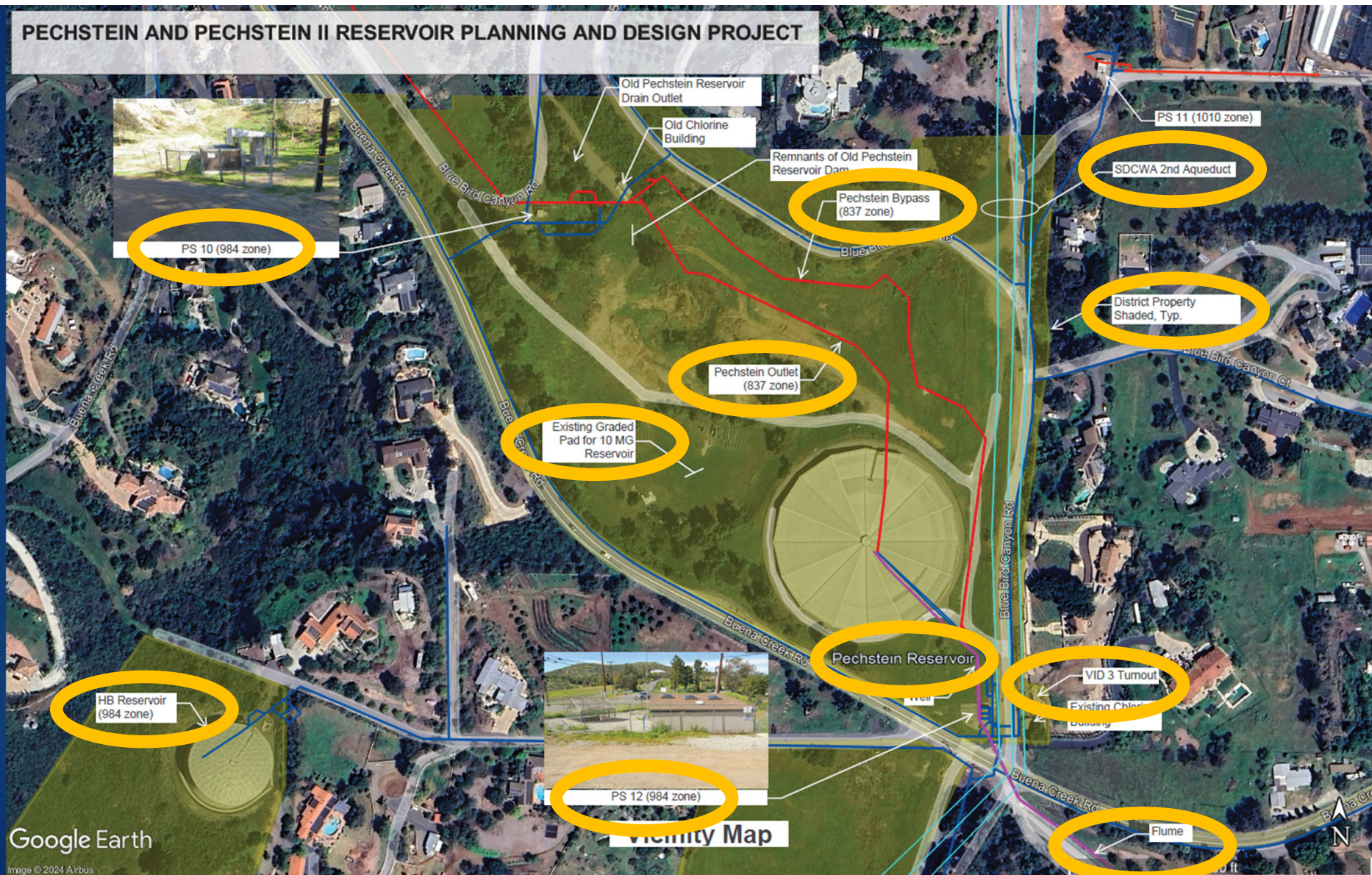
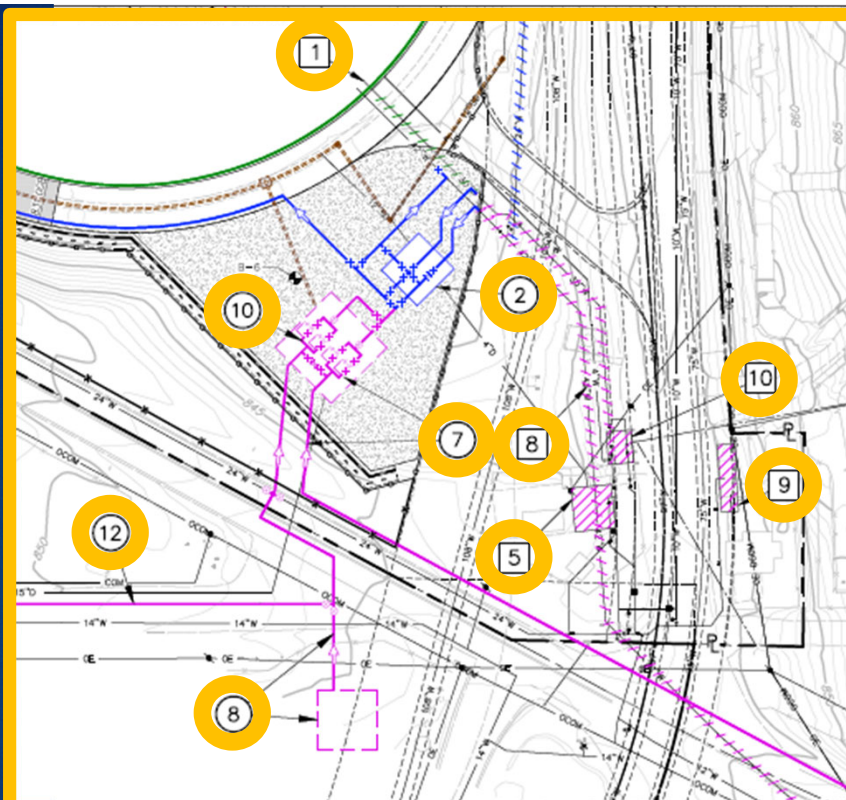


