.44	0.001	0.001	0.001	Needs Generator
Donner Trails	5.61	1.856	1.01	1.30	Trailer, Proposed Permanent
Soma Sierra	5.61	1.828	1.00	1.30	Trailer, Proposed Permanent
Sitzmark Hydro	0.720	0.018	0.003	0.013	Existing Permanent
Falcon Point*	2.16	0.693	0.404	0.485	Not Needed (redundant booster)
Innsbruck*	2.30	0.693	0.404	0.485	Existing Permanent
Stockholm	1.58	0.116	0.04	0.081	Existing Permanent
Pinnacle Hydro	0.720	0.036	0.015	0.025	Existing Permanent
Roundhill Hydro	0.720	0.001	0.001	0.001	Existing Permanent
Herringbone**	1.51	0.270	0.211	0.189	Existing Permanent
Alder Creek**	1.30	0.270	0.211	0.189	Not Needed (redundant booster)
Donner View Hydro	0.720	0.013	0.007	0.009	Existing Permanent
Ski Lodge	0.922	0.074	0.002	0.052	Existing Permanent
Ski Run	0.576	0.061	0.020	0.043	Existing Permanent
Richards	3.24	0.537	0.247	0.376	Existing Permanent
Wolfe Estates Hydro	1.19	0.011	0.002	0.008	Existing Permanent
Red Mountain Hydro	0.432	0.004	0.002	0.003	Existing Permanent
Sierra Meadows	1.72	0.512	0.078	0.358	Existing Permanent
Palisades Hydro	1.30	0.032	0.007	0.022	Existing Permanent
Martiswoods	0.864	0.063	0.006	0.044	Proposed Permanent
West Palisades Hydro	0.058	0.005	0.001	0.004	Proposed Permanent
China Camp	1.72	0.435	0.125	0.305	Existing Permanent
Prosser Heights	1.53	0.017	0.006	0.012	Existing Permanent
Strand	0.860	0.283	0.070	0.198	Existing Permanent

^{*} The demand is assumed to be split between the two pump stations. During a power outage, the pump station with a permanent generator has the capacity to manage full demands.

^{**} The demand is assumed to be split between the two pump stations. During a power outage, the pump station with a permanent generator has the capacity to manage full demands.

4.5.2 System Production (Wells)

Existing District storage tanks do not contain sufficient capacity to provide enough water to meet system demands during a 7-day power outage event, as identified previously in Section 4.1.1. Therefore, sufficient production capacity must be provided by wells with generator backup to supply the required additional capacity.

Existing generators are located at the Airport and Prosser Village production facilities. The generator at the Airport production facility was installed in 2019 after the project was identified in the 2012 CIP. Installation of a generator at the Martis Valley No. 1 Well was also scheduled in the 2012 CIP but has not yet been installed. Installation of the Martis Valley No. 1 production facility generator is scheduled to be installed in 2021 as a high priority project in the 2021 CIP.

Planning for generator installation projects at water production facilities will depend upon the level of water use restrictions the District is willing to impose on customers during a 7-day power outage event. Assumptions for how full system tanks are at the onset of a power outage also play a critical role in planning for water production facility generator installations. Table 10 summarizes current water production site generator status throughout the system.

Table 10: Generator Status at System Water Production Sites

Well Site	Production Capacity (MGD)*	Generator Status	
Airport	1.95	Existing	
Glenshire Drive	2.62	None	
Martis Valley No. 1	2.23	Planned	
Sanders	0.41	None	
Prosser Village	1.16	Existing	
Old Greenwood	1.30	None	
Prosser Annex	0.72	None	
Prosser Heights	0.60	None	
No. 20	0.89	None	
Northside	0.83	None	
Hirschdale	0.050	None	
Total System Capacity	13.21 MGD		
Generator Capacity	5.34 1	MGD	

^{*} Production Capacities taken from the Inter-Zone Water Transfers 2018 Water Demands Figure. Airport well production when running on generator reduced by half since existing generator supplying well and pump station does not have power to run both facilities at maximum capacity.

During a power outage, the Airport and Prosser Village Wells can produce 3.11 MGD. Existing power outage production capacity exceeds the 1.25 MGD difference between demand and full tank storage volume for WDD. However, the difference between demand and full tank storage volume for Stage 3 Water Conservation demands and MDD cannot be met.

The addition of the planned generator installation at the Martis Valley No. 1 Well allows power outage system production to make up the difference between demand and full tank (4.04 MGD) or half full tank (4.65 MGD) storage in the Stage 3 Water Conservation scenario. However, even with the addition of the generator at the Martis Valley No. 1 Well, production cannot match the difference between full tank storage

volume and demand for MDD conditions. Additional wells would require generator installation to satisfy an MDD scenario.

As previously discussed in Section 4.1.2, if all storage tanks are full the MDD requires an additional 3.17 MGD from well production. With the addition of the Martis Valley No. 1 Well generator, an additional 2.23 MGD is provided, reducing the production need to 0.94 MGD. The Old Greenwood Well site, with the production rate of 1.30 MGD, is the ideal well that could make up the difference to fully supply the District during MDD conditions through a power outage. Glenshire Well would also suffice, but is much larger, would have excess capacity, and require a larger generator.

To meet MDD conditions with tanks half full during a power outage, generators would need to be installed at production facilities producing a minimum of 1.57 MGD of supply in addition to the production capacities of the Airport, Prosser Village, and Martis Valley No. 1 Well sites. Currently the Glenshire Well, with a production rate of 2.62 MGD, appears to be the only well capable of producing the supply necessary to meet MDD conditions with tanks half full. Therefore, the District should consider implementing procedures to fill tanks ahead of conditions which may warrant a power outage.

The District may consider implementing a Stage 3 Water Conservation directive to its customers during emergency power outages rather than installing an additional permanent generator at a fourth well site to satisfy MDD. The capital cost for a generator at a fourth production facility may not justified to supply MDD during power outages.

5.0 COST ESTIMATING CRITERIA

The preparation of the CIP's current and future cost estimates includes the development of specific individual project costs and average unit pricing for future (non-specific) projects. Individual cost estimates were developed for new projects identified from regulatory or power outage impacts and uncompleted 2012 CIP projects. Evaluation of multiple criteria to create average universal unit rates was performed which the District can utilize for budgeting purposes for both near term and long-term project costs for non-specific projects. The cost estimates include a cost basis analysis and a cost factor analysis.

A cost basis analysis involves the review of previous unit pricing as well as direct cost factors that affect the baseline cost of the work. This includes the evaluation of special factors that affect the unit price or scopes of work that do not have recent cost history. Cost basis analysis incorporates the following:

- Average unit price of previous District items of similar scope,
- Comparison of average unit price of items of similar scope from neighboring jurisdictions,
- Detailed cost estimates of items without recent cost history, and
- Current material pricing, labor rates, equipment rates, and operation costs.

Special factors and considerations include areas with an increased number of residential services (reduced productivity), high traffic areas, ROW crossings and encroachment situations, and uncommon or unique scopes of work.

Cost factor analysis is the evaluation of escalation, fee, and overhead factors that result in multipliers to the base cost. The analysis incorporates projected overhead fees on completed work, projected fee/profit based on current market and competition projects, labor escalations including short term (known) and long term (projection), equipment escalation, and material escalation. A detailed cost analysis of the specific and most frequent bid items was performed using the following basis shown in Table 11 for cost estimating.

Table 11: Cost Analysis Basis*

Cost Basis	Inclusions
Labor	Labor includes the wages, benefits, and taxes associated with separate trade classifications. Examples include laborer, equipment operator, and carpenter trades. Prevailing wage rates, Davis-Bacon wage rates, and Union wage scale are evaluated to determine hourly labor cost.
Equipment	Equipment rates include the typical rental equipment rates for heavy equipment, as well as fuel consumption, wear parts, and routine maintenance and preventative care. These criteria are utilized to determine operated equipment hourly costs.
Material**	Material pricing for pipe, valve, fittings, and accessories are provided from local wholesale and retail suppliers.

^{*} All cost basis criteria are based on Q1-2020 data and no escalation is applied in the initial cost evaluation.

Using the cost basis information, a detailed estimate was created based on the average daily productivity from location conditions and industry practice. The estimate includes all costs of the work associated with a complete installation or rehabilitation. A pipeline would include, for example, sawcutting, AC removal and disposal, excavation, pipeline installation, backfill, grading, street restoration, and associated traffic control. Productivity would vary based on the number of service laterals or anticipated encumbrances and size of pipe. Percentage allocation of valves and service laterals/meters are included. A project overhead factor is included, as well as a factor for anticipated profit. Standard percentages for mobilization, contingency, engineering, inspection, legal, and permitting were used. No land acquisition fees were assumed or included. Generally, the applied contingency is 10%; however, a 20% contingency was used for well replacement projects due to a higher likelihood of additional work developing when pump assemblies are removed from the well. Planning level cost estimates for proposed projects are included in Appendix D.

The detailed cost estimate was created using HCSS Heavy-Bid estimating software. A copy of each project's cost estimate detail is included in Appendix E. Database productivity software was not used due to the program's lack of ability to accurately represent the local conditions, market, and labor challenges. The cost basis unit price was evaluated against the unit prices from recent bids from within the District's system, as well as neighboring jurisdictions. The cost estimate was used to evaluate known escalation percentages for labor and materials in the near term and the impact on the overall cost so an escalation factor can be determined and included for subsequent years. A year over year escalation factor of 4.0% was applied to the longer-term projects, as well as an increased contingency factor. A breakdown of the year over year (YOY) escalation is shown in Table 12.

^{**} Considerations for material cost analysis included current unit price rates from material suppliers in the Reno/Tahoe/Truckee market with applicable submittals, certifications, delivery, and sales tax.

Table 12: 4.0% Escalation Factor Breakdown

1 abic 12. 4.0			Breakdown	
Cost Type	% of Total	% Increase	% of Total Increase	Notes
Labor	25%	4%	1.00%	Labor market is expected to grow based on supply and demand of labor. Indicators based on union wage negotiations show 2% - 7.5% YOY increases to base wage, as well as fringe benefit packages consistently across all trades.
Equipment	15%	3%	0.45%	Equipment costs are expected to have modest YOY growth as newer equipment is acquired with advanced tiered engine emissions standards, as well as increased costs for maintenance (labor).
Materials	40%	5%	2.00%	Material costs can fluctuate greatly as innovations and varying raw material costs push cost up and down. Long term growth is typically 2.0 % - 3.0%, however, raw material costs have been steady for extended periods of time and are expected to increase. Upward pressure on production and delivery labor will have a greater impact on material costs.
Overhead*	10%	4%	0.40%	Overhead costs will increase as indirect labor and materials increase, as well as regulatory standards continue to progress.
Fee/Profit	10%	0%	0.00%	Assume profit margins remain constant.
	100%		3.9%	
		1	4.0% YOY Escalation	

^{*} Future projections incorporate anticipated higher levels of effort required for additional safety personnel, supplies and reporting, environmental personnel and reporting, and payroll systems and certification. These factors have increased direct project overhead as a percentage from approximately 7-10% over the past 15-20 years, based on experience.

Cost estimates were prepared using a weighted average unit price. Due to the numerous factors that affect unit pricing, as well as variations in the bid tabs, if no recent unit prices were available, the estimated unit price was used. This unit pricing was incorporated into major items that could be quantified. Allowances were included in each project estimate to create a total cost for each identified project and to create a baseline estimate for projects which are similar in nature, such as storage tank coating or PRV replacement. Projects such as well or pump station rehabilitation and emergency generator installation are unique to the size of the pumps, flow rates, horsepower, and electrical demands in both MDD and WDD conditions. These variations make generalizing project costs difficult and produce inaccurate results. For this reason, well pump, pump station, and emergency generator projects have been identified separately and individual budgets have been created.

Emergency generators typically have an integral fuel storage tank capable of providing average run times for 12 – 24 hours depending on the engine load. In a prolonged outage, this may not be sufficient. It is recommended the District develop a plan for daily fueling or additional fuel storage capacity. Sizing of fuel tanks will depend on the expected outage duration, fuel demands for the anticipated outage, and desired frequency of fueling. Alternately, a central fuel storage facility may be considered with mobile fueling equipment and internal fuel delivery. Both options are accompanied by initial capital and periodic

maintenance costs. Initial budgetary costs are between \$10 - \$12 per gallon of fuel storage for fixed site storage.

6.0 10-YEAR CAPITAL IMPROVEMENT PLAN

Farr West produced an updated 10-year CIP for the District spanning the years 2021-2030. The 2021 CIP is largely based on information from the 2012 CIP, input from the District, and analysis performed as part of the project scope. Projects included in the CIP were established from the following sources:

- 1. Include 2012 CIP projects scheduled between the years 2012-2030 which have not been constructed. Exclude projects not completed within the 2012 CIP that were originally proposed to accommodate additional capacity to serve growth.
- 2. Add projects determined to be necessary resulting from the review of regulatory impacts or power outage analysis.
- 3. Incorporate additional projects as directed by the District.

Assumptions regarding project scope (for both specific and generic projects) were presented to and confirmed by the District. When evaluating the system during a 7-day power outage event, the assumption was that the system goal is to provide water to all customers during a power outage scenario. However, depending on the length of a power outage, supply to large irrigation services may be suspended. Service priority will be to provide water to all residential customers for domestic use during a power outage scenario. The District provided guidance on the remaining projects that were of higher priority. High priority projects not completed from the 2012 CIP include the Martiswoods pump station replacement and tower demolition, installing permanent stand-by generators at Martis Valley No. 1 Well, Donner Trails pump station, Soma Sierra pump station, and the West Palisades Hydropneumatic pump station.

The updated CIP incorporates the District's preferences for adding projects, project prioritization, and project frequency, including targeting three tank rehabilitations per year, two pump station rehabilitations each year, one well rehabilitation per year, and highest priority for the Martiswoods pump station replacement and other generator projects. Projects were prioritized using the following classifications:

- 1. High priority projects shall be considered critical to the continued operation of the water system and the ability of the District to provide water services to its customers.
- 2. Medium priority projects shall be considered necessary to comply with regulatory requirements and maintain the current condition of the existing water system assets.
- 3. Low priority projects represent all other projects shall be considered low priority.

6.1 PUMP STATIONS

Pump station projects were included in two categories: complete replacement, and pump and motor assembly replacement. Pump and motor replacements are included for all pump stations not being replaced during the 2021 CIP timeframe. Select pump stations have been chosen by the District to be completely replaced. Complete replacement includes replacement of buildings, pumps and motors, associated piping, valving, generators, meters, telemetry, VFDs, PLC, and SCADA systems to improve efficiency. Pump and motor replacement (whether as a standalone project or facility replacement) is assumed to require the same number of pumps and total horsepower for the pump station. Hydropneumatic pump stations were based on the skid mounted pump station example by R.F. MacDonald Company supplied by the District, as well as a permanent generator to ensure customer supply during a power outage event. Based on existing District generator inventory, it is assumed new generators will be Cummins brand and housed in a weatherproof enclosure not within a building.

As part of the 2012 CIP, the District had proposed to convert the existing Martiswoods pump station into a hydropneumatic pump station and demolish the Martiswoods Tower storage tank, as well as upgrade the West Palisades hydropneumatic pump station. Both projects are considered a high priority of the District and are proposed to be completed in 2021. To comply with regulatory impacts, the projects include the

installation of a permanent stand-by generator. Additional pump station projects requested by the District include rehabilitation of the Pinnacle hydropneumatic pump station and Innsbruck pump station, proposed to be completed in 2025 and 2029, respectively. The construction costs for the projects mentioned include specific individual budgets.

The Donner Trails and Soma Sierra pump stations emergency power is currently served by a mobile, trailer mounted generator. Installing permanent stand-by generators at both sites was proposed as part of the 2012 CIP. Since the District owns existing trailer mounted generators dedicated to these facilities, the District should investigate the possibility of converting the trailer mounted generator units to permanent units. These two generators are sized for two of the larger pump stations within the system and would be oversized if used as mobile, trailer mounted generators. The District could possibly purchase a new mobile generator that could be smaller in size. Nevertheless, the cost estimate for a permanent generator to be installed at both sites in 2021 is based on the purchase of a new generator.

It is recommended the District install a new permanent generator at the Gateway Hydropneumatic pump station to prepare for Public Safety Power Shutoffs. This project is considered to stem from regulatory changes and is proposed to be completed in 2021.

6.2 STORAGE TANKS

Storage tank rehabilitation can include internal and external coating replacement, various appurtenance maintenance, or structural and seismic upgrades to meet current seismic code. Current tank conditions are unknown and individual assessments were not performed for this technical memorandum. A generic approach based on the average size tank in the system was utilized to determine rehabilitation costs per year.

The District's system currently has 31 active storage tanks which range in capacity from 100,000 gallons to 1,500,000 gallons. The average tank capacity is 240,000 gallons. The storage tank inventory excludes Martiswoods Tower, which is planned for demolition when the Martiswoods pump station is converted to a hydropneumatic pump station. Of the 31 tanks in the system, 24 were constructed prior to 1990. Storage tanks within this category are assumed to require both interior and exterior coating, as well as seismic retrofitting, and are planned for rehabilitation at the rate of three per year from 2021 to 2028. The six tanks constructed between 1990 to 1999 are assumed to only need interior and exterior coatings. The tanks are planned for rehabilitation at three per year in 2029 and 2030. The two tanks constructed after 2000 are not included in the 10-year CIP.

It is recommended the District implement a storage tank condition assessment program prior to prioritizing older tanks for rehabilitation due to lack of condition records. The program should include, but is not limited to, assessing the exterior coating by performing adhesion and lead paint tests, examining the roof for rusted areas, and performing a dive inspection to assess the interior coating condition. The District should rehabilitate and retrofit individual tanks as part of one project to minimize disturbance on new tank coatings and facilities.

6.3 WELL SITES

Well rehabilitation can vary from pump and motor replacement to full above ground facility replacement. Full facility replacements include the pump, motor, and cable assembly as well as any above ground facilities including the building and sodium hypochlorite dosing system.

It is assumed only potable wells will require any rehabilitation. Generator additions and rehabilitation can vary from installing generators at critical facilities for emergency power to general maintenance. Based on existing District generator inventory, it is assumed new generators will be Cummins brand and housed in a weatherproof enclosure, not within a building.

The District identified that the Northside Well and Sanders Well are planned for above ground facility replacements in 2023 and 2027, respectively. During facility replacement, it is assumed the existing pumps

and motors will be replaced and have been factored into the cost estimate. The Airport Well's well bore and casing are not completely vertical and there is significant offset in the casing. As a result, the Airport Well is on a five-year cycle for pump and motor replacement, which is proposed for rehabilitation in 2022 and 2027.

The eight remaining active potable wells in the system are each proposed to undergo a pump and motor replacement within the next 10 years. Cost estimates were formed based on three well capacity categories: 300 to 500 GPM, 600 to 1,000 GPM, and 1,200 to 1,500 GPM. Pump and motor replacements were prioritized based on well production rates, with the highest producing wells undergoing replacement in the earlier years. It is recommended the District evaluate the condition of each well site and prioritize rehabilitation based on the useful life of each pump and motor and reorder the project as needed.

6.4 PIPELINE REPLACEMENT

A condition assessment of existing pipeline infrastructure was not performed, and leak data was not provided. For planning purposes, replacement pipeline costs have been calculated for 4", 6", 8", 10", and 12" DR 14 Class 305 PVC C900 in residential neighborhoods with basic traffic control requirements and a fixed amount of service connections per linear foot of pipe.

The District currently accepts the installation of both PVC and ductile iron pipe. Table 13 compares the single bid item cost per linear foot between Ductile Iron and the District's preferred PVC pipe.

Table 13: Ductile Iron (DI) Pipe vs. DR 14 Class 305 C900 Cost Comparison

Description	Unit	PVC Cost	% Increase for DI	Ductile Iron Cost
4" Water Main	LF	\$76.00	74%	\$132.24
6" Water Main	LF	\$116.00	37%	\$158.92
8" Water Main	LF	\$170.00	29%	\$219.30
10" Water Main	LF	\$176.00	28%	\$225.28
12" Water Main	LF	\$208.00	24%	\$257.92

The proposed linear footage for each year that includes replacement projects was derived from the average length of pipeline replaced by the District between 2014 and 2018. These projects included installation of 8" and 12" water main at an average length of 3,300 LF and 550 LF, respectively. Table 14 compares the generic complete average cost to install a new water main. A detailed cost breakdown of the difference between water main sizes is included in Appendix E.

Table 14: All-In Average Cost for DR 14 C900 PVC Water Main Replacement

Description	Cost per LF	Notes
4" Water Main	\$564.87	Includes mobilization, pipe
6" Water Main	\$632.79	material, water services, fire
8" Water Main	\$648.75	hydrants, system connections, rock excavation, AC pavement
10" Water Main	\$734.66	and base material, miscellaneous
12" Water Main	\$738.51	work, and contingencies

It is recommended the District maintain the pipeline replacement program to comply with Making Conservation and CA Way of Life (AB 1668/SB 606) and limit system water loss through leaking infrastructure. It is also recommended the District evaluate the condition of each potential water main

replacement and prioritize rehabilitation based on the useful life and maintenance requirements and reorder the project as needed. The average length of pipe to derive the presented costs should be used with caution and economy of scale factors should be considered. If a project contains significantly less linear feet or other parameters change that will slow production, the average unit price will increase.

6.5 CONTROL VALVE STATIONS

The District currently has 40 control valve stations throughout the Truckee System, with six being inactive. The inactive control valves are not included in the 10-year CIP. The District provided a target budget of \$100,000 per year for control valve rehabilitation. Rehabilitations at a rate of four per year from 2021 to 2024 and three per year from 2025 to 2030 will allow the District to perform maintenance on all active control valves in the system while meeting the target budget.

The District had proposed three new Pressure Relief Valve (PRV) stations as part of the 2012 CIP. The Hirschdale PRV is proposed to be installed in conjunction with the Hirschdale connection pipeline in 2022. The Oberwald and Pathway PRV stations are proposed to be completed in 2023.

6.6 COST ESTIMATES AND BUDGET

Cost estimates for existing and new projects are based on 2020/2021 labor, equipment, and material costs. Projects proposed from 2022 to 2030 were applied with a year over year escalation factor of 4.0%. The District provided a target yearly budget of \$2,250,000 for CIP Projects. This target budget was intended as a guideline to use to distribute projects throughout the duration of the CIP. However, the CIP was developed primarily based on given factors (i.e. project requests, frequency, etc.) for the purposes of aligning with initial direction held by the District. The 2021 – 2030 Capital Improvement Project List is displayed in Table 15.

Based on discussion with District Staff, system buildout projections are less than estimated in the 2012 Water System Master Plan. Projects included in the 2021 CIP will address maintenance and operational needs of existing District infrastructure. Projects to address maintenance and operations needs are expected to be rate funded.

Calculated costs for all projects desired to be completed by the District in the 2021-2030 CIP greatly exceed the target budget. Average yearly cost of the 2021-2030 CIP is approximately \$7,000,000 including all projects, assumptions, and inflation. The average yearly cost is an equivalent cost representing a distribution of project costs evenly during the 10-year CIP period. Upon review and consideration by the District, the CIP may be revised, reordered, and modified to better align with District financial needs. Actual yearly expenditures for CIP projects could vary greatly from year to year based on District preference.

Appendix A **Upcoming Regulations**

F	Potential Regulatory Impacts for TDPUD CIP Planning						
Regulatory Origin	Nature of the Requirement	Timing of Requirement					
Local Regulations							
T-TSA/TSD	Temporary discharge permit to flush water mains into the sewer from TSD and TTSA (chlorine residual in excess of 100 mg/L prohibited - TTSA Ordinance 2-2015), neighborhoods with no sanitary sewer system will need to flush into water trucks for delivery to T-TSA	Ongoing					
Stormwater protection	Stormwater protection under an NPDES permit may be necessary to protect Truckee River	Ongoing					
State Regulations							
General Permit for Discharges from Drinking Water Systems	Permits discharge of drinking water for water system operation, maintenance, and construction	Ongoing					
Urban Water Management Plans (Water Code Section 10610-10656)	Water shortage contingency plan, water loss audits	1-Jul-2021					
Making Conservation a CA Way of Life (AB 1668/SB 606)	Proposed reporting requirements: Residential-Gallons Per Capita per Day (R-GPCPD)	Proposed					
Making Conservation a CA Way of Life (AB 1668/SB 606)	Urban Water Use Efficiency Standards	1-Jan-2021					
Making Conservation a CA Way of Life (AB 1668/SB 606)	Annual Water use reporting including estimated indoor and outdoor residential use, irrigation and landscaping dedicated meter readings, and water losses	1-Nov-2023					
Making Conservation a CA Way of Life (AB 1668/SB 606)	Additional water use efficiency standards to be developed and implemented. Water loss control can be addressed through four foundational approaches: Detecting and locating leaks, efficient responses to reported leaks, reducing operational pressure and pressure variations, and prioritizing infrastructure replacement	1-Jan-2027					
Making Conservation a CA Way of Life (AB 1668/SB 606)	Require Urban Retail Water Suppliers (URWS) to implement feasible technologies on a system-wide scale to effectively detect and locate leaks, prioritize infrastructure replacement and repair or replace infrastructure cost-effectively. For URWS's that opt for pressure management in part or whole of their system, large-scale implementation of pressure management will be expected in this phase.	2028 - 2035					

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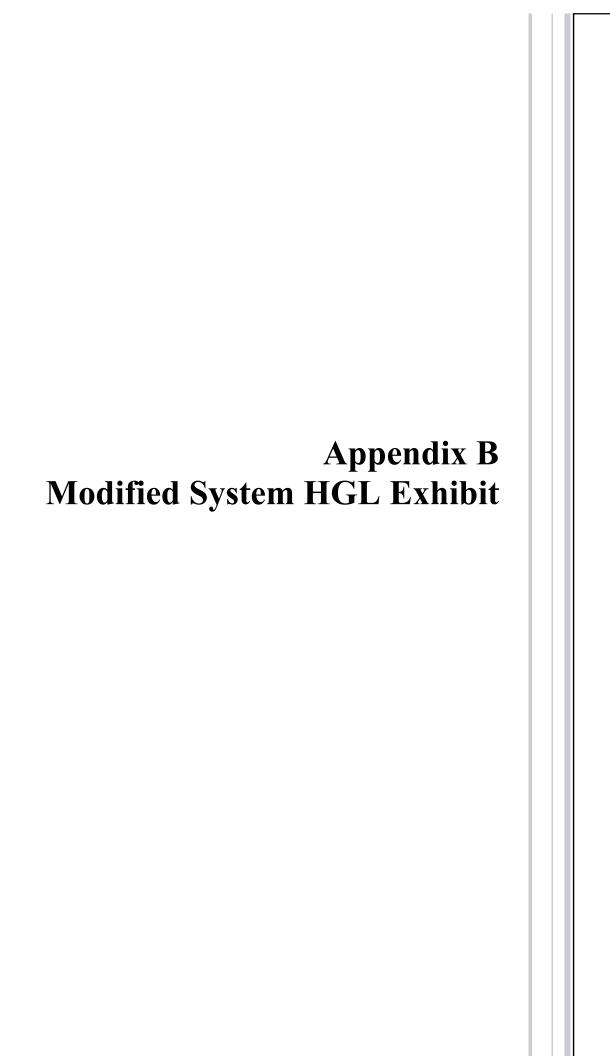
Potential Regulatory Impacts for TDPUD CIP Planning					
Regulatory Origin	Nature of the Requirement	Timing of Requirement			
Making Conservation a CA Way of Life (AB 1668/SB 606)	a CA Way of Life (AB 1668/SB 606) (AB 1668/SB 606) components. From 2036 onwards, URWS's would be required to comply with their final allowable water loss volume on a three-year average basis with a maximum allowed deviation of 5%				
2019 Legislative Proposals					
AB 1204	Adoption or amendment of primary drinking water				
2020 Legislative Proposals - Water Related					
SB 19	Stream Gages: DWR and SWRCB	Unknown			
SB 134	Water conservation/water losses. Would prohibit the board from issuing an information order, written notice, or conservation order to an urban retail water supplier that does not meet its urban water use objective if the board determines the URWS is not meeting its urban water use objective solely because the volume of water loss exceeds the urban retail water supplier's standard for water loss and the board is taking enforcement action against the urban retail water supplier for not meeting the performance standards for the volume of water losses.	Unknown			
SB 646	Local agency utility services: extension of utility services. Would revise the definition of "fee" to mean a fee for the physical facilities necessary to make a water connection or sewer connection, and that the estimated reasonable cost of labor and materials for installation of those facilities bears a fair or reasonable relationship to the payor's burdens on, or benefits received from, the water connection or sewer connection.	Unknown			
SB 779	Bill would authorize the SWRCB board, after a hearing, to change any other provision or condition of a permit or licenses to appropriate water.				
SB 946	Local Flood Protection Plans requirement	Unknown			
SB 996	SWRCB: Constituents of emerging concern- water quality standards	Unknown			
AB 352	Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2020	Unknown			

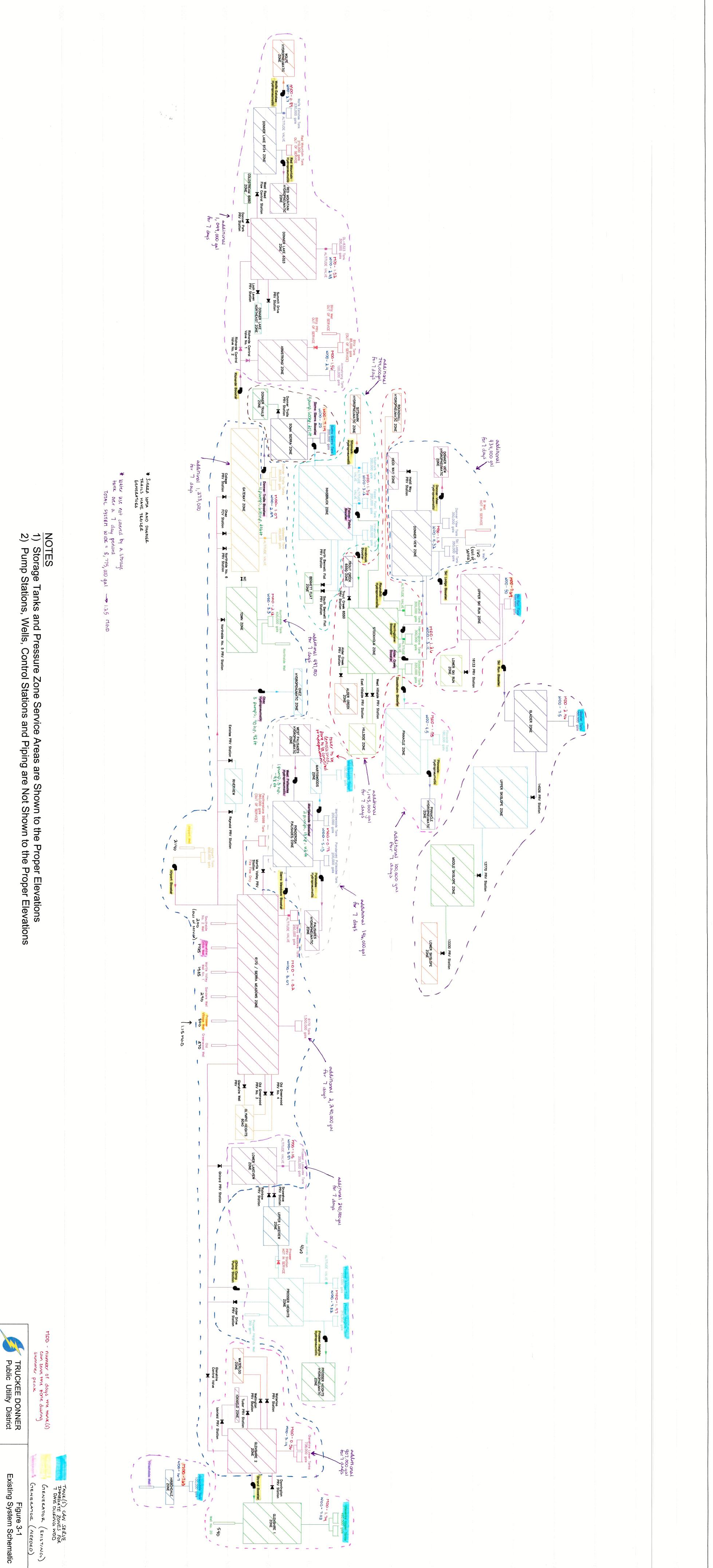
Farr West Engineering 2 Truckee-Donner PUD

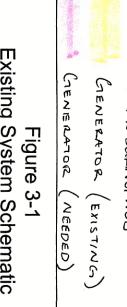
Potential Regulatory Impacts for TDPUD CIP Planning							
Regulatory Origin	Nature of the Requirement	Timing of Requirement					
AB 756/AB 841	Public water systems: perfluoroalkyl substances and polyfluoroalkyl substances.	Unknown					
AB 1180	Water, recycled water: backflow prevention requirements	SWRCB make regs prior to 1/1/2023: under Title 22 CCR					
AB 1414							
AB 1432	Water Shortage Emergency: water supplier can declare a shortage in emergency conditions of wildfire w/out a hearing	Unknown					
AB 1588	AB 1588 Drinking water and wastewater operator certification programs. Gives reciprocity/equivalence for military status in hiring						
AB 2060	Drinking water: pipes and fittings, lead content. Would define "lead free," for purposes of manufacturing, industrial processing, or conveying or dispensing water for human consumption, to mean not more than one microgram of lead under certain tests and meeting a specified certification when used with respect to enduse devices.	Unknown					
AB 2324	Proposes to repeal current provisions requiring DWR to make recommendations to SWRCB for studies and investigations and report to legislature by 1/1/2020.						
2020 Legislative Proposals - Electrical Related							
SB 49	Energy: appliance standards and State Water Project assessment	Assessment and recommendations be provided to the appropriate policy committees of the Legislature before January 1, 2022.					
SB 70/SB 167	Electricity: undergrounding of electrical infrastructure, wildfire mitigation plan	Unknown					

Farr West Engineering 3 Truckee-Donner PUD

Potential Regulatory Impacts for TDPUD CIP Planning						
Regulatory Origin	Regulatory Origin Nature of the Requirement					
SB 774	Electricity: microgrids. Would require each electrical corporation to collaborate with the Office of Emergency Services, and local governments and other interested parties in its service territory, to identify locations where sources of back-up electricity may provide increased electrical distribution grid resiliency	Unknown				
AB 2182	AB 2182 Emergency back up generators: water and wastewater facilities exempt from regulation EXCEPT by the NFPA 110 standards					
Federal Changes						
US EPA	Water quality standards changes including perchlorate levels	Currently Ongoing				
US EPA Clean Water Act	Changes to definition of "Waters of the United States"	Currently Ongoing				





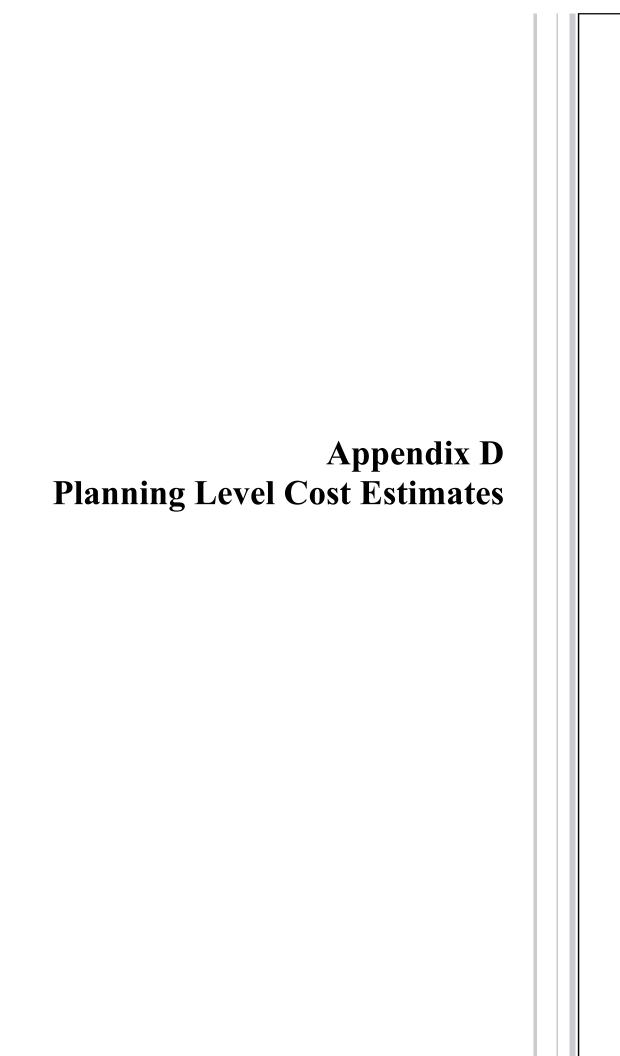


Appendix C System Storage Assessment

		IVIAN DAT DEIVI	AND AND STORAG			-		
				* TANKS AT FUL	L CAPACITY		* HALF	CAPACITY
Tank	Zone	Total Storage Capacity (MG)	MDD (MGD)	Total MDD (MGD)	MDD Days	Additional MDD Volume (MG)	MDD Days	Additional MDE Volume (MG)
	6170/Sierra Meadows		1.328					
6170, Sierra Meadows	6040/Olympic Heights	2	0.205	1.700	4.02	10.15	0.51	11.03
6170, Sierra Meadows	Riverview	2	0.166	1.700	1.03	10.15	0.51	11.05
	Gateway/Chez Hydro		0.001					
Northside	Town	0.40	0.189	0.189	2.12	0.92	1.06	1.12
Gateway, Donner Trails	Gateway	0.75	0.700	0.700	1.07	4.15	0.54	4.53
Armstrong	Armstrong	0.10	0.064	0.064	1.56	0.35	0.78	0.40
	Donner Lake-6323		0.108					
DL-6323	Donner Lake-NE	0.30	0.066	0.198	1.52	1.09	0.76	1.24
	Coldstream 6080		0.024					
	Donner Lake-6124		0.260					
Wolf Estates	Red Mountain Hydro	0.23	0.004	0.275	0.84	1.70	0.42	1.81
	Wolfe Hydro		0.011					
	Innsbruck		0.388					
Sitzmark, Falcon Point,	Sitzmark Hydro	0.60	0.018	0.442	1.36	2.49	0.68	2.79
Innsbruck	Bennett Flat	 	0.036					
	Stockholm		0.615	1	1.26	4.20		4.66
	Trout Creek 6550	 	0.003					
Roundhill, Herringbone,	Alder Creek	0.92	0.012	0.731			0.63	
Stockholm	Hillside		0.100	1				
	Roundhill Hydro		0.001					
Pinnacle	Pinnacle	0.40	0.080	0.116	1.55	0.50	0.78	0.70
	Pinnacle Hydro	0.18	0.036			0.63		0.72
	Donner View		0.414	0.465	1.51		0.75	2.91
Donner View, Ski Lodge	Heidi Way	0.70	0.038			2.56		
,	Donner View Hydro		0.013					
Prosser Lakeview	Lower Lakeview	0.25	0.217	0.217	1.15	1.27	0.58	1.39
	Ponderosa Palisades		0.412					
	West Palisades Hydro	<u> </u>	0.005	0.512			0.39	3.384
Ponderosa Palisades ——	Palisades Hydro	0.40	0.032		0.78	3.18		
	Martiswoods		0.063					
	Glenshire 2		1.218					
Glenshire Lower	Waterloo	0.74	0.052	1.312	0.56	8.45	0.28	8.82
	Icknield		0.042		3.30			0.02
	Some Sierra		0.013					0.096
Soma Sierra	Donner Trails	0.20	0.015	0.028	7.14	-0.004	3.57	
	Upper Ski Run	1	0.000					
Ski Run	Lower Ski Run	0.10	0.013	0.013	7.69	-0.009	3.85	0.041
	Glacier	+	0.029					
	Upper Skislope	⊣	0.015	-				
Glacier	Middle Skislope	0.15	0.009	0.061	2.46	0.28	1.23	0.35
<u> </u>	Lower Skislope	 	0.008	-				
	Prosser Heights/Upper Lakeview	 	0.201					
osser Annex, Prosser Heights	Heights Hydro	0.43	0.017	0.22	1.97	1.10	0.99	1.31
Glenshire Upper	Glenshire 1	0.49	0.283	0.28	1.74	1.49	0.87	1.74
	Hirschdale		0.263	0.28	7.63			
Hirschdale	пітѕспиате	0.10		O Additional Production (-0.0083 6.28	3.82	0.042 6.91

