MALLOY VILLAGE PUD 2 SEWER PUMP STATION UPGRADE FERNDALE, WA

JUNE 2016

OWNER APPLICANT
MALLOY VILLAGE LLC 22410 HAWTHORNE BLVD, SUITE 5 TORRANCE, CA 90501 **CONTACT: TIM CAREY** (310)-787-6569

BENNETT ENGINEERING, LLC.

2324 JAMES STREET BELLINGHAM, WA 98225 CONTACT: TOM BENNETT, P.E. (360) 671-2600

LARRY STEELE & ASSOCIATES 1334 KING STREET SUITE 1 BELLINGHAM, WA 98229 CONTACT: LARRY STEELE, P.L.S. (360) 676-9350

NORTHWEST ECOLOGICAL SERVICES 2801 MERIDIAN STREET, SUITE 202 BELLINGHAM, WA 98225 CONTACT: VIKKI JACKSON (360)-734-9484

Z ENGINEERS, PLLC ONE FIFTH STREET SUITE 150 WENATCHEE, WA 98801 CONTACT: BRIAN ZIESMER, P.E. PHONE: 509-888-9364

PORTION OF THE SW1/4, SECTION 17 OF TOWNSHIP 39N, RANGE 02E OF WILLAMETTE MERIDIAN, CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON.

NGVD 29 USING CITY OF FERNDALE MON. STATION #351 HORIZONTAL: CITY OF FERNDALE MONUMENT NETWORK

BASIS OF BEARINGS

WASHINGTON STATE NORTH ZONE NAD 83/91 COORDINATES USING CITY OF FERNDALE MONUMENTS STATIONS #343 AND #351

NOTE: EXISTING FIELD DATA PER LARRY STEELE & ASSOCIATES.

APWA AMERICAN PUBLIC WORKS ASSOCIATION AMERICAN SOCIETY FOR TESTING AND MATERIALS

CONST CONSTRUCTION

CORRUGATED PLASTIC PIPE DUCTILE IRON EXISTING

FOUNDATION FND FOUND FINISHED FLOOR

INVERT ELEVATION LINEAR FEET **MAIL BOX** MINIMUM MONUMENT

NORTHEAST NORTHWEST OVERHEAD CABLE OVERHEAD ELECTRICAL POINT OF CURVATURE

PROPERTY LINE POINT OF TANGENCY POLY VINYL CHLORIDE

ROOF DRAIN RGE RANGE RIGHT OF WAY STORM DRAIN

STORM DRAIN CATCH BASIN STORM DRAIN MANHOLE SOUTHEAST SILT FENCE, SQUARE FEET SANITARY SEWER

SANITARY SEWER MANHOLE SERVICE SW SOUTHWEST

TO BE REMOVED TEMP TEMPORARY TEMPORARY EROSION & SEDIMENT CONTROLS

TEST PIT TYP. TYPICAL TOWNSHIP WATER

WDOT WASHINGTON DEPT. OF TRANSPORTATION WATER METER WATER VALVE

CONTRUCTION SEQUENCE

THIS CONSTRUCTION SEQUENCE IS INTENDED AS A GENERAL GUIDELINE FOR THE PROPOSED SITE DEVELOPMENT. ANY SIGNIFICANT CHANGES TO THE SEQUENCE SHALL BE DISCUSSED WITH AND APPROVED BY THE CITY OF FERNDALE (CITY) STAFF AND THE PROJECT ENGINEER.

W.M. WILLAMETTE MERIDIAN

ARRANGE AND ATTEND A PRE-CONSTRUCTION MEETING BETWEEN THE GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, AND CITY STAFF, A MINIMUM OF 3 DAYS PRIOR TO THE START OF WORK.

ARRANGE FOR A UTILITY LOCATE WITHIN THE PROJECT AREA. VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES. MAINTAIN OR REPAIR THE EROSION CONTROLS THAT WERE INSTALLED IN THE FALL OF 2015, AS NEEDED. INSTALL NEW SILT FENCING OUTSIDE PROJECT AREA (SHEET SPS-2).

STRIP TOPSOIL AND OTHER UNSUITABLE MATERIALS WITHIN THE PROJECT AREA AND STOCKPILE IN DESIGNATED AREAS.

EXCAVATE CONDUIT TRENCH AND INSTALL CONDUIT PER SHEET E-1. BACKFILL TRENCH WITH COMPACTED GRAVEL BASE. 6. EXCAVATE TO FOUNDATION GRADE FOR THE CONCRETE SLAB. CERTIFY SUBGRADE PRIOR TO PLACEMENT AND COMPACTION OF CRUSHED SURFACING BASE COURSE. CONSTRUCT CONCRETE

SLAB FOR GENERATOR PER SECTION DETAIL ON SHEET SPS-5. INSTALL GENERATOR OVER COMPLETED SLAB. DRILL SLAB AND INSTALL ANCHOR BOLTS IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.

COMPLETE ELECTRICAL SYSTEM IMPROVEMENTS IN ACCORDANCE WITH SHEET E-1. CONDUCT SYSTEM TESTING IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND CITY REQUIREMENTS. 9. PLACE AND COMPACT CRUSHED SURFACING IN THE NEW ACCESS ROAD AND YARD AREAS.

10. INSTALL CHAIN-LINK FENCING AROUND THE YARD AND TWO 10-FOOT WIDE GATES AT THE ACCESS ROAD ENTRY.

11. REMOVE EXCESS CONSTRUCTION MATERIALS AND DEBRIS FROM THE SITE. 12. REMOVE TESC FACILITIES ONCE SITE HAS STABILIZED. INSTALL TOPSOIL OVER EXPOSED SOIL AREAS AND HYDROSEED.