PECHSTEIN AND PECHSTEIN II RESERVOIR PLANNING AND DESIGN PROJECT





- 1 30" PECHSTEIN I INLET PIPE
- 2 24" BYPASS PIPE
- 3 20" OUTLET VALVE AND 24" PECH
- 4 6" DRAIN AND MUD VALVE
- 5 PUMP STATION 12
- 6 PUMP STATION 10
- 7 PLANT 4
- 8 FLUME PIPELINE (SEE NOTE 1)
- 9 SDCWA VID-3 (TBD BY SDCWA)
- 10 HP RELIEF REGULATOR VAULT

- 1 INLET VALVE VAULT, SEE FIGURE 4-8
- 2 36" PECHSTEIN II INLET/BYPASS PIPELINE
- 3 PECHSTEIN II VALVE VAULT, SEE FIGURE 4-9
- 4 36" PECHSTEIN COMBINED OUTLET PIPELINE
- 5 CONSOLIDATED PUMP STATION, APPROX 40'x60' AND
- 6 FLUME PIPELINE AND PRESSURE SUSTAINING FACILITY
- 7 POTENTIAL RELOCATED SDCWA VID-3 AND PIPELINE (
- 8 STORMWATER QUALITY/DETENTION BASINS
- 9 HP RELIEF REGULATOR FACILITY
- 10 30" 837 PZ SECONDARY FEED PIPELINE
- 11 HB RESERVOIR PARALLEL PIPELINE