			* TANKS AT FULL CAPACITY				
Tank	Zone	Total Storage Capacity (MG)	WDD (MGD)	Total WDD (MGD)	WDD Days	Additional WDI Volume (MG)	
	6170/Sierra Meadows		0.464				
6170 6: 14	6040/Olympic Heights		0.042	0.570	2.07	2.24	
6170, Sierra Meadows	Riverview	2	0.063	0.570	3.07	2.24	
	Gateway/Chez Hydro		0.001				
Northside	Town	0.40	0.121	0.121	3.31	0.45	
Gateway, Donner Trails	Gateway	0.75	0.289	0.289	2.60	1.27	
Armstrong	Armstrong	0.10	0.041	0.041	2.44	0.19	
, <u>s</u>	Donner Lake-6323	0.10	0.029	0.011	2.11	0.13	
DL-6323	Donner Lake-NE	0.30	0.037	0.121	2.48	0.55	
<u> </u>	Coldstream 6080		0.055	- 0.121	2.40	0.55	
	Donner Lake-6124		0.033				
Wolf Estates		0.23	0.002	0.085	2.71	0.37	
Woll Estates	Red Mountain Hydro	0.25		0.065	2.71	0.57	
	Wolfe Hydro		0.002				
Sitzmark, Falcon Point,	Innsbruck		0.172	0.192	3.13	0.74	
Innsbruck	Sitzmark Hydro	0.60	0.003			0.74	
	Bennett Flat		0.017				
Roundhill, Herringbone, Stockholm	Stockholm	4	0.257	0.295	3.12		
	Trout Creek 6550		0.001				
	Alder Creek	0.92	0.002			1.15	
	Hillside		0.034				
	Roundhill Hydro		0.001				
Pinnacle	Pinnacle	0.18	0.025	0.040	4.50	0.10	
1 mildere	Pinnacle Hydro	0.10	0.015	0.040	4.50	0.10	
	Donner View		0.135	0.162			
Donner View, Ski Lodge	Heidi Way	0.70	0.020		4.32	0.43	
	Donner View Hydro		0.007				
Prosser Lakeview	Lower Lakeview	0.25	0.070	0.070	3.57	0.24	
	Ponderosa Palisades		0.064		5.13		
Dandarasa Balisadas	West Palisades Hydro	0.40	0.001	7 0.070		0.15	
Ponderosa Palisades	Palisades Hydro	0.40	0.007	0.078		0.15	
	Martiswoods		0.006				
	Glenshire 2		0.220				
Glenshire Lower	Waterloo	0.74	0.009	0.235	3.14	0.91	
	Icknield		0.006				
	Some Sierra		0.007				
Soma Sierra	Donner Trails	0.20	0.003	0.010	20.00	-0.13	
	Upper Ski Run		0.000				
Ski Run	Lower Ski Run	0.10	0.002	0.002	50.00	-0.086	
	Glacier		0.009				
	Upper Skislope	 	0.009	⊣ Ⅱ			
Glacier	Middle Skislope	0.15	0.000	0.020	7.50	-0.01	
	Lower Skislope	 	0.002	 			
	·	+	0.003	+			
osser Annex, Prosser Heights	Prosser Heights/Upper Lakeview Heights Hydro	0.43	0.049	0.055	7.82	-0.045	
Glenshire Upper	Glenshire 1	0.49	0.070	0.070	7.03	-0.002	
Hirschdale	Hirschdale	0.10	0.006	0.006	16.67	-0.058	

		TAGE 3 WATER CONSERVA	_			ION	4	CADACITY	
			<u>* T/</u>	NKS AT FULL CAPACITY	STAGE 3 CONSERVAT	<u>ION</u>	* HALF	CAPACITY	
Tank	Zone	Total Storage Capacity (MG)	S3C (MGD)	Total S3C (MGD)	S3C Days	Additional S3C Volume (MG)	S3C Days	Additional S30 Volume (MG)	
	6170/Sierra Meadows		1.328						
C170 Siarra Mandaura	6040/Olympic Heights		0.205	1.10	1 47	6.50	0.74	7.46	
6170, Sierra Meadows	Riverview	2	0.166	1.19	1.47	6.58	0.74	7.46	
Northside	Gateway/Chez Hydro		0.001						
Northside	Town	0.40	0.189	0.13	3.02	0.53	1.51	0.73	
Gateway, Donner Trails	Gateway	0.75	0.700	0.49	1.53	2.68	0.77	3.06	
Armstrong	Armstrong	0.10	0.064	0.04	2.23	0.21	1.12	0.26	
Ğ	Donner Lake-6323		0.108						
DL-6323	Donner Lake-NE	0.30	0.066	0.14	2.16	0.67	1.08	0.82	
DL-0323	Coldstream 6080		0.024						
	Donner Lake-6124		0.260						
Wolf Estates	Red Mountain Hydro	0.23	0.004	0.19	1.19	1.12	0.60	1.23	
	Wolfe Hydro		0.011	-					
	Innsbruck		0.388						
Sitzmark, Falcon Point, Innsbruck	Sitzmark Hydro	0.60	0.018	0.31	1.94	1.57	0.97	1.87	
	Bennett Flat		0.036	0.51				1.07	
	Stockholm		0.615						
Roundhill, Herringbone,	Trout Creek 6550		0.003	0.512					
	Alder Creek	0.92	0.003		1.80	2.66	0.90	3.12	
Stockholm	Hillside	0.92	0.100						
	Roundhill Hydro	<u> </u>	0.001						
	Pinnacle		0.080						
Pinnacle	Pinnacie Pinnacie Hydro	0.18	0.080	0.08	2.22	0.39	1.11	0.48	
	·								
Donner View Chi Lodge	Donner View	0.70	0.414 0.038	0.33	2.15	1.58	1.08	1.02	
Donner View, Ski Lodge	Heidi Way Donner View Hydro	0.70	0.038	0.55		1.58	1.08	1.93	
Prosser Lakeview	Lower Lakeview	0.25	0.217	0.15	1.65	0.81	0.82	0.94	
Prosser Lakeview	Ponderosa Palisades	0.25		0.15	1.05	0.81	0.82	0.94	
			0.412 0.005	0.36	1.12	2.11	0.56	2.3088	
Ponderosa Palisades ——	West Palisades Hydro	0.40							
	Palisades Hydro		0.032						
	Martiswoods		0.063						
Clarabina Lavran	Glenshire 2		1.218	0.02	0.80	5.69	0.40	6.06	
Glenshire Lower	Waterloo	0.74	0.052	0.92				6.06	
	Icknield		0.042						
Soma Sierra	Some Sierra	0.20	0.013	0.02	10.20	-0.0628	5.10	0.0372	
	Donner Trails		0.015						
Ski Run	Upper Ski Run	0.10	0.000	0.01	10.99	-0.0363	5.49	0.0137	
	Lower Ski Run		0.013						
<u> </u>	Glacier	⊣	0.029	_					
Glacier	Upper Skislope	0.15	0.015	0.04	3.51	0.15	1.76	0.22	
	Middle Skislope		0.009		5.51	5.15	2.70	0.22	
	Lower Skislope		0.008						
osser Annex, Prosser Heights	Prosser Heights/Upper Lakeview	0.43	0.201	0.15	2.82	0.64	1.41	0.85	
	Heights Hydro		0.017						
Glenshire Upper	Glenshire 1	0.49	0.283	0.20	2.48	0.89	1.24	1.14	
Hirschdale	Hirschdale	0.10	0.013	0.01	10.91	-0.03581	5.45	0.014	



Martiswoods Pump Station Replacement/Remove Tower						
Item	Quantity	Unit	Description	Unit Price		Total Price
1	1	LS	Mob/Demob	5%	\$	23,750.00
2	1	LS	Demo Exist Tower	\$ 50,000.00	\$	50,000.00
3	1	LS	Sitework	\$ 40,000.00	\$	40,000.00
4	1	LS	Hydropneumatic Pump Stataion	\$ 180,000.00	\$	180,000.00
5	240	SF	Pump Station Building	\$ 500.00	\$	120,000.00
6	1	LS	Emergency Generator	\$ 35,000.00	\$	35,000.00
7	1	LS	Electrical	\$ 50,000.00	\$	50,000.00
8					\$	-
9					\$	-
10					\$	-
11					\$	-
12					\$	-
13					\$	-
14		•			\$	-

Total Construction Estimate	\$	498,750.00
Contingency (10%)	\$	49,875.00
Engineering/Planning (10%)	\$	49,875.00
Engineering Inspection (20%)	\$	119,700.00
Land Acquisition	\$	-
Legal (5%)	\$	24,937.50
Permitting (5%)	\$	24,937.50
TOTAL	Ś	768,075.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

Install Standby Generator at Martis Valley Well						
Item	Quantity	Unit	Description	Unit Price	Total Price	
1	1	LS	Mob/Demob	5%	\$ 13,250.00	
2	1	LS	Sitework	\$ 15,000.00	\$ 15,000.00	
3	1	LS	350 kW Generator	\$ 220,000.00	\$ 220,000.00	
4	1	LS	Electrical	\$ 30,000.00	\$ 30,000.00	
5					\$ -	
6					\$ -	
7					\$ -	
8					\$ -	
9					\$ -	
10					\$ -	
11					\$ -	
12					\$ -	
13					\$ -	
14		·			\$ -	

Total Construction Estimate	\$ 278,250.00
Contingency (10%)	\$ 27,825.00
Engineering/Planning (10%)	\$ 27,825.00
Engineering Inspection (20%)	\$ 66,780.00
Land Acquisition	\$ -
Legal (5%)	\$ 13,912.50
Permitting (5%)	\$ 13,912.50
TOTAL	\$ 428,505.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

Install Standby Generator at Donner Trails and Soma Sierra						
Item	Quantity	Unit	Description	Unit Price	Total Price	
1	1	LS	Mob/Demob	5%	\$ 42,000.00	
2	1	LS	Sitework - Donner	\$ 50,000.00	\$ 50,000.00	
3	1	LS	Sitework - Soma Sierra	\$ 50,000.00	\$ 50,000.00	
4	1	LS	550 kW Emergency Generator - Donner	\$ 300,000.00	\$ 300,000.00	
5	1	LS	550 kW Emergency Generator - Soma Sierra	\$ 300,000.00	\$ 300,000.00	
6	1	LS	Electrical - Donner	\$ 70,000.00	\$ 70,000.00	
7	1	LS	Electrical - Soma Sierra	\$ 70,000.00	\$ 70,000.00	
8					\$ -	
9					\$ -	
10					\$ -	
11					\$ -	
12					\$ -	
13					\$ -	
14					\$ -	
15				_	\$ -	

Total Construction Estimate	\$ 882,000.00
Contingency (10%)	\$ 88,200.00
Engineering/Planning (10%)	\$ 88,200.00
Engineering Inspection (20%)	\$ 211,680.00
Land Acquisition	\$ -
Legal (5%)	\$ 44,100.00
Permitting (5%)	\$ 44,100.00
TOTAL	\$ 1,358,280.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	West Palisades Hydropnuematic Pump Station Upgrade						
Item	Quantity	Unit	Description	Unit Price	Total Price		
1	1	LS	Mob/Demob	5%	\$ 14,500.00		
2	1	LS	Demolition	\$ 30,000.00	\$ 30,000.00		
3	1	LS	Sitework	\$ 30,000.00	\$ 30,000.00		
4	1	LS	New Pump Station in Vault	\$ 165,000.00	\$ 165,000.00		
5	1	LS	Emergency Generator	\$ 25,000.00	\$ 25,000.00		
6	1	LS	Electrical	\$ 40,000.00	\$ 40,000.00		
7					\$ -		
8					\$ -		
9					\$ -		
10					\$ -		
11					\$ -		
12					\$ -		
13					\$ -		
14					\$ -		

Total Construction Estimate	\$ 304,500.00
Contingency (10%)	\$ 30,450.00
Engineering/Planning (10%)	\$ 30,450.00
Engineering Inspection (20%)	\$ 73,080.00
Land Acquisition	\$ -
Legal (5%)	\$ 15,225.00
Permitting (5%)	\$ 15,225.00
TOTAL	\$ 468,930.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Install Standby Generator at Gateway Hydro PS						
Item	Quantity	Unit	Description	Unit Price	Total Price		
1	1	LS	Mob/Demob	5%	\$ 4,750.00		
2	1	LS	Sitework	\$ 10,000.00	\$ 10,000.00		
3	1	LS	80 kW Generator	\$ 65,000.00	\$ 65,000.00		
4	1	LS	Electrical	\$ 20,000.00	\$ 20,000.00		
5					\$ -		
6					\$ -		
7					\$ -		
8					\$ -		
9					\$ -		
10					\$ -		
11					\$ -		
12					\$ -		
13					\$ -		
14					\$ -		

Total Construction Estimate	\$ 99,750.00
Contingency (10%)	9,975.00
Engineering/Planning (10%)	\$ 9,975.00
Engineering Inspection (20%)	\$ 23,940.00
Land Acquisition	\$ -
Legal (5%)	\$ 4,987.50
Permitting (5%)	\$ 4,987.50
TOTAL	\$ 153,615.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Hirschdale Connection Pipeline							
Item	Quantity	Unit	Description	l	Jnit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	12,480.72	
2	2003	LF	4" Water Main	\$	76.00	\$	152,228.00	
3	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00	
4	40	HRS	Rock Excavation	\$	1,500.00	\$	60,000.00	
5	500	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	12,500.00	
6	1	LS	All Other Work Required by the Contract Documents	\$	11,886.40	\$	11,886.40	
7						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11						\$	-	

Total Construction Estimate	\$ 262,095.12
Contingency (10%)	\$ 26,209.51
Engineering/Planning (10%)	\$ 26,209.51
Engineering Inspection (20%)	\$ 62,902.83
Land Acquisition	\$ -
Legal (5%)	\$ 13,104.76
Permitting (5%)	\$ 13,104.76
TOTAL	\$ 403.626.48

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Hirschdale PRV						
Item	Quantity	Unit	Description	Į	Unit Price		Total Price
1	1	LS	Mob/Demob		5%	\$	1,883.75
2	1	LS	4" PRV	\$	27,000.00	\$	27,000.00
3	4	HRS	Rock Excavation	\$	1,500.00	\$	6,000.00
4	50	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	1,250.00
5	1	LS	All Other Work Required by the Contract Documents	\$	3,425.00	\$	3,425.00
6						\$	-
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
13						\$	-
14						\$	-
15		·				\$	-

Total Construction Estimate	\$ 39,558.75
Contingency (10%)	\$ 3,955.88
Engineering/Planning (10%)	\$ 3,955.88
Engineering Inspection (20%)	\$ 9,494.10
Land Acquisition	\$ -
Legal (5%)	\$ 1,977.94
Permitting (5%)	\$ 1,977.94
TOTAL	\$ 60,920.48

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline from across Donner Pass Rd to South of Fire Station 92						
Item	Quantity	Unit	Description	Unit Price Total Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	9,143.75
2	550	LF	8" Water Main	\$	170.00	\$	93,500.00
3	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	11,916.67
4	28	HRS	Rock Excavation	\$	1,500.00	\$	41,250.00
5	2750	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	27,500.00
6	1	LS	All Other Work Required by the Contract Documents	\$	8,708.33	\$	8,708.33
7						\$	-
8						\$	-
9						\$	-
10						\$	-
11						\$	-

Total Construction Estimate	\$	192,018.75
Contingency (10%)	\$	19,201.88
Engineering/Planning (10%)	\$	19,201.88
Engineering Inspection (20%)	\$	46,084.50
Land Acquisition	\$	-
Legal (5%)	\$	9,600.94
Permitting (5%)	\$	9,600.94
TOTAL	Ś	295.708.88

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline from Royal Way to Royal Crest Extension						
Item	Quantity	Unit	Description	l	Jnit Price		Total Price
1	1	LS	Mob/Demob		5%	\$	20,107.50
2	1500	LF	8" Water Main	\$	170.00	\$	255,000.00
3	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00
4	75	HRS	Rock Excavation	\$	1,500.00	\$	112,500.00
5	100	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	2,500.00
6	1	LS	All Other Work Required by the Contract Documents	\$	19,150.00	\$	19,150.00
7						\$	-
8						\$	-
9						\$	-
10						\$	-
11					•	\$	-

Total Construction Estimate	\$ 422,257.50
Contingency (10%)	\$ 42,225.75
Engineering/Planning (10%)	\$ 42,225.75
Engineering Inspection (20%)	\$ 101,341.80
Land Acquisition	\$ -
Legal (5%)	\$ 21,112.88
Permitting (5%)	\$ 21,112.88
TOTAL	\$ 650.276.55

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline from Sitzmark to Mougle Lane to extend Sitzmark Hydro Zone							
Item	Quantity	Unit	Description	Unit Price To		Total Price		
1	1	LS	Mob/Demob		5%	\$	6,107.50	
2	425	LF	8" Water Main	\$	170.00	\$	72,250.00	
3	1	EA	Connection to Existing Pipe	\$	6,500.00	\$	9,208.33	
4	21	HRS	Rock Excavation	\$	1,500.00	\$	31,875.00	
5	120	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	3,000.00	
6	1	LS	All Other Work Required by the Contract Documents	\$	5,816.67	\$	5,816.67	
7						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11						\$	-	

Total Construction Estimate	\$ 128,257.50
Contingency (10%)	\$ 12,825.75
Engineering/Planning (10%)	\$ 12,825.75
Engineering Inspection (20%)	\$ 30,781.80
Land Acquisition	\$ -
Legal (5%)	\$ 6,412.88
Permitting (5%)	\$ 6,412.88
TOTAL	\$ 197.516.55

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Replace Cross Country Pipeline Between Schussing Way & St Bernard Drive							
Item	Quantity	Unit	Description	Unit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	8,203.13	
2	475	LF	8" Water Main	\$	170.00	\$	80,750.00	
3	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00	
4	40	HRS	Rock Excavation	\$	1,500.00	\$	60,000.00	
5	100	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	2,500.00	
6	1	LS	All Other Work Required by the Contract Documents	\$	7,812.50	\$	7,812.50	
7						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11		•				\$	-	

Total Construction Estimate	\$ 172,265.63
Contingency (10%)	\$ 17,226.56
Engineering/Planning (10%)	\$ 17,226.56
Engineering Inspection (20%)	\$ 41,343.75
Land Acquisition	\$ -
Legal (5%)	\$ 8,613.28
Permitting (5%)	\$ 8,613.28
TOTAL	\$ 265,289.06

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

Airport Well Pump & Motor Replacement						
Item	Quantity	Unit	Description	Unit Price		Total Price
1	1	LS	Mob/Demob	5%		\$ 4,700.00
2	4	EA	Remove Existing Pumps	\$ 5,000.0	00	\$ 20,000.00
3	4	EA	Install New Pump/Motors	\$ 16,000.0	00	\$ 64,000.00
4	1	LS	Electrical	\$ 10,000.0	00	\$ 10,000.00
5						\$ -
6						\$ -
7						\$ -
8						\$ -
9						\$ -
10						\$ -
11						\$ -
12						\$ -

Total Construction Estimate	\$ 98,700.00
Contingency (10%)	\$ 9,870.00
Engineering/Planning (10%)	\$ 9,870.00
Engineering Inspection (20%)	\$ 23,688.00
Land Acquisition	\$ -
Legal (5%)	\$ 4,935.00
Permitting (5%)	\$ 4,935.00
TOTAL	\$ 151,998.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Oberwald PRV Site Piping						
Item	Quantity	Unit	Description	U	Init Price		Total Price
1	1	LS	Mob/Demob		5%	\$	1,666.50
2	100	LF	8" Site Piping	\$	150.00	\$	15,000.00
3	1	EA	Tie in to Existing Piping	\$	6,300.00	\$	6,300.00
4	2	HRS	Rock Excavation	\$	1,500.00	\$	3,000.00
5	600	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	6,000.00
6	1	LS	All Other Work Required by the Contract Documents	\$	3,030.00	\$	3,030.00
7						\$	-
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
13						\$	-
14		·				\$	-

Total Construction Estimate	\$ 34,996.50
Contingency (10%)	\$ 3,499.65
Engineering/Planning (10%)	\$ 3,499.65
Engineering Inspection (20%)	\$ 8,399.16
Land Acquisition	\$ -
Legal (5%)	1,749.83
Permitting (5%)	\$ 1,749.83
TOTAL	\$ 53,894.61

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Oberwald PRV						
Item	Quantity	Unit	Description	U	Unit Price		Total Price
1	1	LS	Mob/Demob		5%	\$	2,598.75
2	1	LS	6" PRV (No 2" Bypass)	\$	40,000.00	\$	40,000.00
3	4	HRS	Rock Excavation	\$	1,500.00	\$	6,000.00
4	50	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	1,250.00
5	1	LS	All Other Work Required by the Contract Documents	\$	4,725.00	\$	4,725.00
6						\$	-
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
13						\$	-
14						\$	-
15		•				\$	-

Total Construction Estimate	\$	54,573.75
Contingency (10%)	\$	5,457.38
Engineering/Planning (10%)	\$	5,457.38
Engineering Inspection (20%)	\$	13,097.70
Land Acquisition	\$	-
Legal (5%)	\$	2,728.69
Permitting (5%)	\$	2,728.69
TOTAL	Ś	84.043.58

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Pathway PRV Site Piping						
Item	Quantity	Unit	Description	U	Init Price		Total Price
1	1	LS	Mob/Demob		5%	\$	1,666.50
2	100	LF	8" Site Piping	\$	150.00	\$	15,000.00
3	1	EA	Tie-in to Existing Piping	\$	6,300.00	\$	6,300.00
4	2	HRS	Rock Excavation	\$	1,500.00	\$	3,000.00
5	600	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	6,000.00
6	1	LS	All Other Work Required by the Contract Documents	\$	3,030.00	\$	3,030.00
7						\$	-
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
13						\$	-
14						\$	-

Total Construction Estimate	\$	34,996.50
Contingency (10%)	\$	3,499.65
Engineering/Planning (10%)	\$	3,499.65
Engineering Inspection (20%)	\$	8,399.16
Land Acquisition	\$	-
Legal (5%)	\$	1,749.83
Permitting (5%)	\$	1,749.83
TOTAL	Ś	53.894.61

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Pathway PRV							
Item	Quantity	Unit	Description		Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	2,598.75	
2	1	LS	6" PRV (No 2" Bypass)	\$	40,000.00	\$	40,000.00	
3	4	HRS	Rock Excavation	\$	1,500.00	\$	6,000.00	
4	50	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	1,250.00	
5	1	LS	All Other Work Required by the Contract Documents	\$	4,725.00	\$	4,725.00	
6						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		·				\$	-	

Total Construction Estimate	\$	54,573.75
Contingency (10%)	\$	5,457.38
Engineering/Planning (10%)	\$	5,457.38
Engineering Inspection (20%)	\$	13,097.70
Land Acquisition	\$	-
Legal (5%)	\$	2,728.69
Permitting (5%)	\$	2,728.69
TOTAL	Ś	84,043.58

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Sitzmark Way to extend Sitzmark Zone								
Item	Quantity	Unit	Description	U	nit Price	Total Price			
1	1	LS	Mob/Demob		5%	\$	6,339.38		
2	300	LF	8" Water Main	\$	170.00	\$	51,000.00		
3	150	LF	2" PE Water Service Lateral	\$	85.00	\$	12,750.00		
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00		
5	1	EA	Connection to Existing Pipe	\$	6,500.00	\$	6,500.00		
6	15	HRS	Rock Excavation	\$	1,500.00	\$	22,500.00		
7	1500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	15,000.00		
8	1	LS	All Other Work Required by the Contract Documents	\$	6,037.50	\$	6,037.50		
9						\$	-		
10						\$	-		
11						\$	-		
12						\$	-		
13						\$	-		

Total Construction Estimate	\$	133,126.88
Contingency (10%)	\$	13,312.69
Engineering/Planning (10%)	\$	13,312.69
Engineering Inspection (20%)	\$	31,950.45
Land Acquisition	\$	-
Legal (5%)	\$	6,656.34
Permitting (5%)	\$	6,656.34
TOTAL	Ś	205.015.39

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Davos Drive to extend Stockholm Zone							
Item	Quantity	Unit	Description	ı	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	23,765.88	
2	1100	LF	8" Water Main	\$	170.00	\$	187,000.00	
3	550	LF	2" PE Water Service Lateral	\$	85.00	\$	46,750.00	
4	12	EA	Water Service	\$	3,250.00	\$	39,000.00	
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00	
6	4	EA	Connection to Existing Pipe	\$	6,500.00	\$	23,833.33	
8	55	HRS	Rock Excavation	\$	1,500.00	\$	82,500.00	
9	5500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	55,000.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	22,634.17	\$	22,634.17	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		•				\$	-	

Total Construction Estimate	\$ 499,083.38
Contingency (10%)	\$ 49,908.34
Engineering/Planning (10%)	\$ 49,908.34
Engineering Inspection (20%)	\$ 119,780.01
Land Acquisition	\$ -
Legal (5%)	\$ 24,954.17
Permitting (5%)	\$ 24,954.17
TOTAL	\$ 768.588.40

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Replace Cross Country Pipeline between Alder Creed Rd & Wolfgang Rd								
Item	Quantity	Unit	Description	U	nit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	8,459.06		
2	500	LF	8" Water Main	\$	170.00	\$	85,000.00		
3	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00		
4	40	HRS	Rock Excavation	\$	1,500.00	\$	60,000.00		
5	125	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	3,125.00		
6	1	LS	All Other Work Required by the Contract Documents	\$	8,056.25	\$	8,056.25		
7						\$	-		
8						\$	-		
9						\$	-		
10						\$	-		
11						\$	-		

Total Construction Estimate \$ 177,640.31 Contingency (10%) 17,764.03 Engineering/Planning (10%) \$ 17,764.03 \$ Engineering Inspection (20%) 42,633.68 \$ Land Acquisition Legal (5%) \$ 8,882.02 Permitting (5%) 8,882.02 \$ **TOTAL** 273,566.08

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Northside Well Facility Replacement							
Item	Quantity	Unit	Description	J	Jnit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	10,625.00	
2	1	LS	New Well & Pump (575 GPM) (No Well Rehab)	\$	25,000.00	\$	25,000.00	
3	1	LS	Sitework	\$	15,000.00	\$	15,000.00	
4	225	SF	New Well House	\$	500.00	\$	112,500.00	
5	1	LS	Chemical Dosing System	\$	25,000.00	\$	25,000.00	
6	1	LS	Electrical	\$	35,000.00	\$	35,000.00	
7						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11						\$	-	
12					•	\$	-	

Total Construction Estimate	\$ 223,125.00
Contingency (20%)	\$ 44,625.00
Engineering/Planning (10%)	\$ 22,312.50
Engineering Inspection (20%)	\$ 58,012.50
Land Acquisition	\$ -
Legal (5%)	\$ 11,156.25
Permitting (5%)	\$ 11,156.25
TOTAL	\$ 370,387.50

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	12" Pipeline in Glacier Way & Skislope Way							
Item	Quantity	Unit	Description	ı	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	40,660.81	
2	1750	LF	12" Water Main	\$	208.00	\$	364,000.00	
3	875	LF	2" PE Water Service Lateral	\$	85.00	\$	74,375.00	
4	13	EA	Water Service	\$	3,250.00	\$	42,250.00	
5	4	EA	Fire Hydrant	\$	9,300.00	\$	37,200.00	
6	6	EA	Connection to Existing Pipe	\$	6,500.00	\$	37,916.67	
8	88	HRS	Rock Excavation	\$	1,500.00	\$	131,250.00	
9	8750	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	87,500.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	38,724.58	\$	38,724.58	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15						\$	-	

Total Construction Estimate	\$	853,877.06
Contingency (10%)	\$	85,387.71
Engineering/Planning (10%)	\$	85,387.71
Engineering Inspection (20%)	\$	204,930.50
Land Acquisition	\$	-
Legal (5%)	\$	42,693.85
Permitting (5%)	\$	42,693.85
TOTAL	Ś	1.314.970.68

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Hansel Avenue Fire Hydrant Relocate							
Item	Quantity	Unit	Description	U	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	880.00	
2	2	EA	Relocate Fire Hydrants	\$	6,000.00	\$	12,000.00	
3	2	HRS	Rock Excavation	\$	1,500.00	\$	3,000.00	
4	40	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	1,000.00	
5	1	LS	All Other Work Required by the Contract Documents	\$	1,600.00	\$	1,600.00	
6						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15						\$	-	

Total Construction Estimate	\$ 18,480.00
Contingency (10%)	\$ 1,848.00
Engineering/Planning (10%)	\$ 1,848.00
Engineering Inspection (20%)	\$ 4,435.20
Land Acquisition	\$ -
Legal (5%)	\$ 924.00
Permitting (5%)	\$ 924.00
TOTAL	\$ 28,459.20

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

8" Pipeline from Martiswoods Tower to Kleckner Court								
Item	Quantity	Unit	Description	U	nit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	9,287.50	
2	650	LF	8" Water Main	\$	170.00	\$	110,500.00	
3	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	14,083.33	
4	33	HRS	Rock Excavation	\$	1,500.00	\$	48,750.00	
5	150	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	3,750.00	
6	1	LS	All Other Work Required by the Contract Documents	\$	8,666.67	\$	8,666.67	
7						\$	-	
8						\$	-	
9						\$	-	
10						\$	-	
11						\$	-	

Total Construction Estimate \$ 195,037.50 \$ Contingency (10%) 19,503.75 Engineering/Planning (10%) \$ 19,503.75 \$ Engineering Inspection (20%) 46,809.00 \$ Land Acquisition Legal (5%) \$ 9,751.88 9,751.88 Permitting (5%) \$ TOTAL \$ 300,357.75

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Change Pressure Zone of Services on Hansel Avenue										
Item	Quantity	Unit	Description	Unit Price		Unit Price		Unit Price			Total Price
1	1	LS	Mob/Demob		5%	\$	2,549.25				
2	6	EA	Water Service	\$	3,250.00	\$	19,500.00				
3	6	EA	3/4" PRV (Per Service)	\$	225.00	\$	1,350.00				
4	12	HRS	Rock Excavation	\$	1,500.00	\$	18,000.00				
5	300	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	7,500.00				
6	1	LS	All Other Work Required by the Contract Documents	\$	4,635.00	\$	4,635.00				
7						\$	-				
8						\$	-				
9						\$	-				

Total Construction Estimate \$ 53,534.25 Contingency (10%) \$ 5,353.43 Engineering/Planning (10%) \$ 5,353.43 Engineering Inspection (20%) 12,848.22 Land Acquisition \$ Legal (5%) \$ 2,676.71 \$ Permitting (5%) 2,676.71 TOTAL \$ 82,442.75

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	12" Pipeline in Skislope Way below Ski Lodge Tank Site							
Item	Quantity	Unit	Description	Į	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	33,277.13	
2	1500	LF	12" Water Main	\$	208.00	\$	312,000.00	
3	750	LF	2" PE Water Service Lateral	\$	85.00	\$	63,750.00	
4	6	EA	Water Service	\$	3,250.00	\$	19,500.00	
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00	
6	5	EA	Connection to Existing Pipe	\$	6,500.00	\$	32,500.00	
8	75	HRS	Rock Excavation	\$	1,500.00	\$	112,500.00	
9	7500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	75,000.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	31,692.50	\$	31,692.50	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		·				\$	-	

Total Construction Estimate	\$ 698,819.63
Contingency (10%)	\$ 69,881.96
Engineering/Planning (10%)	\$ 69,881.96
Engineering Inspection (20%)	\$ 167,716.71
Land Acquisition	\$ -
Legal (5%)	\$ 34,940.98
Permitting (5%)	\$ 34,940.98
TOTAL	\$ 1,076,182.22

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Skislope Way below Ski Lodge Tank Site							
Item	Quantity	Unit	Description	Į	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	12,565.44	
2	550	LF	8" Water Main	\$	170.00	\$	93,500.00	
3	275	LF	2" PE Water Service Lateral	\$	85.00	\$	23,375.00	
4	10	EA	Water Service	\$	3,250.00	\$	32,500.00	
5	1	EA	Fire Hydrant	\$	9,300.00	\$	9,300.00	
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	11,916.67	
8	28	HRS	Rock Excavation	\$	1,500.00	\$	41,250.00	
9	2750	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	27,500.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	11,967.08	\$	11,967.08	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		·				\$	-	

Total Construction Estimate	\$ 263,874.19
Contingency (10%)	\$ 26,387.42
Engineering/Planning (10%)	\$ 26,387.42
Engineering Inspection (20%)	\$ 63,329.81
Land Acquisition	\$ -
Legal (5%)	\$ 13,193.71
Permitting (5%)	\$ 13,193.71
TOTAL	\$ 406,366.25

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

Pinnacle Hydropnuematic Pump Station Upgrade							
Item	Quantity	Unit	Description	Ų	Jnit Price		Total Price
1	1	LS	Mob/Demob		5%	\$	9,000.00
2	1	LS	Sitework	\$	20,000.00	\$	20,000.00
3	1	LS	Hydropneumatic PS Skid	\$	50,000.00	\$	50,000.00
4	150	SF	New Pump Station Building	\$	500.00	\$	75,000.00
5	1	LS	Electrical	\$	35,000.00	\$	35,000.00
6						\$	-
7						\$	-
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
13						\$	-
14						\$	-

 Total Construction Estimate
 \$ 189,000.00

 Contingency (10%)
 \$ 18,900.00

 Engineering/Planning (10%)
 \$ 18,900.00

 Engineering Inspection (20%)
 \$ 45,360.00

 Land Acquisition
 \$

 Legal (5%)
 \$ 9,450.00

 Permitting (5%)
 \$ 9,450.00

 TOTAL
 \$ 291,060.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Northwoods Blvd to extend Donner View Zone								
Item	Quantity	Unit	Description	Unit Price		•	Total Price		
1	1	LS	Mob/Demob		5%	\$	11,053.88		
2	500	LF	8" Water Main	\$	170.00	\$	85,000.00		
3	250	LF	2" PE Water Service Lateral	\$	85.00	\$	21,250.00		
4	6	EA	Water Service	\$	3,250.00	\$	19,500.00		
5	1	EA	Fire Hydrant	\$	9,300.00	\$	9,300.00		
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00		
8	25	HRS	Rock Excavation	\$	1,500.00	\$	37,500.00		
9	2500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	25,000.00		
10	1	LS	All Other Work Required by the Contract Documents	\$	10,527.50	\$	10,527.50		
11						\$	-		
12						\$	-		
13						\$	-		
14						\$	-		
15						\$	-		

Total Construction Estimate	\$ 232,131.38
Contingency (10%)	\$ 23,213.14
Engineering/Planning (10%)	\$ 23,213.14
Engineering Inspection (20%)	\$ 55,711.53
Land Acquisition	\$ -
Legal (5%)	\$ 11,606.57
Permitting (5%)	\$ 11,606.57
TOTAL	\$ 357,482.32

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Rocky Lane to extend Donner Trail Hydro Zone							
Item	Quantity	Unit	Description	Į	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	32,332.13	
2	1500	LF	8" Water Main	\$	170.00	\$	255,000.00	
3	750	LF	2" PE Water Service Lateral	\$	85.00	\$	63,750.00	
4	18	EA	Water Service	\$	3,250.00	\$	58,500.00	
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00	
6	5	EA	Connection to Existing Pipe	\$	6,500.00	\$	32,500.00	
8	75	HRS	Rock Excavation	\$	1,500.00	\$	112,500.00	
9	7500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	75,000.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	30,792.50	\$	30,792.50	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		·				\$	-	

Total Construction Estimate	\$	678,974.63
Contingency (10%)	\$	67,897.46
Engineering/Planning (10%)	\$	67,897.46
Engineering Inspection (20%)	\$	162,953.91
Land Acquisition	\$	-
Legal (5%)	\$	33,948.73
Permitting (5%)	\$	33,948.73
TOTAL	Ś	1,045,620.92

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

6" Pipeline in McPhetres Street							
Item	Quantity	Unit	Description	Ų	Init Price		Total Price
1	1	LS	Mob/Demob		5%	\$	3,083.50
2	200	LF	6" Water Main	\$	116.00	\$	23,200.00
3	1	EA	Fire Hydrant	\$	9,300.00	\$	6,200.00
4	1	EA	Connection to Existing Pipe	\$	6,500.00	\$	4,333.33
5	10	HRS	Rock Excavation	\$	1,500.00	\$	15,000.00
6	1000	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	10,000.00
7	1	LS	All Other Work Required by the Contract Documents	\$	2,936.67	\$	2,936.67
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
			Tatal Canatu			۲	C4 752 50

Total Construction Estimate	\$	64,753.50
Contingency (10%)	\$	6,475.35
Engineering/Planning (10%)	\$	6,475.35
Engineering Inspection (20%)	\$	15,540.84
Land Acquisition	\$	-
Legal (5%)	\$	3,237.68
Permitting (5%)	\$	3,237.68
ΤΟΤΔΙ	¢	99 720 39

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Blueberry Rd and Purple Sage Rd to extend Palisades Hydro Zone						
Item	Quantity	Unit	Description	ı	Unit Price		Total Price
1	1	LS	Mob/Demob		5%	\$	12,029.94
2	550	LF	8" Water Main	\$	170.00	\$	93,500.00
3	275	LF	2" PE Water Service Lateral	\$	85.00	\$	23,375.00
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	11,916.67
8	28	HRS	Rock Excavation	\$	1,500.00	\$	41,250.00
9	2750	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	27,500.00
10	1	LS	All Other Work Required by the Contract Documents	\$	11,457.08	\$	11,457.08
11						\$	-
12						\$	-
13						\$	-
14						\$	-
15		·				\$	-

Total Construction Estimate	\$	252,628.69
Contingency (10%)	\$	25,262.87
Engineering/Planning (10%)	\$	25,262.87
Engineering Inspection (20%)	\$	60,630.89
Land Acquisition	\$	-
Legal (5%)	\$	12,631.43
Permitting (5%)	\$	12,631.43
TOTAL	Ś	389.048.18

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

Roundhill Drive Pressure Zone Changes						
Item	Quantity	Unit	Description	l	Init Price	Total Price
1	1	LS	Mob/Demob		5%	\$ 1,897.50
2	7	EA	Water Service	\$	3,250.00	\$ 22,750.00
3	2	HRS	Rock Excavation	\$	1,500.00	\$ 3,000.00
4	350	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$ 8,750.00
5	1	LS	All Other Work Required by the Contract Documents	\$	3,450.00	\$ 3,450.00
6						\$ -
7						\$ -
8					•	\$ -

TOTAL	Ļ	61.365.15
Permitting (5%)	\$	1,992.38
Legal (5%)	\$	1,992.38
Land Acquisition	\$	-
Engineering Inspection (20%)	\$	9,563.40
Engineering/Planning (10%)	\$	3,984.75
Contingency (10%)	\$	3,984.75
Total Construction Estimate	\$	39,847.50