13. PREPARE RECORD DRAWING SET FOR THE COMPLETED IMPROVEMENTS AND SUBMIT TO THE CITY.

SHEET INDEX

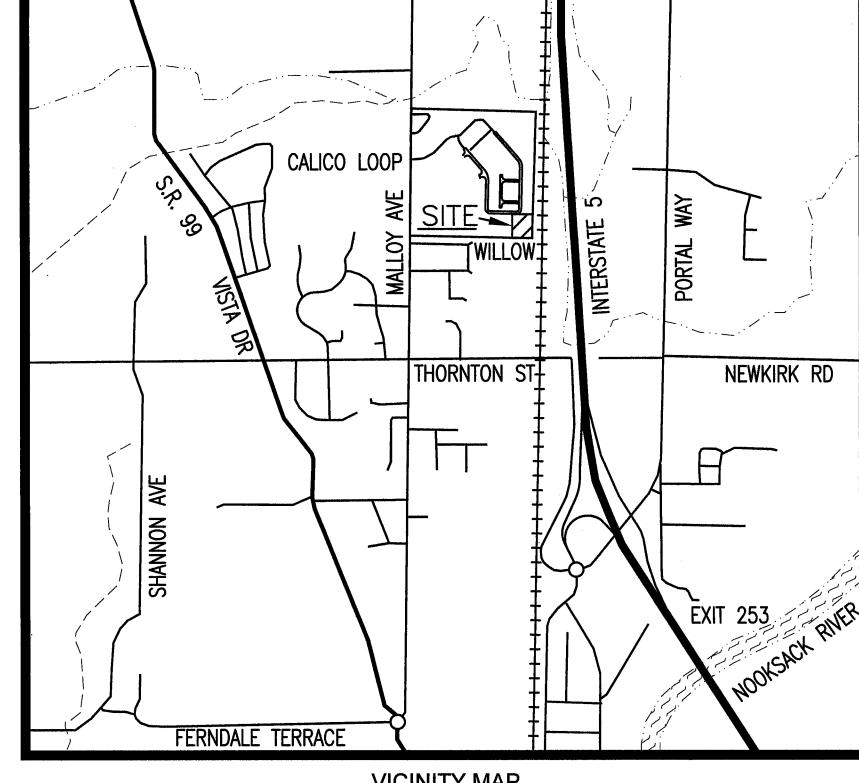
SPS-1 **COVER SHEET**

SPS-2 **EXISTING CONDITIONS & TESC PLAN**

SPS-3 PHASE 1 IMPROVEMENT PLAN SEWER PUMP STATION UPGRADE PLAN SPS-4

DETAILS SPS-5

ELECTRICAL SYMBOLS & ABBREVIATIONS E2 PUMP STATION #19 GENERATOR ELECTRICAL



VICINITY MAP

		•	
EXIST	NEW	LEGEND	
	•	BRASS DISK SURVEY MONUMENT	
0		FOUND SURVEY MARKER	
-		STREET SIGN	
		CATCH BASIN	Y
S		SANITARY SEWER MANHOLE	
	•	SANITARY SEWER CLEAN-OUT	
-0-		POWER / UTILITY POLE	
\bowtie	H	WATER VALVE	
田		WATER METER	
٩	•	WATER BLOW-OFF ASSEMBLY	
	, ₽°	WATER AIR/VAC RELEASE VALVE	
***		FIRE HYDRANT	
TP-4	,	TEST PIT	
□TEL R		TELEPHONE PEDESTAL	
T EX	T PR △	POWER TRANSFORMER	
-		LIGHT POLE	
——————————————————————————————————————	_ss	EX. SANITARY SEWER LINE PROP. SANITARY SEWER LINE	
		EX. STORM DRAIN LINE PROP. STORM DRAIN LINE	
W v		EX. WATER LINE PROP. WATER LINE	APPROVED
عالند		WETLAND	AUG 28 2017
			CITY OF FERNDALE
			DIRECTOR DESAUTATE

COF PROJECT 16011-COMM-MECH

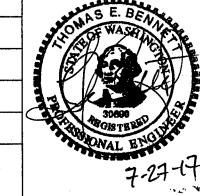
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DRAWING:

PUBLIC WORKS DEPARTMENT

SPS-1	SEWER PUMP STATION UPGRADE MALLOY VILLAGE PUD 2		
SHEET:	ASHINGTON	RNDALI	FEF
1 of 7	v: N/A	SCALE: H:	ATE: JUNE 2016

\bigcirc	ISSUED FOR REVIEW	NCS	6/06/16
\triangle	REVISED PER COF COMMENTS	NCS	6/16/16
2	RECORD DRAWING SET	TEB	7/27/17
3			
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NO.	REVISION	BY	DATE
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BENNETT ENGINEERING, LLC