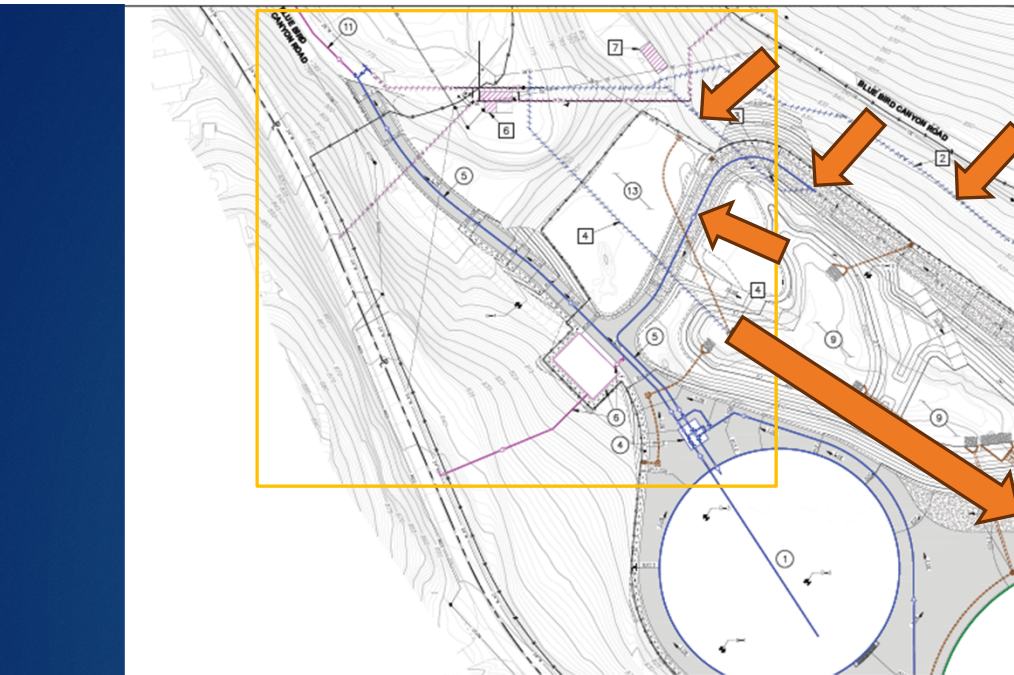
- LEGEND:
- 12 HB RESERVOIR PARALLEL PIPELINE
 - 13 STORAGE AREA
 - PECHSTEIN II PROJECT STORM AND RESERVOIR FACILITIES
 - PECHSTEIN II RESERVOIR PROJECT WATER FACILITIES
 - PECHSTEIN II PROJECT
 - FUTURE WATER FACILITIES
 - PECHSTEIN II RESERVOIR PROJECT ABANDONMENT
 - PECHSTEIN II PROJECT ABANDONME
 - FUTURE ABANDONMENT
 - NEW TUBULAR STEEL SECURITY FENCE
 - NEW
 - NEW AC PAVEMENT
 - NEW GRAVEL SURFACE

NOTES:

1. SHOULD THE SDCWA ELECT TO REHABILITATE VID-3 IN LIEU OF RELOCATION, THE EXISTING 42-INCH MAIN IS TO REMAIN.



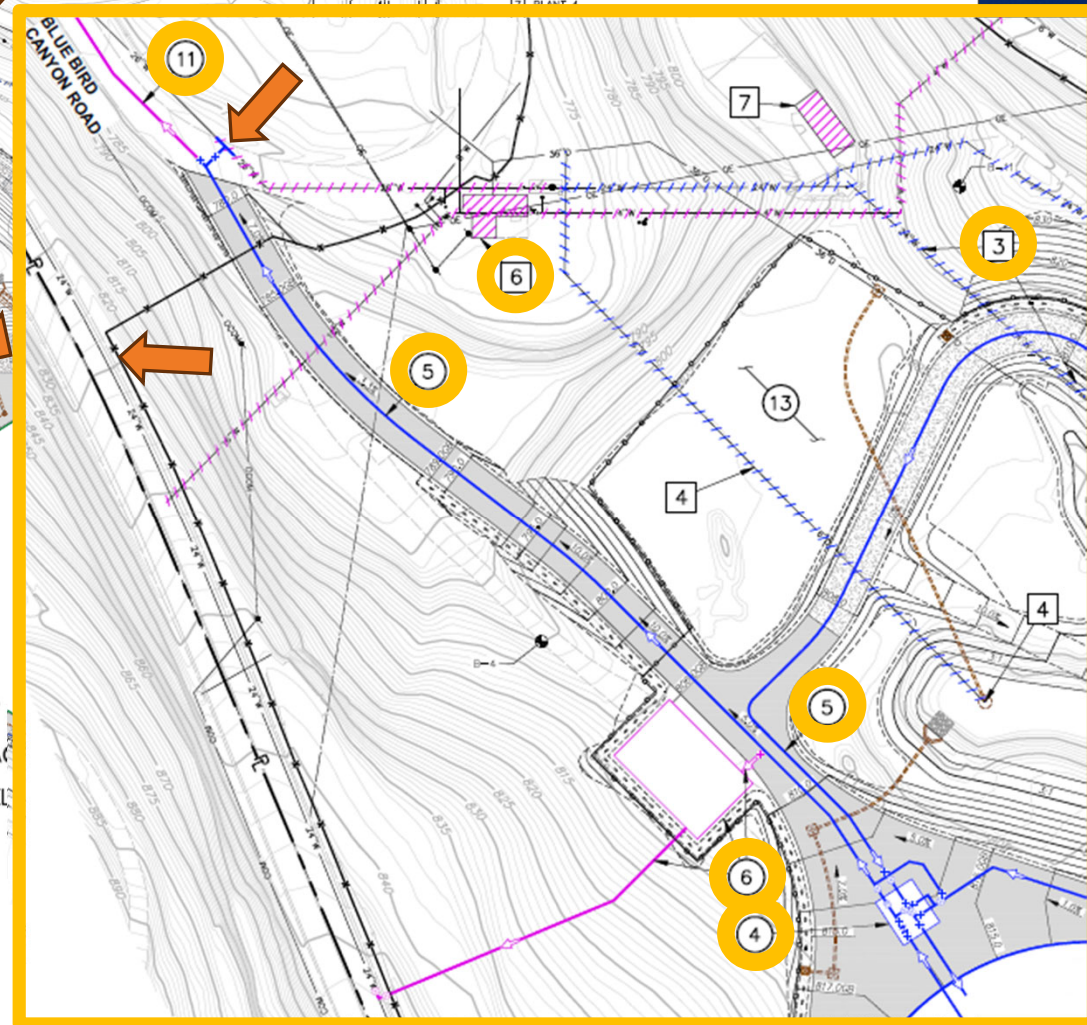
FIGURE 5-1	ALTERNATIVE 1 SITE PLAN
VID PECHSTEIN SITE MASTER PLAN	
DUDEK	

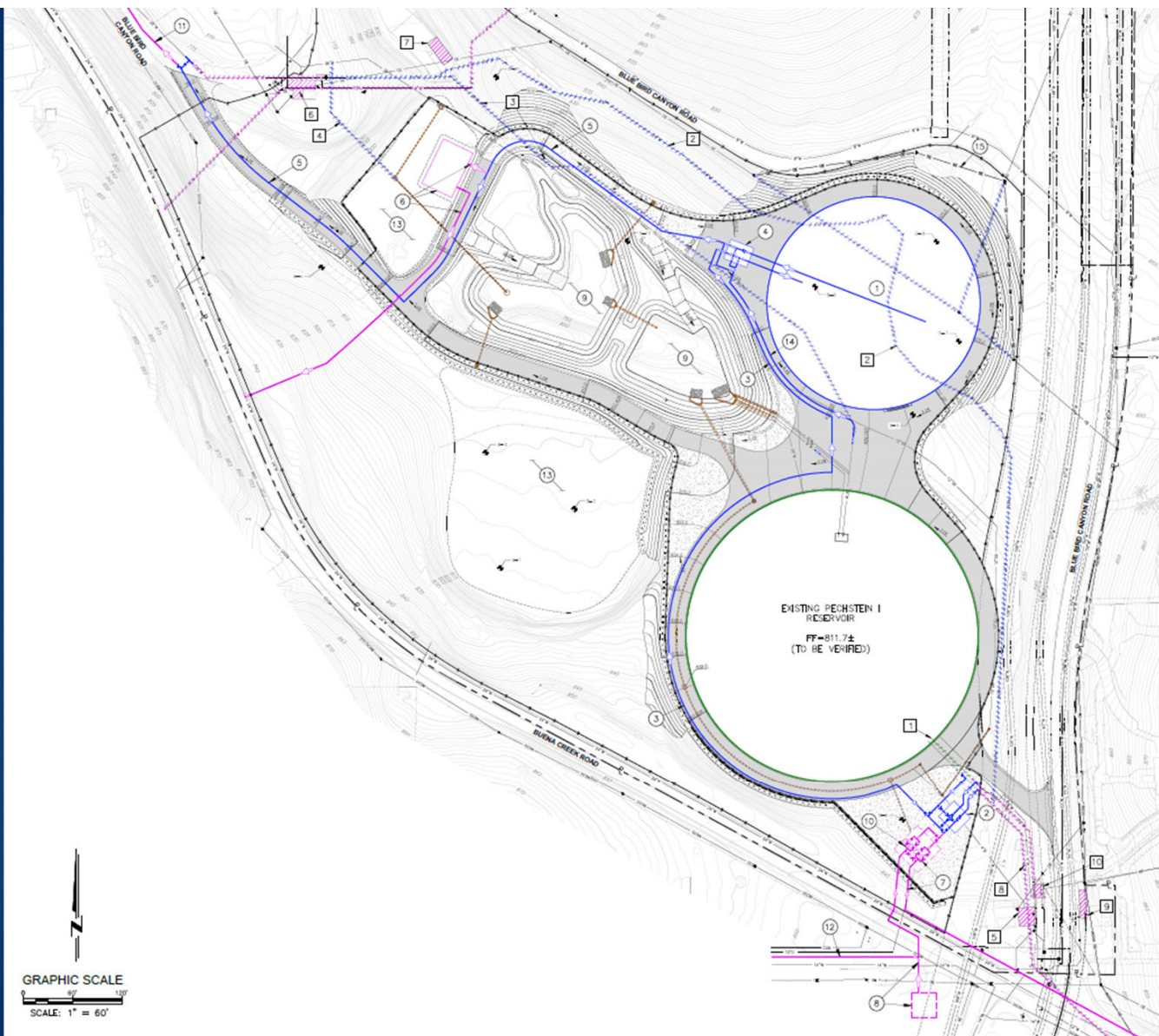


EXISTING FACILITIES TO BE DEMOLISHED/ABANDONED:

- 1 30" PECHSTEIN I INLET PIPE
- 2 24" BYPASS PIPE
- 3 20" OUTLET VALVE AND 24" PECHSTEIN I OUTLET PIPE
- 4 6" DRAIN AND MUD VALVE
- 5 PUMP STATION 12
- 6 PUMP STATION 10
- 7 PLANT 4

- 1 30" PECHSTEIN I INLET PIPE
- 2 24" BYPASS PIPE
- 3 20" OUTLET VALVE AND 24" PECHSTEIN I OUTLET PIPE
- 4 6" DRAIN AND MUD VALVE
- 5 PUMP STATION 12
- 6 PUMP STATION 10
- 7 PLANT 4
- 8 FLUME PIPELINE (SEE NOTE 1)
- 9 SDCWA VID-3 (TBD BY SDCWA)
- 10 HP RELIEF REGULATOR VAULT
- 11 30" 837 PZ SECONDARY FEED PIPELINE