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Connect Piping at Glenshire Drive & Somerset Drive						
Item	Quantity	Unit	Description	l	Jnit Price		Total Price
1	1	LS	Mob/Demob		5%	\$	1,860.00
2	20	LF	6" Water Main	\$	200.00	\$	4,000.00
3	1	LS	Pipe Fittings/Valve	\$	15,000.00	\$	15,000.00
4	2	HRS	Rock Excavation	\$	1,500.00	\$	3,000.00
5	200	SF	AC Pavement and Base (Small Patching)	\$	25.00	\$	5,000.00
6	1	LS	Traffic Control Allowance	\$	7,500.00	\$	7,500.00
7	1	LS	All Other Work Required by the Contract Documents	\$	2,700.00	\$	2,700.00
8						\$	-
9						\$	-
10						\$	-
11						\$	-
12						\$	-
13						\$	-
14						\$	-
15						\$	-

Total Construction Estimate	\$ 39,060.00
Contingency (10%)	\$ 3,906.00
Engineering/Planning (10%)	\$ 3,906.00
Engineering Inspection (20%)	\$ 9,374.40
Land Acquisition	\$ -
Legal (5%)	\$ 1,953.00
Permitting (5%)	\$ 1,953.00
TOTAL	\$ 60,152.40

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Airport Well Pump & Motor Replacement					
Item	Quantity	Unit	Description	Unit Price		Total Price
1	1	LS	Mob/Demob	5%		\$ 4,700.00
2	4	EA	Remove Existing Pumps	\$ 5,000.0	00	\$ 20,000.00
3	4	EA	Install New Pump/Motors	\$ 16,000.0	00	\$ 64,000.00
4	1	LS	Electrical	\$ 10,000.0	00	\$ 10,000.00
5						\$ -
6						\$ -
7						\$ -
8						\$ -
9						\$ -
10						\$ -
11						\$ -
12						\$ -

Total Construction Estimate	\$ 98,700.00
Contingency (10%)	\$ 9,870.00
Engineering/Planning (10%)	\$ 9,870.00
Engineering Inspection (20%)	\$ 23,688.00
Land Acquisition	\$ -
Legal (5%)	\$ 4,935.00
Permitting (5%)	\$ 4,935.00
TOTAL	\$ 151,998.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Sanders Well Facility Replacement					
Item	Quantity	Unit	Description	Unit Price	Total Price	
1	1	LS	Mob/Demob	5%	\$ 8,600.00	
2	1	LS	New Well & Pump (290 GPM) (No Well Rehab)	\$ 12,000.00	\$ 12,000.00	
3	1	LS	Sitework	\$ 5,000.00	\$ 5,000.00	
4	225	SF	New Well House	\$ 500.00	\$ 112,500.00	
5	1	LS	Chemical Dosing System	\$ 22,500.00	\$ 22,500.00	
6	1	LS	Electrical	\$ 20,000.00	\$ 20,000.00	
7					\$ -	
8					\$ -	
9					\$ -	
10					\$ -	
11					\$ -	
12					\$ -	

Total Construction Estimate	\$ 180,600.00
Contingency (20%)	\$ 36,120.00
Engineering/Planning (10%)	\$ 18,060.00
Engineering Inspection (20%)	\$ 46,956.00
Land Acquisition	\$ -
Legal (5%)	\$ 9,030.00
Permitting (5%)	\$ 9,030.00
TOTAL	\$ 299,796.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Olympic Blvd from East Ridge Road to Kayhoe Court							
Item	Quantity	Unit	Description	Unit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	28,082.25	
2	1300	LF	8" Water Main	\$	170.00	\$	221,000.00	
3	650	LF	2" PE Water Service Lateral	\$	85.00	\$	55,250.00	
4	21	EA	Water Service	\$	3,250.00	\$	68,250.00	
6	3	EA	Fire Hydrant	\$	9,300.00	\$	27,900.00	
7	65	HRS	Rock Excavation	\$	1,500.00	\$	97,500.00	
8	6500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	65,000.00	
9	1	LS	All Other Work Required by the Contract Documents	\$	26,745.00	\$	26,745.00	
10						\$	-	
11						\$	-	
12						\$	-	
13						\$	-	
14		•				\$	-	

Total Construction Estimate	\$	589,727.25
Contingency (10%)	\$	58,972.73
Engineering/Planning (10%)	\$	58,972.73
Engineering Inspection (20%)	\$	141,534.54
Land Acquisition	\$	-
Legal (5%)	\$	29,486.36
Permitting (5%)	\$	29,486.36
TOTAL	Ś	908.179.97

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Innsbruck Pump Station Upgrade								
Item	Quantity	Unit	Description	Unit Price		Description		Total Price	
1	1	LS	Mob/Demob		5%	\$	49,320.00		
2	1	LS	Demolition	\$	50,000.00	\$	50,000.00		
3	1	LS	Sitework	\$	40,000.00	\$	40,000.00		
4	4	EA	New 50HP Pumps/Piping	\$	75,000.00	\$	300,000.00		
5	720	SF	New Pump Station (36 x 20 Masonry Structure)	\$	600.00	\$	432,000.00		
6	1	LS	Electrical	\$	164,400.00	\$	164,400.00		
7						\$	-		
8						\$	-		
9						\$	-		
10						\$	-		
11						\$	-		
12						\$	-		
13					•	\$	-		
14						\$	-		

Total Construction Estimate	\$ 1,035,720.00
Contingency (10%)	\$ 103,572.00
Engineering/Planning (10%)	\$ 103,572.00
Engineering Inspection (20%)	\$ 248,572.80
Land Acquisition	\$ -
Legal (5%)	\$ 51,786.00
Permitting (5%)	\$ 51,786.00
TOTAL	\$ 1,595,008.80

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	4" Pipeline in Northwoods Blvd to extend Stockholm Zone							
Item	Quantity	Unit	Description	Unit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	7,643.13	
2	500	LF	4" Water Main	\$	76.00	\$	38,000.00	
3	250	LF	2" PE Water Service Lateral	\$	85.00	\$	21,250.00	
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00	
5	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	10,833.33	
6	25	HRS	Rock Excavation	\$	1,500.00	\$	37,500.00	
7	2500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	25,000.00	
8	1	LS	All Other Work Required by the Contract Documents	\$	7,279.17	\$	7,279.17	
9						\$	-	
10						\$	-	
11						\$	<u>-</u>	
12						\$	-	
13						\$	-	

Total Construction Estimate	\$ 160,505.63
Contingency (10%)	\$ 16,050.56
Engineering/Planning (10%)	\$ 16,050.56
Engineering Inspection (20%)	\$ 38,521.35
Land Acquisition	\$ -
Legal (5%)	\$ 8,025.28
Permitting (5%)	\$ 8,025.28
TOTAL	\$ 247,178.66

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Aspenwood Rd to Extend Palisades Hydro Zone							
Item	Quantity	Unit	Description	Unit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	7,126.18	
2	325	LF	8" Water Main	\$	170.00	\$	55,250.00	
3	162	LF	2" PE Water Service Lateral	\$	85.00	\$	13,770.00	
4	3	EA	Water Service	\$	3,250.00	\$	9,750.00	
5	1	EA	Fire Hydrant	\$	9,300.00	\$	9,300.00	
6	1	EA	Connection to Existing Pipe	\$	6,500.00	\$	7,041.67	
8	16	HRS	Rock Excavation	\$	1,500.00	\$	24,375.00	
9	1625	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	16,250.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	6,786.83	\$	6,786.83	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		•				\$	-	

Total Construction Estimate	\$ 149,649.68
Contingency (10%)	\$ 14,964.97
Engineering/Planning (10%)	\$ 14,964.97
Engineering Inspection (20%)	\$ 35,915.92
Land Acquisition	\$ -
Legal (5%)	\$ 7,482.48
Permitting (5%)	\$ 7,482.48
TOTAL	\$ 230,460.50

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	8" Pipeline in Sitzmark Way to extend Sitzmark Zone							
Item	Quantity	Unit	Description	U	Unit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	6,339.38	
2	300	LF	8" Water Main	\$	170.00	\$	51,000.00	
3	150	LF	2" PE Water Service Lateral	\$	85.00	\$	12,750.00	
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00	
5	1	EA	Connection to Existing Pipe	\$	6,500.00	\$	6,500.00	
6	15	HRS	Rock Excavation	\$	1,500.00	\$	22,500.00	
7	1500	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	15,000.00	
8	1	LS	All Other Work Required by the Contract Documents	\$	6,037.50	\$	6,037.50	
9						\$	-	
10						\$	-	
11						\$	-	
12						\$	-	
13						\$	-	

Total Construction Estimate	\$	133,126.88
Contingency (10%)	\$	13,312.69
Engineering/Planning (10%)	\$	13,312.69
Engineering Inspection (20%)	\$	31,950.45
Land Acquisition	\$	-
Legal (5%)	\$	6,656.34
Permitting (5%)	\$	6,656.34
TOTAL	Ś	205.015.39

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

			8" Pipeline in Skislope Way to extend Donner View Hydro 2	Zone				
Item	Quantity	Unit	Description	l	Unit Price To		Total Price	
1	1	LS	Mob/Demob		5%	\$	5,884.81	
2	250	LF	8" Water Main	\$	170.00	\$	42,500.00	
3	125	LF	2" PE Water Service Lateral	\$	85.00	\$	10,625.00	
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00	
5	1	EA	Fire Hydrant	\$	9,300.00	\$	9,300.00	
6	1	EA	Connection to Existing Pipe	\$	6,500.00	\$	5,416.67	
8	13	HRS	Rock Excavation	\$	1,500.00	\$	18,750.00	
9	1250	SF	AC Pavement and Base (Trench Restoration)	\$	10.00	\$	12,500.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	5,604.58	\$	5,604.58	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15		•				\$	-	

TOTAL	\$ 190,314.84
Permitting (5%)	\$ 6,179.05
Legal (5%)	\$ 6,179.05
Land Acquisition	\$ -
Engineering Inspection (20%)	\$ 29,659.46
Engineering/Planning (10%)	\$ 12,358.11
Contingency (10%)	\$ 12,358.11
Total Construction Estimate	\$ 123,581.06

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Tank Coating/Rehab								
Item	Quantity	Unit	Description	Unit Price		Total Price			
1	1	LS	Mob/Demob	5%	\$	14,017.50			
2	1	LS	Tank Re-Coating (400,000 Gallon Tank)	\$ 192,000.00	\$	192,000.00			
3	1	LS	Tank Structural Repair & Seismic Retrofit Allowance	\$ 75,000.00	\$	75,000.00			
4	1	LS	All Other Work Required by the Contract Documents	\$ 13,350.00	\$	13,350.00			
5					\$	-			
6					\$	-			
7					\$	-			
8					\$	-			
9					\$	-			

Total Construction Estimate \$ 294,367.50 Contingency (10%) \$ 29,436.75 \$ Engineering/Planning (10%) 29,436.75 Engineering Inspection (20%) 70,648.20 Land Acquisition \$ \$ Legal (5%) 14,718.38 \$ Permitting (5%) 14,718.38 \$ TOTAL 453,325.95

Unit Price based on 400,000 Gallon Tank \$ 1.13

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Tank Coating ONLY								
Item	Quantity	Unit	Description	Unit Price		Total Price			
1	1	LS	Mob/Demob	5%	\$	10,080.00			
2	1	LS	Tank Re-Coating (400,000 Gallon Tank)	\$ 192,000.00	\$	192,000.00			
3	1	LS	All Other Work Required by the Contract Documents	\$ 9,600.00	\$	9,600.00			
4					\$	-			
5					\$	-			
6					\$	-			
7					\$	-			
8					\$	-			

 Total Construction Estimate
 \$ 211,680.00

 Contingency (10%)
 \$ 21,168.00

 Engineering/Planning (10%)
 \$ 21,168.00

 Engineering Inspection (20%)
 \$ 50,803.20

 Land Acquisition
 \$

 Legal (5%)
 \$ 10,584.00

 Permitting (5%)
 \$ 10,584.00

 TOTAL
 \$ 325,987.20

Unit Price based on 400,000 Gallon Tank \$ 0.81

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic Well Facility Replacement							
Item	Quantity	Unit	Description	J	Jnit Price		Total Price	
1	1	LS	Mob/Demob		5%	\$	1,750.00	
2	1	LS	New Well & Pump (300-500 GPM) (No Well Rehab)	\$	30,000.00	\$	30,000.00	
3	1	LS	Electrical	\$	5,000.00	\$	5,000.00	
4						\$	-	
5						\$	-	
6						\$	-	

Total Construction Estimate 36,750.00 Contingency (20%) \$ 7,350.00 Engineering/Planning (10%) \$ 3,675.00 Engineering Inspection (20%) \$ 9,555.00 Land Acquisition \$ Legal (5%) 1,837.50 Permitting (5%) \$ 1,837.50 \$ TOTAL 61,005.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic Well Facility Replacement								
Item	Quantity	Unit	Description	_	Jnit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	3,000.00		
2	1	LS	New Well & Pump (800-1000 GPM) (No Well Rehab)	\$	55,000.00	\$	55,000.00		
3	1	LS	Electrical	\$	5,000.00	\$	5,000.00		
4						\$	-		
5						\$	-		
6						\$	-		

Total Construction Estimate \$ 63,000.00 Contingency (20%) \$ 12,600.00 Engineering/Planning (10%) \$ 6,300.00 Engineering Inspection (20%) \$ 16,380.00 Land Acquisition \$ Legal (5%) 3,150.00 Permitting (5%) \$ 3,150.00 \$ **TOTAL** 104,580.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic Well Facility Replacement								
Item	Quantity	Unit	Description	_	Jnit Price		Total Price		
1	1	LS	Mob/Demob		5%	\$	4,500.00		
2	1	LS	New Well & Pump (1200-1500 GPM) (No Well Rehab)	\$	85,000.00	\$	85,000.00		
3	1	LS	Electrical	\$	5,000.00	\$	5,000.00		
4						\$	-		
5						\$	-		
6						\$	-		

Total Construction Estimate 94,500.00 Contingency (20%) \$ 18,900.00 Engineering/Planning (10%) \$ 9,450.00 Engineering Inspection (20%) \$ 24,570.00 Land Acquisition \$ Legal (5%) 4,725.00 Permitting (5%) \$ 4,725.00 \$ **TOTAL** 156,870.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

			Generic 6" PRV - Valve/Piping Replacement Project			
Item	Quantity	Unit	Description	Unit Price	•	Total Price
1	1	LS	Mob/Demob	5%	\$	822.03
2	1	LS	6" PRV w/ 2" Bypass	\$ 14,946.00	\$	14,946.00
3	1	LS	All Other Work Required by the Contract Documents	\$ 1,494.60	\$	1,494.60
4					\$	-
5					\$	-
6					\$	-
7					\$	-
8					\$	-
9					\$	-
10					\$	-
11					\$	-
12					\$	-

Total Construction Estimate	\$ 17,262.63
Contingency (10%)	\$ 1,726.26
Engineering/Planning (10%)	\$ 1,726.26
Engineering Inspection (20%)	\$ 4,143.03
Land Acquisition	\$ -
Legal (5%)	\$ 863.13
Permitting (5%)	\$ 863.13
TOTAL	\$ 26,584.45

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic - 4" Water Line							
Item	Quantity	Unit	Description	U	Unit Price Total Pr		Total Price	
1	1	LS	Mob/Demob		5%	\$	8,733.38	
2	500	LF	4" Water Main	\$	76.00	\$	38,000.00	
3	250	LF	2" PE Water Service Lateral	\$	85.00	\$	21,250.00	
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00	
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00	
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00	
8	25	HRS	Rock Excavation	\$	1,500.00	\$	37,500.00	
9	2500	SF	AC Pavement and Base (trench restoration)	\$	10.00	\$	25,000.00	
10	1	LS	All Other Work Required by the Contract Documents	\$	8,317.50	\$	8,317.50	
11						\$	-	
12						\$	-	
13						\$	-	
14						\$	-	
15					•	\$	-	

Total Construction Estimate \$ 183,400.88

Contingency (10%) \$ 18,340.09

Engineering/Planning (10%) \$ 18,340.09

Engineering Inspection (20%) \$ 44,016.21

Land Acquisition \$
Legal (5%) \$ 9,170.04

Permitting (5%) \$ 9,170.04

TOTAL \$ 282,437.35

Per LF \$ 564.87

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic - 6" Water Line									
Item	Quantity	Unit	Description	٦	Init Price		Total Price			
1	1	LS	Mob/Demob	\$	9,783.38					
2	500	LF	6" Water Main	\$	116.00	\$	58,000.00			
3	250	LF	2" PE Water Service Lateral	\$	85.00	\$	21,250.00			
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00			
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00			
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00			
8	25	HRS	Rock Excavation	\$	1,500.00	\$	37,500.00			
9	2500	SF	AC Pavement and Base (trench restoration)	\$	10.00	\$	25,000.00			
10	1	LS	All Other Work Required by the Contract Documents	\$	9,317.50	\$	9,317.50			
11						\$	-			
12						\$	-			
13						\$	-			
14						\$	-			
15					•	\$	-			

 Total Construction Estimate
 \$ 205,450.88

 Contingency (10%)
 \$ 20,545.09

 Engineering/Planning (10%)
 \$ 20,545.09

 Engineering Inspection (20%)
 \$ 49,308.21

 Land Acquisition
 \$

 Legal (5%)
 \$ 10,272.54

 Permitting (5%)
 \$ 10,272.54

 TOTAL
 \$ 316,394.35

Per LF \$ 632.79

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic - 8" Water Line									
Item	Quantity	Unit	Description	Ų	Jnit Price		Total Price			
1	1	LS	Mob/Demob		5%	\$	20,060.25			
2	1000	LF	8" Water Main	\$	170.00	\$	170,000.00			
3	500	LF	2" PE Water Service Lateral	\$	85.00	\$	42,500.00			
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00			
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00			
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00			
8	50	HRS	Rock Excavation	\$	1,500.00	\$	75,000.00			
9	5000	SF	AC Pavement and Base (trench restoration)	\$	10.00	\$	50,000.00			
10	1	LS	All Other Work Required by the Contract Documents	\$	19,105.00	\$	19,105.00			
11						\$	-			
12						\$	-			
13						\$	-			
14						\$	-			
15					•	\$	-			

 Total Construction Estimate
 \$ 421,265.25

 Contingency (10%)
 \$ 42,126.53

 Engineering/Planning (10%)
 \$ 42,126.53

 Engineering Inspection (20%)
 \$ 101,103.66

 Land Acquisition
 \$

 Legal (5%)
 \$ 21,063.26

 Permitting (5%)
 \$ 648,748.49

Per LF \$ 648.75

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic - 10" Water Line									
Item	Quantity	Unit	Description	Ų	Jnit Price		Total Price			
1	1	LS	Mob/Demob		5%	\$	11,358.38			
2	500	LF	10" Water Main	\$	176.00	\$	88,000.00			
3	250	LF	2" PE Water Service Lateral	\$	85.00	\$	21,250.00			
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00			
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00			
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00			
8	25	HRS	Rock Excavation	\$	1,500.00	\$	37,500.00			
9	2500	SF	AC Pavement and Base (trench restoration)	\$	10.00	\$	25,000.00			
10	1	LS	All Other Work Required by the Contract Documents	\$	10,817.50	\$	10,817.50			
11	·	·				\$	-			
12	·	·				\$	-			
13	·	·				\$	-			
14	·	·				\$	-			
15		·				\$	-			

 Total Construction Estimate
 \$ 238,525.88

 Contingency (10%)
 \$ 23,852.59

 Engineering/Planning (10%)
 \$ 23,852.59

 Engineering Inspection (20%)
 \$ 57,246.21

 Land Acquisition
 \$

 Legal (5%)
 \$ 11,926.29

 Permitting (5%)
 \$ 11,926.29

 TOTAL
 \$ 367,329.85

Per LF \$ 734.66

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	Generic - 12" Pipeline									
Item	Quantity	Unit	Description	l	Jnit Price		Total Price			
1	1	LS	Mob/Demob		5%	\$	17,126.81			
2	750	LF	12" Water Main	\$	208.00	\$	156,000.00			
3	375	LF	2" PE Water Service Lateral	\$	85.00	\$	31,875.00			
4	4	EA	Water Service	\$	3,250.00	\$	13,000.00			
5	2	EA	Fire Hydrant	\$	9,300.00	\$	18,600.00			
6	2	EA	Connection to Existing Pipe	\$	6,500.00	\$	13,000.00			
8	38	HRS	Rock Excavation	\$	1,500.00	\$	56,250.00			
9	3750	SF	AC Pavement and Base (trench restoration)	\$	10.00	\$	37,500.00			
10	1	LS	All Other Work Required by the Contract Documents	\$	16,311.25	\$	16,311.25			
11						\$	-			
12						\$	-			
13						\$	-			
14						\$	-			
15		•				\$	-			

 Total Construction Estimate
 \$ 359,663.06

 Contingency (10%)
 \$ 35,966.31

 Engineering/Planning (10%)
 \$ 35,966.31

 Engineering Inspection (20%)
 \$ 86,319.14

 Land Acquisition
 \$

 Legal (5%)
 \$ 17,983.15

 Permitting (5%)
 \$ 17,983.15

 TOTAL
 \$ 553,881.12

Per LF \$ 738.51

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

	3 EA - 25 HP Generic Pump Station Upgrade									
Item	Quantity	Unit	Description		Unit Price	•	Total Price			
1	1	LS	Mob/Demob		5%	\$	36,900.00			
2	1	LS	Demolition	\$	50,000.00	\$	50,000.00			
3	1	LS	Sitework	\$	40,000.00	\$	40,000.00			
4	3	EA	New 25 HP Pumps/Piping	\$	45,000.00	\$	135,000.00			
5	600	SF	New Pump Station (Masonry Bldg - 20 x 30)	\$	650.00	\$	390,000.00			
6	1	LS	Electrical	\$	123,000.00	\$	123,000.00			
7						\$	-			
8						\$	-			
9						\$	-			
10						\$	-			
11						\$	-			
12						\$	-			
13						\$	-			
14						\$	-			

Total Construction Estimate	\$ 774,900.00
Contingency (10%)	\$ 77,490.00
Engineering/Planning (10%)	\$ 77,490.00
Engineering Inspection (20%)	\$ 185,976.00
Land Acquisition	\$ -
Legal (5%)	\$ 38,745.00
Permitting (5%)	\$ 38,745.00
TOTAL	\$ 1,193,346.00

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

			4 EA - 100 HP Generic Pump Station Upgrade			
Item	Quantity	Unit	Description	Unit Price	Total Price	
1	1	LS	Mob/Demob	5%	\$	55,080.00
2	1	LS	Demolition	\$ 50,000.00	\$	50,000.00
3	1	LS	Sitework	\$ 40,000.00	\$	40,000.00
4	4	EA	New 100 HP Pumps/Piping	\$ 90,000.00	\$	360,000.00
5	720	SF	New Pump Station (Masonry Bldg - 20 x 30)	\$ 650.00	\$	468,000.00
6	1	LS	Electrical	\$ 183,600.00	\$	183,600.00
7					\$	-
8					\$	-
9					\$	-
10					\$	-
11					\$	-
12				•	\$	-
13				•	\$	-
14		•			\$	-

Total Construction Estimate	\$ 1,156,680.00
Contingency (10%)	\$ 115,668.00
Engineering/Planning (10%)	\$ 115,668.00
Engineering Inspection (20%)	\$ 277,603.20
Land Acquisition	\$ -
Legal (5%)	\$ 57,834.00
Permitting (5%)	\$ 57,834.00
TOTAL	\$ 1,781,287.20

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

			4 EA - 150 HP Generic Pump Station Upgrade			
Item	Quantity	Unit	Description	Unit Price	Total Price	
1	1	LS	Mob/Demob	5%	\$ 59,880.00	
2	1	LS	Demolition	\$ 50,000.00	\$ 50,000.00	
3	1	LS	Sitework	\$ 40,000.00	\$ 40,000.00	
4	4	EA	New 150 HP Pumps/Piping	\$ 110,000.00	\$ 440,000.00	
5	720	SF	New Pump Station (Masonry Bldg - 20 x 30)	\$ 650.00	\$ 468,000.00	
6	1	LS	Electrical	\$ 199,600.00	\$ 199,600.00	
7					\$ -	
8					\$ -	
9					\$ -	
10					\$ -	
11					\$ -	
12				•	\$ -	
13				•	\$ -	
14					\$ -	

Total Construction Estimate	\$ 1,257,480.00
Contingency (10%)	\$ 125,748.00
Engineering/Planning (10%)	\$ 125,748.00
Engineering Inspection (20%)	\$ 301,795.20
Land Acquisition	\$ -
Legal (5%)	\$ 62,874.00
Permitting (5%)	\$ 62,874.00
TOTAL	\$ 1.936.519.20

^{*} Note - Estimate is based on 2020/2021 Labor/Equipment/Material costs. No escalation is included here. Escalation, if needed, will be added on the CIP Summary Page

Appendix E **Detailed Cost Estimates**

Biditem

Pre-Construction Services Group

2020TDPUDCIP

Truckee Donner PUD CIP Cost Basis 03/16/2020 7:29 AM

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4" Water Line

Takeoff Qty: 280.000 LF 280.000 LF Bid Qty:

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	8.81	8.39	17.20	5.11	29.25	0.85	8.52	60.94
Total	2,467.34	2,348.80	4,816.14	1,432.16	8,191.38	237.82	2,385.00	17,062.50

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
70.0000	4.0000	0.2500	243.7500	35.2477	68.8020	14.0000

Activity:	5.1	5.1 Sawcut		Quantity: 560			Unit: LF						
	В	Base Labor		Burden	Total La	abor	Equipment	: Perm	n Matls	Const Matls	Sub		Total
U. Cost		0.23		0.22	C	.45	0.12		0.00	0.04	0.00		0.61
Total		128.98		122.03	251	.01	67.52		0.00	21.62	0.00		340.15
Crow	\$/Unit	Crow	Hrs/Unit	He	its/Crew Hr		\$/Crew Hour		Shifts	Units/Sh	ift Chiff	s/Unit	\$/Shift
	5688		0.0036		280.0000		159.2650	0	.2500	2,240.00		0004	1,360.6000
U.	0000		0.0036		200.0000		139.2030	U.	.2300	2,240.00	0.	0004	1,300.0000

Manhours Unit/MH MH/Unit Total Labor/MH Base Labor/Unit 140.0000 4.0000 0.0071 62.7525 0.2303

Calendar: STD Hrs/Shift: 8 WC: 5221 **Concrete Construction** Standard

LAB4 4 Man Labor Crew 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 2.00 Equipment Pcs: 2.00 Crew: Prod: S

Notes: Assume an average of 4" pavement depth.

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3MISCTOOL	Misc Tool Allowance	1.00	2.00	HR	10.00	108.10	10.81	21.62
8231	SAW CONCRETE 20-29HP SELF PR	1.00	2.00	HR	22.90	108.10	24.76	49.52
8UTLPU	Utility Pickup	1.00	2.00	HR	9.00	100.00	9.00	18.00
LAB4	Labor Foreman	1.00	2.00	МН	34.00	100.00	64.91	129.81
LABORER	Laborer	1.00	2.00	МН	30.49	100.00	60.60	121.20

Activity:	5.2	Excavate/	Install/Backfill	nstall/Backfill			l	Jnit: LF
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	4.35	4.05	8.39	2.97	0.00	0.39	6.57	18.32
Total	1,216.96	1,133.20	2,350.16	830.26	0.00	108.10	1,840.00	5,128.52

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
11.3586	0.0286	35.0000	397.5525	1.0000	280.0000	0.0036	5,128.5200

Manhours	Unit/MH	MH/Unit	Total Labor/MH	Base Labor/Unit
32.0000	8.7500	0.1143	73.4425	4.3463

WC: 5221 **Concrete Construction** Calendar: STD Standard Hrs/Shift: 8

Crew: MINIP Mini Pipe Crew Prod: S Eff: 100.00 Crew Hrs: 8.00 Labor Pcs: 4.00 Equipment Pcs: 3.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3TRAFFICPLAT	Traffic Plate	1.00	2.00	EA/D	50.00	108.10	54.05	108.10
4HAUL	Hauling - Sub	1.00	16.00	HR	115.00	100.00	115.00	1,840.00
8031	ROLLER 18-29" WALKBEHIND DBL	1.00	8.00	HR	37.47	108.10	40.50	324.01
8243	BACKHOE/LOADER 60-90HP 4WD	1.00	8.00	HR	50.21	108.10	54.28	434.25
8UTLPU	Utility Pickup	1.00	8.00	HR	9.00	100.00	9.00	72.00
LABORER	Laborer	2.00	16.00	МН	30.49	100.00	60.60	969.58
OPER4	Operator Foreman	1.00	8.00	MH	48.00	100.00	89.27	714.13
OPERATOR	Operator	1.00	8.00	МН	43.14	100.00	83.31	666.45

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2020TDPUDCIP Truckee Donner PUD CIP Cost Basis 03/16/2020 7:29 AM Page 3 of 35

Activity:	5.9	Material	5		Unit: LF			
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	0.00	0.00	0.00	0.00	21.21	0.00	0.00	21.21
Total	0.00	0.00	0.00	0.00	5,938.58	0.00	0.00	5,938.58

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
24"FITTING	4" MJ Fitting	1.00	1.00	EA	365.89	108.10	395.53	395.53
24"H2O	4" Waterline - C-900	1.05	300.00	LF	7.19	108.10	7.77	2,331.72
24"MEGALUG	4" Megalug	1.00	2.00	EA	38.12	108.10	41.21	82.42
2BASE	Base Rock	1.00	60.00	TON	9.75	108.10	10.54	632.39
2PIPEACC	Pipe Accessories	1.00	280.00	LF	1.60	108.10	1.73	484.29
2PIPEALLOW	Misc Pipe Matl Allowance	1.00	6,213.83	LS	0.10	108.10	0.11	671.72
2SAND	Bedding Sand - FOB Plant	1.00	40.00	TON	6.00	108.10	6.49	259.44
2VALVEALLOW	Valve Allowance	1.00	0.50	EA	2,162.14	100.00	2,162.14	1,081.07

Biditem 6" Water Line

Takeoff Qty: 250.000 LF Bid Qty: 250.000 LF

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	9.87	9.40	19.26	5.70	41.24	0.95	9.31	76.46
Total	2,467.34	2,348.80	4,816.14	1,424.21	10,310.59	237.82	2,326.65	19,115.41

Manl	ours Unit/MF	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
70.0	3.5714	0.2800	273.0773	35.2477	68.8020	12.5000

Activity:	10.1 Sawcut				Q	Quantity: 500		Unit: LF
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	0.26	0.24	0.50	0.14	0.00	0.04	0.00	0.68
Total	128.98	122.03	251.01	67.52	0.00	21.62	0.00	340.15

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
0.6371	0.0040	250.0000	159.2650	0.2500	2,000.0000	0.0005	1,360.6000

Base Labor/Unit	Total Labor/MH	MH/Unit	Unit/MH	Manhours
0.2580	62.7525	0.0080	125.0000	4.0000

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: LAB4 4 Man Labor Crew Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 2.00 Equipment Pcs: 2.00

Notes: Assume an average of 4" pavement depth.

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3MISCTOOL	Misc Tool Allowance	1.00	2.00	HR	10.00	108.10	10.81	21.62
8231	SAW CONCRETE 20-29HP SELF PR	1.00	2.00	HR	22.90	108.10	24.76	49.52
8UTLPU	Utility Pickup	1.00	2.00	HR	9.00	100.00	9.00	18.00
LAB4	Labor Foreman	1.00	2.00	МН	34.00	100.00	64.91	129.81
LABORER	Laborer	1.00	2.00	МН	30.49	100.00	60.60	121.20

Activity:	10.2	Excavate/	Install/Backfill		Qua	antity: 250	Unit:	LF
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	4.87	4.53	9.40	3.32	0.00	0.43	7.36	20.51
Total	1,216.96	1,133.20	2,350.16	830.26	0.00	108.10	1,840.00	5,128.52
								A 101 11

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
12.7217	0.0320	31.2500	397.5525	1.0000	250.0000	0.0040	5,128.5200

Manhours	Unit/MH	MH/Unit	Total Labor/MH	Base Labor/Unit
32.0000	7.8125	0.1280	73.4425	4.8678

2020TDPUDCIP Page 4 of 35 Calendar: STD Hrs/Shift: 8 WC: 5221 **Concrete Construction** Standard Crew: MINIP Mini Pipe Crew Prod: S Eff: 100.00 Crew Hrs: 8.00 Labor Pcs: 4.00 Equipment Pcs: 3.00 Tax/OT % Pcs/Wste Quantity Unit Unit Cost Actual UC Total Resource Description 108.10 3TRAFFICPLAT Traffic Plate 1.00 2.00 EA/D 50.00 108.10 54.05 1,840.00 4HAUL Hauling - Sub 1.00 16.00 HR 115.00 100.00 115.00 324.01 8031 ROLLER 18-29" WALKBEHIND DBL 1.00 8.00 HR 37.47 108.10 40.50 434.25 8243 BACKHOE/LOADER 60-90HP 4WD 1.00 8.00 HR 108.10 54.28 50.21 72.00 **8UTLPU Utility Pickup** 1.00 8.00 HR 9.00 100.00 9.00 969.58 **LABORER** 2.00 16.00 MH 30.49 100.00 60.60 Laborer 714.13 OPER4 Operator Foreman 1.00 8.00 MH 48.00 100.00 89.27 666.45 **OPERATOR** Operator 1.00 8.00 MH 43.14 100.00 83.31 10.3 **AC Patch Paving** Activity: Quantity: 750 Unit: SF Base Labor Burden Total Labor Equipment Perm Matls Const Matls Sub Total 0.48 1.01 0.00 0.48 U. Cost 0.52 0.61 2.68 4.78 754.16 390.52 0.00 361.65 3,581.90 Total 363.64 454.43 2,011.66 Crew \$/Unit Crew Hrs/Unit Units/Crew Hr \$/Crew Hour Shifts Units/Shift Shifts/Unit \$/Shift 3,000.0000 1.5212 0.0027 375.0000 570.4350 0.2500 0.0003 14,327.6000 Manhours MH/Unit Total Labor/MH Base Labor/Unit Unit/MH 10.0000 75.0000 0.0133 75.4160 0.5207 WC: 5221 Concrete Construction Calendar: STD Hrs/Shift: 8 Standard Crew: BKFI **Backfill Crew** Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 5.00 Equipment Pcs: 4.00 Pcs/Wste Unit Cost Tax/OT % Actual UC Total Resource Description Quantity Unit 1,876.53 **ASPHALT** 1.00 TON 108.10 77.83 2A 24.11 72.00 2TACKCOAT 1.00 250.00 LF 0.50 108.10 0.54 135.13 Tack Coat 361.65 4HAUL Hauling - Sub 1.00 24.11 TON 15.00 100.00 15.00 8034 ROLLER 41-49" VIB SINGLE DRU 1.00 2.00 HR 60.26 108.10 65.14 130.27 108.56 8243 BACKHOE/LOADER 60-90HP 4WD 1.00 2.00 HR 50.21 108.10 54.28 129.88 TRUCK WATER 2000-2999 GALLON 8324 1.00 2.00 HR 60.07 108.10 64.94 **8BITCHPOT** 67.72 Bitch Pot 1.00 1.79 HR 35.00 108.10 37.83 18.00 **8UTLPU Utility Pickup** 1.00 2.00 HR 9.00 100.00 9.00 242.40 2.00 4.00 MH LABORER Laborer 30.49 100.00 60.60 178.54 OPER4 Operator Foreman 1.00 2.00 MH 48.00 100.00 89.27 333.22 **OPERATOR** 2.00 4.00 MH 100.00 83.31 Operator 43.14 LS 10.4 Striping & Signage Quantity: Unit: Activity: WC: Calendar: STD Standard Hrs/Shift: 8 5221 **Concrete Construction** Notes: Assume approx 50% of all trench will require re-striping Tax/OT % Actual UC Total Pcs/Wste Quantity Unit Unit Cost Resource Description 125.00 **4STRIPE** 1.00 Striping - Sub 1.00 125.00 LF 1.00 100.00 Activity: 10.5 Traffic Control Quantity: Unit:

Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Tota
730.88	729.93	1,460.81	72.00	0.00	108.10	0.00	1,640.91
730.88	729.93	1,460.81	72.00	0.00	108.10	0.00	1,640.91
/Unit Crew	Hrs/Unit Un	nits/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
8100	8.0000	0.1250	191.6013	1.0000	1.0000	1.0000	1,640.9100
Manhours		Unit/MH		MH/Unit	Total Labor	/MH	Base Labor/Unit
		0.0417		24.0000			730.8800
	730.88 730.88 /Unit Crew 3100	730.88 729.93 730.88 729.93 /Unit Crew Hrs/Unit Un	730.88 729.93 1,460.81 730.88 729.93 1,460.81 /Unit	730.88 729.93 1,460.81 72.00 730.88 729.93 1,460.81 72.00 /Unit Crew Hrs/Unit Units/Crew Hr \$/Crew Hour 8100 8.0000 0.1250 191.6013 Manhours Unit/MH	730.88 729.93 1,460.81 72.00 0.00 730.88 729.93 1,460.81 72.00 0.00 /Unit Crew Hrs/Unit Units/Crew Hr \$/Crew Hour Shifts 8100 8.0000 0.1250 191.6013 1.0000 Manhours Unit/MH MH/Unit	730.88 729.93 1,460.81 72.00 0.00 108.10 730.88 729.93 1,460.81 72.00 0.00 108.10 /Unit Crew Hrs/Unit Units/Crew Hr \$/Crew Hour Shifts Units/Shift 8100 8.0000 0.1250 191.6013 1.0000 1.0000 Manhours Unit/MH MH/Unit Total Labor	730.88 729.93 1,460.81 72.00 0.00 108.10 0.00 730.88 729.93 1,460.81 72.00 0.00 108.10 0.00 /Unit Crew Hrs/Unit Units/Crew Hr \$/Crew Hour Shifts Units/Shift Shifts/Unit 3100 8.0000 0.1250 191.6013 1.0000 1.0000 1.0000 Manhours Unit/MH MH/Unit Total Labor/MH

Calendar: STD Hrs/Shift: 8 WC: 5221 **Concrete Construction** Standard

Calendar: STD	Standard	Hrs/Shift: 8		`	WC: 5221	Concrete	e Construction	
Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
26"H2O	6" Waterline	1.00	280.00	LF	14.05	108.10	15.19	4,252.65
2BASE	Base Rock	1.00	54.00	TON	9.75	108.10	10.54	569.15
2MEGALUG	MJ Megalug Pack	1.00	2.00	EA	56.95	108.10	61.57	123.13
2MJFITTING	MJ Fitting	1.00	1.00	EA	498.83	108.10	539.24	539.24
2PIPEACC	Pipe Accessories	1.00	250.00	LF	1.60	108.10	1.73	432.40
2PIPEALLOW	Misc Pipe Matl Allowance	1.00	8,546.30	LS	0.10	108.10	0.11	923.86
2SAND	Bedding Sand - FOB Plant	1.00	40.00	TON	6.00	108.10	6.49	259.44
2VALVEALLOW	Valve Allowance	1.00	0.50	EA	2,398.11	100.00	2,398.12	1,199.06

Biditem 8" Water Line

Takeoff Qty: 250.000 LF
Bid Qty: 250.000 LF

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	11.25	10.68	21.93	11.84	61.75	0.95	9.84	106.31
Total	2,812.46	2,670.12	5,482.58	2,959.05	15,437.26	237.82	2,460.00	26,576.71

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
78.0000	3.2051	0.3120	340.7271	36.0572	70.2895	12.5000

Activity:	20.1	Sawcut			C	Quantity: 500	Un	it: LF
	Base Labor	Burden	Total Labor	Equipmen	t Perm Matls	Const Matls	Sub	Total
U. Cost	0.26	0.24	0.50	0.14	0.00	0.04	0.00	0.68
Total	128.98	122.03	251.01	67.52	0.00	21.62	0.00	340.15
Crew	\$/Unit Crew	Hrs/Unit U	nits/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	: Shifts/Unit	\$/Shift
0.	6371	0.0040	250.0000	159.2650	0.2500	2,000.0000	0.0005	1,360.6000

Base Labor/Unit	Total Labor/MH	MH/Unit	Unit/MH	Manhours
0.2580	62.7525	0.0080	125.0000	4.0000

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: LAB4 4 Man Labor Crew Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 2.00 Equipment Pcs: 2.00

Notes: Assume an average of 4" pavement depth.