CIVIL **ENVIRONMENTAL**

2324 JAMES STREET BELLINGHAM, WA 98225 Ph: (360) 671-2600 Cell: (360) 739-9844

JOB NO.: 15007 DWG. NAME: 15007 SPS-1-7 DESIGNED BY: DRAWN BY: TEB CHECKED BY: TEB

RECORD DRAWING CERTIFICATION

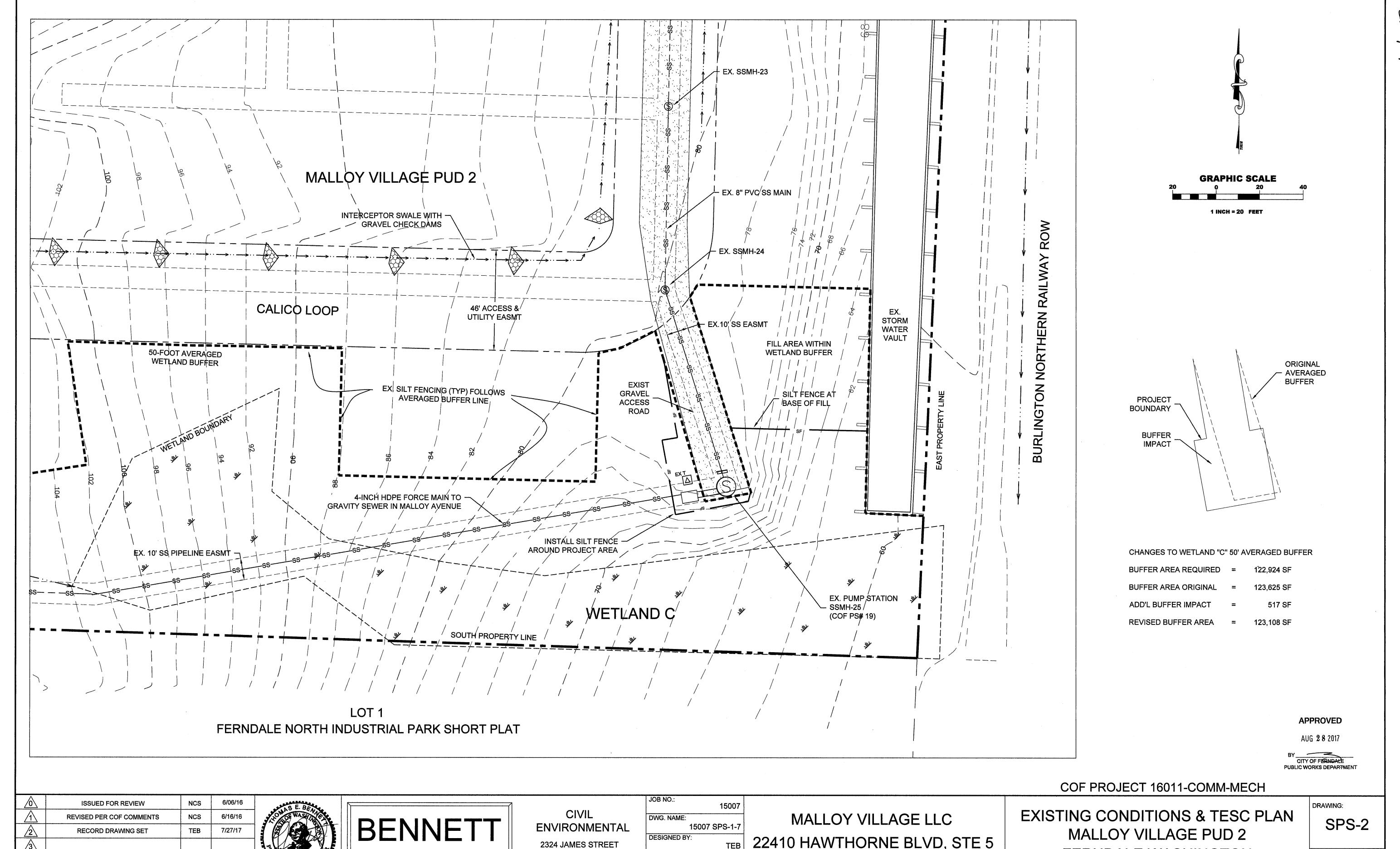
I, THOMAS E. BENNETT, P.E., CERTIFY THAT THE SEWER PUMP STATION IMPROVEMENTS FOR THE MALLOY VILLAGE PUD 2 HAVE BEEN INSPECTED BY BENNETT ENGINEERING, LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT, THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED

BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE.