- 12 HB RESERVOIR PARALLEL PIPELINE
- 13 STORAGE AREA
- 2 INLET VALVE VAULT, SEE FIGURE 4-8
- 3 36" PECHSTEIN II INLET/BYPASS PIPELINE
- 4 PECHSTEIN II VALVE VAULT, SEE FIGURE 4-9
- 5 36" PECHSTEIN COMBINED OUTLET PIPELINE
- 6 CONSOLIDATED PUMP STATION, APPROX 40'x60'
- 7 FLUME PIPELINE AND PRESSURE SUSTAINING FACILITY
- 8 POTENTIAL RELOCATED SDCWA VID-3 AND PIPELINE
- 9 STORMWATER QUALITY/DETENTION BASINS
- 10 HP RELIEF REGULATOR FACILITY





EXISTING FACILITIES TO BE DEMOLISHED/ABANDONED:

- 1 30" PECKSTEIN I INLET PIPE
- 2 24" BYPASS PIPE
- 3 20" OUTLET VALVE AND 24" PECKSTEIN I OUTLET PIPE
- 4 6" DRAIN AND MUD VALVE
- 5 PUMP STATION 12
- 6 PUMP STATION 10
- 7 PLANT 4
- 8 FLUME PIPELINE (SEE NOTE 1)
- 9 SDCWA MD-3 (TBD BY SDCWA)
- 10 HP RELIEF REGULATOR VAULT

PROPOSED IMPROVEMENTS:

- 1 10 MG PECKSTEIN II PRESTRESSED CONCRETE RESERVOIR, 255' OD, FF TO MATCH PECKSTEIN I
- 2 INLET VALVE VAULT, SEE FIGURE 4-8
- 3 36" PECKSTEIN II INLET/BYPASS PIPELINE
- 4 PECKSTEIN II VALVE VAULT, SEE FIGURE 4-9
- 5 36" PECKSTEIN COMBINED OUTLET PIPELINE
- 6 CONSOLIDATED PUMP STATION, APPROX 40'x60' AND ASSOCIATED PIPELINES
- 7 FLUME PIPELINE AND PRESSURE SUSTAINING FACILITY
- 8 POTENTIAL RELOCATED SDCWA MD-3 AND PIPELINE (TBD BY SDCWA)
- 9 STORMWATER QUALITY/DETENTION BASINS
- 10 HP RELIEF REGULATOR FACILITY
- 11 30" 837 PZ SECONDARY FEED PIPELINE
- 12 HB RESERVOIR PARALLEL PIPELINE
- 13 STORAGE AREA
- 14 36" PECKSTEIN I OUTLET PIPING
- 15 RELOCATED OVERHEAD ELECTRIC

LEGEND:

- EXISTING WATER FACILITIES
- PECKSTEIN II PROJECT STORM AND RESERVOIR DRAIN FACILITIES
- PECKSTEIN II RESERVOIR PROJECT WATER FACILITIES
- PECKSTEIN I RESERVOIR IMPROVEMENT PROJECT
- FUTURE WATER FACILITIES
- PECKSTEIN II RESERVOIR PROJECT DEMOLITION/ABANDONMENTS
- PECKSTEIN I RESERVOIR IMPROVEMENT PROJECT DEMOLITION/ABANDONMENTS
- FUTURE DEMOLITION/ABANDONMENTS
- NEW TUBULAR STEEL SECURITY FENCE
- NEW CHAIN LINK FENCE
- NEW AC PAVEMENT
- NEW GRAVEL SURFACE

NOTES:

1. SHOULD THE SDCWA ELECT TO REHABILITATE MD-3 IN LIEU OF RELOCATION, THE EXISTING 42-INCH MAIN IS TO REMAIN.

FIGURE 5-2	ALTERNATIVE 2 SITE PLAN
VID PECKSTEIN SITE MASTER PLAN	
DUDEK	



Criterion	Alternative 1	Alternative 2
Geotechnical Conditions and Earthwork	Existing graded pad for Pechstein II Reservoir will need to be over excavated for subgrade preparation but is not anticipated to require rock removal. Heavily Preferred Alternative	Significant rock excavation anticipated at the Pechstein II Reservoir site creates risk to the project cost and schedule and additional impacts to the environment and community.
Permanent Yard Piping	Both alternatives require a nearly identical amount of yard piping (in terms of both size and length). Alternative Neutral	Both alternatives require a nearly identical amount of yard piping (in terms of both size and length). Alternative Neutral
Construction Phasing Constraints and Schedule Impacts	Does not require relocation of overhead electric lines or construction of temporary piping prior to construction of Pechstein II Reservoir. Heavily Preferred Alternative	Existing overhead electric lines and Pechstein I bypass and outlet pipelines interfere with construction of Pechstein II Reservoir and require relocation prior to construction. This increases project construction cost and schedule duration.
Environmental Constraints and Aesthetics	Both alternatives will impact the wetland vegetation in the basin area to the same degree and may require mitigation and permitting. Noise, greenhouse gas, and aesthetic impacts of Alternative 1 appear to be less significant when compared with Alternative 2. Preferred Alternative	Both alternatives will impact the wetland vegetation in the basin area to the same degree and may require mitigation and permitting. Noise, greenhouse gas, and aesthetic impacts of Alternative 2 appear to be more significant when compared with Alternative 1. The reservoir location will also be more visible from roadways and surrounding residents when compared to Alternative 1.
Opinion of Probable Construction Cost for Pechstein II Reservoir Project	Planning level budgetary construction cost = \$27.0M to \$38.9M Heavily Preferred Alternative	Planning level budgetary construction cost = \$30.5M to \$44.0M The higher cost is due to rock excavation requirements, additional and taller retaining walls, relocation of the overhead electric lines, and construction of a temporary bypass/outlet pipeline.
Operations and Maintenance Considerations	No discernible difference regarding operations and maintenance considerations were identified between the two alternatives. Alternative Neutral	No discernible difference regarding operations and maintenance considerations were identified between the two alternatives. Alternative Neutral
Water Quality and Water Age	No discernible difference regarding impacts to water quality or water age were identified. Alternative Neutral	No discernible difference regarding impacts to water quality or water age were identified. Alternative Neutral