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3MISCTOOL	Misc Tool Allowance	1.00	2.00	HR	10.00	108.10	10.81	21.62

49.5	24.76	108.10	22.90		2.00 HR	1.00	HP SELF PR	SAW CONCRETE 20-29	8231
18.0	9.00	100.00	9.00		2.00 HR	1.00		Utility Pickup	8UTLPU
129.8	64.91	100.00	34.00		2.00 MH	1.00		Labor Foreman	LAB4
121.2	60.60	100.00	30.49		2.00 MH	1.00		Laborer	LABORER
LF	Unit:	250	uantity:	Q		stall/Backfil	Excavate/In	2	Activity: 20.
Tota	Sub	t Matls	Cons	Perm Matls	Equipment	Total Labor	Burden	Base Labor	
29.2	7.36	0.43		0.00	9.37	12.07	5.82	6.25	U. Cost
7,307.0	340.00	08.10	10	0.00	2,342.39	3,016.60	454.52	1,562.08 1,	Total
\$/Shi	Shifts/Unit	nits/Shift	U	Shifts	Crew Hour	ew Hr	Units/C	Crew Hrs/Unit	Crew \$/Uni
7,307.090	0.0040	50.0000	2	1.0000	669.8738	.2500	31	0.0320	21.4360
Base Labor/Un		Total Labor/		MH/Unit		Unit/MH		Manhours	
6.248		75.41		0.1600		6.2500		40.0000	
	struction	Concrete Co	21	WC: 52		Shift: 8	Hrs/	Standard	Calendar: STD
ent Pcs: 3.00	5.00 Equipn	Labor Pcs:	00	Crew Hrs: 8.0	Eff: 100.00	S 1	Prod:	Small Pipe Crew	Crew: SMPIPE
Tota	Actual UC	Tax/OT %	Unit Cost		Quantity Unit	Pcs/Wste		Description	Resource
108.1	54.05	108.10	50.00		2.00 EA/D	1.00		Traffic Plate	3TRAFFICPLAT
1,840.0	115.00	100.00	115.00		16.00 HR	1.00		Hauling - Sub	4HAUL
324.0	40.50	108.10	37.47		8.00 HR	1.00	EHIND DBL	ROLLER 18-29" WALKB	8031
892.8	111.61	108.10	103.25		8.00 HR	1.00	9 CUBIC Y	LOADER WHEEL 2.5-2.	8267
1,125.5	140.69	108.10	130.15		8.00 HR	1.00	39999#	EXCAVATOR 35000-	8276
969.5	60.60	100.00	30.49		16.00 MH	2.00		Laborer	LABORER
714.1	89.27	100.00	48.00		8.00 MH	1.00		Operator Foreman	OPER4
1,332.8	83.31	100.00	43.14		16.00 MH	2.00		Operator	OPERATOR
SF	Unit:	1000	uantity:	Q		ving	AC Patch Pa	3	Activity: 20.
Tota	Sub	t Matls	Cons	Perm Matls	Equipment	Total Labor	Burden	Base Labor	
4.4	0.50	0.00		2.70	0.48	0.75	0.36	0.39	U. Cost
	195.00	0.00		2 702 FO	477.14	754.16	363.64	390.52	otal
4,429.8		0.00		2,703.59	7//.17		303.01	390.32	
	Shifts/Unit	nits/Shift	U	2,703.39 Shifts			Units/C		Crew \$/Uni
4,429.8	Shifts/Unit 0.0003			,	Crew Hour 570.4350		Units/C	: Crew Hrs/Unit	Crew \$/Uni 1.1409
4,429.8 \$/Shi 17,719.560	0.0003	Inits/Shift 00.0000		Shifts 0.2500	Crew Hour	0000	Units/C	Crew Hrs/Unit	
4,429.8 \$/Shi 17,719.560 Base Labor/Un	0.0003	Inits/Shift 00.0000 Total Labor//		Shifts	Crew Hour	rew Hr .0000 Unit/MH	Units/Ci 500	: Crew Hrs/Unit	
4,429.8 \$/Shi 17,719.560	0.0003	Inits/Shift 00.0000	4,0	Shifts 0.2500	Crew Hour	0000	Units/Ci	Crew Hrs/Unit 0.0020	1.1409
4,429.8 \$/Shi 17,719.560 Base Labor/Un	0.0003	101ts/Shift 00.0000 Total Labor// 75.410	4,0 21	Shifts 0.2500 MH/Unit 0.0100	Crew Hour	Unit/MH 100.0000 Shift: 8	Units/Ci	Crew Hrs/Unit 0.0020 Manhours 10.0000	1.1409 Calendar: STD
4,429.8 \$/Shi 17,719.560 Base Labor/Un 0.390	0.0003	Total Labor// 75.410	4,0 21	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Crew Hour 570.4350	Unit/MH 100.0000 Shift: 8	Units/Co 500 Hrs/	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew	1.1409 Calendar: STD Crew: BKFL
4,429.8 \$/Shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00	0.0003 struction 5.00 Equipm	Total Labor// 75.410 Concrete Co Labor Pcs:	4,0 21 00 Unit Cost	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Crew Hour 570.4350 Eff: 100.00	Unit/MH 100.0000 Shift: 8	Units/Co 500 Hrs/	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard	1.1409 Calendar: STD Crew: BKFL Resource
4,429.8 \$/shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4	0.0003 struction 6.00 Equipm	Total Labor// 75.410 Concrete Co Labor Pcs:	4,00 21 00 Unit Cost 72.00	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Crew Hour 570.4350 Eff: 100.00 Quantity Unit	Unit/MH 100.0000 Shift: 8 S 0.25	Units/Co 500 Hrs/	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description	1.1409 Calendar: STD Crew: BKFL Resource 2A
4,429.8 \$/Shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1	0.0003 struction 5.00 Equipm Actual UC 77.83	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10	4,00 21 00 Unit Cost 72.00 0.50	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00	Units/Co 500 Hrs/	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT
4,429.8 \$/shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0	0.0003 struction 5.00 Equipm Actual UC 77.83 0.54	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 108.10	4,00 21 00 Unit Cost 72.00 0.50 15.00	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL
4,429.8 \$/Shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0 130.2	0.0003 struction 5.00 Equipm Actual UC 77.83 0.54 15.00	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 100.00	4,00 21 00 Unit Cost 72.00 0.50	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL 8034
4,429.8 \$/shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0 130.2 108.5	0.0003 Struction 5.00 Equipm Actual UC 77.83 0.54 15.00 65.14	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 100.00 108.10	4,00 21 00 Unit Cost 72.00 0.50 15.00 60.26	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON 2.00 HR	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00 1.00	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub ROLLER 41-49" VIB SIN	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL 3034 3243
4,429.8 \$/shi 17,719.560 Base Labor/Ur 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0 130.2 108.5 129.8	0.0003 Struction 5.00 Equipm Actual UC 77.83 0.54 15.00 65.14 54.28	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10	4,00 21 00 Unit Cost 72.00 0.50 15.00 60.26 50.21	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON 2.00 HR 2.00 HR	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00 1.00 1.00 1.00	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub ROLLER 41-49" VIB SIN BACKHOE/LOADER 60-	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL 8034 8243 8324
4,429.8 \$/shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0 130.2 108.5 129.8 90.4	0.0003 struction 6.00 Equipm Actual UC 77.83 0.54 15.00 65.14 54.28 64.94	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10 108.10	4,00 21 00 Unit Cost 72.00 0.50 15.00 60.26 50.21 60.07	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON 2.00 HR 2.00 HR 2.00 HR	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00 1.00 1.00	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub ROLLER 41-49" VIB SIN BACKHOE/LOADER 60- TRUCK WATER 2000-2	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL 8034 8243 8324 8BITCHPOT
4,429.8 \$/Shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0 130.2 108.5 129.8 90.4 18.0	0.0003 struction 6.00 Equipm Actual UC 77.83 0.54 15.00 65.14 54.28 64.94 37.84	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10 108.10 108.10 108.10	4,00 Unit Cost 72.00 0.50 15.00 60.26 50.21 60.07 35.00	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON 2.00 HR 2.00 HR 2.00 HR 2.39 HR	Unit/MH 100.0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub ROLLER 41-49" VIB SIN BACKHOE/LOADER 60- TRUCK WATER 2000-2 Bitch Pot	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL 8034 8243 8324 8BITCHPOT 8UTLPU
4,429.8 \$/Shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00	0.0003 Struction 5.00 Equipm Actual UC 77.83 0.54 15.00 65.14 54.28 64.94 37.84 9.00	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10 108.10 108.10 108.10 108.10	4,00 Unit Cost 72.00 0.50 15.00 60.26 50.21 60.07 35.00 9.00	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON 2.00 HR 2.00 HR 2.00 HR 2.00 HR 2.00 HR	Cew Hr (10000) Unit/MH (100.0000) Shift: 8 S 0.25 Pcs/Wste (1.00) (1	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub ROLLER 41-49" VIB SIN BACKHOE/LOADER 60- TRUCK WATER 2000-2 Bitch Pot Utility Pickup	1.1409 Calendar: STD Crew: BKFL Resource 2A 2TACKCOAT 4HAUL 8034 8243 8324 8BITCHPOT 8UTLPU LABORER
4,429.8 \$/shi 17,719.560 Base Labor/Un 0.390 ent Pcs: 4.00 Tot 2,568.4 135.1 495.0 130.2 108.5 129.8 90.4 18.0 242.4	0.0003 Struction 5.00 Equipm Actual UC 77.83 0.54 15.00 65.14 54.28 64.94 37.84 9.00 60.60	Total Labor// 75.410 Concrete Co Labor Pcs: Tax/OT % 108.10 108.10 108.10 108.10 108.10 108.10 108.10 108.10 108.10 108.10 108.10 108.10 108.10	4,00 Unit Cost 72.00 0.50 15.00 60.26 50.21 60.07 35.00 9.00 30.49	Shifts 0.2500 MH/Unit 0.0100 WC: 52	Eff: 100.00 Quantity Unit 33.00 TON 250.00 LF 33.00 TON 2.00 HR 2.00 HR 2.00 HR 2.00 HR 2.00 HR 4.00 HR	Cew Hr 1,0000 Unit/MH 1,000,0000 Shift: 8 S 0.25 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Units/Cr 500 Hrs/ Prod:	Crew Hrs/Unit 0.0020 Manhours 10.0000 Standard Backfill Crew Description ASPHALT Tack Coat Hauling - Sub ROLLER 41-49" VIB SIN BACKHOE/LOADER 60- TRUCK WATER 2000-2 Bitch Pot Utility Pickup Laborer	1.1409 Calendar: STD

WC: 5221 Concrete Construction Calendar: STD Standard Hrs/Shift: 8

30 Bid Qty: 230.000 LF

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	12.23	11.61	23.84	12.83	87.08	1.03	10.46	135.24
Total	2,812.46	2,670.12	5,482.58	2,951.48	20,027.90	237.82	2,405.00	31,104.78
					* * * * * * * * * * * * * * * * * * *	B 1 1 (111)	-	11 1/ (61)
	Manhours	Unit/MH	MH/Unit		\$/MH	Base Labor/MH	Total Labor/MF	I Unit/CH

Manhour	s Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
78.000	2.9487	0.3391	398.7792	36.0572	70.2895	11.5000

Activity:	30.1	Sawcut	Quantity					Unit: LF	
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub		Total

0.74	0.00	0.05	0	0.00	0.15	0	0.55	0.27		0.28		U. Cost
340.1	0.00	21.62	0	0.00	67.52	67	251.01	122.03		128.98		otal
\$/Shif	Shifts/Unit	nits/Shift	s U	Shifts	our	\$/Crew Hou	Crew Hr	Units/0	Hrs/Unit	Crew	rew \$/Unit	Cr
1,360.600	0.0005	40.0000	1,8	0.2500	50	159.2650	0.0000	230	0.0043		0.6925	
Base Labor/Uni	/MH	Total Labor		MH/Unit			Unit/MH			Manhours		
0.280	525	62.75		0.0087			115.0000			4.0000		
	onstruction	Concrete C	5221	WC: 5			/Shift: 8	Hrs		Standard	ar: STD	alenda
ent Pcs: 2.00	2.00 Equipm	Labor Pcs:	2.00	Crew Hrs: 2	100.00	Eff: 10	: S 0.25	Prod	or Crew	4 Man Lab	LAB4	rew:
							th.	vement dep	of 4" pa	n average o	Assume a	lotes: A
Tota	Actual UC	Tax/OT %	Unit Cost		y Unit	Quantity	Pcs/Wste			Description	•	esource
21.6	10.81	108.10	10.00		0 HR	2.00	1.00	e	llowance	Misc Tool A	OOL	MISCTO
49.5	24.76	108.10	22.90		0 HR	2.00	1.00	HP SELF PR	TE 20-29I	SAW CONCRE		231
18.0	9.00	100.00	9.00		0 HR	2.00	1.00		Jp	Utility Pickı	J	UTLPU
129.8	64.91	100.00	34.00		0 MH	2.00	1.00		nan	Labor Forer		AB4
121.20	60.60	100.00	30.49		0 MH	2.00	1.00			Laborer	ER	ABORE
LF	Unit:	230	Quantity:			ll	nstall/Backfi	Excavate/I	l	2	/: 30.	ctivity:
Tota	Sub	t Matls	s Cons	Perm Matls	pment	Equipn	Total Labor	Burden		Base Labor		
31.7	8.00	0.47	0	0.00	10.18	10	13.12	6.32		6.79		J. Cost
7,307.0	1,840.00	08.10	0 1	0.00	42.39	2,342	3,016.60	454.52	1,	1,562.08		otal
\$/Shif	Shifts/Unit	nits/Shift	s U	Shifts	our	\$/Crew Hou	Crew Hr	Units/0	Hrs/Unit	Crew	rew \$/Unit	Cr
7,307.090	0.0043	30.0000) 2	1.0000	'38	669.8738	3.7500	28	0.0348		23.3000	
Base Labor/Uni	/MH	Total Labor		MH/Unit			Unit/MH			Manhours		
Base Labor/Uni 6.791		75.41	5221	0.1739			Unit/MH 5.7500 /Shift: 8	Hrs		Manhours 40.0000 Standard		alenda
6.791 nent Pcs: 3.00	onstruction 5.00 Equipm	75.41 Concrete C Labor Pcs:	8.00	0.1739		Eff: 10	5.7500 /Shift: 8 : S 1	Hrs. Prod	· Crew	40.0000 Standard Small Pipe	ar: STD SMPIPE	rew:
6.791 nent Pcs: 3.00 Tota	onstruction 5.00 Equipm Actual UC	75.41 Concrete C Labor Pcs: Tax/OT %	8.00 Unit Cost	0.1739 WC: 5 Crew Hrs: 8	y Unit	Quantity	5.7500 /Shift: 8 : S 1 Pcs/Wste			40.0000 Standard Small Pipe Description	ar: STD SMPIPE	rew:
6.791 nent Pcs: 3.00 Tota 108.10	onstruction 5.00 Equipm Actual UC 54.05	75.41 Concrete C Labor Pcs: Tax/OT % 108.10	8.00 Unit Cost 50.00	0.1739 WC: 5 Crew Hrs: 8	y Unit	Quantity 2.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00		e	40.0000 Standard Small Pipe Description Traffic Plate	ar: STD SMPIPE CPLAT	rew: esource TRAFFIC
6.791 nent Pcs: 3.00 Tota 108.10 1,840.00	onstruction 5.00 Equipm Actual UC 54.05 115.00	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00	8.00 Unit Cost 50.00 115.00	0.1739 WC: 5 Crew Hrs: 8	Unit 0 EA/D 0 HR	Quantity 2.00 16.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00	Prod	e ıb	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su	ar: STD SMPIPE CPLAT	rew: esource TRAFFIC
6.791 nent Pcs: 3.00 Tota 108.1 1,840.0 324.0	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10	8.00 Unit Cost 50.00 115.00 37.47	0.1739 WC: 5 Crew Hrs: 8	Unit 0 EA/D 0 HR 0 HR	Quantity 2.00 16.00 8.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00	Prod	e Ib 9" WALKB	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29	ar: STD SMPIPE	rew: Resource TRAFFIC HAUL 3031
6.791 nent Pcs: 3.00 Tota 108.1 1,840.0 324.0 892.8	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10	Unit Cost 50.00 115.00 37.47 103.25	0.1739 WC: 5 Crew Hrs: 8	Unit DEA/E	Quantity 2.00 16.00 8.00 8.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 1.00	Prod EHIND DBL 9 CUBIC Y	e Ib 9" WALKB EL 2.5-2.	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Sur ROLLER 18-29 LOADER WHE	ar: STD SMPIPE	rew: Resource TRAFFIC HAUL 8031 8267
6.791 nent Pcs: 3.00 Tota 108.1 1,840.0 324.0 892.8 1,125.5	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10	Unit Cost 50.00 115.00 37.47 103.25 130.15	0.1739 WC: 5 Crew Hrs: 8	Unit Unit Unit HR HR HR	Quantity 2.00 16.00 8.00 8.00 8.00	5.7500 /Shift: 8 : S 1 Pcs/Wste	Prod EHIND DBL 9 CUBIC Y	e Ib 9" WALKB EL 2.5-2.	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR	ar: STD SMPIPE CPLAT	Resource TRAFFIC HAUL 8031 8267
6.7912 nent Pcs: 3.00 Tota 108.10 1,840.00 324.0 892.8 1,125.52 969.5	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.00	Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49	0.1739 WC: 5 Crew Hrs: 8	Unit DEA/D HR HR HR HR HR HR	Quantity 2.00 16.00 8.00 8.00 8.00 16.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 1.00 2.00	Prod EHIND DBL 9 CUBIC Y	e ub 9" WALKB EL 2.5-2.	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer	ar: STD SMPIPE CPLAT	Resource STRAFFIC HAUL 8031 8267 8276 LABORE
6.791	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10	Unit Cost 50.00 115.00 37.47 103.25 130.15	0.1739 WC: 5 Crew Hrs: 8	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH	Quantity 2.00 16.00 8.00 8.00 8.00	5.7500 /Shift: 8 : S 1 Pcs/Wste	Prod EHIND DBL 9 CUBIC Y	e ub 9" WALKB EL 2.5-2.	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR	ar: STD SMPIPE CPLAT	Resource STRAFFIC SHAUL S031 S267 S276 LABORE
6.7912 nent Pcs: 3.00 Tota 108.10 1,840.00 324.0 892.80 1,125.5 969.50 714.1	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.00 100.00 100.00	8.00 Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00	0.1739 WC: 5 Crew Hrs: 8	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH	Quantity 2.00 16.00 8.00 8.00 8.00 16.00 8.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00	Prod EHIND DBL 9 CUBIC Y	e ub 9" WALKB EL 2.5-2. ? 35000-:	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator Fo	ar: STD SMPIPE CPLAT ER TOR	rew: TRAFFIC HAUL 5031 5267 5276 ABORE DPER4
6.7913 nent Pcs: 3.00 Tota 108.10 1,840.00 324.00 892.80 1,125.55 969.56 714.11 1,332.80	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10 100.00 100.00 100.00	8.00 Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity:	0.1739 WC: 5 Crew Hrs: 8	O EA/E O EA/E O HR O HR O HR O HR O MH O MH	Quantity 2.00 16.00 8.00 8.00 8.00 16.00 8.00	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00	Prod EHIND DBL 9 CUBIC Y 39999#	e ub 9" WALKB EL 2.5-2. ? 35000-:	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator Fo	ar: STD SMPIPE CPLAT ER TOR	Resource BTRAFFIC 4HAUL 8031 8267 8276 LABORE DPERAT
6.7913 nent Pcs: 3.00 Tota 108.10 1,840.00 324.03 892.80 1,125.53 969.56 714.13 1,332.80	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00	8.00 Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: Cons 1	0.1739 WC: 5 Crew Hrs: 8	O EA/E O EA/E O HR O HR O HR O HR O MH O MH	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 Equipm	5.7500 /Shift: 8 : S 1 /Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 2.00 aving	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Pa	e ub 9" WALKB EL 2.5-2. 3 35000-: preman	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator Operator	ar: STD SMPIPE CPLAT ER TOR	Resource ETRAFFIC HAUL 3031 3267 3276 ABORE DPER4 DPERAT ACTIVITY:
6.7913 nent Pcs: 3.00 Tota 108.10 1,840.00 324.00 892.80 1,125.55 969.56 714.11 1,332.80 SF	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 920 t Matls 0.00	Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: cons	O.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81	y Unit 0 EA/C 0 HR 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 MH	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 Equipm	5.7500 /Shift: 8 : S 1 Pcs/Wste	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Patch 0.40 363.64	e ub 9" WALKB EL 2.5-2. 3 35000-: preman	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52	ar: STD SMPIPE CPLAT ER TOR	desource orraffic HAUL 3031 3267 3276 ABORE DPERAT OPERAT
6.7913 nent Pcs: 3.00 Tota 108.10 1,840.00 324.03 892.80 1,125.53 969.53 714.13 1,332.80 SF Tota 4.63 4,257.33	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 920 t Matls 0.00 0.00	Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: Cons 1 9	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 0.51 69.57	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 16.00	5.7500 /Shift: 8 : S 1 /Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 aving Total Labor 0.82 754.16	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Patch Burden 0.40 363.64 Units/C	e ub 9" WALKB EL 2.5-2. 2 35000-:	40.0000 Standard Small Pipe Description Traffic Plat: Hauling - Standard ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew	ER TOR 30.	rew: esource TRAFFIC HAUL 031 267 276 ABORE DPER4 DPERAT Ctivity:
6.7913 nent Pcs: 3.00 Tota 108.10 1,840.00 324.00 892.80 1,125.55 969.56 714.11 1,332.80 SF Tota 4.66 4,257.33	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00 Shifts/Unit 0.0003	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 \$\frac{1}{2}\$ \$\text{t Matls} \\ 0.00 0.00 \$\text{nits/Shift}\$	Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: Cons 1 9	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59 Shifts	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 0.51 69.57	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 16.00 Equipm 0 469	5.7500 /Shift: 8 : S 1 /Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 aving Total Labor 0.82 754.16	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Patch Burden 0.40 363.64 Units/C	e ub 9" WALKB EL 2.5-2. R 35000-: preman	40.0000 Standard Small Pipe Description Traffic Plat: Hauling - Standard ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew	ar: STD SMPIPE CCPLAT ER TOR Crew \$/Unit	rew: esource TRAFFIC HAUL 031 267 276 ABORE DPER4 DPERAT Ctivity:
6.7912 nent Pcs: 3.00 Tota 108.1(1,840.0(324.0; 892.8(1,125.5; 969.5(714.1; 1,332.8(SF Tota 4.6(4,257.3; \$/Shift 17,029.280(onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00 Shifts/Unit 0.0003	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 920 t Matls 0.00 0.00 nits/Shift 80.0000	Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: Cons 1 9	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59 Shifts 0.2500	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 0.51 69.57	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 16.00 Equipm 0 469	5.7500 /Shift: 8 : S 1 /Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 2.00	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Patch Burden 0.40 363.64 Units/C	e ub 9" WALKB EL 2.5-2. R 35000-: preman	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew	ar: STD SMPIPE CCPLAT ER TOR Crew \$/Unit	Resource STRAFFIC SHAUL 3031 3267 3276 ABORE DPERAT OPERAT SCTIVITY:
6.791 nent Pcs: 3.00 Tota 108.1 1,840.0 324.0 892.8 1,125.5 969.5 714.1 1,332.8 SF Tota 4.6 4,257.3 \$/Shit 17,029.280 Base Labor/Un	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00 Shifts/Unit 0.0003	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 \$\$\frac{1}{2}\$	Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: Cons 1 9	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59 Shifts 0.2500 MH/Unit 0.0109	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 0.51 69.57	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 16.00 Equipm 0 469	5.7500 /Shift: 8 : S 1 /Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 aving Total Labor 0.82 754.16 Crew Hr 0.0000 Unit/MH	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Pa Burden 0.40 363.64 Units/C 460	e ub 9" WALKB EL 2.5-2. R 35000-: preman	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew Manhours	ER TOR Tor Trew \$/Unit 1.2401	desource orrappid HAUL 3031 3267 3276 ABORE DPERAT OPERAT J. Cost otal
6.791 nent Pcs: 3.00 Tota 108.11 1,840.00 324.0 892.86 1,125.5; 969.56 714.1. 1,332.86 SF Tota 4.66 4,257.3; \$/Shift 17,029.2800 Base Labor/Unit	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00 Shifts/Unit 0.0003	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 \$\$\frac{1}{2}\$	8.00 Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: s Cons 1 9 3,6	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59 Shifts 0.2500 MH/Unit 0.0109	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 MH 0.51 69.57	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 16.00 Equipm 0 469	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 2.00	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Pa Burden 0.40 363.64 Units/C 460	e ub p" WALKB EL 2.5-2. R 35000-: preman Hrs/Unit 0.0022	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew Manhours 10.0000	ER TOR Tor Trew \$/Unit 1.2401	rew: esource TRAFFIC HAUL 031 267 276 ABOREI DERA DERAT Ctivity: Ctivity: alenda
6.7912 nent Pcs: 3.00 Tota 108.10 1,840.00 324.02 892.80 1,125.52 969.56 714.12 1,332.80 SF Tota 4.66 4,257.32 \$/Shift 17,029.2800 Base Labor/Uni 0.4249	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00 Shifts/Unit 0.0003	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 **Matls** 0.00 0.00 **Total Labor/ 75.41 Concrete C	8.00 Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: s Cons 1 9 5.221 2.00	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59 Shifts 0.2500 MH/Unit 0.0109 WC: 5	y Unit 0 EA/E 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0 MH 0 10.51 69.57 our 100.00	Quantity 2.00 16.00 8.00 8.00 16.00 6.00 16.00 Equipm 0469 \$/Crew Hou 570.4350	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 2.00	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Pa Burden 0.40 363.64 Units/C 460 Hrs.	e ub p" WALKB EL 2.5-2. R 35000-: preman Hrs/Unit 0.0022	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew Manhours 10.0000 Standard	ER TOR Trew \$/Unit 1.2401 BKFL	Resource STRAFFIC STR
6.7913 nent Pcs: 3.00 Tota 108.10 1,840.00 324.0 892.80 1,125.52 969.56 714.13 1,332.80 SF Tota 4.66 4,257.33 \$/Shift 17,029.2800 Base Labor/Uni 0.4249	onstruction 5.00 Equipm Actual UC 54.05 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.49 450.00 Shifts/Unit 0.0003	75.41 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00 100.00 **Matls** 0.00 0.00 Total Labor/ 75.41 Concrete C Labor Pcs:	8.00 Unit Cost 50.00 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Quantity: s Cons 1 9 5.221 2.00	0.1739 WC: 5 Crew Hrs: 8 Perm Matls 2.81 2,583.59 Shifts 0.2500 MH/Unit 0.0109 WC: 5	y Unit 0 EA/C 0 HR 0 HR 0 HR 0 MH 0 MH 0 MH 0.51 69.57	Quantity 2.00 16.00 8.00 8.00 16.00 8.00 16.00 Equipm 0 469 \$/Crew Hou 570.4350	5.7500 /Shift: 8 : S 1 Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00 2.00 2.00	Prod EHIND DBL 9 CUBIC Y 39999# AC Patch Pa Burden 0.40 363.64 Units/C 460 Hrs.	e ub p" WALKB EL 2.5-2. R 35000-: preman Hrs/Unit 0.0022	40.0000 Standard Small Pipe Description Traffic Plate Hauling - Su ROLLER 18-29 LOADER WHE EXCAVATOR Laborer Operator 3 Base Labor 0.42 390.52 Crew Manhours 10.0000 Standard Backfill Cr	ER TOR Srew \$/Unit 1.2401 BKFL	Calendal Crew: Resource 3TRAFFIC 4HAUL 8031 8267 8276 LABOREI OPERAT OPERAT Crivity: U. Cost Total Crew: Calendal Crew: Resource 2A

					HR				65.14	130.27
8034	ROLLER 41-49" VI	B SINGLE DRU	1.00	2.00	1111		60.26	108.10	05.14	130.27
8243	BACKHOE/LOADE	R 60-90HP 4WD	1.00	2.00	HR		50.21	108.10	54.28	108.56
8324	TRUCK WATER 20	000-2999 GALLON	1.00	2.00	HR		60.07	108.10	64.94	129.88
8ВІТСНРОТ	Bitch Pot		1.00	2.19	HR		35.00	108.10	37.84	82.86
8UTLPU	Utility Pickup		1.00	2.00	HR		9.00	100.00	9.00	18.00
LABORER	Laborer		2.00	4.00	MH		30.49	100.00	60.60	242.40
OPER4	Operator Foren	nan	1.00	2.00	MH		48.00	100.00	89.27	178.54
OPERATOR	Operator		2.00	4.00	MH		43.14	100.00	83.31	333.22
Activity: 30	0.4	Striping & S	ignage			Qua	ntity:	1	Unit	: LS
Calendar: STD	Standard	Hrs/	Shift: 8			WC: 5221		Concrete (Construction	
Notes: Assume	approx 50% of a	ll trench will	require re-	-striping						
Resource	Description		Pcs/Wste	Quantity	Unit	Un	it Cost	Tax/OT %	Actual UC	Total
4STRIPE	Striping - Sub		1.00	115.00	LF		1.00	100.00	1.00	115.00
Activity: 30	0.5	Traffic Cont	rol			Qua	ntity:	1	Unit	: LS
	Base Labor	Burden	Total Labor	Equipm	nent	Perm Matls	Cons	t Matls	Sub	Total
U. Cost	730.88	729.93	1,460.81	72	.00	0.00	1	08.10	0.00	1,640.91
Total	730.88	729.93	1,460.81	72	.00	0.00	10	08.10	0.00	1,640.91
Crew \$/Ur	nit Crew Hrs/	Unit Units/C	rew Hr	\$/Crew Hou	r	Shifts	U	nits/Shift	Shifts/Unit	\$/Shift
1,532.810			.1250	191.6013		1.0000		1.0000	1.0000	1,640.9100
	Manhours		Unit/MH			MH/Unit		Total Labor	-/MU	Base Labor/Unit
	24.0000		0.0417			24.0000		60.8		730.8800
			0.0					00.0		
Calendar: STD		Hrs/	Shift: 8			WC: 5221		Concrete (Construction	
Crew: LAB4	Standard 4 4 Man Labor C		S 1			Crew Hrs: 8.00	it Cost	Labor Pcs:	3.00 Equip	ment Pcs: 1.00
Crew: LAB4	Standard 4 4 Man Labor C	Crew Prod:	S 1 Pcs/Wste	Quantity	Unit	Crew Hrs: 8.00		Labor Pcs:	3.00 Equip	Total
Crew: LAB4 Resource 3TCMTL	Standard 4 4 Man Labor C Description Traffic Control	Crew Prod:	S 1 Pcs/Wste 1.00	Quantity 1.00	Unit DAY	Crew Hrs: 8.00	00.00	Labor Pcs: Tax/OT % 108.10	3.00 Equip	Total 108.10
Crew: LAB4 Resource 3TCMTL 8UTLPU	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup	Crew Prod:	S 1 Pcs/Wste 1.00 1.00	Quantity 1.00 8.00	Unit DAY HR	Crew Hrs: 8.00	9.00	Labor Pcs: Tax/OT % 108.10 100.00	3.00 Equipo Actual UC 108.10 9.00	Total 108.10
Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger	Crew Prod: Materials	S 1 Pcs/Wste 1.00	Quantity 1.00 8.00 16.00	Unit DAY	Crew Hrs: 8.00	00.00	Labor Pcs: Tax/OT % 108.10	3.00 Equip	Total 108.10 72.00
Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman	Crew Prod: Materials	S 1 Pcs/Wste 1.00 1.00 2.00 1.00	Quantity 1.00 8.00	Unit DAY HR MH	Crew Hrs: 8.00	9.00 9.00 28.68 34.00	Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00	3.00 Equipole Actual UC 108.10 9.00 58.85 64.90	Total 108.10 72.00 941.58 519.23
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6	Crew Prod: Materials Street Reco	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 nstruction	Quantity 1.00 8.00 16.00	Unit DAY HR MH	Crew Hrs: 8.00	9.00 9.00 28.68	Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00	3.00 Equipo Actual UC 108.10 9.00 58.85 64.90	Total 108.10 72.00 941.58 519.23
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6	Crew Prod: Materials Street Reco	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 nstruction Shift: 8	Quantity 1.00 8.00 16.00	Unit DAY HR MH	Crew Hrs: 8.00 Un 1 Qua WC: 5221	9.00 9.00 28.68 34.00	Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00 1 Concrete (Actual UC 108.10 9.00 58.85 64.90 Unit:	Total 108.10 72.00 941.58 519.23
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Resource	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6	Crew Prod: Materials Street Reco	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 nstruction	Quantity 1.00 8.00 16.00 8.00	Unit DAY HR MH MH	Crew Hrs: 8.00 Un 1 Qua WC: 5221	9.00 9.00 28.68 34.00 ntity:	Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00 1 Concrete (3.00 Equipolate Actual UC 108.10 9.00 58.85 64.90 Unit:	Total 108.10 72.00 941.58 519.23
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Resource	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard	Crew Prod: Materials Street Reco	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 nstruction Shift: 8	Quantity 1.00 8.00 16.00 8.00	Unit DAY HR MH MH	Crew Hrs: 8.00 Un 1 Qua WC: 5221	9.00 9.00 28.68 34.00	Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00 1 Concrete (Actual UC 108.10 9.00 58.85 64.90 Unit:	Total 108.10 72.00 941.58 519.23
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 3 Calendar: STD Resource 4PAVE	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description	Crew Prod: Materials Street Reco	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 nstruction Shift: 8 Pcs/Wste	Quantity 1.00 8.00 16.00 8.00	Unit DAY HR MH MH	Qua WC: 5221 Un 13,0	9.00 9.00 28.68 34.00 ntity:	Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00 1 Concrete (3.00 Equipolate Actual UC 108.10 9.00 58.85 64.90 Unit:	Total 108.10 72.00 941.58 519.23 LS Total 0.00
Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor	Crew Prod: Materials Street Reco Hrs/ Materials Burden	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00	Unit DAY HR MH MH LS	Crew Hrs: 8.00 Un 1 Qua WC: 5221 Un 13,0 Qua Perm Matls	00.00 9.00 28.68 34.00 ntity: it Cost 53.21	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230	3.00 Equipolate Actual UC	Total 108.10 72.00 941.58 519.23 LS Total 0.00
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00	Street Reco Hrs/ Materials Materials Burden 0.00	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00	Unit DAY HR MH MH LS	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84	00.00 9.00 28.68 34.00 ntity: it Cost 53.21	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230 t Matis 0.00	3.00 Equipole Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 3(Calendar: STD Resource 4PAVE Activity: 3(U. Cost Total	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00	Materials Street Reco Hrs/ Materials Burden 0.00 0.00	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00	Unit DAY HR MH MH LS	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31	00.00 9.00 28.68 34.00 ntity: it Cost 53.21	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Cartes) Tax/OT % 100.00 230 t Matis 0.00 0.00	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit:	Total 108.10 72.00 941.58 519.23 LS Total 0.00
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard	Materials Street Reco Hrs/ Materials Burden 0.00 0.00	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0	Unit DAY HR MH MH LS	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 ntity:	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230 t Matls 0.00 0.00 Concrete (Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description	Materials Street Reco Hrs/ Materials Burden 0.00 0.00	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 0 Quantity	Unit DAY HR MH MH LS nent 0.00 Unit	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 ntity:	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 t Matis 0.00 0.00 Concrete (Tax/OT %	### 3.00 Equipole Actual UC	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 Calendar: STD Calendar: STD Resource 210"H2O	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line	Materials Street Reco Hrs/ Materials Burden 0.00 0.00	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 Quantity 260.00	Unit DAY HR MH MH LS nent 0.00 0.00	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 ntity: Consi	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Concrete (Concret	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD Resource 210"H2O 2BASE	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line Base Rock	Materials Street Reco Hrs/ Materials Burden 0.00 0.00 Hrs/	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 Quantity 260.00 60.00	Unit DAY HR MH MH LS nent .000 .000 Unit LF TON	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 ntity: Consi	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230 & Matis 0.00 0.00 Concrete (Tax/OT % 108.10 108.10	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67 10.54	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90 632.39
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD Resource 210"H2O 2BASE 2MEGALUG	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line Base Rock MJ Megalug Pace	Materials Street Reco Hrs/ Materials Burden 0.00 0.00 Hrs/	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00 1.00 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 Quantity 260.00 60.00 2.00	Unit DAY HR MH MH LS nent 0.00 Unit LF TON EA	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 Const	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230 t Matls 0.00 0.00 Concrete (Tax/OT % 108.10 108.10 108.10	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67 10.54 180.42	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90 632.39 360.84
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD Resource 210"H2O 2BASE 2MEGALUG 2MJFITTING	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line Base Rock MJ Megalug Pack MJ Fitting	Materials Street Reco Hrs/ Materials Burden 0.00 0.00 Hrs/	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 0 Quantity 260.00 60.00 2.00 1.00	Unit DAY HR MH MH LS Dent LS Unit LS Dent LF TON EA EA	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 Intity: it Cost 53.21 Intity: Const	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230 t Matis 0.00 0.00 Concrete (Tax/OT % 108.10 108.10 108.10 108.10	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67 10.54 180.42 1,557.92	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90 632.39 360.84 1,557.92
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Fotal Calendar: STD Resource 210"H2O 2BASE 2MEGALUG 2NJFITTING 2PIPEACC	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line Base Rock MJ Megalug Pack MJ Fitting Pipe Accessories	Materials Street Reco Hrs/ Materials Burden 0.00 0.00 Hrs/	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 Quantity 260.00 60.00 2.00 1.00 230.00	Unit DAY HR MH MH LS Dent LS Unit LS LF TON EA LF	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 ntity: Const	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Concrete (Concret	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67 10.54 180.42 1,557.92 1.73	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90 632.39 360.84 1,557.92 397.81
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD Resource 210"H2O 2BASE 2MEGALUG 2PIPEACC 2PIPEALLOW	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line Base Rock MJ Megalug Pac MJ Fitting Pipe Accessorie Misc Pipe Matl	Materials Street Reco Hrs/ Materials Burden 0.00 0.00 Hrs/	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 Quantity 260.00 60.00 2.00 1.00 230.00 17,567.27	Unit DAY HR MH MH LS Hent 0.00 Unit LF TON EA EA LF LS	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221	00.00 9.00 28.68 34.00 Intity: it Cost 53.21 Intity: Consideration of the cost 36.70 9.75 66.90 41.18 1.60 0.10	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT % 100.00 230 & Matls 0.00 0.00 Concrete (Tax/OT % 108.10 108.10 108.10 108.10 108.10 108.10	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67 10.54 180.42 1,557.92 1.73 0.11	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90 632.39 360.84 1,557.92 397.81 1,899.02
Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 30 Calendar: STD Resource 4PAVE Activity: 30 U. Cost Total Calendar: STD Resource 210"H2O 2BASE 2MEGALUG 2MJFITTING 2PIPEACC	Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description AC Paving 0.9 Base Labor 0.00 0.00 Standard Description 10" Water Line Base Rock MJ Megalug Pack MJ Fitting Pipe Accessories	Materials Street Reco Hrs/ Materials Burden 0.00 0.00 Hrs/	S 1 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 Shift: 8 Pcs/Wste 1.00 Total Labor 0.00 0.00 Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00	Quantity 1.00 8.00 16.00 8.00 Quantity 0.00 Equipm 0 Quantity 260.00 60.00 2.00 1.00 230.00	Unit DAY HR MH MH LS Dent LS Unit LS LF TON EA LF	Qua WC: 5221 Un 13,0 Qua Perm Matls 75.84 17,444.31 WC: 5221 Un	00.00 9.00 28.68 34.00 ntity: it Cost 53.21 ntity: Const	Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Concrete (Concret	Actual UC 108.10 9.00 58.85 64.90 Unit: Construction Actual UC 0.00 Unit: Sub 0.00 0.00 Construction Actual UC 39.67 10.54 180.42 1,557.92 1.73	Total 108.10 72.00 941.58 519.23 LS Total 0.00 LF Total 75.84 17,444.31 Total 10,314.90 632.39 360.84 1,557.92 397.81

2020TDPUDCIP

4HAUL

Truckee Donner PUD CIP Cost Basis

Hauling - Sub

1.00

30.00 TON

Page 9 of 35

450.00

03/16/2020 7:29 AM

100.00

15.00

15.00

Biditem 12" Water Line

40

Takeoff Qty: 230.000 LF Bid Qty: 230.000 LF

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	12.23	11.61	23.84	12.83	113.69	1.03	14.46	165.85
Total	2,812.46	2,670.12	5,482.58	2,951.48	26,148.03	237.82	3,325.00	38,144.91

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
78.0000	2.9487	0.3391	489.0373	36.0572	70.2895	11.5000

Activity:	40.1	Sawo	ut		C	Quantity: 460	Uni	t: LF
	Base Lab	or Burd	en Total L	abor Equipment	: Perm Matls	Const Matls	Sub	Total
U. Cost	0.2			0.55 0.15		0.05	0.00	0.74
Total	128.9	8 122.)3 251	.01 67.52	0.00	21.62	0.00	340.15
Crew	\$/Unit Cr	ew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	: Shifts/Unit	\$/Shift
	.6925	0.0043	230.0000	159.2650	0.2500	1,840.0000		1,360.6000

 Manhours
 Unit/MH
 MH/Unit
 Total Labor/MH
 Base Labor/Unit

 4.0000
 115.0000
 0.0087
 62.7525
 0.2804

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: LAB4 4 Man Labor Crew Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 2.00 Equipment Pcs: 2.00

Notes: Assume an average of 4" pavement depth.