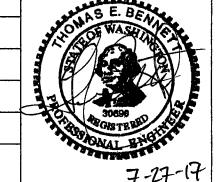
MALLOY VILLAGE LLC 22410 HAWTHORNE BLVD, STE 5 TORRANCE, CA 90501

> RECEIVED AUG 0 1 2017 BY: DVLP2014-02





NO. BY **REVISION** DATE



ENGINEERING, LLC

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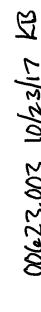
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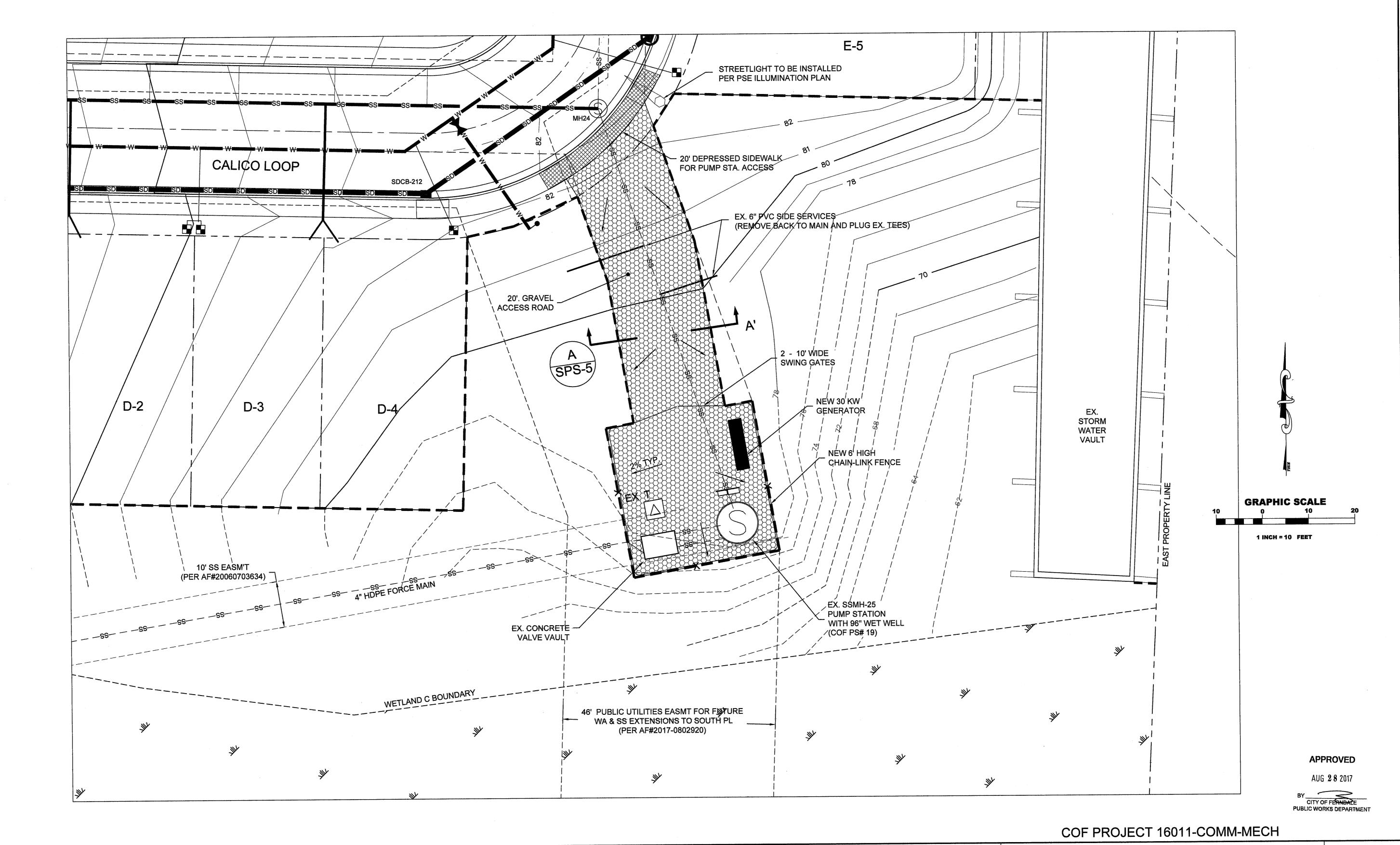
22410 HAWTHORNE BLVD, STE 5 TORRANCE, CA 90501

FERNDALE WASHINGTON

SHEET:

2 of 7 **JUNE 2016** H: 1" = 20' v: **N/A**



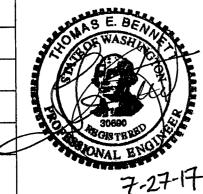


 ISSUED FOR REVIEW
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 6/06/16

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 REVISED PER COF COMMENTS
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 6/16/16

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 RECORD DRAWING SET
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2324 JAMES STREET BELLINGHAM, WA 98225 Ph: (360) 671-2600 Cell: (360) 739-9844

JOB NO.:	15007
DWG. NAME:	15007 SPS-1-7
DESIGNED B	Y: TEB
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CHECKED B	Y: TEB