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3MISCTOOL	Misc Tool Allowance	1.00	2.00	HR	10.00	108.10	10.81	21.62
8231	SAW CONCRETE 20-29HP SELF PR	1.00	2.00	HR	22.90	108.10	24.76	49.52
8UTLPU	Utility Pickup	1.00	2.00	HR	9.00	100.00	9.00	18.00
LAB4	Labor Foreman	1.00	2.00	МН	34.00	100.00	64.91	129.81
LABORER	Laborer	1.00	2.00	МН	30.49	100.00	60.60	121.20

Activity:	40.2	40.2 Excavate/Install/Backfill					Quantity: 230	ι	Unit: LF		
	Base	.abor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total		
U. Cost		5.79	6.32	13.12	10.18	0.00	0.47	12.00	35.77		
Total	1,56	2.08 1	,454.52	3,016.60	2,342.39	0.00	108.10	2,760.00	8,227.09		
	¢/Umit	Crow Hrs/Unit		its/Crow Hr	¢/Craw Haur	Chifta	Unite/Shit	t Chifte/III	c'(Chift		

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
23.3000	0.0348	28.7500	669.8738	1.0000	230.0000	0.0043	8,227.0900

Manhours	Unit/MH	MH/Unit	Total Labor/MH	Base Labor/Unit
40.0000	5.7500	0.1739	75.4150	6.7917

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: SMPIPE Small Pipe Crew Prod: S 1 Eff: 100.00 Crew Hrs: 8.00 Labor Pcs: 5.00 Equipment Pcs: 3.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3TRAFFICPLAT	Traffic Plate	1.00	2.00	EA/D	50.00	108.10	54.05	108.10
4HAUL	Hauling - Sub	1.00	24.00	HR	115.00	100.00	115.00	2,760.00
8031	ROLLER 18-29" WALKBEHIND DBL	1.00	8.00	HR	37.47	108.10	40.50	324.01
8267	LOADER WHEEL 2.5-2.9 CUBIC Y	1.00	8.00	HR	103.25	108.10	111.61	892.86
8276	EXCAVATOR 35000-39999#	1.00	8.00	HR	130.15	108.10	140.69	1,125.52
LABORER	Laborer	2.00	16.00	МН	30.49	100.00	60.60	969.58
OPER4	Operator Foreman	1.00	8.00	МН	48.00	100.00	89.27	714.13
OPERATOR	Operator	2.00	16.00	МН	43.14	100.00	83.31	1,332.89

Activ	vity:	40.3	AC Patch	AC Patch Paving			Quantity: 920			Unit: SF	
		Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub			Total

U. Cost Total	0.42 390.52	0.40 363.64	0.82 754.16	0 469	.51	2.8 2,583.5		0.00	0.49 450.00	4.63 4,257.32
Crew \$/Ui			Crew Hr 0.0000	\$/Crew Hou 570.4350		Shift 0.250		Inits/Shift 80.0000	Shifts/Unit 0.0003	\$/Shift 17,029.2800
	Manhours 10.0000		Unit/MH 92.0000			MH/Unit 0.0109		Total Labor 75.4		Base Labor/Unit 0.4245
	10.0000		72.0000					73.4	100	0.4243
Calendar: STD	Standard		/Shift: 8				5221		Construction	
Crew: BKFI	L Backfill Crew	Proc	: S 0.25	Eff: 10	0.00	Crew Hrs:	2.00	Labor Pcs:	5.00 Equi	pment Pcs: 4.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
2A	ASPHALT		1.00	30.00	TON		72.00	108.10	77.83	2,334.96
2TACKCOAT	Tack Coat		1.00	460.00	LF		0.50	108.10	0.54	248.63
4HAUL	Hauling - Sub		1.00	30.00	TON		15.00	100.00	15.00	450.00
8034	ROLLER 41-49" VI		1.00	2.00	HR		60.26	108.10	65.14	130.27 108.56
8243	BACKHOE/LOADE		1.00	2.00	HR		50.21	108.10	54.28	129.88
8324 8BITCHPOT		000-2999 GALLON	1.00	2.00	HR HR		60.07	108.10	64.94	82.86
8UTLPU	Bitch Pot		1.00	2.19	HR		35.00	108.10	37.84 9.00	18.00
LABORER	Utility Pickup Laborer		2.00	4.00	MH		9.00	100.00	60.60	242.40
OPER4	Operator Foren	man	1.00	2.00	MH		48.00	100.00	89.27	178.54
OPERATOR	Operator	iiaii	2.00	4.00	MH		43.14	100.00	83.31	333.22
	0.4	Striping &					Quantity:	1	Uni	t: LS
Calendar: STD	Standard	Hrs	/Shift: 8			WC:	5221	Concrete (Construction	
Notes. Hobame	approx 50% of a	all trench wil	require re-	-striping						
	approx 50% of a	all trench wil:	Pcs/Wste	-striping Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
Resource		all trench wil:			Unit LF		Unit Cost	Tax/OT %	Actual UC 1.00	Total 115.00
Resource 4STRIPE	Description	Traffic Cor	Pcs/Wste 1.00	Quantity						115.00
Resource 4STRIPE	Description Striping - Sub		Pcs/Wste 1.00	Quantity	LF	Perm Mat	1.00 Quantity:	100.00	1.00	115.00
Resource 4STRIPE	Description Striping - Sub	Traffic Cor	Pcs/Wste 1.00	Quantity 115.00 Equipm	LF	Perm Mat 0.0 0.0	1.00 Quantity: S Cons 0 1	100.00	1.00 Uni	115.00 t: LS Total 1,640.91
Resource 4STRIPE Activity: 4	Description Striping - Sub 0.5 Base Labor 730.88 730.88	Traffic Cor Burden 729.93 729.93	Pcs/Wste 1.00 strol Total Labor 1,460.81	Quantity 115.00 Equipm	LF	0.0	1.00 Quantity: Is Cons 0 1 0 1	100.00 1 t Matls 08.10	1.00 Uni Sub 0.00	115.00 t: LS Total
Resource 4STRIPE Activity: 4 U. Cost	Description Striping - Sub 0.5 Base Labor 730.88 730.88 rit Crew Hrs/	Traffic Cor Burden 729.93 729.93	Pcs/Wste 1.00 htrol Total Labor 1,460.81 1,460.81	Quantity 115.00 Equipm 72	LF	0.0 0.0	1.00 Quantity: Is Cons 0 1 0 1 ts U	100.00 1 t Matls 08.10 08.10	1.00 Uni Sub 0.00 0.00	115.00 t: LS Total 1,640.91
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ut	Description Striping - Sub 0.5 Base Labor 730.88 730.88 rit Crew Hrs/	Traffic Cor Burden 729.93 729.93	Pcs/Wste 1.00 Strol Total Labor 1,460.81 1,460.81	Quantity 115.00 Equipm 72 72 \$/Crew Hou	LF	0.0 0.0 Shift	1.00 Quantity: Is Cons 0 1 0 1 ts U	100.00 1 t Matls 08.10 08.10 Units/Shift	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ut	Description Striping - Sub 0.5 Base Labor 730.88 730.88 Output Crew Hrs/ 00 8.00	Traffic Cor Burden 729.93 729.93	Pcs/Wste 1.00 Strol Total Labor 1,460.81 1,460.81 Crew Hr 0.1250	Quantity 115.00 Equipm 72 72 \$/Crew Hou	LF	0.0 0.0 Shift 1.000	1.00 Quantity: Is Cons 0 1 0 1 ts U	100.00 1 t Matls 08.10 08.10 Units/Shift 1.0000	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ut 1,532.810	Description Striping - Sub 0.5 Base Labor 730.88 730.88 OU Crew Hrs/ 00 Manhours	Traffic Cor Burden 729.93 729.93 Unit Units/	Pcs/Wste 1.00 Itrol Total Labor 1,460.81 1,460.81 Crew Hr 0.1250	Quantity 115.00 Equipm 72 72 \$/Crew Hou	LF	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U	100.00 1 t Matls 08.10 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit
Resource 4STRIPE Activity: 4 U. Cost Fotal Crew \$/Ur 1,532.810 Calendar: STD	Description Striping - Sub 0.5 Base Labor 730.88 730.88 OO 8.0 Manhours 24.0000 Standard	Traffic Cor Burden 729.93 729.93 Unit Units/	Pcs/Wste 1.00 Itrol Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417	Quantity 115.00 Equipm 72 72 \$/Crew Hou	LF	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U 0	100.00 1 t Matls 08.10 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 7/MH 671 Construction	115.00 t: LS Total 1,640.91 1,640.91
Resource 4STRIPE Activity: 4 U. Cost Fotal Crew \$/Ur 1,532.810 Calendar: STD	Description Striping - Sub 0.5 Base Labor 730.88 730.88 OO 8.0 Manhours 24.0000 Standard	Traffic Cor Burden 729.93 729.93 Unit Units/	Pcs/Wste 1.00 Itrol Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013	LF	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U 0	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 7/MH 671 Construction	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit 730.8800
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource	Description Striping - Sub 0.5 Base Labor 730.88 730.88 00 Crew Hrs/ 00 Manhours 24.0000 Standard 4 Man Labor C	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs	Pcs/Wste 1.00 Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 : S 1	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013	LF000000 Unit	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U 0 5221 8.00	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs:	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 7/MH 671 Construction 3.00 Equi	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 pment Pcs: 1.00 Total 108.10
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL	Description Striping - Sub 0.5 Base Labor 730.88 730.88 O Manhours 24.0000 Standard 4 4 Man Labor C Description	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs	Pcs/Wste	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013	LF00000000 Unit DAY	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U 0 5221 8.00 Unit Cost	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs:	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 7/MH 671 Construction 3.00 Equi	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 pment Pcs: 1.00 Total 108.10 72.00
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ui 1,532.810 Callendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU	Description Striping - Sub 0.5 Base Labor 730.88 730.88 730.88 O Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs	Pcs/Wste 1.00 Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 :: S 1 Pcs/Wste 1.00	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 10	LF00000000 Unit DAY	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U 0 Unit Cost 100.00	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 //MH 671 Construction 3.00 Equi Actual UC 108.10	115.00 t: LS Total 1,640.91 1,640.910 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 Pment Pcs: 1.00 Total 108.10 72.00 941.58
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG	Description Striping - Sub 0.5 Base Labor 730.88 730.88 00 Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control Utility Pickup	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs Crew Proc	Pcs/Wste 1.00 trol Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 :: S 1 Pcs/Wste 1.00 1.00	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 100 Quantity 1.00 8.00	LF nent .00 .00 r 3	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 ts U 0 5221 8.00 Unit Cost 100.00 9.00	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10 100.00	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 C/MH 671 Construction 3.00 Equi Actual UC 108.10 9.00	115.00 t: LS Total 1,640.91 1,640.910 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 Pment Pcs: 1.00 Total 108.10 72.00 941.58
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4	Description Striping - Sub 0.5 Base Labor 730.88 730.88 730.88 init Crew Hrs/ 00 8.0 Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs Crew Proc	Pcs/Wste 1.00 Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 :: S 1 Pcs/Wste 1.00 2.00 1.00	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 100 Quantity 1.00 8.00 16.00	LF nent .00 .00 r 3	0.0 0.0 Shiff 1.000 MH/Unit 24.0000	1.00 Quantity: Is Cons 0 1 0 1 is U 0 Unit Cost 100.00 9.00 28.68	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 100.00	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 7/MH 671 Construction 3.00 Equi Actual UC 108.10 9.00 58.85	115.00 t: LS Total 1,640.91 1,640.910 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 pment Pcs: 1.00 Total 108.10 72.00 941.58 519.23
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/UI 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 4	Description Striping - Sub 0.5 Base Labor 730.88 730.88 730.88 init Crew Hrs/ 00 8.0 Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs Crew Proc Materials	Pcs/Wste 1.00 Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 :: S 1 Pcs/Wste 1.00 2.00 1.00	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 100 Quantity 1.00 8.00 16.00	LF nent .00 .00 r 3	0.0 0.0 Shift 1.000 MH/Unit 24.0000 WC: Crew Hrs:	1.00 Quantity: Is Cons 0 1 0 1 ts U 0 5221 8.00 Unit Cost 100.00 9.00 28.68 34.00	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 7/MH 671 Construction 3.00 Equi Actual UC 108.10 9.00 58.85 64.90	115.00 t: LS Total 1,640.91 1,640.910 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 pment Pcs: 1.00 Total 108.10 72.00 941.58 519.23
Resource 4STRIPE Activity: 4 U. Cost Fotal Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4	Description Striping - Sub 0.5 Base Labor 730.88 730.88 nit Crew Hrs/ 00 8.0 Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs Crew Proc Materials	Pcs/Wste 1.00 Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 :: S 1 Pcs/Wste 1.00 2.00 1.00 Donstruction	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 100 Quantity 1.00 8.00 16.00	LF nent .00 .00 r 3	0.0 0.0 Shift 1.000 MH/Unit 24.0000 WC: Crew Hrs:	1.00 Quantity: Is Cons 0 1 0 1 is U 0 5221 8.00 Unit Cost 100.00 9.00 28.68 34.00 Quantity:	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00 1 Concrete (1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 C/MH 671 Construction 3.00 Equi Actual UC 108.10 9.00 58.85 64.90 Uni Construction Actual UC	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 Poment Pcs: 1.00 Total 108.10 72.00 941.58 519.23 t: LS
Resource 4STRIPE Activity: 4 U. Cost Fotal Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 4 Calendar: STD	Description Striping - Sub 0.5 Base Labor 730.88 730.88 730.88 init Crew Hrs/ 00 8.0 Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs Crew Proc Materials	Pcs/Wste 1.00 Total Labor 1,460.81 1,460.81 Crew Hr 0.1250 Unit/MH 0.0417 /Shift: 8 :: S 1 Pcs/Wste 1.00 2.00 1.00 construction /Shift: 8	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 10 Quantity 1.00 8.00 16.00 8.00	LF nent000000 Unit DAY HR MH MH Unit	0.0 0.0 Shift 1.000 MH/Unit 24.0000 WC: Crew Hrs:	1.00 Quantity: Is Cons 0 1 0 1 is U 0 5221 8.00 Unit Cost 100.00 9.00 28.68 34.00 Quantity: 5221	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 100.00 100.00 1 Concrete (1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 C/MH 671 Construction 3.00 Equi Actual UC 108.10 9.00 58.85 64.90 Uni Construction	115.00 t: LS Total 1,640.91 1,640.91 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 pment Pcs: 1.00 Total 108.10 72.00 941.58 519.23
Resource 4STRIPE Activity: 4 U. Cost Total Crew \$/Ur 1,532.810 Calendar: STD Crew: LAB4 Resource 3TCMTL 8UTLPU FLAG LAB4 Activity: 4 Calendar: STD Resource 4PAVE	Description Striping - Sub 0.5 Base Labor 730.88 730.88 730.88 init Crew Hrs/ 00 8.00 Manhours 24.0000 Standard 4 4 Man Labor C Description Traffic Control Utility Pickup Flagger Labor Foreman 0.6 Standard Description	Traffic Cor Burden 729.93 729.93 Unit Units/ 000 Hrs Crew Proc Materials	Pcs/Wste	Quantity 115.00 Equipm 72 72 \$/Crew Hou 191.6013 Eff: 100 Quantity 1.00 8.00 16.00 8.00	LF nent000000 Unit DAY HR MH MH Unit	0.0 0.0 Shift 1.000 MH/Unit 24.0000 WC: Crew Hrs:	1.00 Quantity: Is Cons 0 1 0 1 its U 0 5221 8.00 Unit Cost 100.00 9.00 28.68 34.00 Quantity: 5221 Unit Cost	100.00 1 t Matls 08.10 08.10 Inits/Shift 1.0000 Total Labor 60.8 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 100.00 1 Concrete (Tax/OT %	1.00 Uni Sub 0.00 0.00 Shifts/Unit 1.0000 C/MH 671 Construction 3.00 Equi Actual UC 108.10 9.00 58.85 64.90 Uni Construction Actual UC	115.00 t: LS Total 1,640.91 1,640.910 \$/Shift 1,640.9100 Base Labor/Unit 730.8800 Pment Pcs: 1.00 Total 108.10 72.00 941.58 519.23 t: LS Total 0.00

020TDPUDCIP	Truckee Do	onner PUD CIP Co	ost Basis					03/16/2	2020 7:29 AM	Page 12 of 35
U. Cost	0.00	0.00	0.00	0	.00	102.45		0.00	0.00	102.45
Total	0.00	0.00	0.00	0	.00	23,564.44		0.00	0.00	23,564.44
Calendar: STD	Standard	Hrs	/Shift: 8			WC: 52	21	Concrete	e Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
212"H2O	12" Water Lin	e	1.00	260.00	LF		51.87	108.10	56.07	14,578.58
2BASE	Base Rock		1.00	60.00	TON		9.75	108.10	10.54	632.39
2MEGALUG	MJ Megalug Pa	ack	1.00	2.00	EA		115.82	108.10	125.20	250.40
2MJFITTING	MJ Fitting		1.00	1.00	EA		1,935.30	108.10	2,092.06	2,092.06
2PIPEACC	Pipe Accessor	ries	1.00	230.00	LF		2.20	108.10	2.38	546.99
2PIPEALLOW	Misc Pipe Mat	l Allowance	1.00	23,574.84	LS		0.10	108.10	0.11	2,548.4
2SAND	Bedding Sand	- FOB Plant	1.00	55.00	TON		6.00	108.10	6.49	356.73
	Valve Allowar	14	1.00				4,734.22	108.10	5,117.70	2,558.85
Biditem	Valve Allowar	14		n e 220.0	EA 00 LF 00 LF		4,734.22	108.10	5,117.70	2,558.8
	Valve Allowar	14	" Water Lir	n e 220.0	00 LF 00 LF	Perm Matls		108.10	5,117.70 Sub	
Biditem 50		14 Tak Bid	" Water Lir eoff Qty: Qty:	1 e 220.0 220.0 Equipm	00 LF 00 LF					Tota
Biditem 50 U. Cost	Base Labor	14 Tak Bid Burden	" Water Lir eoff Qty: Qty: Total Labor	1 e 220.0 220.0 Equipm	00 LF 00 LF nent	Perm Matls	Cons	t Matls	Sub	7ota 190.94 42,006.68
Biditem 50 U. Cost	Base Labor 12.78	14 Tak Bid Burden 12.14	" Water Lir eoff Qty: Qty: Total Labor 24.92	220.0 220.0 Equipm 13 2,944	00 LF 00 LF nent 38	Perm Matls 140.24 30,851.99	Cons	t Matls 1.08 37.82	Sub 11.32	Tota 190.94 42,006.68
Biditem 50 U. Cost Total	Base Labor 12.78 2,812.46	14 Tak Bid Burden 12.14 2,670.12	"Water Line off Qty: Qty: Total Labor 24.92 5,482.58	220.0 220.0 Equipm 13 2,944	00 LF 00 LF nent 38	Perm Matls 140.24 30,851.99 \$/MH	Cons 2	t Matis 1.08 37.82	Sub 11.32 2,490.00	Tota 190.94
Biditem 50 U. Cost Total Mar	Base Labor 12.78 2,812.46	## Tak Bid Burden 12.14 2,670.12 Unit/MH	"Water Lineoff Qty: Qty: Total Labor 24.92 5,482.58	220.0 220.0 Equipm 13 2,944	00 LF 00 LF 	Perm Matls 140.24 30,851.99 \$/MH 5472	Cons 2 3ase Labor/	t Matis 1.08 37.82	Sub 11.32 2,490.00	Tota 190.94 42,006.68 Unit/CF 11.0000
Biditem 50 U. Cost Total Mar 78.	Base Labor 12.78 2,812.46 shours	14 Tak Bid Burden 12.14 2,670.12 Unit/MH 2.8205	"Water Lineoff Qty: Qty: Total Labor 24.92 5,482.58	220.0 220.0 Equipm 13 2,944	00 LF 00 LF 38 29	Perm Matls 140.24 30,851.99 \$/MH 5472	Cons 2 Base Labor/ 36.05 Quantity:	t Matis 1.08 37.82 MH	Sub 11.32 2,490.00 Total Labor/MH 70.2895	Tota 190.94 42,006.68 Unit/CF 11.0000
Biditem 50 U. Cost Total Mar	Base Labor 12.78 2,812.46 shours 0000	## Tak Bid Burden 12.14 2,670.12 Unit/MH 2.8205 Sawcut	"Water Line off Qty: Qty: Total Labor 24.92 5,482.58 MH/Uni 0.354	220.0 220.0 Equipm 13 2,944 it 5	00 LF 00 LF 38 29	Perm Matis 140.24 30,851.99 \$/MH 5472	Cons 2 3ase Labor/ 36.05 Quantity:	t Matis 1.08 37.82 MH 72	Sub 11.32 2,490.00 Total Labor/MH 70.2895	Tota 190.94 42,006.66 Unit/CI 11.0000 it: LF

Activity:	50.1	Sawcu	t			Quantity: 440	Unit	: LF
	Base Labor	Burder	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	0.29	0.28	0.57	0.15	0.00	0.05	0.00	0.77
Total	128.98	122.03	251.01	67.52	0.00	21.62	0.00	340.15
Crew \$	/Unit Crew	Hrs/Unit L	Inits/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	t Shifts/Unit	\$/Shift
0.7	7239	0.0045	220.0000	159.2650	0.2500	1,760.0000	0.0006	1,360.6000
	Manhours	;	Unit/MH		MH/Unit	Total	Labor/MH	Base Labor/Unit
	4.0000		110.0000		0.0091		62.7525	0.2931
Calendar: S7	ΓD Standard		Hrs/Shift: 8		WC: 52	221 Concre	ete Construction	
	.D	_		Ecc. 400.00		00 1 1	D 200 F :	. 5 2.00

Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 2.00 Equipment Pcs: 2.00 Crew: LAB4 4 Man Labor Crew

Notes: Assume an average of 4" pavement depth.

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3MISCTOOL	Misc Tool Allowance	1.00	2.00	HR	10.00	108.10	10.81	21.62
8231	SAW CONCRETE 20-29HP SELF PR	1.00	2.00	HR	22.90	108.10	24.76	49.52
8UTLPU	Utility Pickup	1.00	2.00	HR	9.00	100.00	9.00	18.00
LAB4	Labor Foreman	1.00	2.00	МН	34.00	100.00	64.91	129.81
LABORER	Laborer	1.00	2.00	МН	30.49	100.00	60.60	121.20

Activity:	50.2	50.2 Excavate/Install/Backfill				C	Quantity: 220			LF	
		Base Labor	Е	Burden	Total Lab	or Equipment	Perm Matls	Const Matls	Sub		Total
U. Cost		7.10		6.61	13.7	71 10.65	0.00	0.49	8.36		33.21
Total		1,562.08	1,4	54.52	3,016.6	2,342.39	0.00	108.10	1,840.00		7,307.09
Crew	\$/Unit	Crew	Hrs/Unit	Uni	ts/Crew Hr	\$/Crew Hour	Shifts	Units/Shif	t Shifts	/Unit	\$/Shift
24	.3590		0.0364		27.5000	669.8738	1.0000	220.0000	0.0	0045	7,307.0900
		Manhours			Unit/MH		MH/Unit	Total	Labor/MH		Base Labor/Unit
		40.0000			5.5000		0.1818		75.4150		7.1004

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 **Concrete Construction**

Crew: SMPIPE	E Small Pipe Crew Prod:	S 1	Eff: 10	0.00	Crew Hrs: 8.00	Labor Pcs:	5.00 Equ	ipment Pcs: 3.00
Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3TRAFFICPLAT	Traffic Plate	1.00	2.00	EA/D	50.00	108.10	54.05	108.10
4HAUL	Hauling - Sub	1.00	16.00	HR	115.00	100.00	115.00	1,840.00
8031	ROLLER 18-29" WALKBEHIND DBL	1.00	8.00	HR	37.47	108.10	40.50	324.01
8267	LOADER WHEEL 2.5-2.9 CUBIC Y	1.00	8.00	HR	103.25	108.10	111.61	892.86
8276	EXCAVATOR 35000-39999#	1.00	8.00	HR	130.15	108.10	140.69	1,125.52
LABORER	Laborer	2.00	16.00	MH	30.49	100.00	60.60	969.58
OPER4	Operator Foreman	1.00	8.00	MH	48.00	100.00	89.27	714.13
OPERATOR	Operator	2.00	16.00	MH	43.14	100.00	83.31	1,332.89
Activity: 50).3 AC Patch Pa	ving			Ouantity:	1100	Un	it: SF

Activity:	50.3 AC Patch Paving			Qu	iantity: 1100		Unit: SF		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total	
U. Cost	0.36	0.33	0.69	0.42	2.76	0.00	0.49	4.36	
Total	390.52	363.64	754.16	462.38	3,039.77	0.00	540.00	4,796.31	
					,			,	

1.0372	0.0018	550.0000	570.4350	0.2500	4,400.0000	0.0002	19,185.2400
	Manhours	Unit/MH		MH/Unit	Total Labor/MH		Base Labor/Unit
	10.0000	110.0000		0.0091	75.4160		0.3550

Units/Shift

Shifts/Unit

Shifts

\$/Shift

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

\$/Crew Hour

Crew: BKFL Backfill Crew Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 5.00 Equipment Pcs: 4.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
2A	ASPHALT	1.00	36.00	TON	72.00	108.10	77.83	2,801.95
2TACKCOAT	Tack Coat	1.00	440.00	LF	0.50	108.10	0.54	237.82
4HAUL	Hauling - Sub	1.00	36.00	TON	15.00	100.00	15.00	540.00
8034	ROLLER 41-49" VIB SINGLE DRU	1.00	2.00	HR	60.26	108.10	65.14	130.27
8243	BACKHOE/LOADER 60-90HP 4WD	1.00	2.00	HR	50.21	108.10	54.28	108.56
8324	TRUCK WATER 2000-2999 GALLON	1.00	2.00	HR	60.07	108.10	64.94	129.88
8BITCHPOT	Bitch Pot	1.00	2.00	HR	35.00	108.10	37.84	75.67
8UTLPU	Utility Pickup	1.00	2.00	HR	9.00	100.00	9.00	18.00
LABORER	Laborer	2.00	4.00	МН	30.49	100.00	60.60	242.40
OPER4	Operator Foreman	1.00	2.00	МН	48.00	100.00	89.27	178.54
OPERATOR	Operator	2.00	4.00	MH	43.14	100.00	83.31	333.22

Activity: 50.4 Striping & Signage Quantity: 1 Unit: LS

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Notes: Assume approx 50% of all trench will require re-striping

Crew \$/Unit

Crew Hrs/Unit

Units/Crew Hr

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
4STRIPE	Striping - Sub	1.00	110.00	LF	1.00	100.00	1.00	110.00

Activity:	50.5	Traffic Co	ntrol		Quantity: 1			Unit: LS	
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total	
U. Cost	730.88	729.93	1,460.81	72.00	0.00	108.10	0.00	1,640.91	
Total	730.88	729.93	1,460.81	72.00	0.00	108.10	0.00	1,640.91	
Total	730.00	727.73	1,400.01	72.00	0.00	100.10	0.00	1,040.	

Cr	ew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
1,5	32.8100	8.0000	0.1250	191.6013	1.0000	1.0000	1.0000	1,640.9100

Manh	urs Unit/MF	MH/Unit	Total Labor/MH	Base Labor/Unit
24.0		24.0000	60.8671	730.8800

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: LAB4 4 Man Labor Crew Prod: S 1 Eff: 100.00 Crew Hrs: 8.00 Labor Pcs: 3.00 Equipment Pcs: 1.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3TCMTL	Traffic Control Materials	1.00	1.00	DAY	100.00	108.10	108.10	108.10
8UTLPU	Utility Pickup	1.00	8.00	HR	9.00	100.00	9.00	72.00
FLAG	Flagger	2.00	16.00	МН	28.68	100.00	58.85	941.58
LAB4	Labor Foreman	1.00	8.00	МН	34.00	100.00	64.90	519.23

Activity: 5	0.6	Street Recons	struction				Quantity:	1	Unit	: LS	
Calendar: STD	Standard	Hrs/SI	hift: 8			WC:	5221	Concrete	e Construction		
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC		Total
4PAVE	AC Paving		1.00	0.00	LS		13.053.21	100.00	0.00		0.00

Activity:	50.9	Materials			C	Quantity: 220		Unit: LF	
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total	
U. Cost	0.00	0.00	0.00	0.00	126.42	0.00	0.00	126.42	
Total	0.00	0.00	0.00	0.00	27,812.22	0.00	0.00	27,812.22	

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
214"H2O	14" Water Line	1.00	240.00	LF	67.43	108.10	72.89	17,494.04
2BASE	Base Rock	1.00	60.00	TON	9.75	108.10	10.54	632.39
2MEGALUG	MJ Megalug Pack	1.00	2.00	EA	166.90	108.10	180.42	360.84
2MJFITTING	MJ Fitting	1.00	1.00	EA	2,500.00	108.10	2,702.50	2,702.50
2PIPEACC	Pipe Accessories	1.00	220.00	LF	2.20	108.10	2.38	523.20
2PIPEALLOW	Misc Pipe Matl Allowance	1.00	27,573.82	LS	0.10	108.10	0.11	2,980.73
2SAND	Bedding Sand - FOB Plant	1.00	58.00	TON	6.00	108.10	6.49	376.19
2VALVEALLOW	Valve Allowance	1.00	0.50	EA	5,484.66	100.00	5,484.66	2,742.33

Biditem 16" Water Line

60

Takeoff Qty: 200.000 LF Bid Qty: 200.000 LF

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	13.93	13.23	27.16	15.17	191.55	1.01	9.55	244.45
Total	2,786.66	2,645.70	5,432.36	3,034.92	38,309.86	202.69	1,909.45	48,889.28

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
77.2000	2.5907	0.3860	633.2808	36.0966	70.3674	10.2041

Activity:	60.1	Sawcut		Quantity: 400			Unit: LF		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total	
U. Cost	0.26	0.24	0.50	0.14	0.00	0.04	0.00	0.68	
Total	103.18	97.61	200.79	54.01	0.00	17.30	0.00	272.10	
Craw	S/Unit Crew H	rs/Unit Unit	s/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift	

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Snirts	Units/Snift	Snifts/Unit	\$/Snift
0.6370	0.0040	250.0000	159.2500	0.2000	2,000.0000	0.0005	1,360.5000

Manhours	Unit/MH	MH/Unit	lotal Labor/MH	Base Labor/Unit
3.2000	125.0000	0.0080	62.7469	0.2580

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: LAB4 4 Man Labor Crew Prod: 5 0.2 Eff: 100.00 Crew Hrs: 1.60 Labor Pcs: 2.00 Equipment Pcs: 2.00

Notes: Assume an average of 4" pavement depth.

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
3MISCTOOL	Misc Tool Allowance	1.00	1.60	HR	10.00	108.10	10.81	17.30
8231	SAW CONCRETE 20-29HP SELF PR	1.00	1.60	HR	22.90	108.10	24.76	39.61
8UTLPU	Utility Pickup	1.00	1.60	HR	9.00	100.00	9.00	14.40

103.8	64.90	100.00	34.00		МН	1.60	1.00		nan	Labor Forem	AB4
96.9	60.59	100.00	30.49		MH	1.60	1.00		iidii	Laborer	ABORER
LF	Unit:	200	uantity:	0		l	tall/Backfil	xcavate/In	F	.2	ctivity: 60
Tota	Sub	: Matls		Perm Matls	nent	Equipn	Total Labor	Burden		Base Labor	.cerrieyr
34.2	6.57	0.39	Const	0.00	.23		15.08	7.27		7.81	J. Cost
6,854.8	,314.45			0.00		2,446	3,016.60	54.52	1.4	1,562.08	otal
\$/Shif	Shifts/Unit	nits/Shift		Shifts		\$/Crew Hou		Units/Cr	Hrs/Unit		Crew \$/Ur
6,854.870	0.0050	00.000	20	1.0000	3	682.8913	0000	25.	0.0400	(27.315
Base Labor/Uni	н	Total Labor//		MH/Unit			Unit/MH			Manhours	
7.810	0	75.41		0.2000			5.0000			40.0000	
	nstruction	Concrete Co	21	WC: 522			hift: 8	Hrs/		Standard	alendar: STD
ent Pcs: 3.00	5.00 Equipm	Labor Pcs:	00	Crew Hrs: 8.0	0.00	Eff: 10	5 1	Prod:	Crew	Small Pipe	rew: SMPIP
Tota	Actual UC	Tax/OT %	Unit Cost		Unit	Quantity	Pcs/Wste			Description	Resource
77.2	54.05	108.10	50.00		EA/D	1.43	1.00		e	Traffic Plate	TRAFFICPLAT
1,314.4	115.00	100.00	115.00		HR	11.43	1.00			Hauling - Sul	HAUL
324.0	40.50	108.10	37.47		HR	8.00	1.00	HIND DBL		ROLLER 18-29	8031
892.8	111.61	108.10	103.25		HR	8.00	1.00	CUBIC Y	EL 2.5-2.9	LOADER WHEE	3267
1,229.6	153.71	108.10	142.19		HR	8.00	1.00	2999#	40000-4	EXCAVATOR	3277
969.5	60.60	100.00	30.49		МН	16.00	2.00			Laborer	ABORER
714.1	89.27	100.00	48.00		МН	8.00	1.00		reman	Operator Fo	DPER4
1,332.8	83.31	100.00	43.14		МН	16.00	2.00			Operator	OPERATOR
SF	Unit:	1000	uantity:	Qı			ing	C Patch Pa	A	.3	ctivity: 60
Tota	Sub	: Matls	Const	Perm Matls	nent	Equipn	Total Labor	Burden		Base Labor	
4.5	0.50	0.00		2.78	.46		0.75	0.36		0.39	J. Cost
4,496.2	495.00	0.00		2,784.66	.38	462	754.16	63.64	3	390.52	otal
\$/Shif	Shifts/Unit	nits/Shift	U	Shifts	r	\$/Crew Hou	w Hr	Units/Cr	Hrs/Unit	t Crew H	Crew \$/Ur
17,984.800	0.0003	00.000	4,00	0.2500)	570.4350	0000	500	0.0020) (1.140
Base Labor/Uni	н	Total Labor//		MH/Unit			Unit/MH			Manhours	
0.390		75.41		0.0100			00.0000			10.0000	
		Concrete Co	21	WC: 522			hift: 8			Standard	alendar: STD
ent Pcs: 4.00	5.00 Equipm	Labor Pcs:	00	Crew Hrs: 2.0	0.00	Eff: 10	5 0.25	Prod:	ew		rew: BKFL
Tota	Actual UC	Tax/OT %	Unit Cost		Unit	Quantity	Pcs/Wste			Description	Resource
2,568.4	77.83	108.10	72.00		TON	33.00	1.00			ASPHALT	A.
216.2	0.54	108.10	0.50		LF	400.00	1.00			Tack Coat	TACKCOAT
495.0	15.00	100.00	15.00		TON	33.00	1.00		ıh	Hauling - Sul	HAUL
130.2	65.14	108.10	60.26		HR	2.00	1.00	LE DRU		ROLLER 41-49	8034
108.5	54.28	108.10	50.21		HR	2.00	1.00			BACKHOE/LOA	3243
129.8	64.94	108.10	60.07		HR	2.00	1.00			TRUCK WATER	3324
75.6	37.84	108.10	35.00		HR	2.00	1.00			Bitch Pot	BITCHPOT
18.0	9.00	100.00	9.00		HR	2.00	1.00		al	Utility Picku	BUTLPU
242.4	60.60	100.00	30.49		МН	4.00	2.00		•	Laborer	ABORER
178.5	89.27	100.00	48.00		MH	2.00	1.00		reman	Operator For	OPER4
170.5	83.31	100.00	43.14		МН	4.00	2.00			Operator	PERATOR
	03.31										
333.2	Unit:	1	uantity:	Q			nage	triping & Si	S	.4	ctivity: 60

ResourceDescriptionPcs/WsteQuantityUnitUnit CostTax/OT %Actual UCTotal4STRIPEStriping - Sub1.00100.00LF1.00100.001.00100.00

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Truckee Donner PUD CIP Cost Basis

Activity:	60.5	Traffic Cor	ntrol			C	Quantity:	1	Unit	: LS
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Total
U. Cost	730.88	729.93	1,460.81		2.00	0.00	1	08.10	0.00	1,640.91
Total	730.88	729.93	1,460.81	72	2.00	0.00	1	08.10	0.00	1,640.91
Crew \$	/Unit Crew Hr	s/Unit Units/	Crew Hr	\$/Crew Hou	ır	Shifts	ι	Jnits/Shift	Shifts/Unit	\$/Shift
1,532.8	3100 8.	0000	0.1250	191.601	3	1.0000		1.0000	1.0000	1,640.9100
	Manhours		Unit/MH			MH/Unit		Total Labor	·/MH	Base Labor/Unit
	24.0000		0.0417			24.0000		60.8		730.8800
Calendar: ST	D Standard	Hrs	/Shift: 8			WC: 52	21	Concrete (Construction	
Crew: LA	AB4 4 Man Labor	Crew Prod	d: S 1	Eff: 10	0.00	Crew Hrs: 8.	00	Labor Pcs:	3.00 Equip	ment Pcs: 1.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
3TCMTL	Traffic Contro	ol Materials	1.00	1.00	DAY		100.00	108.10	108.10	108.10
8UTLPU	Utility Pickup		1.00	8.00	HR		9.00	100.00	9.00	72.00
FLAG	Flagger		2.00	16.00	MH		28.68	100.00	58.85	941.58
LAB4	Labor Forema	ın	1.00	8.00	MH		34.00	100.00	64.90	519.23
Activity:	60.6	Street Rec	onstruction			C	Quantity:	1	Unit	: LS
Calendar: ST	D Standard	Hrs	:/Shift: 8			WC: 52	21	Concrete (Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
4PAVE	AC Paving		1.00	0.00	LS	1:	3,053.21	100.00	0.00	0.00
Activity:	60.9	Materials				(Quantity:	200	Unit	: LF
Activity.										
	Base Labor	Burden	Total Labor	Equipn		Perm Matls	Cons	t Matls	Sub	Total
U. Cost Total	0.00	0.00	0.00		0.00	177.63		0.00	0.00	177.63
Total	0.00	0.00	0.00		0.00	35,525.20		0.00	0.00	35,525.20
Calendar: ST	D Standard	Hrs	/Shift: 8			WC: 52	21	Concrete (Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
216"H2O	16" Water Lin	e	1.00	220.00	LF		89.70	108.10	96.97	21,332.45
2BASE	Base Rock		1.00	66.00	TON		9.75	108.10	10.54	695.62
I							239.18	108.10	258.56	517.11
2MEGALUG	MJ Megalug Pa	ack	1.00	2.00	EA		239.10	100.10	230.30	
2MEGALUG 2MJFITTING	MJ Megalug Pa MJ Fitting	ack	1.00 1.00	2.00 1.00			3,491.77	108.10	3,774.60	3,774.60
					EA					
2MJFITTING	MJ Fitting Pipe Accessor	ies	1.00	1.00	EA LF		3,491.77	108.10	3,774.60	3,774.60
2MJFITTING 2PIPEACC	MJ Fitting Pipe Accessor	ies l Allowance	1.00 1.00	1.00 200.00	EA LF LS		3,491.77 2.50	108.10 108.10	3,774.60 2.70	3,774.60 540.50

Biditem 8" PRV

Takeoff Qty: 1.000 EA **70** 1.000 EA Bid Qty:

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	3,124.16	2,909.04	6,033.20	4,360.77	21,378.13	0.00	920.00	32,692.10
Total	3,124.16	2,909.04	6,033.20	4,360.77	21,378.13	0.00	920.00	32,692.10

ш	Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	l otal Labor/MH	Unit/CH
	80.0000	0.0125	80.0000	408.6513	39.0520	75.4150	0.0625

Activity:	70.1	PRV Mat	PRV Materials			Quantity: 1			EA
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub		Total
U. Cost	0.00	0.00	0.00	0.00	21,272.73	0.00	0.00		21,272.73
Total	0.00	0.00	0.00	0.00	21,272.73	0.00	0.00		21,272.73

Calendar: STD	Standard	Hrs/Shift: 8			WC:	5221	Concrete	Construction	
Resource	Description	Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
2BNGKIT	Bolt/Nut/Gasket Kit	1.00	2.00	EA		125.00	108.10	135.13	270.25
2PIPEALLOW	Misc Pipe Matl Allowance	1.00	19,197.48	LS		0.10	108.10	0.11	2,075.25
2PIPESPOOL	Pipe Spool	1.00	2.00	EA		748.00	108.10	808.59	1,617.18
2PRV	Pressure Reducing Valve	1.00	1.00	EA		7,513.00	108.10	8,121.55	8,121.55
2PRVVAULT	Precast PRV Vault	1.00	1.00	EA		8,500.00	108.10	9,188.50	9,188.50

ZPRVVAULI	Precast PRV	Vault	1.00	1.00	LA		8,500.00	106.10	9,100	.50	7,100.30
Activity: 7	0.2	Install PR	V Vault				Quantity:	1		Uni	it: LS
	Base Labor	Burden	Total Labor	Equipm	nent	Perm Mat	ls Cons	t Matls	Sub		Total
U. Cost	1,562.08	1,454.52	3,016.60	2,342	.39	105.4	0	0.00	920.00)	6,384.39
Total	1,562.08	1,454.52	3,016.60	2,342	.39	105.4	0	0.00	920.00)	6,384.39
Crew \$/U	nit Crew H	rs/Unit Unit	s/Crew Hr	\$/Crew Hou	r	Shift	s U	Inits/Shift	Shif	ts/Unit	\$/Shift
5,358.99	00 8	3.0000	0.1250	669.8738	3	1.0000	0	1.0000	1	.0000	6,384.3900
	Manhours		Unit/MH			MH/Unit		Total Lab	or/MH		Base Labor/Unit
	40.0000		0.0250			40.0000		75.	.4150		1,562.0800
Calendar: STD	Standard	Hı	rs/Shift: 8			WC:	5221	Concrete	e Construct	ion	
Crew: SMPI	PE Small Pipe	Crew Pro	od: S 1	Eff: 10	0.00	Crew Hrs:	8.00	Labor Pc	s: 5.00	Equi	pment Pcs: 3.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actua	I UC	Total
2BASE	Base Rock		1.00	10.00	TON		9.75	108.10	10	.54	105.40
4HAUL	Hauling - Sub)	1.00	8.00	HR		115.00	100.00	115	.00	920.00
8031	ROLLER 18-29"	WALKBEHIND DBL	1.00	8.00	HR		37.47	108.10	40	.50	324.01
8267	LOADER WHEE	L 2.5-2.9 CUBIC Y	1.00	8.00	HR		103.25	108.10	111	.61	892.86

	· · · · · · · · · · · · · · · · · · ·							
2BASE	Base Rock	1.00	10.00	TON	9.75	108.10	10.54	105.40
4HAUL	Hauling - Sub	1.00	8.00	HR	115.00	100.00	115.00	920.00
8031	ROLLER 18-29" WALKBEHIND DBL	1.00	8.00	HR	37.47	108.10	40.50	324.01
8267	LOADER WHEEL 2.5-2.9 CUBIC Y	1.00	8.00	HR	103.25	108.10	111.61	892.86
8276	EXCAVATOR 35000-39999#	1.00	8.00	HR	130.15	108.10	140.69	1,125.52
LABORER	Laborer	2.00	16.00	МН	30.49	100.00	60.60	969.58
OPER4	Operator Foreman	1.00	8.00	МН	48.00	100.00	89.27	714.13
OPERATOR	Operator	2.00	16.00	МН	43.14	100.00	83.31	1,332.89

Activity:	70.3	Install PRV Piping/Valve			C	uantity: 1	Unit	Unit: LS	
	Base Labo	r Bur	den Total La	bor Equipment	Perm Matls	Const Matls	Sub	Total	
U. Cost	1,562.08	3 1,454	.52 3,016.	.60 2,018.38	0.00	0.00	0.00	5,034.98	
Total	1,562.08	3 1,454	.52 3,016.	.60 2,018.38	0.00	0.00	0.00	5,034.98	
Crew	\$/Unit Cre	w Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift	
5,034.	9800	8.0000	0.1250	629.3725	1.0000	1.0000	1.0000	5,034.9800	
								5 1 1 11 11	

Manhours	Unit/MH	MH/Unit	Total Labor/MH	Base Labor/Unit
40.0000	0.0250	40.0000	75.4150	1,562.0800

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: SMPIPE Small Pipe Crew Prod: S 1 Eff: 100.00 Crew Hrs: 8.00 Labor Pcs: 5.00 Equipment Pcs: 2.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
8267	LOADER WHEEL 2.5-2.9 CUBIC Y	1.00	8.00	HR	103.25	108.10	111.61	892.86
8276	EXCAVATOR 35000-39999#	1.00	8.00	HR	130.15	108.10	140.69	1,125.52
LABORER	Laborer	2.00	16.00	MH	30.49	100.00	60.60	969.58
OPER4	Operator Foreman	1.00	8.00	MH	48.00	100.00	89.27	714.13
OPERATOR	Operator	2.00	16.00	MH	43.14	100.00	83.31	1,332.89

Biditem 12" PRV

71 Takeoff Qty: 1.000 EA Bid Qty: 1.000 EA

Base Labor Burden Total Labor Equipment Perm Matls Const Matls Sub Total

020TDPUDCI	P Truckee Do									
U. Cost	3,124.16	2,909.04	6,033.20	4,360	.77	28,111.28		0.00	920.00	39,425.25
Γotal	3,124.16	2,909.04	6,033.20	4,360	.77	28,111.28		0.00	920.00	39,425.25
	anhours	Unit/MU	MH/Unit			¢/MLI B	aso Labor/	МЫ Т	otal Labor/MH	Unit/CF
	0.0000	Unit/MH MH/Un 0.0125 80.000				\$/MH Base Labor/ 8156 39.05			75.4150	0.0625
Activity:	71.1	PRV Mater	ials			O	uantity:	1	Unit:	EA
	Base Labor	Burden	Total Labor	Equipm	nent	Perm Matls		t Matls	Sub	Tota
J. Cost	0.00	0.00	0.00		.00	28,005.88	COIIS	0.00	0.00	28,005.88
otal	0.00	0.00	0.00		.00	28,005.88		0.00	0.00	28,005.88
Calendar: ST	D Standard	Hrs	/Shift: 8			WC: 522	21	Concrete (Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
BNGKIT	Bolt/Nut/Gas	ket Kit	1.00	2.00	EA		125.00	108.10	135.13	270.25
PIPEALLOW			1.00	25,273.78	LS		0.10	108.10	0.11	2,732.10
PIPESPOOL	Pipe Spool	it Attowaries	1.00	2.00	EA		748.00	108.10	808.59	1,617.18
PRV		icing Valve	1.00	1.00	EA	42		108.10	13,116.85	13,116.85
2PRVVAULT	Pressure Redu Precast PRV \	-	1.00	1.00	EA		,134.00	108.10	10,269.50	10,269.50
activity:	71.2	Install PRV		.,,,			uantity:	1	Unit:	
ctivity.										
	Base Labor	Burden	Total Labor	Equipm		Perm Matls	Cons	Matls	Sub	Tota
J. Cost	1,562.08	1,454.52	3,016.60	2,342		105.40		0.00	920.00	6,384.39
otal	1,562.08	1,454.52	3,016.60	2,342	.39	105.40		0.00	920.00	6,384.39
Crew \$/	/Unit Crew Hr	s/Unit Units/	Crew Hr	\$/Crew Hou	r	Shifts	U	nits/Shift	Shifts/Unit	\$/Shif
E 250 0	0000	0000	0.4350	//0 0720)	4 0000		4 0000		
5,358.9	900 8.	0000	0.1250	669.8738	3	1.0000		1.0000	1.0000	6,384.3900
·	Manhours 40.0000	<u>'</u>	Unit/MH 0.0250	669.8738		MH/Unit 40.0000		Total Labor	т/мн 150	Base Labor/Uni
Calendar: ST	Manhours 40.0000	Hrs	Unit/MH 0.0250 //Shift: 8	669.8738 Eff: 10		MH/Unit		Total Labor	150 Construction	Base Labor/Uni
Calendar: ST Crew: SMI	Manhours 40.0000	Hrs	Unit/MH 0.0250 //Shift: 8		0.00	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	00	Total Labor 75.4 Concrete (150 Construction	Base Labor/Uni 1,562.0800 ment Pcs: 3.00
Calendar: ST Crew: SMI	Manhours 40.0000 D Standard PIPE Small Pipe C Description	Hrs	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste	Eff: 10	0.00 Unit	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT %	TOTAL	Base Labor/Uni 1,562.0800 ment Pcs: 3.00
Calendar: ST Crew: SMI Resource 2BASE	Manhours 40.0000 TD Standard PIPE Small Pipe C Description Base Rock	Hrs Crew Prod	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00	Eff: 100 Quantity 10.00	0.00 Unit TON	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10	Construction 5.00 Equipmode Actual UC 10.54	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40
Calendar: ST Crew: SMI Resource 2BASE 4HAUL	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub	Hrs Crew Prod	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00	Eff: 100 Quantity 10.00 8.00	0.00 Unit TON HR	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75 115.00	Total Labor 75.4 Concrete C Labor Pcs: Tax/0T % 108.10 100.00	Construction 5.00 Equipm Actual UC 10.54 115.00	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00
Calendar: ST Crew: SMI Resource PBASE HHAUL 8031	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29"	Hrs Trew Prod WALKBEHIND DBL	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00	Eff: 100 Quantity 10.00 8.00	0.00 Unit TON HR	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	9.75 115.00 37.47	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10	5.00 Equipr Actual UC 10.54 115.00 40.50	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00
Calendar: ST Crew: SMI Resource PBASE HHAUL B031 B267	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL	Hrs Crew Prod WALKBEHIND DBL . 2.5-2.9 CUBIC Y	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00 1.00	Eff: 100 Quantity 10.00 8.00 8.00 8.00	Unit TON HR HR	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75 115.00 37.47 103.25	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.0
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 8031 8267 8276	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3	Hrs Crew Prod WALKBEHIND DBL . 2.5-2.9 CUBIC Y	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00	Eff: 100 Quantity 10.00 8.00 8.00 8.00 8.00	Unit TON HR HR HR	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75 115.00 37.47 103.25 130.15	Total Labor 75.4 Concrete (Cabor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 108.10 108.10	5.00 Equips Actual UC 10.54 115.00 40.50 111.61 140.69	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.00 892.80 1,125.55
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 8031 8267 8276 LABORER	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer	Hrs Crew Prod WALKBEHIND DBL 2.5-2.9 CUBIC Y 85000-39999#	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 2.00	Eff: 100 Quantity 10.00 8.00 8.00 8.00 8.00 16.00	Unit TON HR HR HR HR	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	9.75 115.00 37.47 103.25 130.15 30.49	Total Labor 75.4 Concrete C Labor Pcs: Tax/OT % 108.10 108.10 108.10 108.10 108.00	5.00 Equipr Actual UC 10.54 115.00 40.50 111.61 140.69 60.60	Base Labor/Unit 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.01 892.86 1,125.52 969.58
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 3031 3267 3276 LABORER	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator Fore	Hrs Crew Prod WALKBEHIND DBL 2.5-2.9 CUBIC Y 85000-39999#	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00 2.00 1.00	Eff: 100 Quantity 10.00 8.00 8.00 8.00 8.00 16.00 8.00	Unit TON HR HR HR HR MH	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	9.75 115.00 37.47 103.25 130.15 30.49 48.00	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00	5.00 Equipm 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.07 892.86 1,125.52 969.58 714.13
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 3031 3267 3276 LABORER DPERATOR	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator	Hrs Crew Prod WALKBEHIND DBL 2.5-2.9 CUBIC Y 85000-39999# eman	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00	Eff: 100 Quantity 10.00 8.00 8.00 8.00 8.00 16.00	Unit TON HR HR HR HR	MH/Unit 40.0000	9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14	Total Labor 75.4 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00	5.00 Equipm 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.01 892.86 1,125.52 969.58 714.13 1,332.89
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 3031 3267 3276 LABORER DPERATOR	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3	Hrs Crew Proc WALKBEHIND DBL 2.5-2.9 CUBIC Y 85000-39999# eman	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 2.00 Piping/Valve	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00	Unit TON HR HR HR HR MH	MH/Unit 40.0000	9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14	Total Labor 75.4 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.07 892.86 1,125.52 969.58 714.13 1,332.89
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 8031 8267 8276 LABORER OPER4 OPERATOR	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator Operator 71.3 Base Labor	Hrs Crew Proc WALKBEHIND DBL 2.5-2.9 CUBIC Y 50000-39999# eman Install PRV Burden	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 Piping/Valve	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm	Unit TON HR HR HR MH MH	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100.00 100.00 1 Mattis	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	Base Labor/Unit 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.01 892.86 1,125.52 969.58 714.13 1,332.89
Calendar: ST Crew: SMI Resource RBASE HHAUL B031 B267 B276 LABORER DPERATOR ACTIVITY:	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3	Hrs Crew Proc WALKBEHIND DBL 2.5-2.9 CUBIC Y 85000-39999# eman	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 2.00 Piping/Valve	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00	Unit TON HR HR HR MH MH MH MH .38	MH/Unit 40.0000	9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14	Total Labor 75.4 Concrete C Labor Pcs: Tax/OT % 108.10 100.00 108.10 108.10 100.00 100.00 100.00	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.07 892.86 1,125.52 969.58 714.13 1,332.89 LS Tota 5,034.98
Calendar: ST Crew: SMI Resource PBASE HHAUL B031 B267 B276 CABORER DPERATOR ACTIVITY:	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08	Hrs. Crew Proc. WALKBEHIND DBL. 2.5-2.9 CUBIC Y 50000-39999# eman Install PRV Burden 1,454.52 1,454.52	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018	Unit TON HR HR HR MH MH MH	MH/Unit 40.0000	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 uantity:	Total Labor 75.4 Concrete (Capture 10 10 10 10 10 10 10 10 10 10 10 10 10	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.00 892.80 1,125.55 969.56 714.11 1,332.80 LS Tota 5,034.96 5,034.96
Calendar: ST Crew: SMI Resource RBASE RHAUL B031 B267 B276 CABORER DPERATOR CCTIVITY:	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08	Hrs. Crew Proc WALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 s/Unit Units/	Unit/MH 0.0250 /Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018	Unit TON HR HR HR MH MH MH MH	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 uantity:	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100.00 100.00 1 Matls 0.00	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.00 892.80 1,125.55 969.50 714.11 1,332.80 LS Tota 5,034.90 5,034.90
Calendar: ST Crew: SMI Resource PBASE HHAUL B031 B267 B276 CABORER DPERATOR ACTIVITY:	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08 //Unit Crew Hr 1800 8.	Hrs. Crew Proc WALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 s/Unit Units/	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60 Crew Hr 0.1250	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018 2,018	Unit TON HR HR HR MH MH MH MH	MH/Unit 40.0000	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 uantity:	Total Labor 75.4 Concrete (Cabor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 1.0000	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.0 892.80 1,125.55 969.56 714.11 1,332.80 LS Tota 5,034.96 \$/Shift 5,034.9800
Calendar: ST Crew: SMI Resource PBASE HHAUL B031 B267 B276 CABORER DPERATOR ACTIVITY:	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08	Hrs. Crew Process WALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 s/Unit Units/	Unit/MH 0.0250 /Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60 Crew Hr	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018 2,018	Unit TON HR HR HR MH MH MH MH	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0 Q Perm Matls 0.00 0.00 Shifts	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 uantity:	Total Labor 75.4 Concrete (Concrete	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 1.0000	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.00 892.80 1,125.55 969.50 714.11 1,332.80 LS Tota 5,034.90 \$/Shift 5,034.9800 Base Labor/Uni
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 3031 3267 3276 LABORER DPERATOR Activity: J. Cost otal Crew \$,	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08 1,562.08 Manhours 40.0000	Hrs. Crew Proc. WALKBEHIND DBL. 2.5-2.9 CUBIC Y 50000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 s/Unit Units/	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60 Crew Hr 0.1250 Unit/MH	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018 2,018	Unit TON HR HR HR MH MH MH	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0 Q Perm Matls 0.00 0.00 Shifts 1.0000 MH/Unit	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 uantity:	Total Labor 75.4 Concrete (Capture 1988) Labor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 Total Labor 75.4	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 1.0000	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.0 892.80 1,125.55 969.50 714.11 1,332.80 LS Tota 5,034.90 \$/Shift 5,034.9800 Base Labor/Uni
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 3031 3267 3276 LABORER DPERATOR Activity: J. Cost otal Crew \$/ 5,034.9	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08 1,562.08 Manhours 40.0000	Hrs. Crew Proc. WALKBEHIND DBL. 2.5-2.9 CUBIC Y 50000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 1,454.52 Hrs.	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60 Crew Hr 0.1250 Unit/MH 0.0250 //Shift: 8	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018 2,018	Unit TON HR HR HR MH MH MH .38	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0 Perm Matls 0.00 0.00 Shifts 1.0000 MH/Unit 40.0000	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Uantity:	Total Labor 75.4 Concrete (Capture 1988) Labor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 Total Labor 75.4	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 1.0000 CMH 150 Construction	Base Labor/Uni 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.0 892.80 1,125.55 969.58 714.11 1,332.80 LS Tota 5,034.98 5,034.980 Base Labor/Uni
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 8031 8267 8276 LABORER OPERATOR Activity: J. Cost fotal Crew \$, 5,034.9	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08 1,562.08 Manhours 40.0000 D Standard PIPE Small Pipe C	Hrs. Crew Proc. WALKBEHIND DBL. 2.5-2.9 CUBIC Y 50000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 1,454.52 Hrs.	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60 Crew Hr 0.1250 Unit/MH 0.0250 //Shift: 8 d: S 1	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018 2,018 \$/Crew Hould 629.3725	Unit TON HR HR HR MH MH MH 38 .38	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0 Perm Matls 0.00 0.00 Shifts 1.0000 MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Uantity:	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100.00 100.00 1 Matls 0.00 0.00 Total Labor 75.4 Concrete (Labor Pcs:	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 1.0000 C/MH 150 Construction 5.00 Equipm	Tota 105.40 920.00 324.01 892.86 1,125.52 969.58 714.13 1,332.89 LS Tota 5,034.98 \$/Shift 5,034.9800 Base Labor/Unit 1,562.0800
Calendar: ST Crew: SMI Resource 2BASE 4HAUL 8031 8267 8276 LABORER OPERATOR Activity: U. Cost Total Crew \$, 5,034.9	Manhours 40.0000 D Standard PIPE Small Pipe C Description Base Rock Hauling - Sub ROLLER 18-29" LOADER WHEEL EXCAVATOR 3 Laborer Operator 71.3 Base Labor 1,562.08 1,562.08 1,562.08 Manhours 40.0000 D Standard PIPE Small Pipe C Description	Hrs. Crew Proc. WALKBEHIND DBL. 2.5-2.9 CUBIC Y 50000-39999# eman Install PRV Burden 1,454.52 1,454.52 1,454.52 1,454.52 Hrs.	Unit/MH 0.0250 //Shift: 8 d: S 1 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 2.00 1.00 2.00 Piping/Valve Total Labor 3,016.60 3,016.60 Crew Hr 0.1250 Unit/MH 0.0250 //Shift: 8	Eff: 100 Quantity 10.00 8.00 8.00 8.00 16.00 16.00 Equipm 2,018 2,018 \$/Crew Houl	Unit TON HR HR HR MH MH MH .38	MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0 Perm Matls 0.00 0.00 Shifts 1.0000 MH/Unit 40.0000 WC: 522 Crew Hrs: 8.0	Unit Cost 9.75 115.00 37.47 103.25 130.15 30.49 48.00 43.14 Uantity:	Total Labor 75.4 Concrete (Labor Pcs: Tax/OT % 108.10 100.00 108.10 100.00 100.00 100.00 1 Matts 0.00 0.00 Total Labor 75.4 Concrete (Labor Pcs:	Construction 5.00 Equipm Actual UC 10.54 115.00 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 1.0000 CMH 150 Construction	Base Labor/Unit 1,562.0800 ment Pcs: 3.00 Tota 105.40 920.00 324.01 892.86 1,125.52 969.58 714.13 1,332.89 LS Tota 5,034.98 \$/Shiff 5,034.9800 Base Labor/Unit 1,562.0800

LABORER	Laborer		2.00	16.00	мн		30.49	100.00	60.60	969.5
OPER4	Operator Fo	reman	1.00	8.00	МН		48.00	100.00	89.27	714.1
OPERATOR	Operator		2.00	16.00	МН		43.14	100.00	83.31	1,332.8
Biditem		W	ater Meter							
00		Tak	ceoff Qty:	1.0	00 E	A				
90		Bic	l Qty:	1.0	00 E	4				
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Tot
U. Cost	304.24	283.31	587.55	207	.56	2,291.54		0.00	0.00	3,086.6
Total	304.24	283.31	587.55	207	.56	2,291.54		0.00	0.00	3,086.6
M	lanhours	Unit/MH	MH/Uni	t		\$/MH	Base Labor/	мн т	otal Labor/MH	Unit/C
	8.0000	0.1250	8.0000)	385	.8313	38.03	00	73.4438	0.500
Activity:	90.1	Water Met	er Materials			(Quantity:	1	Unit	: EA
	Base Labor	Burden	Total Labor	Equipn	nen t	Perm Matls		t Matls	Sub	Tota
U. Cost	0.00	0.00	0.00		.00	2,291.54	Cons	0.00	0.00	2,291.5
Total	0.00	0.00	0.00		.00	2,291.54		0.00	0.00	2,291.5
Calendar: S7	ΓD Standard	Hrs	s/Shift: 8			WC: 52	221	Concrete (Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tot
21"POLY	1" Poly Pipe		1.00	20.00	LF		1.06	108.10	1.15	22.9
2CORP	Corp Stop		1.00	1.00	EA		68.58	108.10	74.13	74.1
2PIPEALLOW	Misc Pipe Ma	atl Allowance	1.00	2,067.99	LS		0.10	108.10	0.11	223.5
2PITSET	Pit Setter		1.00	1.00	EA		1,648.25	108.10	1,781.76	1,781.7
2SADDLE	Pipe Saddle		1.00	1.00	EA		175.00	108.10	189.18	189.1
Activity:	90.2	Install Late	eral/Pit Setter			(Quantity:	1	Unit	: EA
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Tot
U. Cost	304.24	283.31	587.55	207	.56	0.00		0.00	0.00	795.1
Γotal	304.24	283.31	587.55	207	.56	0.00		0.00	0.00	795.1
Crew \$	/Unit Crew H	Hrs/Unit Units	/Crew Hr	\$/Crew Hou	r	Shifts	l	Inits/Shift	Shifts/Unit	\$/Shi
795.	1100	2.0000	0.5000	397.5550)	0.2500		4.0000	0.2500	3,180.440
	Manhours		Unit/MH			MH/Unit		Total Labor	-/MH	Base Labor/Un
	8.0000		0.1250			8.0000		73.4	438	304.240
Calendar: S7	ΓD Standard	Hrs	s/Shift: 8			WC: 52	221	Concrete (Construction	
Crew: M	INIP Mini Pipe (Crew Prod	d: S 0.25	Eff: 10	0.00	Crew Hrs: 2.	00	Labor Pcs:	4.00 Equip	ment Pcs: 3.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tot
8031	ROLLER 18-29	" WALKBEHIND DBL	1.00	2.00	HR		37.47	108.10	40.50	81.0
8243	BACKHOE/LO	ADER 60-90HP 4WD	1.00	2.00	HR		50.21	108.10	54.28	108.5
8UTLPU	Utility Picku	ıp	1.00	2.00	HR		9.00	100.00	9.00	18.0
	Laborer		2.00	4.00	MH		30.49	100.00	60.60	242.4
			1.00	2.00	MH		48.00	100.00	89.27	178.5
OPERATOR	Operator Fo	reman	1.00	2.00	МН		43.14	100.00	83.31	166.6

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 Takeoff Qty:
 1.000 EA

 Bid Qty:
 1.000 EA

2020TDPUDCIP

Truckee Donner PUD CIP Cost Basis

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	912.72	849.91	1,762.63	595.10	6,647.98	0.00	0.00	9,005.71
Total	912.72	849.91	1,762.63	595.10	6,647.98	0.00	0.00	9,005.71

	Manhours	Unit/MH	MH/Uni				Base Labor/		Total Labor/MH	Unit/CH
2	24.0000	0.0417	24.000	0	375.	.2379	38.03	00	73.4429	0.1667
Activity:	100.1	FH Materia	ls			Q	Quantity:	1	Unit	: EA
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Total
U. Cost	0.00	0.00	0.00		.00	6,566.90		0.00	0.00	6,566.90
Total	0.00	0.00	0.00		.00	6,566.90		0.00	0.00	6,566.90
Calendar: S	TD Standard	Hrs	/Shift: 8			WC: 52	.21	Concrete	e Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
26"H20	6" Water Lir	ne	1.00	20.00	LF		14.05	108.10	15.19	303.76
26"PVC	6" PVC		1.00	5.00	LF		7.50	108.10	8.11	40.54
2FIREHYD	Fire Hydran	t	1.00	1.00	EA	4	4,428.00	108.10	4,786.67	4,786.67
2G5	G5 Valve Bo	x	1.00	1.00	EA		78.00	108.10	84.32	84.32
2GATEVLV	Gate Valve		1.00	1.00	EA		836.23	108.10	903.96	903.96
2PIPEALLOV	W Misc Pipe M	atl Allowance	1.00	8,282.11	LS		0.05	108.10	0.05	447.65
Activity:	100.2	Install Late	ral/Hydrant			Q	Quantity:	1	Unit	: EA
						2 11 11				
	Base Labor	Burden	Total Labor	Equipn		Perm Matls	Cons	t Matls	Sub	Total
U. Cost Total	608.48	566.60 566.60	1,175.08 1,175.08	415 415		0.00		0.00	0.00	1,590.21 1,590.21
Total	000.40	300.00	1,175.06	413	.13	0.00		0.00	0.00	1,390.21
Crew S	\$/Unit Crew	Hrs/Unit Units/	Crew Hr	\$/Crew Hou	r	Shifts	U	Inits/Shift	Shifts/Unit	\$/Shift
1,590.	.2100	4.0000	0.2500	397.5525	5	0.5000		2.0000	0.5000	3,180.4200
	Manhours		Unit/MH			MH/Unit		Total Lal	oor/MH	Base Labor/Unit
	16.0000		0.0625			16.0000		73	.4425	608.4800
										
Calendar: S	TD Standard	Hrs	/Shift: 8			WC: 52	221	Concrete	e Construction	
Crew: M	MINIP Mini Pipe (Crew Prod	: S 0.5	Eff: 10	0.00	Crew Hrs: 4.0	00	Labor Po	s: 4.00 Equip	ment Pcs: 3.00
-										
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
8031		9" WALKBEHIND DBL	1.00	4.00	HR		37.47	108.10	40.50	162.00
8243		ADER 60-90HP 4WD	1.00	4.00	HR		50.21	108.10	54.28	217.13
8UTLPU	Utility Pick	nb	1.00	4.00	HR		9.00	100.00	9.00	36.00
LABORER	Laborer		2.00	8.00	MH		30.49	100.00	60.60	484.79
OPER4	Operator Fo	oreman	1.00	4.00	MH		48.00	100.00	89.27	357.07
OPERATOR	Operator		1.00	4.00	MH		43.14	100.00	83.31	333.22
Activity:	100.3	Raise/Colla	ar Valve			Q	Quantity:	1	Unit	: EA
	Page Labor	Durdon	Total Labor	Fauina	ant.	Dorm Matle	Cons	4 Matle	Cb	Total
U. Cost	Base Labor 304.24	Burden 283.31	Total Labor 587.55	Equipn 179		Perm Matls 81.08	Cons	t Matls 0.00	Sub 0.00	Total 848.60
Total	304.24	283.31	587.55		.97	81.08		0.00	0.00	848.60
. 5	30 1.2 1					01.00		0.00	0.00	0 10.00
			Crew Hr	\$/Crew Hou		Shifts	U	Inits/Shift	Shifts/Unit	\$/Shift
767.	.5200	2.0000	0.5000	383.7600)	0.2500		4.0000	0.2500	3,394.4000
	Manhours		Unit/MH			MH/Unit		Total Lal	oor/MH	Base Labor/Unit
	8.0000		0.1250			8.0000		73	.4438	304.2400
Calendar: S	TD Standard	Hrc	/Shift: 8			WC: 52	121	Concrete	e Construction	
Catendar: 3	stanuard	131.2	, Jilli L. U			11C. JZ	- <u>-</u> 1	COLICIEU	. Construction	
Crew: M	MINIP Mini Pipe (Crew Prod	: S 0.25	Eff: 10	0.00	Crew Hrs: 2.0	00	Labor Po	s: 4.00 Equip	ment Pcs: 4.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
2CONC	Ready-Mix (Concrete	1.00	0.50	CY		150.00	108.10	162.16	81.08
8001		155-175 CFM DIESE	1.00	2.00	HR		15.93	108.10	17.22	34.44
	COMPRESSOR	155-175 CFM DIESE	1.00 1.00	2.00	HR HR		15.93 8.77	108.10	17.22 9.49	34.44 18.97
8016	COMPRESSOR BREAKER PA	155-175 CFM DIESE AVEMENT AIR 90#	1.00	2.00	HR		8.77	108.10	9.49	
	COMPRESSOR BREAKER PA	155-175 CFM DIESE AVEMENT AIR 90# ADER 60-90HP 4WD			HR HR					18.97