MALLOY VILLAGE LLC 22410 HAWTHORNE BLVD, STE 5 TORRANCE, CA 90501

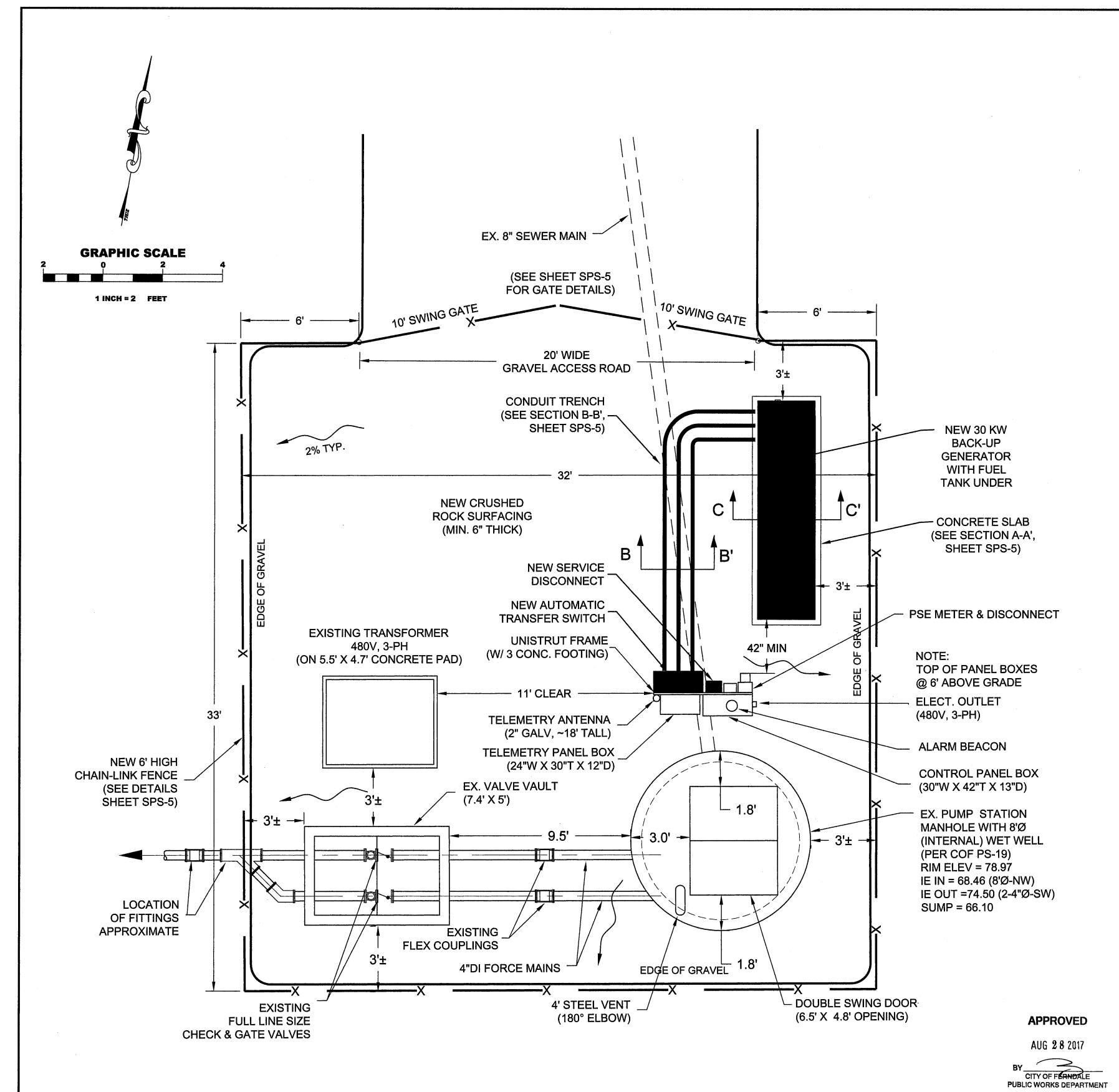
PHASE 1 IMPROVEMENT PLAN MALLOY VILLAGE PUD 2 FERNDALE WASHINGTON

FERNDALE WASHINGTON

DATE: SCALE:
JUNE 2016 H: 1" = 10' V: N/A

SPS-3

3 of 7



GENERAL

- THE SEWER PUMP STATION (SPS) UPGRADE PROJECT IS PART OF THE PHASE 1 IMPROVEMENTS FOR THE MALLOY VILLAGE PUD 2. THE STREET AND UTILITY IMPROVEMENTS WILL BE COMPLETED IN ACCORDANCE WITH THE APPROVED CIVIL ENGINEERING PLAN SET (SHEETS C-1 THROUGH C-30) PREPARED BY BENNETT ENGINEERING (PROJECT ENGINEER, THOMAS E. BENNETT, P.E., 360-671-2600). THE PROJECT TEAM FOR THE SPS UPGRADE ALSO INCLUDES HONCOOP GRAVEL (GENERAL CONTRACTOR (GC), TYLER BOSMAN, 360-354-4763), Z-ENGINEERS, PLLC (ELECTRICAL ENGINEER, BRIAN ZIESMER, P.E., 509-888-9364), CUMMINS NORTHWEST (GENERATOR SUPPLIER, DAN LANSKE, 425-235-3400, EXT. 3334), AND MILLS ELECTRIC (ELECTRICAL CONTRACTOR (EC). MIKE CLAUSEN, 360-734-0730).
- 2. THE SCOPE OF WORK FOR THE SPS UPGRADE INCLUDES INSTALLATION OF TESC MEASURES (SHEET SPS-2), SITE CLEARING AND PREPARATION, INSTALLATION OF A CONCRETE SLAB AND A NEW 30 KW GENERATOR AND ASSOCIATED FUEL TANK, ELECTRICAL SYSTEM UPGRADES (SHEETS E-1 AND E-2), INSTALLTION OF CHAIN-LINK FENCING AROUND THE FACILITY, CONSTRUCTION OF A 20-FOOT GRAVEL ACCESS ROAD FROM CALICO LOOP, AND GRAVEL SURFACING WITHIN THE FENCED YARD AREA (SHEETS SPS-3 AND 4). THE COMPLETED SYSTEM WILL BE TESTED IN ACCORDANCE WITH COF STANDARDS AND MANUFACTURER RECOMMENDATIONS. TWO 6-INCH SIDE SEWERS WILL BE REMOVED FROM THE EXISTING SEWER MAIN BETWEEN SSMH-24 AND THE PUMP STATION (SHEET SPS-3).
- 3. ALL WORK AND MATERIALS SHALL CONFORM TO THE CURRENT CITY OF FERNDALE DEVELOPMENT STANDARDS (COF STANDARDS), STANDARD PLANS AND SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (WASHINGTON DEPARTMENT OF TRANSPORTATION, WDOT), AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), AMERICAN WATER WORKS ASSOCIATION (AWWA), AMERICAN CONCRETE INSTITUTE (ACI), AND NATIONAL ELECTRIC CODE (NEC), AND AMENDMENTS TO THESE SPECIFICATIONS AS CONTAINED HEREIN. IN CASE OF A
- CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.

 4. A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED AND CONDUCTED BETWEEN THE GC, EC, AND COF STAFF A MINIMUM OF THREE WORKING DAYS PRIOR TO THE START OF WORK.