2.00

4.00 MH

30.49 100.00

LABORER

Laborer

242.40

60.60

	-				1.					470 -
OPER4	Operator Fore	eman	1.00	2.00	MH		48.00	100.00	89.27	178.5- 166.6
OPERATOR	Operator		1.00	2.00	MH		43.14	100.00	83.31	100.0
Biditem		4"	Valve							
4 A E		Tak	eoff Qty:	1.0	000 EA	1				
105		Bid	Qty:	1.0	000 EA					
		510	Quy.		.00	•				
	Base Labor	Burden	Total Labor	Equipn		Perm Matls	Cons	t Matls	Sub	Tot
U. Cost	456.36	424.97	881.33		3.75	997.06		0.00	0.00	2,162.1
Total	456.36	424.97	881.33	283	3.75	997.06		0.00	0.00	2,162.1
Ma	anhours	Unit/MH	MH/Uni	t		\$/MH	Base Labor/	MH	Total Labor/MH	Unit/C
12	2.0000	0.0833	12.0000)	180.	.1783	38.03	00	73.4442	0.333
Activity:	105.1	Valve Mate	erials			C	Quantity:	1	Unit	: EA
i.c.										
	Base Labor	Burden	Total Labor	Equipn		Perm Matls	Cons	t Matls	Sub	Tota
U. Cost	0.00	0.00	0.00		0.00	915.98		0.00	0.00	915.9
Total	0.00	0.00	0.00	U	0.00	915.98		0.00	0.00	915.9
Calendar: STI	D Standard	Hrs	/Shift: 8			WC: 52	21	Concrete	e Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
24"MEGALUG	4" Megalug		1.00	2.00	EA		38.12	108.10	41.21	82.4
24"MJVLV	4" MJ Gate Va	alve	1.00	1.00	EA		655.60	108.10	708.70	708.7
26"PVC	6" PVC		1.00	5.00	LF		7.50	108.10	8.11	40.5
2G5	G5 Valve Box		1.00	1.00	EA		78.00	108.10	84.32	84.3
Δctivity.	105.2	Install Valv	/e)uantity:	1	Unit	: FA
Activity:	105.2	Install Valv					uantity:	1	Unit	
	Base Labor	Burden	Total Labor	Equipn		Perm Matls		t Matls	Sub	Tot
U. Cost	Base Labor 152.12	Burden 141.66	Total Labor 293.78	103	3.78	Perm Matls 0.00		t Matls	Sub 0.00	Tota 397.5
U. Cost Fotal	Base Labor 152.12 152.12	Burden 141.66 141.66	Total Labor 293.78 293.78	103 103	3.78 3.78	Perm Matis 0.00 0.00	Cons	0.00 0.00	Sub 0.00 0.00	Tot 397.5 397.5
U. Cost Fotal Crew \$/l	Base Labor 152.12 152.12 Unit Crew Hr	Burden 141.66 141.66 s/Unit Units/	Total Labor 293.78 293.78	103 103 \$/Crew Hou	3.78 3.78	Perm Matls 0.00 0.00 Shifts	Cons	t Matls 0.00 0.00 Inits/Shift	Sub 0.00 0.00 Shifts/Unit	Tot: 397.5 397.5 \$/Shi
U. Cost Fotal	Base Labor 152.12 152.12 Unit Crew Hr	Burden 141.66 141.66 s/Unit Units/	Total Labor 293.78 293.78	103 103	3.78 3.78	Perm Matis 0.00 0.00	Cons	0.00 0.00	Sub 0.00 0.00	Tot: 397.5 397.5 \$/Shi
U. Cost Fotal Crew \$/l	Base Labor 152.12 152.12 Unit Crew Hr	Burden 141.66 141.66 s/Unit Units/	Total Labor 293.78 293.78	103 103 \$/Crew Hou	3.78 3.78	Perm Matls 0.00 0.00 Shifts 0.1250 MH/Unit	Cons	t Matls 0.00 0.00 Inits/Shift	Sub 0.00 0.00 Shifts/Unit 0.1250	Tot 397.5 397.5 \$/Shi 3,180.480
U. Cost Fotal Crew \$/l	Base Labor 152.12 152.12 152.12 Unit Crew Hr 600 1.	Burden 141.66 141.66 s/Unit Units/	Total Labor 293.78 293.78 Crew Hr 1.0000	103 103 \$/Crew Hou	3.78 3.78	Perm Matls	Cons	t Matls 0.00 0.00 Inits/Shift 8.0000 Total Lab	Sub 0.00 0.00 Shifts/Unit 0.1250	Total 397.5 397.5 \$/Shiri 3,180.480 Base Labor/Un 152.120
U. Cost Fotal Crew \$/l	Base Labor 152.12 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000	Burden 141.66 141.66 s/Unit Units/	Total Labor 293.78 293.78 Crew Hr 1.0000 Unit/MH	103 103 \$/Crew Hou	3.78 3.78	Perm Matls	Cons	t Matls 0.00 0.00 0.00 Inits/Shift 8.0000 Total Lat	Sub 0.00 0.00 Shifts/Unit 0.1250	Tot: 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un
U. Cost Total Crew \$/L 397.56 Calendar: STE	Base Labor 152.12 152.12	Burden 141.66 141.66 s/Unit Units/ 0000	Total Labor 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500	103 103 \$/Crew Hou 397.5600	3.78 3.78 3.78	Perm Matls	Cons U	t Matls 0.00 0.00 Inits/Shift 8.0000 Total Lab 73	Sub 0.00 0.00 Shifts/Unit 0.1250 por/MH .4450 e Construction	Tot 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120
U. Cost Total Crew \$/L 397.56 Calendar: STE Crew: MIN	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr	Burden 141.66 141.66 s/Unit Units/ 0000	Total Labor 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 A/Shift: 8 d: S 0.125	103 103 \$/Crew Hou 397.5600	3.78 3.78 3.78 0	Perm Matls	Cons U	t Matis 0.00 0.00 0.00 Inits/Shift 8.0000 Total Lat 73 Concrete Labor Pc	Sub 0.00 0.00 Shifts/Unit 0.1250 POOT/MH .4450 C Construction SS: 4.00 Equip	Tot 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00
U. Cost Total Crew \$/L 397.56 Calendar: STE Crew: MIN	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs	Total Labor 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 S/Shift: 8 d: S 0.125 Pcs/Wste	103 103 \$/Crew Hou 397.5600 Eff: 10	3.78 3.78 3.78 0.00	Perm Matls	Cons U 21 00 Unit Cost	t Matls 0.00 0.00 Inits/Shift 8.0000 Total Lat 73 Concrete Labor Pc	Sub 0.00 0.00 Shifts/Unit 0.1250 DOC/MH .4450 e Construction es: 4.00 Equip Actual UC	Tot 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29"	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc	Total Labor 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 JShift: 8 1: S 0.125 Pcs/Wste 1.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00	0.00 Unit HR	Perm Matls	21 00 Unit Cost 37.47	t Matls 0.00 0.00 Inits/Shift 8.0000 Total Lat 73 Concrete Labor Pc Tax/OT % 108.10	Sub 0.00 0.00 Shifts/Unit 0.1250 DOF/MH .4450 E Construction ES: 4.00 Equip Actual UC 40.50	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc	Total Labor 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 3/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00	0.00 Unit HR	Perm Matls	Cons U 221 00 Unit Cost 37.47 50.21	t Matis 0.00 0.00 Inits/Shift 8.0000 Total Lat 73 Concrete Labor Po Tax/OT % 108.10	Sub	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5 54.2
U. Cost Total Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc	Total Labor 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 S/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 1.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00	0.00 Unit HR HR	Perm Matls	Cons U 221 00 Unit Cost 37.47 50.21 9.00	t Matls 0.00 0.00 0.00 Inits/Shift 8.0000 Total Lab 73 Concrete Labor Pc Tax/OT % 108.10 100.00	Sub 0.00 0.00 Shifts/Unit 0.1250 DOF/MH .4450 CCONSTRUCTION CS: 4.00 Equip Actual UC 40.50 54.28 9.00	Tot 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot 40.5 54.2
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD	Total Labor 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 3/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 1.00 2.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00	0.00 Unit HR HR HR	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49	t Matls 0.00	Sub 0.00 0.00 0.00 0.1250 0.1	Tot 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot 40.5 54.2 9.0 121.2
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPER4	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer Operator Fore	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD	Total Labor 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 3/Shift: 8 d: \$ 0.125 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 1.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00 1.00	0.00 Unit HR HR HR MH	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 0.125	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5 54.2 9.0 121.2 89.2
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD	Total Labor 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 3/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 1.00 2.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00	0.00 Unit HR HR HR MH	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49	t Matls 0.00	Sub 0.00 0.00 0.00 0.1250 0.1	397.5 397.5 397.5 \$/Shir 3,180.480 Base Labor/Un 152.120
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPER4 OPERATOR	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer Operator Fore	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD	Total Labor 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 3/Shift: 8 4: S 0.125 Pcs/Wste 1.00 1.00 1.00 2.00 1.00 1.00 1.00	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00 1.00	0.00 Unit HR HR HR MH	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 Shifts/Unit 0.1250 Dor/MH 0.4450 E Construction Es: 4.00 Equip Actual UC 40.50 54.28 9.00 60.60 89.27	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5 54.2 9.0 121.2 89.2 83.3
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPER4 OPERATOR	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAD Utility Pickup Laborer Operator Fore Operator	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD eman Raise/Coll Burden	Total Labor 293.78 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 S/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 1.00 ar Valve	103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 1.00 1.00	0.00 Unit HR HR HR MH MH MH	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00 43.14 Quantity:	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 0.00 0.00 Shifts/Unit 0.1250 0.125	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5 54.2 9.0 121.2 89.2 83.3 : LS
U. Cost Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPERATOR Activity: U. Cost	Base Labor 152.12 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer Operator Fore Operator 105.3 Base Labor 304.24	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD eman Raise/Coll Burden 283.31	Total Labor 293.78 293.78 293.78 293.78 293.78 Crew Hr 1.0000 S/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 ar Valve Total Labor 587.55	103 103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00 1.00	0.00 Unit HR HR MH MH MH MH MH 0.97	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00 43.14 Quantity:	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 0.00 0.00 0.1250 0.1250 0.1250 0.1250 0.1250 0.1250 0.00 0.1250 0.00 0.00 0.1250 0.00 0.00 0.1250 0.00 0.00 0.1250 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5 54.2 9.0 121.2 89.2 83.3 : LS
U. Cost Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPER4 OPERATOR Activity:	Base Labor 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAD Utility Pickup Laborer Operator Fore Operator	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD eman Raise/Coll Burden	Total Labor 293.78 293.78 293.78 293.78 Crew Hr 1.0000 Unit/MH 0.2500 S/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 1.00 ar Valve	103 103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00 1.00	0.00 Unit HR HR HR MH MH MH	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00 43.14 Quantity:	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 0.00 0.00 Shifts/Unit 0.1250 0.125	Tot 397.5 397.5 397.5 \$/shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot 40.5 54.2 9.0 121.2 89.2 83.3 : LS
U. Cost Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPERATOR Activity: U. Cost	Base Labor 152.12 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAD Utility Pickup Laborer Operator Fore Operator 105.3 Base Labor 304.24 304.24	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD eman Raise/Coll Burden 283.31 283.31	Total Labor 293.78 293.78 293.78 293.78 293.78 Crew Hr 1.0000 S/Shift: 8 d: S 0.125 Pcs/Wste 1.00 1.00 2.00 1.00 1.00 ar Valve Total Labor 587.55	103 103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 2.00 1.00	0.00 Unit HR HR HR MH MH MH MH 0.97	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00 43.14 Quantity: Cons	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 0.00 0.00 0.1250 0.1250 0.1250 0.1250 0.1250 0.1250 0.00 0.1250 0.00 0.00 0.1250 0.00 0.00 0.1250 0.00 0.00 0.1250 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	Tot. 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot. 40.5 54.2 9.0 121.2 89.2 83.3 : LS Tot. 848.6 848.6
U. Cost Fotal Crew \$/L 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPER4 OPERATOR Activity: U. Cost Fotal	Base Labor 152.12 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer Operator Fore Operator 105.3 Base Labor 304.24 304.24 Unit Crew Hr	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD eman Raise/Coll Burden 283.31 283.31 283.31 s/Unit Units/	Total Labor 293.78 293.78 293.78 293.78 293.78 Crew Hr 1.0000	103 103 103 \$/Crew Hou 397.5600 Eff: 10 Quantity 1.00 1.00 1.00 1.00	0.00 Unit HR HR MH MH MH MH 0.97	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00 43.14 Quantity: Cons	t Matls 0.00	Sub 0.00 0.00 0.00 0.00 0.125	Tot: 397.5 397.5 \$/Shi 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tot: 40.5 54.2 9.0 121.2 89.2 83.3 : LS Tot: 848.6 848.6
U. Cost Total Crew \$/1 397.56 Calendar: STE Crew: MIN Resource 8031 8243 8UTLPU LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$/1	Base Labor 152.12 152.12 152.12 Unit Crew Hr 600 1. Manhours 4.0000 D Standard NIP Mini Pipe Cr Description ROLLER 18-29" BACKHOE/LOAL Utility Pickup Laborer Operator Fore Operator 105.3 Base Labor 304.24 304.24 Unit Crew Hr	Burden 141.66 141.66 s/Unit Units/ 0000 Hrs ew Proc WALKBEHIND DBL DER 60-90HP 4WD eman Raise/Coll Burden 283.31 283.31 283.31 s/Unit Units/	Total Labor 293.78 293.78 293.78 293.78 293.78 Crew Hr 1.0000	103 103 103 103 103 103 103 103 100 200 1.00 1.00 1.00 Equipm 179 179 \$/Crew Hou	0.00 Unit HR HR MH MH MH MH 0.97	Perm Matls	Cons Unit Cost 37.47 50.21 9.00 30.49 48.00 43.14 Quantity: Cons	t Matis 0.00	Sub 0.00 0.00 Shifts/Unit 0.1250 DOF/MH 0.4450 E Construction ES: 4.00 Equip Actual UC 40.50 54.28 9.00 60.60 89.27 83.31 Unit Sub 0.00 0.00 Shifts/Unit 0.2500	Tota 397.5 397.5 \$/Shii 3,180.480 Base Labor/Un 152.120 ment Pcs: 3.00 Tota 40.5 54.2 9.0 121.2 89.2 83.3

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Crew: MINIP Mini Pipe Crew Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 4.00 Equipment Pcs: 4.00 Resource Description Pcs/Wste Unit Unit Cost Tax/OT % Actual UC Total Quantity 81.08 2CONC Ready-Mix Concrete 1.00 0.50 CY 150.00 108.10 162.16 34.44 8001 COMPRESSOR 155-175 CFM DIESE 1.00 2.00 108.10 17.22 HR 15.93 18.97 8016 **BREAKER PAVEMENT AIR 90#** 1.00 2.00 HR 108.10 9.49 8.77 8243 BACKHOE/LOADER 60-90HP 4WD 1.00 2.00 HR 50.21 108.10 54.28 108.56 18.00 **8UTLPU Utility Pickup** 1.00 2.00 HR 9.00 100.00 9.00 242.40 LABORER Laborer 2.00 4.00 MH 30.49 100.00 60.60 Operator Foreman 89.27 178.54 OPER4 1.00 2.00 MH 48.00 100.00 **OPERATOR** Operator 1.00 2.00 MH 43.14 100.00 83.31 166.61

Biditem 6" Valve

 110
 Takeoff Qty:
 1.000 EA

 Bid Qty:
 1.000 EA

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	456.36	424.97	881.33	283.75	1,233.03	0.00	0.00	2,398.11
Total	456.36	424.97	881.33	283.75	1,233.03	0.00	0.00	2,398.11

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
12.0000	0.0833	12.0000	199.8425	38.0300	73.4442	0.3333

Activity:	110.1	Valve Mat	Valve Materials			antity: 1		Unit: EA		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total		
U. Cost	0.00	0.00	0.00	0.00	1,151.95	0.00	0.00	1,151.95		
Total	0.00	0.00	0.00	0.00	1,151.95	0.00	0.00	1,151.95		

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
26"PVC	6" PVC	1.00	5.00	LF	7.50	108.10	8.11	40.54
2G5	G5 Valve Box	1.00	1.00	EA	78.00	108.10	84.32	84.32
2GATEVLV	Gate Valve	1.00	1.00	EA	836.23	108.10	903.96	903.96
2MEGALUG	MJ Megalug Pack	1.00	2.00	EA	56.95	108.10	61.57	123.13

ACTIVITY:	110.2	Ilistati vatve			Qu	diffity: I		OHIC: EA		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total		
U. Cost	152.12	141.66	293.78	103.78	0.00	0.00	0.00	397.56		
Total	152.12	141.66	293.78	103.78	0.00	0.00	0.00	397.56		

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
397.5600	1.0000	1.0000	397.5600	0.1250	8.0000	0.1250	3,180.4800

Mailliouis	OIIII/MII	MITOTIL	TOTAL LADOITMIN	Dase Labor/Offic
4.0000	0.2500	4.0000	73.4450	152.1200

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: MINIP Mini Pipe Crew Prod: S 0.125 Eff: 100.00 Crew Hrs: 1.00 Labor Pcs: 4.00 Equipment Pcs: 3.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
8031	ROLLER 18-29" WALKBEHIND DBL	1.00	1.00	HR	37.47	108.10	40.50	40.50
8243	BACKHOE/LOADER 60-90HP 4WD	1.00	1.00	HR	50.21	108.10	54.28	54.28
8UTLPU	Utility Pickup	1.00	1.00	HR	9.00	100.00	9.00	9.00
LABORER	Laborer	2.00	2.00	МН	30.49	100.00	60.60	121.20
OPER4	Operator Foreman	1.00	1.00	МН	48.00	100.00	89.27	89.27
OPERATOR	Operator	1.00	1.00	МН	43.14	100.00	83.31	83.31

Activity: 110.3 Raise/Collar Valve Quantity: 1 Unit: LS

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Biditem 8" Valve

0.0769

120

13.0000

5.0000

Takeoff Qty: 1.000 EA
Bid Qty: 1.000 EA

13.0000

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	499.50	465.13	964.63	472.77	1,795.62	0.00	0.00	3,233.02
Total	499.50	465.13	964.63	472.77	1,795.62	0.00	0.00	3,233.02
٨	Manhours	Unit/MH	MH/Unit	t	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH

248.6938

38.4231

74.2023

75.4160

0.3333

195.2600

Activity:	120.1	Valve Ma	Valve Materials			Quantity: 1			Unit: EA		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub		Total		
U. Cost	0.00	0.00	0.00	0.00	1,714.54	0.00	0.00		1,714.54		
Total	0.00	0.00	0.00	0.00	1,714.54	0.00	0.00		1,714.54		

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
26"PVC	6" PVC	1.00	5.00	LF	7.50	108.10	8.11	40.54
2G5	G5 Valve Box	1.00	1.00	EA	78.00	108.10	84.32	84.32
2GATEVLV	Gate Valve	1.00	1.00	EA	1,331.84	108.10	1,439.72	1,439.72
2MEGALUG	MJ Megalug Pack	1.00	2.00	EA	69.36	108.10	74.98	149.96

Activity:	120.2		Inst	all V	alve		(Quantity: 1		Unit:	EA
	Ва	se Labor	Bur	den	Total Labo	r Equipment	Perm Matls	Const Matls	Sub		Total
U. Cost		195.26	181	.82	377.08	3 292.80	0.00	0.00	0.00		669.88
Total		195.26	181	.82	377.08	3 292.80	0.00	0.00	0.00		669.88
	A 111 11										
Cre	w \$/Unit	Crew H	Irs/Unit	Un	its/Crew Hr	\$/Crew Hour	Shifts	Units/Shi	ift Shifts.	/Unit	\$/Shift

669.8800	1.0000	1.0000	669.8800	0.1250	0000.8	0.1250	5,359.0400
	Manhours	Unit/MH		MH/Unit	Total Lab	or/MH	Base Labor/Unit

5.0000

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

0.2000

Crew: SMPIPE Small Pipe Crew Prod: S 0.125 Eff: 100.00 Crew Hrs: 1.00 Labor Pcs: 5.00 Equipment Pcs: 3.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
8031	ROLLER 18-29" WALKBEHIND DBL	1.00	1.00	HR	37.47	108.10	40.50	40.50
8267	LOADER WHEEL 2.5-2.9 CUBIC Y	1.00	1.00	HR	103.25	108.10	111.61	111.61
8276	EXCAVATOR 35000-39999#	1.00	1.00	HR	130.15	108.10	140.69	140.69
LABORER	Laborer	2.00	2.00	МН	30.49	100.00	60.60	121.20
OPER4	Operator Foreman	1.00	1.00	МН	48.00	100.00	89.27	89.27
OPERATOR	Operator	2.00	2.00	МН	43.14	100.00	83.31	166.61

Activity:	120.3	Raise/C	Collar Valve		Quantity: 1			: LS
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	304.24	283.31	587.55	179.97	81.08	0.00	0.00	848.60
Total	304.24	283.31	587.55	179.97	81.08	0.00	0.00	848.60
Crew S	5/Unit Crew	Hrs/Unit U	nits/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
767.	5200	2.0000	0.5000	383.7600	0.2500	4.0000	0.2500	3,394.4000

 Manhours
 Unit/MH
 MH/Unit
 Total Labor/MH
 Base Labor/Unit

 8.0000
 0.1250
 8.0000
 73.4438
 304.2400

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: MINIP Mini Pipe Crew Prod: S 0.25 Eff: 100.00 Crew Hrs: 2.00 Labor Pcs: 4.00 Equipment Pcs: 4.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
2CONC	Ready-Mix Concrete	1.00	0.50	CY	150.00	108.10	162.16	81.08
8001	COMPRESSOR 155-175 CFM DIESE	1.00	2.00	HR	15.93	108.10	17.22	34.44
8016	BREAKER PAVEMENT AIR 90#	1.00	2.00	HR	8.77	108.10	9.49	18.97
8243	BACKHOE/LOADER 60-90HP 4WD	1.00	2.00	HR	50.21	108.10	54.28	108.56
8UTLPU	Utility Pickup	1.00	2.00	HR	9.00	100.00	9.00	18.00
LABORER	Laborer	2.00	4.00	МН	30.49	100.00	60.60	242.40
OPER4	Operator Foreman	1.00	2.00	МН	48.00	100.00	89.27	178.54
OPERATOR	Operator	1.00	2.00	МН	43.14	100.00	83.31	166.61

Biditem 10" Valve

Takeoff Qty: 1.000 EA
Bid Qty: 1.000 EA

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	499.50	465.13	964.63	472.77	2,606.57	0.00	0.00	4,043.97
Total	499.50	465.13	964.63	472.77	2,606.57	0.00	0.00	4,043.97

Ma	nhours Unit/MF	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
13	.0000 0.0769	13.0000	311.0746	38.4231	74.2023	0.3333

Activity:	130.1	Valve Ma	aterials		C	uantity: 1		Unit: EA		
	21.1		Burden Total Labor Equipment		5 H.d.	Constitution	. .	Ch Total		
	Base Labor	Burden	lotal Labor	Equipment	Perm Matls	Const Matls	Sub		Total	
U. Cost	0.00	0.00	0.00	0.00	2,525.49	0.00	0.00	2,5	25.49	
Total	0.00	0.00	0.00	0.00	2,525.49	0.00	0.00	2,5	25.49	

Calendar: STD Sta	andard	Hrs/Shift: 8	WC:	5221	Concrete Construction
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Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
26"PVC	6" PVC	1.00	5.00	LF	7.50	108.10	8.11	40.54
2G5	G5 Valve Box	1.00	1.00	EA	78.00	108.10	84.32	84.32
2GATEVLV	Gate Valve	1.00	1.00	EA	2,076.59	108.10	2,244.79	2,244.79
2MEGALUG	MJ Megalug Pack	1.00	2.00	EA	72.08	108.10	77.92	155.84

Activity:	130.2	Install Val	ve		Quantity: 1			Unit: EA		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub		Total	

U. Cost	195.26	181.82	377.08	292	80	0.0	00	0.00	0.00	669.88
otal	195.26	181.82	377.08	292		0.0		0.00	0.00	669.88
Crew S	/Unit Crew Hrs	/Unit Units/	Crew Hr	\$/Crew Hou	r	Shif	ts L	Jnits/Shift	Shifts/Unit	\$/Shif
669.			1.0000	669.8800		0.125		8.0000	0.1250	5,359.0400
	Manhours		Unit/MH			MH/Unit		Total Labor/	мн	Base Labor/Uni
	5.0000		0.2000			5.0000		75.41		195.2600
alendar: S	ΓD Standard	Hrs	/Shift: 8			WC:	5221	Concrete C	onstruction	
Crew: SA	NPIPE Small Pipe C	rew Proc	: S 0.125	Eff: 10	0.00	Crew Hrs:	1.00	Labor Pcs:	5.00 Equip	ment Pcs: 3.00
lesource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
031	ROLLER 18-29" \	WALKBEHIND DBL	1.00	1.00	HR		37.47	108.10	40.50	40.50
267	LOADER WHEEL	2.5-2.9 CUBIC Y	1.00	1.00	HR		103.25	108.10	111.61	111.6
276	EXCAVATOR 3	5000-39999#	1.00	1.00	HR		130.15	108.10	140.69	140.69
ABORER	Laborer		2.00	2.00	MH		30.49	100.00	60.60	121.20
PER4	Operator Fore	man	1.00	1.00	MH		48.00	100.00	89.27	89.2
PERATOR	Operator		2.00	2.00	МН		43.14	100.00	83.31	166.6
ctivity:	130.3	Raise/Colla	ar Valve				Quantity:	1	Unit	: LS
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Mat	:ls Cons	t Matls	Sub	Tota
. Cost	304.24	283.31	587.55	179	.97	81.0)8	0.00	0.00	848.6
otal	304.24	283.31	587.55	179	.97	81.0	8	0.00	0.00	848.6
Crew \$	/Unit Crew Hrs	/Unit Units/	Crew Hr	\$/Crew Hou	r	Shif	ts l	Inits/Shift	Shifts/Unit	\$/Shif
767.	5200 2.0	0000	0.5000	383.7600)	0.250	0	4.0000	0.2500	3,394.400
	Manhours		Unit/MH			MH/Unit		Total Labor/	MH	Base Labor/Uni
	8.0000		0.1250			8.0000		73.44	38	304.240
alendar: S ⁻	TD Standard	Hrs	/Shift: 8			WC:	5221	Concrete C	onstruction	
Crew: M	INIP Mini Pipe Cre	ew Proc	: S 0.25	Eff: 10	0.00	Crew Hrs:	2.00	Labor Pcs:	4.00 Equip	ment Pcs: 4.00
esource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
CONC	Ready-Mix Cor	ncrete	1.00	0.50	CY		150.00	108.10	162.16	81.0
	COMPRESSOR 15	55-175 CFM DIESE	1.00	2.00	HR		15.93	108.10	17.22	34.4
001		EMENT AIR 90#	1.00	2.00	HR		8.77	108.10	9.49	18.9
	BREAKER PAVE		1.00	2.00	HR		50.21	108.10	54.28	108.5
016		ER 60-90HP 4WD	1.00				9.00	100.00	9.00	18.0
016 243		ER 60-90HP 4WD	1.00	2.00	HR		7.00	.00.00	9.00	
016 243 UTLPU	BACKHOE/LOAD	ER 60-90HP 4WD		2.00 4.00	HR MH		30.49	100.00	60.60	242.4
8001 8016 8243 BUTLPU ABORER DPER4	BACKHOE/LOAD Utility Pickup		1.00							

 Takeoff Qty:
 1.000 EA

 Bid Qty:
 1.000 EA

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	499.50	465.13	964.63	472.77	3,296.82	0.00	0.00	4,734.22
Total	499.50	465.13	964.63	472.77	3,296.82	0.00	0.00	4,734.22

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
13.0000	0.0769	13.0000	364.1708	38.4231	74.2023	0.3333

Activity:	140.1	Valve Ma	Valve Materials			Quantity: 1			EA
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub		Total
U. Cost	0.00	0.00	0.00	0.00	3,215.74	0.00	0.00		3,215.74
Total	0.00	0.00	0.00	0.00	3,215.74	0.00	0.00		3,215.74

2020104000014	Truckee Domi	er Pub Cir Cos	ot Dasis					03/10/20	JZU 7:29 AM	Page 20 01 33
Calendar: STD	Standard	Hrs/	Shift: 8			WC: 522	.1	Concrete	Construction	
Resource	Description		Pcs/Wste	Quantity	Unit	ι	Unit Cost	Tax/OT %	Actual UC	Total
26"PVC	6" PVC		1.00	5.00	LF		7.50	108.10	8.11	40.54
2G5	G5 Valve Box		1.00	1.00	EA		78.00	108.10	84.32	84.32
2GATEVLV	Gate Valve		1.00	1.00	EA	2.	,627.64	108.10	2,840.48	2,840.48
2MEGALUG	MJ Megalug Pack		1.00	2.00	EA		115.82	108.10	125.20	250.40
Activity: 1	40.2	Install Valve	9			Qu	ıantity:	1	Unit:	EA
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Total
U. Cost	195.26	181.82	377.08		.80	0.00	CONS	0.00	0.00	669.88
Total	195.26	181.82	377.08		.80	0.00		0.00	0.00	669.88
Crew \$/U				\$/Crew Hou		Shifts	U	Inits/Shift	Shifts/Unit	\$/Shift
669.88	00 1.000	00 1	.0000	669.8800)	0.1250		8.0000	0.1250	5,359.0400
	Manhours		Unit/MH			MH/Unit		Total Labo	r/MH	Base Labor/Unit
	5.0000		0.2000			5.0000		75.4	1160	195.2600
Calendar: STD	Standard	Hrs/	Shift: 8			WC: 522	.1	Concrete	Construction	
Crew: SMPIR	PE Small Pipe Crev	w Prod:	S 0.125	Eff: 10	0.00	Crew Hrs: 1.00	0	Labor Pcs	: 5.00 Equipr	nent Pcs: 3.00
Resource	Description		Pcs/Wste	Quantity	Unit	ι	Unit Cost	Tax/OT %	Actual UC	Total
8031	ROLLER 18-29" WA	LKBEHIND DBL	1.00	1.00	HR		37.47	108.10	40.50	40.50
8267	LOADER WHEEL 2.5	5-2.9 CUBIC Y	1.00	1.00	HR		103.25	108.10	111.61	111.61
8276	EXCAVATOR 3500	00-39999#	1.00	1.00	HR		130.15	108.10	140.69	140.69
LABORER	Laborer		2.00	2.00	МН		30.49	100.00	60.60	121.20
OPER4	Operator Forema	an	1.00	1.00	MH		48.00	100.00	89.27	89.27
OPERATOR	Operator		2.00	2.00	MH		43.14	100.00	83.31	166.61
OI ERATOR	Орегасы		2.00	2.00	7411		73.17	100.00	03.31	
Activity: 1	40.3	Raise/Colla	r Valve			Qu	uantity:	1	Unit:	LS
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Total
U. Cost	304.24	283.31	587.55	179	.97	81.08		0.00	0.00	848.60
Total	304.24	283.31	587.55	179	.97	81.08		0.00	0.00	848.60
C				¢.c		CL:O			Chica di in	£ (CL : C)
Crew \$/U				\$/Crew Hou		Shifts	U	Inits/Shift	Shifts/Unit	\$/Shift
767.52	00 2.000	0	.5000	383.7600	J	0.2500		4.0000	0.2500	3,394.4000
	Manhours		Unit/MH			MH/Unit		Total Labo	r/MH	Base Labor/Unit
	8.0000		0.1250			8.0000		73.4	1438	304.2400
Calendar: STD	Standard	Hrs/	Shift: 8			WC: 522	1	Concrete	Construction	
Crew: MIN	IP Mini Pipe Crew	Prod:	S 0.25	Eff: 10	0.00	Crew Hrs: 2.00	0	Labor Pcs	: 4.00 Equipr	nent Pcs: 4.00
Resource	Description		Pcs/Wste	Quantity	Unit	l	Unit Cost	Tax/OT %	Actual UC	Total
2CONC	Ready-Mix Concr	ete	1.00	0.50	CY		150.00	108.10	162.16	81.08
8001	COMPRESSOR 155-	175 CFM DIESE	1.00	2.00	HR		15.93	108.10	17.22	34.44
8016	BREAKER PAVEM	ENT AIR 90#	1.00	2.00	HR		8.77	108.10	9.49	18.97
8243	BACKHOE/LOADER		1.00	2.00	HR		50.21	108.10	54.28	108.56
8UTLPU	Utility Pickup		1.00	2.00	HR		9.00	100.00	9.00	18.00
LABORER	Laborer		2.00	4.00	MH		30.49	100.00	60.60	242.40
OPER4	Operator Forema	an	1.00	2.00	MH		48.00	100.00	89.27	178.54
OPERATOR	Operator	···	1.00	2.00	MH		43.14	100.00	83.31	166.61
OFLINATUR	υμεταισι		1.00	2.00	IVIT		43.14	100.00	03.31	100.01

Biditem

14" Valve

150

 Takeoff Qty:
 1.000 EA

 Bid Qty:
 1.000 EA

Base Labor Burden Total Labor Equipment Perm Matls Const Matls Sub Total

U. Cost	694.76	646.95	1,341.71	765	5.57	3,377.38		0.00	0.00	5,484.66
Total	694.76	646.95	1,341.71	765	5.57	3,377.38		0.00	0.00	5,484.66
	anhours	Unit/MH	MH/Uni			\$/MH Bas	e Labor//	ин т	otal Labor/MH	Unit/Cl
	8.0000	0.0556	18.0000		304.7		38.59		74.5394	0.2500
Activity:	150.1	Valve Mate	rials			Qua	antity:	1	Unit:	EA
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls		t Matls	Sub	Tota
U. Cost	0.00	0.00	0.00		0.00	3,296.30		0.00	0.00	3,296.30
otal	0.00	0.00	0.00		0.00	3,296.30		0.00	0.00	3,296.30
Calendar: ST	D Standard	Hrs	/Shift: 8			WC: 5221		Concrete (Construction	
Resource	Description		Pcs/Wste	Quantity	Unit	U	nit Cost	Tax/OT %	Actual UC	Tota
24"MEGALUC	4" Megalug		1.00	2.00	EA	1	66.90	108.10	180.42	360.8
24"MJVLV	4" MJ Gate Val	lve	1.00	1.00	EA		500.00	108.10	2,810.60	2,810.6
26"PVC	6" PVC		1.00	5.00	LF		7.50	108.10	8.11	40.5
2G5	G5 Valve Box		1.00	1.00			78.00	108.10	84.32	84.3
Activity	150.2	Install Valv	10			Out	antity:	1	Unit:	EA
Activity:										
II. Card	Base Labor	Burden	Total Labor	Equipn		Perm Matls	Const	t Matls	Sub	Tota
U. Cost Fotal	390.52 390.52	363.64 363.64	754.16 754.16		5.60	0.00		0.00	0.00	1,339.70 1,339.70
Crew \$, 1,339.7			0.5000	\$/Crew Hou 669.8800		Shifts 0.2500	U	nits/Shift 4.0000	Shifts/Unit 0.2500	\$/Shif 5,359.040
1,339.7		JUUU	0.3000	009.0000	J	0.2300		4.0000	0.2300	3,339.040
	Manhours	' 	Unit/MH			MH/Unit		Total Labor		
	Manhours 10.0000		0.1000 /Shift: 8			10.0000 WC: 5221		75.4 Concrete (160 Construction	390.520
Crew: SM	Manhours 10.0000 TD Standard PIPE Small Pipe Ci		0.1000 /Shift: 8	Eff: 10		10.0000 WC: 5221 Crew Hrs: 2.00		75.4	160 Construction	390.5200
Crew: SM Resource	Manhours 10.0000 TD Standard PIPE Small Pipe Co	rew Prod	0.1000 /Shift: 8 I: S 0.25	Quantity	0.00 (10.0000 WC: 5221 Crew Hrs: 2.00	nit Cost	75.4 Concrete C Labor Pcs:	Construction 5.00 Equipm	390.5200 nent Pcs: 3.00 Tota
Crew: SM Resource 8031	Manhours 10.0000 D Standard PIPE Small Pipe Co Description ROLLER 18-29" V	rew Prod VALKBEHIND DBL	0.1000 /Shift: 8 I: S 0.25 Pcs/Wste 1.00	Quantity 2.00	0.00 (Unit HR	10.0000 WC: 5221 Crew Hrs: 2.00	nit Cost 37.47	75.4 Concrete (Labor Pcs: Tax/OT % 108.10	Construction 5.00 Equipm Actual UC 40.50	390.5200 nent Pcs: 3.00 Tota 81.00
Crew: SM Resource 8031 8267	Manhours 10.0000 TD Standard PIPE Small Pipe Co Description ROLLER 18-29" V LOADER WHEEL	rew Prod VALKBEHIND DBL 2.5-2.9 CUBIC Y	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00	0.00 (Unit HR HR	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 103.25	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10	Construction 5.00 Equipm Actual UC 40.50 111.61	390.5200 nent Pcs: 3.00 Tota 81.00 223.2
Crew: SM Resource 8031 8267 8276	Manhours 10.0000 TD Standard PIPE Small Pipe Co Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35	rew Prod VALKBEHIND DBL 2.5-2.9 CUBIC Y	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00 2.00	0.00 (Unit HR HR HR	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 103.25 130.15	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10	5.00 Equipr Actual UC 40.50 111.61 140.69	390.5200 nent Pcs: 3.00 Tota 81.00 223.21 281.33
Crew: SM Resource 8031 8267 8276 LABORER	Manhours 10.0000 TD Standard PIPE Small Pipe Ci Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999#	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00 2.00 4.00	Unit HR HR HR HR	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 103.25 130.15 30.49	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 108.10 100.00	5.00 Equipr Actual UC 40.50 111.61 140.69 60.60	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38
Crew: SM Resource 8031 8267 8276 LABORER OPER4	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator Fore	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999#	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00 2.00 4.00 2.00	Unit HR HR HR MH	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 03.25 130.15 30.49 48.00	75.4 Concrete (Cabor Pcs: Tax/OT % 108.10 108.10 108.10 100.00 100.00	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54
Crew: SM Resource 8031 8267 8276 LABORER OPER4 OPERATOR	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator Fore Operator	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00 2.00 4.00	Unit HR HR HR MH	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 03.25 130.15 30.49 48.00 43.14	75.4 Concrete (Concrete (C	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22
Crew: SM Resource 8031 8267 8276 LABORER OPER4 OPERATOR	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator Fore Operator	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00 2.00 4.00 2.00 4.00	Unit HR HR HR HR MH MH	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 103.25 130.15 30.49 48.00 43.14	75.4 Concrete (Concrete (C	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	390.5200 nent Pcs: 3.00 Tota 81.00 223.2: 281.3i 242.40 178.5-2 333.2:
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity:	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator Fore Operator 150.3 Base Labor	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 2.00 4.00 2.00 4.00	Unit HR HR HR MH MH MH	10.0000 WC: 5221 Crew Hrs: 2.00 Ut	37.47 103.25 130.15 30.49 48.00 43.14	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity:	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator Fore Operator	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man	0.1000 /Shift: 8 I: S	Quantity 2.00 2.00 2.00 4.00 2.00 4.00	Unit HR HR HR HR MH MH	10.0000 WC: 5221 Crew Hrs: 2.00	37.47 103.25 130.15 30.49 48.00 43.14	75.4 Concrete (Concrete (C	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	Tota 81.00 223.22 281.38 242.40 178.54 333.22
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity:	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator Fore Operator 150.3 Base Labor 304.24 304.24	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 2.00 4.00 2.00 4.00	Unit HR HR HR MH MH MH MH 0.97	10.0000 WC: 5221 Crew Hrs: 2.00 Ut Qua Perm Matls 81.08	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit:	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22 LS Tota 848.60
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Fotal	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 3! Laborer Operator Fore Operator 150.3 Base Labor 304.24 304.24 /Unit Crew Hrs	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 2.00 4.00 2.00 4.00 Equipm 179 179	Unit HR HR HR MH	Quarter Matls 81.08 81.08	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22 LS Tota 848.60 848.60
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$.	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 3! Laborer Operator Fore Operator 150.3 Base Labor 304.24 304.24 /Unit Crew Hrs	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou	Unit HR HR HR MH	10.0000 WC: 5221 Crew Hrs: 2.00 Ui Perm Matls 81.08 81.08 Shifts	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 nits/Shift	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22 LS Tota 848.60 848.60 \$/Shif 3,394.4000
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$.	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator 150.3 Base Labor 304.24 304.24 /Unit Crew Hrs	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou	Unit HR HR HR MH	Qual Perm Matls 81.08 81.08 Shifts 0.2500	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 nits/Shift 4.0000	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22 LS Tota 848.60 848.60 \$/Shif 3,394.4000 Base Labor/Uni
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$ 767.5	Manhours 10.0000 TD Standard PIPE Small Pipe Ci Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.6 Manhours 8.0000	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou	Unit HR HR HR MH MH MH MO	Qual Perm Matls 81.08 81.08 Shifts 0.2500 MH/Unit	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 108.00 100.00 100.00 1 t Matls 0.00 0.00 nits/Shift 4.0000 Total Labor 73.4	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22 LS Tota 848.60 848.60 \$/Shif 3,394.4000 Base Labor/Uni
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$, 767.5	Manhours 10.0000 TD Standard PIPE Small Pipe Ci Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.6 Manhours 8.0000	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou	Unit HR HR HR MH MH MH O.97	10.0000 WC: 5221 Crew Hrs: 2.00 Ui Perm Matls 81.08 81.08 81.08 Shifts 0.2500 MH/Unit 8.0000	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 108.00 100.00 100.00 1 t Matls 0.00 0.00 nits/Shift 4.0000 Total Labor 73.4	Construction 5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500	390.5200 nent Pcs: 3.00 Tota 81.00 223.2: 281.33 242.44 178.5- 333.2: LS Tota 848.60 848.60 \$/Shif 3,394.4000 Base Labor/Uni
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$, 767.5	Manhours 10.0000 TD Standard PIPE Small Pipe Ci Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.6 Manhours 8.0000 TD Standard	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou 383.7600	0.00 (10.0000 WC: 5221 Crew Hrs: 2.00 U Perm Matls 81.08 81.08 81.08 Shifts 0.2500 MH/Unit 8.0000 WC: 5221 Crew Hrs: 2.00	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 nits/Shift 4.0000 Total Labor 73.4 Concrete (Construction 5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500	390.5200 nent Pcs: 3.00 Tota 81.00 223.2: 281.3: 242.40 178.5- 333.2: LS Tota 848.60 848.60 \$/Shift 3,394.4000 Base Labor/Uni 304.2400
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$. 767.5	Manhours 10.0000 TD Standard PIPE Small Pipe Composition ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.0 Manhours 8.0000 TD Standard INIP Mini Pipe Cree	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/ 0000 Hrs	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 4.00 Equipm 179 179 \$/Crew Hou 383.7600	0.00 (Quare Natis 81.08 81.08 81.08 81.08 81.08 81.08 81.08 Crew Hrs: 2.00 MH/Unit 8.0000 WC: 5221 Crew Hrs: 2.00	37.47 03.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 nits/Shift 4.0000 Total Labor 73.4 Concrete (Labor Pcs:	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500	390.5200 nent Pcs: 3.00 Tota 81.00 223.2: 281.33 242.40 178.5- 333.2: LS Tota 848.60 848.60 \$/Shift 3,394.4000 Base Labor/Uni 304.2400 nent Pcs: 4.00
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$, 767.5 Calendar: ST Crew: MI Resource 2CONC	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 3! Laborer Operator Fore Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.6 Manhours 8.0000 TD Standard INIP Mini Pipe Cre Description Ready-Mix Cor	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/ 0000 Hrs	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou 383.7600	Unit HR HR HR MH MH MH O.97 O.00 Unit CY	Quare Natis 81.08 81.08 81.08 81.08 81.08 81.08 81.08 Crew Hrs: 2.00 MH/Unit 8.0000 WC: 5221 Crew Hrs: 2.00	137.47 103.25 130.15 30.49 48.00 43.14 Const	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 100.00 100.00 100.00 1 t Matls 0.00 0.00 Total Labor 73.4 Concrete (Labor Pcs: Tax/OT %	5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500 7/MH 438 Construction 4.00 Equipm Actual UC	390.5200 nent Pcs: 3.00 Tota 81.00 223.2: 281.3; 242.40 178.5: 333.2: LS Tota 848.60 \$/Shift 3,394.4000 Base Labor/Uni 304.2400 nent Pcs: 4.00 Tota 81.00
Crew: SM Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Total Crew \$, 767.5	Manhours 10.0000 TD Standard PIPE Small Pipe Cr Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 3! Laborer Operator Fore Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.6 Manhours 8.0000 TD Standard INIP Mini Pipe Cre Description Ready-Mix Cor	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/ 0000 Hrs	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou 383.7600 Eff: 10 Quantity 0.50	Unit HR HR HR MH MH MH O.97 O.00 Unit CY	Quare Natis 81.08 81.08 81.08 81.08 81.08 81.08 81.08 Crew Hrs: 2.00 MH/Unit 8.0000 WC: 5221 Crew Hrs: 2.00	37.47 103.25 130.15 30.49 48.00 43.14 Consti	75.4 Concrete (Labor Pcs: Tax/OT % 108.10 108.10 108.00 100.00 100.00 1 t Matls 0.00 0.00 Total Labor 73.4 Concrete (Labor Pcs: Tax/OT % 108.10	Construction 5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500 C/MH 438 Construction 4.00 Equipm Actual UC 162.16	390.5200 nent Pcs: 3.00 Tota 81.00 223.22 281.38 242.40 178.54 333.22 LS Tota 848.60 \$/Shif 3,394.4000 Base Labor/Uni 304.2400
Resource 8031 8267 8276 LABORER OPER4 OPERATOR Activity: U. Cost Fotal Crew \$, 767.5 Calendar: ST Crew: MI Resource 2CONC 8001	Manhours 10.0000 TD Standard PIPE Small Pipe Cre Description ROLLER 18-29" V LOADER WHEEL EXCAVATOR 35 Laborer Operator 150.3 Base Labor 304.24 304.24 304.24 /Unit Crew Hrs 5200 2.0 Manhours 8.0000 TD Standard INIP Mini Pipe Cre Description Ready-Mix Cor COMPRESSOR 15 BREAKER PAVE	VALKBEHIND DBL 2.5-2.9 CUBIC Y 5000-39999# man Raise/Coll Burden 283.31 283.31 /Unit Units/ 0000 Hrs	0.1000 /Shift: 8 l: S	Quantity 2.00 2.00 4.00 2.00 4.00 Equipm 179 179 \$/Crew Hou 383.7600 Eff: 10 Quantity 0.50 2.00	Unit HR HR HR MH MH MH O.97 O.00 Unit CY HR	Quare Natis 81.08 81.08 81.08 81.08 81.08 81.08 81.08 Crew Hrs: 2.00 MH/Unit 8.0000 WC: 5221 Crew Hrs: 2.00	103.25 130.15 130.49 148.00 13.14 148.00 15.00 15.00 15.93	75.4 Concrete (Capture Concrete Capture Captur	Construction 5.00 Equipm Actual UC 40.50 111.61 140.69 60.60 89.27 83.31 Unit: Sub 0.00 0.00 Shifts/Unit 0.2500 C/MH 438 Construction 4.00 Equipm Actual UC 162.16 17.22	390.5200 nent Pcs: 3.00 Tota 81.00 223.2: 281.3: 242.40 178.5: 333.2: LS Tota 848.60 848.60 \$/Shift 3,394.4000 Base Labor/Uni 304.2400 nent Pcs: 4.00 Tota 81.00 34.44