7. ALL CONTRACTORS CONDUCTING WORK AT THE SITE SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, BARRIERS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS,

- 5. ALL WORK SHALL COMPLY WITH APPLICABLE COF AND STATE PERMITS AND CODES.
- 6. EXISTING UNDERGROUND UTILITIES ARE PRESENT WITHIN THE AREA OF CONSTRUCTION. THE LOCATIONS OF EXISTING UTILITIES SHOWN IN THIS PLAN SET ARE APPROXIMATE. THE GC SHALL ORDER A UTILITY LOCATE (800-424-555) AT LEAST TWO WORKING DAYS BEFORE COMMENCING SITE WORK. THE GC SHALL MAKE EVERY EFFORT TO IDENTIFY UTILITY LOCATIONS IN THE FIELD AND MAINTAIN THE INTEGRITY OF THE UTILITIES THROUGHOUT CONSTRUCTION. THE GC SHALL NOTIFY THE PROJECT ENGINEER PROMPTLY OF ANY CONFLICT WITH EXISTING UTILITIES.
- AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC AND PROPERTY IN CONNECTION WITH PERFORMANCE OF THE WORK.

 8. THE GC SHALL KEEP A SET OF APPROVED CONSTRUCTION DRAWINGS ON-SITE AT ALL TIMES, AND COLLECT AS-BUILT DATA DURING PROGRESS OF THE WORK, INCLUDING THE LOCATION AND ELEVATION OF ALL UNDERGROUND STRUCTURES AND PIPING. PROPOSED FIELD CHANGES SHALL BE SUBMITTED TO THE COF AND PROJECT ENGINEER FOR REVIEW AND APPROVAL. UPON
- COMPLETION OF THE WORK, THE GC SHALL SUBMIT AS-BUILT DRAWINGS TO THE PROJECT ENGINEER FOR USE IN PREPARATION OF RECORD DRAWINGS.

 9. INSPECTIONS FOR THE ELECTRICAL SYSTEM IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH COF AND STATE PERMITS.

THE ECTIONS FOR THE ECCOTTONE STOTEWIND NO VENERALS SHALL BE FER ORDINED IN ACCORDANCE WITH CO

SURVEY CONTROL

- 1. THE GC SHALL LAYOUT AND SET ANY CONSTRUCTION STAKING AND MARKS NEEDED TO ESTABLISH THE LINES, GRADES, SLOPES, AND CROSS-SECTIONS SHOWN ON THESE PLANS. HORIZONTAL AND VERTICAL SURVEY CONTROL SHALL BE ESTABLISHED IN THE FIELD BY A LICENSED SURVEYOR PRIOR TO COMMENCING SITE CONSTRUCTION ACTIVITIES.
- 2. SURVEY CONTROL SHALL BE BASED ON WASHINGTON STATE NORTH ZONE NAD 83/91 COORDINATES USING CITY OF FERNDALE MONUMENTS.

- 1. ALL EARTHWORK AND SUBGRADE PREPARATION SHALL BE CONDUCTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING SERVICES REPORT PREPARED BY GEOENGINEERS, INC., DATED JANUARY 12, 2004.
- 2. THE GC SHALL INSTALL AND MAINTAIN ADEQUATE EROSION CONTROLS THROUGHOUT THE COURSE OF THE WORK TO PREVENT CONTAMINATION OF SURFACE WATERS DOWNGRADIENT OF THE PROJECT SITE. PRIOR TO COMMENCING SITE CLEARING ACTIVITIES, THE GC SHALL INSTALL ALL TESC MEASURES CALLED OUT ON SHEET SPS-2.
- 3. THE GC SHALL STRIP TOPSOILS AND OTHER UNSUITABLE SOIL MATERIALS FROM ALL AREAS THAT WILL RECEIVE STRUCTURAL FILL. SOIL MATERIALS SHALL BE TEMPORARILY STOCKPILED IN DESIGNATED AREAS OR REMOVED FROM THE SITE.
- 4. PRIOR TO PLACEMENT AND COMPACTION OF CRUSHED ROCK SURFACING IN THE ACCESS ROAD AND YARD AREAS, THE EXPOSED SUBGRADE SHALL BE REVIEWED AND APPROVED BY A WABO-CERTIFIED INSPECTOR. LOOSE OR SOFT MATERIALS SHALL EITHER BE RECOMPACTED, OR REMOVED AND REPLACED WITH STRUCTURAL FILL.
- 5. STRUCTURAL FILL SHALL BE IMPORTED AGGREGATE MEETING THE SPECIFICATIONS FOR GRAVEL BALLAST.
 6. ALL STRUCTURAL FILL SHALL BE PLACED IN MAXIMUM 8-INCH LOOSE LIFTS AND UNIFORMLY COMPACTED USING A SMOOTH-DRUM ROLLER TO 95% MODIFIED PROCTOR DENSITY, BASED ON THE
- ASTM D-1557 TEST METHOD. THE GC IS RESPONSIBLE FOR ALL COMPACTION TESTING AND SUBMITTAL OF THE TESTING RESULTS TO THE PROJECT ENGINEER.
 7. TRENCHING FOR THE CONDUIT RUNS FROM THE GENERATOR TO THE CONTROL PANEL SHALL BE 18 INCHES WIDE AND PROVIDE A MINIMUM 36-INCH FINISH COVER OVER THE CONDUIT (SHEET
- SPS-5). THE TRENCH SHALL BE BACKFILLED WITH COMPACTED GRAVEL BASE.
- 8. FOLLOWING COMPLETION OF THE PROJECT AND REMOVAL OF SILT FENCING, A MINIMUM OF 6 INCHES OF TOPSOIL SHALL BE SPREAD OVER ALL EXPOSED SOIL AREAS, GRADED SMOOTH AND TRACKED PARALLEL TO THE SLOPE, AND HYDROSEEDED.