LABORER	Laborer		2.00	4.00	МН		30.49	100.00	60.60	242.40
OPER4	Operator Fore	man	1.00	2.00	MH		48.00	100.00	89.27	178.54
OPERATOR	Operator	THOIL STATE OF THE	1.00	2.00	мн		43.14	100.00	83.31	166.61
Biditem		16	" Valve							
			eoff Qty:	1.0	00 EA	1				
160			Qty:		00 EA					
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Tota
U. Cost	560.48	525.35	1,085.83	484		7,218.78		0.00	0.00	8,788.80
Total	560.48	525.35	1,085.83	484	.19	7,218.78		0.00	0.00	8,788.8
Ma	nhours	Unit/MH	MH/Un	it		\$/MH	Base Labor/	мн	Total Labor/MH	Unit/Cl
15	.0000	0.0667	15.000	0	585.	.9200	37.36	53	72.3887	0.2500
Activity:	160.1	Valve Mate	erials			(Quantity:	1	Unit	: EA
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Cons	t Matls	Sub	Tota
U. Cost	0.00	0.00	0.00		.00	7,137.70		0.00	0.00	7,137.70
otal	0.00	0.00	0.00	0	.00	7,137.70		0.00	0.00	7,137.70
Calendar: STI	O Standard	Hrs	/Shift: 8			WC: 52	221	Concrete	Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
26"PVC	6" PVC		1.00	5.00	LF		7.50	108.10	8.11	40.54
2G5	G5 Valve Box		1.00	1.00	EA		78.00	108.10	84.32	84.32
2GATEVLV	Gate Valve		1.00	1.00	EA		6,009.00	108.10	6,495.73	6,495.73
2MEGALUG	MJ Megalug Pa	ack	1.00	2.00	EA		239.18	108.10	258.56	517.11
Activity:	160.2	Install Valv	/e			(Quantity:	1	Unit	: EA
	Base Labor	Burden	Total Labor	Equipn		Perm Matls	Cons	t Matls	Sub	Tota
U. Cost Fotal	256.24 256.24	242.04 242.04	498.28 498.28	304 304		0.00		0.00	0.00	802.50 802.50
otat	230.24	242.04	470.20	304	.22	0.00		0.00	0.00	002.30
Crew \$/0 802.50			0.5000	\$/Crew Hou 401.2500		Shifts 0.2500	U	4.0000	Shifts/Unit 0.2500	\$/Shift 3,210.0000
002.30	2.0	0000		401.2300	,					
	Manhours		Unit/MH			MH/Unit		Total Lab		Base Labor/Uni
	7.0000		0.1429			7.0000			.1829	256.2400
Calendar: STI	O Standard	Hrs	:/Shift: 8			WC: 52	221	Concrete	Construction	
Crew: SM	BF Small Backfil	ll Crew Proc	i: S 0.25	Eff: 10	0.00	Crew Hrs: 2.	00	Labor Pc	s: 3.50 Equip	ment Pcs: 2.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
8031		WALKBEHIND DBL	1.00	2.00	HR		37.47	108.10	40.50	81.00
8267	LOADER WHEEL	2.5-2.9 CUBIC Y	1.00	2.00	HR		103.25	108.10	111.61	223.22
LABORER	Laborer		2.00	4.00	MH		30.49	100.00	60.60	89.27
OPER4 OPERATOR	Operator Fore Operator	IIIdII	0.50 1.00	1.00 2.00	MH		48.00 43.14	100.00	89.27 83.31	166.6
	160.3	Raise/Coll					Quantity:	1	Unit	: LS
-tecrvicy.	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls		t Matls	Sub	Tota
U. Cost	304.24	283.31	587.55		.97	81.08	COIIS	0.00	0.00	848.60
otal	304.24	283.31	587.55	179		81.08		0.00	0.00	848.60
Crew \$/I	Unit Crew Hrs	/Unit Units/	Crew Hr	\$/Crew Hou	r	Shifts	U	Inits/Shift	Shifts/Unit	\$/Shif
767.52			0.5000	383.7600		0.2500		4.0000	0.2500	3,394.4000
	Manhours		Unit/MH			MH/Unit		Total Lab	or/MH	Base Labor/Uni
	8.0000		0.1250			8.0000		73	.4438	304.2400

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Crew:	MINIP Mini Pipe Crew	Prod: S 0.	25 Eff: 1	00.00	Crew Hrs: 2.00	Labor Pcs:	4.00 Eq	uipment Pcs: 4.00
Resource	Description	Pcs/V	ste Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
2CONC	Ready-Mix Concrete	1	.00 0.50	CY	150.00	108.10	162.16	81.08
8001	COMPRESSOR 155-175 CF	M DIESE 1	.00 2.00	HR	15.93	108.10	17.22	34.44
8016	BREAKER PAVEMENT A	AIR 90# 1	.00 2.00	HR	8.77	108.10	9.49	18.97
8243	BACKHOE/LOADER 60-90	HP 4WD 1	.00 2.00	HR	50.21	108.10	54.28	108.56
8UTLPU	Utility Pickup	1	.00 2.00	HR	9.00	100.00	9.00	18.00
LABORER	Laborer	2	.00 4.00	MH	30.49	100.00	60.60	242.40
OPER4	Operator Foreman	1	.00 2.00	MH	48.00	100.00	89.27	178.54
OPERATOR	R Operator	1	.00 2.00	MH	43.14	100.00	83.31	166.61

Biditem

(Non Additive) Standby Generator

170

Takeoff Qty: 1.000 EA
Bid Qty: 1.000 EA

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	8,229.52	7,055.04	15,284.56	1,721.64	273,281.66	324.30	54,712.50	345,324.66
Total	8,229.52	7,055.04	15,284.56	1,721.64	273,281.66	324.30	54,712.50	345,324.66

Manhours	Unit/MH	MH/Unit	\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
192.0000	0.0052	192.0000	1,798.5659	42.8621	79.6071	0.0179

Activity:	170.1	(Non Addi	tive) Equipment	t Pad	Qu	antity: 1		Unit: LS		
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total		
U. Cost	4,475.76	3,745.40	8,221.16	0.00	2,728.98	324.30	5,312.50	16,586.94		
Total	4,475.76	3,745.40	8,221.16	0.00	2,728.98	324.30	5,312.50	16,586.94		

Crew \$/Unit	Crew Hrs/Unit	Units/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
8,221.1600	24.0000	0.0417	342.5483	3.0000	0.3333	3.0000	5,528.9800

Manhours	Unit/MH	MH/Unit	Total Labor/MH	Base Labor/Unit
96.0000	0.0104	96.0000	85.6371	4,475.7600

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

Crew: 4CARP 4 Man Carp Crew Prod: S 3 Eff: 100.00 Crew Hrs: 24.00 Labor Pcs: 4.00 Equipment Pcs: 0.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
2CONC	Ready-Mix Concrete	1.10	18.70	CY	135.00	108.10	145.93	2,728.98
3FORMMTL	Form Materials	1.00	120.00	SF	2.50	108.10	2.70	324.30
4REBAR	Rebar	1.00	4,250.00	LB	1.25	100.00	1.25	5,312.50
CARP	Carpenter - Journeyman	2.00	48.00	МН	50.50	100.00	92.14	4,422.87
CARP4	Carpenter Foreman	1.00	24.00	МН	55.00	100.00	97.66	2,343.91
LABORER	Laborer	1.00	24.00	МН	30.49	100.00	60.60	1,454.38

Activity: 170.2 (Non Additive) Generator Supply Quantity: 1 Unit: LS

Calendar: STD Standard Hrs/Shift: 8 WC: 5221 Concrete Construction

 $\textbf{Notes:} \ \texttt{Generator Supply includes assumed 1150 kVa genset with house and ATS}$

0.0625

16.0000

4,644.4800

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
2GENERATOR	Generator	1.00	1.00	LS	250,000.00	108.10	270,250.00	270,250.00

Activity:	170.3	(Non Add	litive) Install G	enerator	Qı	uantity: 1	Unit:	LS
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	2,087.84	1,703.50	3,791.34	853.14	302.68	0.00	4,400.00	9,347.16
Total	2,087.84	1,703.50	3,791.34	853.14	302.68	0.00	4,400.00	9,347.16
Crew	\$/Unit Crew I	Hrs/Unit Unit	s/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift

2.0000

0.5000

2.0000

4,673.5800

290.2800

	Manhours		Unit/MH			MH/Unit		Total Labor		Base Labor/Uni
	48.0000		0.0208			48.0000		78.9	863	2,087.8400
Calendar: STD	Standard	Hrs	/Shift: 8			WC:	5221	Concrete (Construction	
Crew: MECHS/	M Small Mechanical	Crew Prod	: S 2	Eff: 10	0.00	Crew Hrs:	16.00	Labor Pcs:	3.00 Equip	oment Pcs: 2.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
2AB	Anchor Bolts		1.00	8.00	EA		35.00	108.10	37.84	302.68
4CRANE	Sub Crane Allow	ance	1.00	8.00	HR		550.00	100.00	550.00	4,400.0
8*FORK8	Reach Forklift - 8	8000 lb	1.00	16.00	HR		41.00	108.10	44.32	709.14
BUTLPU	Utility Pickup		1.00	16.00	HR		9.00	100.00	9.00	144.0
LABORER	Laborer		1.00	16.00	MH		30.49	100.00	60.60	969.58
MECHHLP	Mech Helper/Oil	.er	1.00	16.00	MH		45.00	100.00	85.40	1,366.35
MILLWR	Millwright		1.00	16.00	MH		55.00	100.00	90.96	1,455.41
Activity: 17	70.4	(Non Addit	ive) Electric	al Allowanc	е		Quantity:	1	Uni	t: LS
Calendar: STD	Standard	Hrs	/Shift: 8			WC:	5221	Concrete (Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
4ELEC	Electric - Sub		1.00	1.00	LS		45,000.00	100.00	45,000.00	45,000.00
Activity: 17	70.5	(Non Addit	ive) Electric	al Support			Quantity:	1	Uni	t: LS
,.	Base Labor	Burden	Total Labor	Equipn	nent	Perm Ma		t Matls	Sub	Tota
U. Cost	1,665.92	1,606.14	3,272.06		3.50	0.0		0.00	0.00	4,140.56
otal	1,665.92	1,606.14	3,272.06		3.50	0.0		0.00	0.00	4,140.56
Crew \$/Un	nit Crew Hrs/Ur	nit Units/	Crew Hr	\$/Crew Hou	r	Shir	fts U	Inits/Shift	Shifts/Unit	\$/Shif
4,140.560			0.0625	258.7850		2.000		0.5000	2.0000	2,070.280
	Manhours		Unit/MH			MH/Unit		Total Labor	·/MU	Base Labor/Uni
	48.0000		0.0208			48.0000		68.1		1,665.9200
Calendar: STD	Standard	Hrs	/Shift: 8			WC:	5221		Construction	1,003.7200
Crew: MINII		Prod	: S 2	Eff: 10	0.00	Crew Hrs:	16.00	Labor Pcs:	3.00 Equip	oment Pcs: 1.00
	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
Resource				16.00	HR		50.21	108.10	54.28	868.50
	BACKHOE/LOADER	60-90HP 4WD	1.00	16.00						
Resource 8243 LABORER		60-90HP 4WD					30.49	100.00	60.60	1,939.17
8243 LABORER	BACKHOE/LOADER Laborer Operator	60-90HP 4WD	1.00 2.00 1.00	32.00 16.00	MH		30.49 43.14	100.00 100.00	60.60 83.31	
8243 LABORER	Laborer	60-90HP 4WD	2.00	32.00	МН					
8243 LABORER OPERATOR	Laborer		2.00	32.00 16.00 re) Tank (MH MH	•				
8243 LABORER OPERATOR Biditem	Laborer	(No Tak	2.00 1.00 on Additive	32.00 16.00 re) Tank (400,000.0	MH MH Coati	AL				
	Laborer Operator	(No Tak Bid	2.00 1.00 on Additive eoff Qty: Qty:	32.00 16.00 7 e) Tank (400,000.0	MH MH Coati	AL AL	43.14	100.00	83.31	1,332.89
8243 LABORER OPERATOR Biditem	Laborer	(No Tak	2.00 1.00 on Additive	32.00 16.00 re) Tank (400,000.0 400,000.0	MH MH Coati	AL	43.14			

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
U. Cost	0.03	0.02	0.05	0.02	0.00	0.05	0.25	0.37
Total	10,014.40	9,253.28	19,267.68	6,730.06	1,135.05	19,144.51	101,000.00	147,277.30
	Manhours	Unit/MH	MH/Unit		\$/MH	Base Labor/MH	Total Labor/MH	Unit/CH
	96.0000	1,351.3514	0.0007	49	7.5584	33.8324	65.0935	3,333.3333

Activity:	180.1		(Non Ad	ditive) Drain	/Clean Tank	ζ	Quantity: 1	Unit	t: LS
	Base La	bor	Burden	Total Lab	or Equipmen	t Perm Matls	Const Matls	Sub	Total
U. Cost	1,519	.68 1,	457.96	2,977.6	911.06	0.00	0.00	0.00	3,888.70
Total	1,519	.68 1,	457.96	2,977.6	911.06	0.00	0.00	0.00	3,888.70
Crew \$)/Unit C	rew Hrs/Unit	Un	its/Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
3,888.	7000	16.0000		0.0625	243.0438	2.0000	0.5000	2.0000	1,944.3500

Manhours Unit/MH MH/Unit Total Labor/MH Base Labor/Unit

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	48.0000		C	0.0208			48.0000		62.03	342	1,519.6800
Calendar: STI) Standard		Hrs/Shi	ft: 8			WC:	5221	Concrete C	onstruction	
Crew: LA	34 4 Man Labo	r Crew	Prod: S	2	Eff: 10	0.00	Crew Hrs:	16.00	Labor Pcs:	3.00 Equip	ment Pcs: 3.00
Resource	Description			Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
8088	GENERATOR	19-29 KVA		1.00	16.00	HR		36.01	108.10	38.93	622.83
8205	PUMP 2" ELECT	TRIC SUBMERSIB	LE	1.00	16.00	HR		8.34	108.10	9.01	144.23
8UTLPU	Utility Picku	D .		1.00	16.00	HR		9.00	100.00	9.00	144.00
LAB4	Labor Forem			1.00	16.00	MH		34.00	100.00	64.90	1,038.47
LABORER	Laborer	uii		2.00	32.00	MH		30.49	100.00	60.60	1,939.17
Activity:	180.2	(Non A	dditive)	Surface I	Prep Steel			Quantity:	1	Unit	: LS
	Base Labor	Burden	То	tal Labor	Equipn		Perm Mai	hla Cons	t Matls	Sub	Total
U. Cost	6,078.72						0.0			0.00	36,514.08
Total	6,078.72	5,831.85 5,831.85		,910.57 ,910.57	5,459 5,459		0.0		44.51 44.51	0.00	36,514.08
Total	0,070.72	3,031.03		,710.57	3,437	.00	0.0	70 17,1	77.31	0.00	30,314.00
Crew \$/l	Jnit Crew H	rs/Unit U	nits/Crew	Hr	\$/Crew Hou	r	Shif	ts L	Inits/Shift	Shifts/Unit	\$/Shift
17,369.57	700 64	.0000	0.01	56	271.399	5	8.000	00	0.1250	8.0000	4,564.2600
	Manhours			Jnit/MH			MH/Unit		Total Labor	/MH	Base Labor/Unit
	192.0000			0.0052			192.0000		62.03		6,078.7200
	172.0000			.0032			172.0000		02.0	772	0,070.7200
Calendar: STI Crew: LAI		r Crow	Hrs/Shi	ft: 8 8	Eff: 10	0 00	WC: Crew Hrs:	5221	Concrete C	onstruction 3.00 Equip	ment Pcs: 3.00
CIEW. LAI	54 4 Mail Labo	CIEW	100. 5		LII. 10	0.00	CIEW III3.	04.00	Labor 1 C3.	5.00 Equip	ment i cs. 5.00
Resource	Description			Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
3BLASTSAND	Blast Sand M	edia		1.00	450.00	BAG		35.00	108.10	37.84	17,025.75
3SANDPOT	Sandblasing	Pot		1.00	8.00	DAY		245.00	108.10	264.85	2,118.76
8*BOOM45	45' Boomlift			1.00	64.00	HR		31.00	108.10	33.51	2,144.70
8005	COMPRESSOR :	350-450 CFM 15) P	1.00	64.00	HR		39.58	108.10	42.79	2,738.30
8UTLPU	Utility Picku	n		1.00	64.00	HR		9.00	100.00	9.00	576.00
LAB4	Labor Forem			1.00	64.00	МН		34.00	100.00	64.90	4,153.89
LABORER	Laborer	arr		2.00	128.00	MH		30.49	100.00	60.60	7,756.68
Activity:	180.3	(Non A	dditive)	Repair A	llowance			Quantity:	1	Unit	: LS
	Base Labor	Burden	To	tal Labor	Equipn	nent	Perm Mai	tls Cons	t Matls	Sub	Total
U. Cost	1,600.00	1,221.76		,821.76		.00	864.8		0.00	1,000.00	4,830.56
Total	1,600.00	1,221.76		,821.76		.00	864.8		0.00	1,000.00	4,830.56
	,										
Crew \$/l			nits/Crew		\$/Crew Hou		Shif		Inits/Shift	Shifts/Unit	\$/Shift
2,965.76	500 16	.0000	0.06	25	185.3600)	2.000	00	0.5000	2.0000	2,415.2800
	Manhours		L	Jnit/MH			MH/Unit		Total Labor	/MH	Base Labor/Unit
	32.0000		C	0.0313			32.0000		88.18	300	1,600.0000
Calendar: ST[O Standard		Hrs/Shi	ft: 8			WC:	5221	Concrete C	onstruction	
Crew: MECH	HSM Small Mecha	nical Crew	Prod: S	2	Eff: 10	0.00	Crew Hrs:	16.00	Labor Pcs:	2.00 Equip	ment Pcs: 1.00
Resource	Description			Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
2MISCMTL	Misc Materia	ls		1.00	1.00	LS		800.00	108.10	864.80	864.80
4WELD	Welding Sub			1.00	8.00	HR		125.00	100.00	125.00	1,000.00
8UTLPU	Utility Picku	р		1.00	16.00	HR		9.00	100.00	9.00	144.00
00 I LI U	Mech Helper	/Oiler		1.00	16.00	MH		45.00	100.00	85.40	1,366.35
				1.00	16.00	МН		55.00	100.00	90.96	1,455.41
MECHHLP	Millwright										
MECHHLP MILLWR		(Non A	dditive)					Quantity:	1	Unit	: LS
MECHHLP MILLWR	Millwright	(Non A	dditive) Hrs/Shi	Coating			WC:	Quantity: 5221		<i>Unit</i> construction	: LS
MECHHLP MILLWR Activity:	Millwright	(Non A	Hrs/Shi	Coating	Quantity	Unit	WC:				: LS Total

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Activity:	180.5	(Non Add	itive) Inspectio	on/Testing			Quantity:	1	Unit:	LS
Calendar: S7	ΓD Standard	Hi	rs/Shift: 8			WC:	5221	Concrete	Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
4NACETEST	NACE Testir	ng QA/QC	1.00	10.00	DAY		2,500.00	100.00	2,500.00	25,000.00
	100 (01 11	—				0			1.5
Activity:	180.6	(Non Add	itive) Touch-u)			Quantity:	1	Unit:	LS
Calendar: S7	ΓD Standard	Hi	rs/Shift: 8			WC:	5221	Concrete	Construction	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
4PAINT	Paint Coatin	ngs Sub	1.00	250.00	SF		20.00	100.00	20.00	5,000.00
A makin side on	180.7	(Non Add	itivo) Fill/Disi	ofact Tank			Oventitus	1	Unit:	LS
Activity:	160.7	(NOTI Add	itive) Fill/Disii	iject rank			Quantity:	ı	Unit:	L3
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Ma	tls Cons	t Matls	Sub	Total
U. Cost	816.00	741.71	1,557.71	216		270.		0.00	0.00	2,043.96
Total	816.00	741.71	1,557.71	216	.00	270.	25	0.00	0.00	2,043.96
Crew \$	/Unit Crew	Hrs/Unit Unit	s/Crew Hr	\$/Crew Hou	r	Shi	fts U	Inits/Shift	Shifts/Unit	\$/Shift
1,773.	7100 2	4.0000	0.0417	73.9046	5	3.000	00	0.3333	3.0000	681.3200
	Manhours		Unit/MH			MH/Unit		Total Labo	or/MU	Base Labor/Unit
	24.0000		0.0417			24.0000			9046	816.0000
Calendar: S7		Hı	rs/Shift: 8			WC:	5221		Construction	
Crew: LA	AB4 4 Man Lab	or Crew Pro	od: S 3	Eff: 10	0.00	Crew Hrs:	24.00	Labor Pcs	s: 1.00 Equipm	ent Pcs: 1.00
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Total
2MISCMTL	Misc Materia	als	1.00	1.00	LS		250.00	108.10	270.25	270.25
8UTLPU	Utility Pick	ap	1.00	24.00	HR		9.00	100.00	9.00	216.00
LAB4	Labor Forer	nan	1.00	24.00	МН		34.00	100.00	64.90	1,557.71

Biditem

(Non Additive) Street Reconstruction

U. Cost

Base Labor

0.33

Burden

0.31

10,000.000 SF Takeoff Qty: Bid Qty: 10,000.000 SF

Total Labor

0.64

24,875.00 55,594.57 3,265.52 3,100.99 6,366.51 4,084.31 20,160.65 108.10 MH/Unit Total Labor/MH Unit/MH \$/MH Base Labor/MH Unit/CH Manhours

0.41

Equipment

Perm Matls

2.02

Const Matls

0.01

Sub

2.49

Total

5.56

	88.8000	112.6126	0.0089	626	.0650	36.7739	71.694	9	62	5.0000
Activity:	190.1	(Non Add	itive) AC Paving		Q	uantity: 10000)	Unit:	SF	
	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub			Total
U. Cost	0.25	0.24	0.49	0.40	2.02	0.00	0.26			3.17

Total	2,534.64	2,371.06	4,905.70	4,012.31	20,160.65	0.00	2,625.00	31,703.66
Crew \$	/Unit Crew Hrs	/Unit Units/	Crew Hr	\$/Crew Hour	Shifts	Units/Shift	Shifts/Unit	\$/Shift
		0008 1.25		901.9163	1.0000	10.000.0000	0.0001	31,703,6600

/MH Base Labor/Un	Total Labor/MH	MH/Unit	Unit/MH	Manhours
052 0.253	75.7052	0.0065	154.3210	64.8000

Calendar: STD Hrs/Shift: 8 WC: 5221 **Concrete Construction** Standard

BKFL Backfill Crew Crew: Prod: S Eff: 100.00 Crew Hrs: 8.00 Labor Pcs: 8.10 Equipment Pcs: 5.00

Resource	Description	Pcs/Wste	Quantity	Unit	Unit Cost	Tax/OT %	Actual UC	Total
2A	ASPHALT	1.05	262.50	TON	68.00	108.10	73.51	19,295.85
2TACKCOAT	Tack Coat	1.00	10,000.00	SF	0.08	108.10	0.09	864.80
4HAUL	Hauling - Sub	1.00	262.50	TON	10.00	100.00	10.00	2,625.00

990001

Takeoff Qty: 1.000 LS Bid Qty: 1.000 LS

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U. Cost	0.00	0.00	0.00	0	0.00	0.00		0.00	0.00	0.0
Total	0.00	0.00	0.00	0	0.00	0.00		0.00	0.00	0.0
Activity: 99)	CONTINGE	NCY			Ç	Quantity:	1	Unit:	: LS
Calendar:	Code not found	. Hrs	/Shift: 8		,	WC:		Code not f	ound.	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
8224*TD	Contingency		1.00	337,954.90	TDC\$		0.00	108.10	0.00	0.0
Activity: 99	99	PROJECT S	UPPORT			C	Quantity:	1	Unit:	: LS
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Const	t Matls	Sub	Tota
U. Cost	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.0
otal	0.00	0.00	0.00	0	0.00	0.00		0.00	0.00	0.0
Calendar:	Code not found	. Hrs	/Shift: 8		,	WC:		Code not f	ound.	
Resource	Description		Pcs/Wste	Quantity	Unit		Unit Cost	Tax/OT %	Actual UC	Tota
4*CRANESUB	Crane Subcontrac	ctor	1.00	0.00	HR		500.00	100.00	0.00	0.0
4*QAQC	QA/QC Testing		1.00	0.00	LS		0.00	100.00	0.00	0.0
4*SURVEY	Land Surveyor		1.00	0.00	HR		165.00	100.00	0.00	0.0
5*CRANE-CRAW	Crawler Crane		1.00	0.00	HR		400.00	100.00	0.00	0.0
5*CRANE-HYDR	Hydrolic Crane		1.00	0.00	HR		200.00	100.00	0.00	0.0
8*BOOM45	45' Boomlift		1.00	0.00	HR		31.00	108.10	0.00	0.0
8*FORK10	Reach Forklift - 1	10000 lb	1.00	0.00	HR		47.00	108.10	0.00	0.0
8*FORK8	Reach Forklift - 8	3000 lb	1.00	0.00	HR		41.00	108.10	0.00	0.0
8*SHOPLIFT	Shop Forklift		1.00	0.00	HR		26.00	108.10	0.00	0.0
OPERATOR	Operator		1.00	0.00	MH		43.14	100.00	0.00	0.0
RIGGER	Crane Rigger		1.00	0.00	MH		48.00	100.00	0.00	0.0
Activity: 99	999	MOB/DEMO	ЭВ			Ç	uantity:	1	Unit:	: LS
	Base Labor	Burden	Total Labor	Equipn	nent	Perm Matls	Const	t Matls	Sub	Tota
U. Cost	0.00	0.00	0.00	0	0.00	0.00		0.00	0.00	0.0
otal	0.00	0.00	0.00	0	0.00	0.00		0.00	0.00	0.0
Calendar:	Code not found	. Hrs	/Shift: 8		,	WC:		Code not f	ound.	
Resource	Description							Tax/OT %	A street LIC	Tota
4*9AXL			Pcs/Wste	Quantity	Unit		Unit Cost	1 a x / U 1 /0	Actual UC	
	9 axel Heavy Equip	ment Trans			Unit HR					0.0
	9 axel Heavy Equip		Pcs/Wste 1.00 1.00	0.00 0.00	Unit HR HR		175.00 110.00	100.00	0.00 0.00	0.0
4*TRUCKING		l transport	1.00	0.00	HR	C	175.00	100.00	0.00	0.0
4*TRUCKING		l transport	1.00 1.00	0.00	HR HR	C Perm Matis	175.00 110.00 Quantity:	100.00 100.00	0.00	0.0
4*TRUCKING Activity: 9	Flat bed materia	l transport GENERAL (1.00 1.00 CONDITIONS	0.00 0.00 Equipm	HR HR		175.00 110.00 Quantity:	100.00	0.00 0.00 Unit:	0.0 : LS
4*TRUCKING Activity: 9 U. Cost	Flat bed material	l transport GENERAL (Burden	1.00 1.00 CONDITIONS	0.00 0.00 Equipm	HR HR	Perm Matls	175.00 110.00 Quantity:	100.00 100.00 1	0.00 0.00 Unit:	0.0
4*TRUCKING Activity: 9 U. Cost Total	Flat bed material Base Labor 0.00	GENERAL (Burden 0.00 0.00	1.00 1.00 CONDITIONS Total Labor 0.00	0.00 0.00 Equipm	HR HR 0.00 0.00	Perm Matls 0.00	175.00 110.00 Quantity:	100.00 100.00 1 t Matls 0.00	0.00 0.00 Unit:	0.0 : LS Tota 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar:	Base Labor 0.00 0.00	GENERAL (Burden 0.00 0.00	1.00 1.00 CONDITIONS Total Labor 0.00 0.00	0.00 0.00 Equipm	HR HR 0.00 0.00	Perm Matis 0.00 0.00	175.00 110.00 Quantity:	100.00 100.00 1 t Matis 0.00 0.00	0.00 0.00 Unit:	0.0 : LS Tota 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar: Resource	Base Labor 0.00 0.00 Code not found	GENERAL (Burden 0.00 0.00	1.00 1.00 2.00 DITIONS Total Labor 0.00 0.00	0.00 0.00 Equipm 0	HR HR	Perm Matls 0.00 0.00 WC:	175.00 110.00 Quantity: Const	100.00 100.00 1 t Matts 0.00 0.00 Code not f	0.00 0.00 Unit: Sub 0.00 0.00 0.00 cound.	0.0 : LS Tota 0.0 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar: Resource 1*ADMIN	Base Labor 0.00 0.00 Code not found Description	GENERAL (Burden 0.00 0.00	1.00 1.00 2.0NDITIONS Total Labor 0.00 0.00 //Shift: 8 Pcs/Wste	0.00 0.00 Equipm 0	HR HR 0.00 0.00 Unit	Perm Matls 0.00 0.00	175.00 110.00 2uantity: Const	100.00 100.00 1 t Matls 0.00 0.00 Code not f	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Cound. Actual UC	0.0 : LS Tota 0.0 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar: Resource 1*ADMIN 1*APM	Base Labor 0.00 0.00 Code not found Description Project Admin	GENERAL (Burden 0.00 0.00 Hrs	1.00 1.00 20NDITIONS Total Labor 0.00 0.00 ./Shift: 8 Pcs/Wste 1.00	0.00 0.00 Equipm 0 0	HR HR 0.00 0.00 Unit	Perm Matis 0.00 0.00 WC:	175.00 110.00 Quantity: Const	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00	0.00 0.00 Unit: Sub 0.00 0.00 Cound. Actual UC 0.00	0.0 : LS Tota 0.0 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar: Resource 1*ADMIN 1*APM 1*PE	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM	GENERAL (Burden 0.00 0.00 Hrs	1.00 1.00 2.0NDITIONS Total Labor 0.00 0.00 ./Shift: 8 Pcs/Wste 1.00 1.00	0.00 0.00 Equipm 0 0 Quantity 0.00 0.00	HR HR Unent U.00 Unit MO MO	Perm Matls	175.00 110.00 2uantity: Const	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Cound. Actual UC 0.00 0.00	0.0 : LS Tota 0.0 0.0 Tota 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar: Resource 1*ADMIN 1*APM 1*PE	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM Project Engineer	GENERAL (Burden 0.00 0.00 . Hrs	1.00 1.00 2.0NDITIONS Total Labor 0.00 0.00 7.5hift: 8 Pcs/Wste 1.00 1.00	0.00 0.00 Equipm 0 0 Quantity 0.00 0.00	HR HR O.00 O.00 Unit MO MO	Perm Matls	175.00 110.00 2uantity: Const Unit Cost 6,000.00 2,000.00 3,000.00	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Ound. Actual UC 0.00 0.00 0.00	0.0 : LS Tota 0.0 0.0 0.0 0.0 0.0
4*TRUCKING Activity: 9 J. Cost otal Calendar: Resource 1*ADMIN 1*PE 1*PM 1*SAFETY	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM Project Engineer Project Manager	GENERAL (Burden 0.00 0.00 Hrs	1.00 1.00 2.0NDITIONS Total Labor 0.00 0.00 3/Shift: 8 Pcs/Wste 1.00 1.00 1.00	0.00 0.00 Equipm 0 0 0 Quantity 0.00 0.00 0.00	HR HR D.00 D.00 Unit MO MO MO	Perm Matis	175.00 110.00 2uantity: Const Unit Cost 6,000.00 2,000.00 8,000.00 4,000.00	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 Ound. Actual UC 0.00 0.00 0.00 0.00 0.00	0.00 : LS Tota 0.00 0.00 Tota 0.00 0.00 0.00
4*TRUCKING Activity: 9 U. Cost Total Calendar: Resource 1*ADMIN 1*PE 1*PM 1*SAFETY 1*SUPT	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM Project Engineer Project Manager Safety Profession	GENERAL (Burden 0.00 0.00 . Hrs	1.00 1.00 20NDITIONS Total Labor 0.00 0.00 3/Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00	0.00 0.00 Equipm 0 0 0 Quantity 0.00 0.00 0.00 0.00	HR HR O.00 O.00 Unit MO MO MO MO MO	Perm Matis	Unit Cost 6,000.00 8,000.00 4,000.00 8,000.00	100.00 100.00 1 t Matls 0.00 0.00 Code not f 110.00 110.00 110.00 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Ound. Actual UC 0.00 0.00 0.00 0.00 0.00 0.00	0.00 : LS Tota 0.00 0.00 Tota 0.00 0.00 0.00 0.00 0.00
4*TRUCKING Activity: 9 U. Cost Fotal Calendar: Resource 1*ADMIN 1*APM 1*PE 1*PM 1*SAFETY 1*SUPT 1*TRADESUPT	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM Project Engineer Project Manager Safety Profession Project Superinter	GENERAL (Burden 0.00 0.00 . Hrs	1.00 1.00 2.0NDITIONS Total Labor 0.00 0.00 3/Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00	0.00 0.00 Equipm 0 0 Quantity 0.00 0.00 0.00 0.00 0.00	HR HR O.00 O.00 Unit MO MO MO MO MO	Perm Matis 0.00 0.00 WC:	Unit Cost 6,000.00 8,000.00 8,000.00 3,000.00 0,000.00	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00 110.00 110.00 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Ound. Actual UC 0.00 0.00 0.00 0.00 0.00 0.00	0.00 : LS Tota 0.00 0.00 Tota 0.00 0.00 0.00 0.00 0.00 0.00 0.00
4*TRUCKING Activity: 9 U. Cost Cotal Calendar: Resource 1*ADMIN 1*APM 1*PE 1*PM 1*SAFETY 1*SUPT 1*TRADESUPT 3*AIRPHOTO	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM Project Engineer Project Manager Safety Profession Project Superinter Aerial Photograpi	GENERAL (Burden 0.00 0.00 . Hrs	1.00 1.00 1.00 1.00 CONDITIONS Total Labor 0.00 0.00 /Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	0.00 0.00 Equipm 0 0 0 0 0 0.00 0.00 0.00 0.00 0.00 0.	HR HR O.00 O.00 Unit MO MO MO MO MO MO MO	Perm Matls	Unit Cost 6,000.00 8,000.00 8,000.00 1,000.00 2,000.00 2,000.00 2,000.00	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00 110.00 110.00 110.00 110.00 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Ound. Actual UC 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.00 : LS Tota 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.
4*TRUCKING	Base Labor 0.00 0.00 Code not found Description Project Admin Assistant PM Project Engineer Project Manager Safety Profession Project Superinter	GENERAL (Burden 0.00 0.00 . Hrs	1.00 1.00 1.00 2.0NDITIONS Total Labor 0.00 0.00 3/Shift: 8 Pcs/Wste 1.00 1.00 1.00 1.00 1.00 1.00	0.00 0.00 Equipm 0 0 0 0 0 0.00 0.00 0.00 0.00 0.00 0.	HR HR D.00 D.00 D.00 Unit MO MO MO MO MO MO MO EA	Perm Matls	Unit Cost 6,000.00 8,000.00 8,000.00 3,000.00 0,000.00	100.00 100.00 1 t Matls 0.00 0.00 Code not f Tax/OT % 110.00 110.00 110.00 110.00 110.00 110.00 110.00 110.00 110.00	0.00 0.00 Unit: Sub 0.00 0.00 0.00 Ound. Actual UC 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.00 : LS Tota 0.00 0.00 Tota 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.

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3*DH	SMALL TOOLS & SAFETY SUPPLIE	1.00	817.20	LBHR	0.00	108.10	0.00	0.00	
3*DUMPSTER	Dumpster	1.00	0.00	EA	500.00	108.10	0.00	0.00	
3*MAIL/FEDEX	Mail/Fedex/Postage	1.00	0.00	MO	250.00	108.10	0.00	0.00	
3*OFFICE	Project Office - Per Single	1.00	0.00	MO	800.00	108.10	0.00	0.00	
3*OFFICESUP	Office Supplies	1.00	0.00	MO	400.00	108.10	0.00	0.00	
3*PHOTOS	Jobsite Photos	1.00	0.00	MO	100.00	108.10	0.00	0.00	
3*PRINT	Printing & Copying Service	1.00	0.00	MO	250.00	108.10	0.00	0.00	
3*SNOWREMOVE	Snow Removal	1.00	0.00	MO	350.00	108.10	0.00	0.00	
3*TC	Gross Receipts Tax	1.00	337,954.90	TOT\$	0.00	108.10	0.00	0.00	
3*TD	Builders Risk INsurance	1.00	337,954.90	TDC\$	0.00	108.10	0.00	0.00	
3*TEMPELESET	Temp Electrical Setup	1.00	0.00	LS	1,000.00	108.10	0.00	0.00	
3*TEMPELEUSE	Temp Electric Use	1.00	0.00	MO	200.00	108.10	0.00	0.00	
3*TEMPFENCE	Temp Fence	1.00	0.00	LF	2.00	108.10	0.00	0.00	
3*TEMPH20SET	Temp Water Setup	1.00	0.00	LS	1,000.00	108.10	0.00	0.00	
3*TEMPH20USE	Temp Water Usage	1.00	0.00	KGAL	3.00	108.10	0.00	0.00	
3*TEMPHEAT	Temp Heat	1.00	0.00	GAL	5.00	108.10	0.00	0.00	
3*TEMPTOILET	Temp Toilets	1.00	0.00	MO	125.00	108.10	0.00	0.00	
3*WINTERPRO	Winter Protection	1.00	0.00	CY	3.00	108.10	0.00	0.00	
8*PICKUP	Admin Pickup	1.00	0.00	MO	1,100.00	108.10	0.00	0.00	

Report Summary

9*PERMITS

	Base Labor	Burden	Total Labor	Equipment	Perm Matls	Const Matls	Sub	Total
Total	30,103	28,393	58,496	30,457	228,231	1,630	19,141	337,955

0.00 LS

500.00 100.00

1.00

0.00

0.00

Job Notes

Estimate created on: 03/18/2018 by User#: 0 - Source estimate used: C:\HEAVYBID\EST\ESTMAST

Permit Fees

*****************Estimate created on: 01/09/2020 by User#: 0 - Source estimate used: C:\HEAVYBID\EST\2019MSTPWNV

*************Estimate created on: 03/04/2020 by User#: 0 - Source estimate used: C:\HEAVYBID\EST\2020MSTRNV-W

Calendars Used In Estimate

STD Standard