IMPORTED AGGREGATE AND STRUCTURAL FILL MATERIALS

- 1. GRAVEL BALLAST USED FOR STRUCTURAL FILL SHALL CONFORM TO WDOT 9-03.9(1).
- CRUSHED SURFACING BASE COURSE (CSBC) SHALL CONFORM TO WDOT 9-03.9(3).
 GRAVEL BASE USED FOR TRENCH BACKFILL AND PIPE BEDDING SHALL CONFORM TO WDOT 9-03.10.
- 4. ALL STRUCTURAL FILL, TRENCH BACKFILL, AND SURFACING MATERIALS SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY, BASED ON THE ASTM D-1557 TEST METHOD. THE GC IS RESPONSIBLE FOR ALL COMPACTION TESTING.

CONCRETE SLAB PREPARATION

- PRIOR TO PLACEMENT AND COMPACTION OF SUB-SLAB FILL MATERIALS, THE EXPOSED SUBGRADE FOR THE GENERATOR SLAB SHALL BE REVIEWED AND APPROVED BY A WABO-CERTIFIED INSPECTOR FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF. LOOSE OR SOFT MATERIALS SHALL EITHER BE RECOMPACTED, OR REMOVED AND REPLACED WITH STRUCTURAL FILL. THE INSPECTOR SHALL DOCUMENT THE SUBGRADE PREPARATION WORK AND PROVIDE COPIES OF FIELD REPORTS TO THE PROJECT ENGINEER.
 THE SUB-SLAB FILL MATERIAL SHALL CONSIST OF 6 INCHES MINIMUM COMPACTED CSBC OVER SUITABLE SOIL OR STRUCTURAL FILL SUBGRADE, AS APPROVED BY THE WABO INSPECTOR
- (SHEET SPS-5). THE CSBC SHALL EXTEND A MINIMUM OF 12 INCHES OUTSIDE THE EDGE OF SLAB ON ALL SIDES.

 3. THE CONCRETE SLAB SHALL BE 40 INCHES WIDE BY 127 INCHES LONG BY 8 INCHES THICK (SHEET SPS-5). REINFORCING STEEL SHALL BE #4 REBAR AT 1.0-FOOT O.C., EACH WAY, PROVIDE 2
- 3. THE CONCRETE SLAB SHALL BE 40 INCHES WIDE BY 127 INCHES LONG BY 8 INCHES THICK (SHEET SPS-5). REINFORCING STEEL SHALL BE #4 REBAR AT 1.0-FOOT O.C., EACH WAY, PROVID INCHES OF REBAR COVER AROUND THE PERIMETER EDGE OF THE SLAB, AND 4 INCHES TOP AND BOTTOM.
- 4. TRENCHING FOR ELECTRICAL CONDUITS SHALL BE EXCAVATED AND BACKFILLED, WITH CONDUIT STUBS EXTENDING THROUGH THE SLAB SECTION PRIOR TO POURING CONCRETE.
 5. POUR AND CURE THE SLAB IN ACCORDANCE WITH ACI RECOMMENDATIONS. FORMWORK FOR THE SLAB SHALL REMAIN IN-PLACE FOR A MINIMUM OF 7 DAYS.
- 6. ANCHOR BOLTS SHALL BE INSTALLED AFTER THE GENERATOR HAS BEEN PROPERLY SET AND SHIMMED ON THE SLAB. ANCHOR BOLT HARDWARE AND INSTALLATION SHALL COMPLY WITH MANUFACTURER RECOMMENDATIONS.
- MANUFACTURER RECOMMENDATIONS.

 7. THE TOP FINISH GRADE OF THE SLAB SHALL BE SET 2 INCHES ABOVE THE ADJACENT GRADE.

ACCESS ROAD/YARD SURFACING IMPROVEMENTS

- 1. A 20-FOOT WIDE DRIVEWAY CURB CUT SHALL BE INSTALLED AT CALICO LOOP FOR THE GRAVEL ACCESS ROAD TO THE SPS AS PART OF THE PHASE 1 IMPROVEMENT PROJECT. THE ROAD
- SECTION SHALL CONSIST OF 6 INCHES OF COMPACTED CSBC OVER FIRM, UNYIELDING SUBGRADE.

 2. FOLLOWING INSTALLATION OF THE GENERATOR, ELECTRICAL IMPROVEMENTS, AND PERIMETER FENCING, THE YARD AREA FOR THE SPS SHALL BE SURFACED WITH 6 INCHES OF COMPACTED CSBC OVER FIRM. UNYIELDING SUBGRADE.

PERIMETER FENCING

PERIMETER FENCING SHALL BE 6-FOOT HIGH, TYPE 3 CHAIN-LINK FENCING (BLACK, OR APPROVED EQUAL) INSTALLED IN ACCORDANCE WITH WDOT STANDARD PLAN L-20.10-00 (SHEET SPS-5).
 TWO 10-FOOT WIDE CHAIN-LINK GATES (6-FOOT HIGH, TYPE 3, BLACK, OR APPROVED EQUAL) SHALL BE INSTALLED ACROSS THE SOUTH END OF THE ACCESS ROAD IN ACCORDANCE WITH WDOT STANDARD PLAN L-30.10-00 (SHEET SPS-5).

SANITARY SEWER

- 1. A PUBLIC 8-INCH SEWER MAIN WAS INSTALLED IN THE CALICO LOOP EASEMENT AS PART OF THE ORIGINAL PUD AND EXTENDED TO THE EXISTING SEWER PUMP STATION LOCATED IN THE SOUTHWEST CORNER OF THE SITE (SHEET SPS-2). AN EXISTING FOUR-INCH HDPE FORCE MAIN EXTENDS FROM THE PUMP STATION TO THE GRAVITY SEWER IN THE MALLOY AVENUE RIGHT-OF-WAY NEAR THE SOUTHWEST CORNER OF THE ORIGINAL PARENT PARCEL.
- TWO 6-INCH PVC SIDE SEWER SERVICES WERE INSTALLED WITHIN THE ACCESS ROAD ALIGNMENT AS PART OF THE ORIGINAL PUD (SHEET SPS-3). THOSE EXISTING SERVICES SHALL BE REMOVED BACK TO THE MAIN AND PLUGGED.
- 3. A NEW 46-FOOT WIDE PUBLIC UTILITY EASEMENT SHALL BE EXTENDED FROM CALICO LOOP TO THE SOUTH PROPERTY LINE AS PART OF THE PUD 2 (SHEET SPS-3). THE SEWER PUMP STATION AND ASSOCIATED YARD AND FENCING SHALL BE INSTALLED WITHIN THE EASEMENT.

CONSTRUCTION MATERIALS AND PRODUCTS

- 1. THE CONTRACTOR SHALL SUBMIT SPECIFICATION SHEETS FOR ALL CONSTRUCTION MATERIALS AND PRODUCTS TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL. ALL MATERIALS SHALL BE NEW, STANDARD MATERIALS OF SPECIFIED QUALITY IN FIRST-CLASS CONDITION.
- 2. GENERATOR: THE GENERATOR SHALL BE RATED AT 30 KW (CUMMINS MODEL C30-D6, OR APPROVED EQUAL), AND MOUNTED ON TOP OF AN INTEGRAL FUEL TANK CAPABLE OF OPERATING THE GENERATOR FOR 48 HOURS WITHOUT REFUELING (CUMMINS TANK CODE C303-2, MODEL #A045T344, OR APPROVED EQUAL). OPERATION OF THE GENERATOR SHALL BE CONTROLLED VIA AN
- AUTOMATIC TRANSFER SWITCH MOUNTED TO THE EXISTING CONTROL PANEL SUPPORT (SHEET E-1).

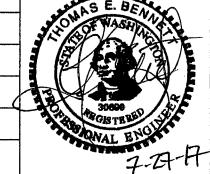
 3. CONCRETE: THE CONCRETE MIX DESIGN USED FOR THE GENERATOR SLAB AND FENCE POSTS SHALL BE CLASS C PORTLAND CEMENT CONCRETE (PCC) COMPLYING WITH ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE AND ASTM C-94 SPECIFICATIONS FOR READY MIX CONCRETE. THE MIX DESIGN SHALL HAVE A 1.5-INCH MAXIMUM AGGREGATE SIZE, 5% AIR
- ENTRAINED, AND A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

 4. REINFORCING STEEL SHALL BE #4 REBAR, CONFORMING TO ASTM A615, GRADE 40 MINIMUM. THE #4 REBAR MAY BE FIELD BENT, BEND BARS ONLY ONE TIME IN ANY LOCATION. DO NOT REBENI
- 5. TOPSOIL: TOPSOIL MATERIALS MAY BE OBTAINED FROM ON-SITE SOURCES OR APPROVED OFF-SITE SOURCES. TOPSOIL SHALL BE CLEAN, UNIFORM, AND FREE OF STONES, STUMPS, ROOTS, AND OTHER SIMILAR MATERIALS >3 INCHES IN DIAMETER AND SHALL MEET THE REQUIREMENTS OF TYPE B TOPSOIL, PER WDOT 8-02.3(4) AND 9-14.1. TOPSOIL MATERIALS FROM THE SITE SHALL BE SCREENED PRIOR TO RE-USE.

 6. HYDROSEED: FOLLOWING FINAL INSTALLATION AND GRADING ACTIVITIES. EXPOSED SOIL AREAS, SHALL BE COVERED WITH 6 INCHES MINIMUM OF TOPSOIL AND LANDSCAPED OR
- 6. HYDROSEED: FOLLOWING FINAL INSTALLATION AND GRADING ACTIVITIES, EXPOSED SOIL AREAS SHALL BE COVERED WITH 6 INCHES MINIMUM OF TOPSOIL AND LANDSCAPED OR HYDROSEEDED WITH THE FOLLOWING SEED MIX (OR APPROVED EQUAL): 40% CHEWINGS OR ANNUAL BLUEGRASS, 50% PERENNIAL RYE, 5% REDTOP OR COLONIAL BENTGRASS, 5% WHITE DUTCH CLOVER, AND <0.1% WEED SEED (OR APPROVED EQUAL). HYDROSEED SHALL BE APPLIED AT THE FOLLOWING RATES: GRASS SEED 3 POUNDS PER 1000 SF, FERTILIZER 10 POUNDS PER 1000 SF OF TYPE 16-16-16 (N-P-K), AND HYDROMULCH 50 POUNDS PER 1000 SF.

COF PROJECT 16011-COMM-MECH

<u> </u>	ISSUED FOR REVIEW	NCS	6/06/16	
1	REVISED PER COF COMMENTS	NCS	6/16/16	3
2	RECORD DRAWING SET	TEB	7/27/17	1
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NO.	REVISION	BY	DATE	
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DWG. NAME:
15007 SPS-1-7

DESIGNED BY:
TEB

DRAWN BY:
TEB

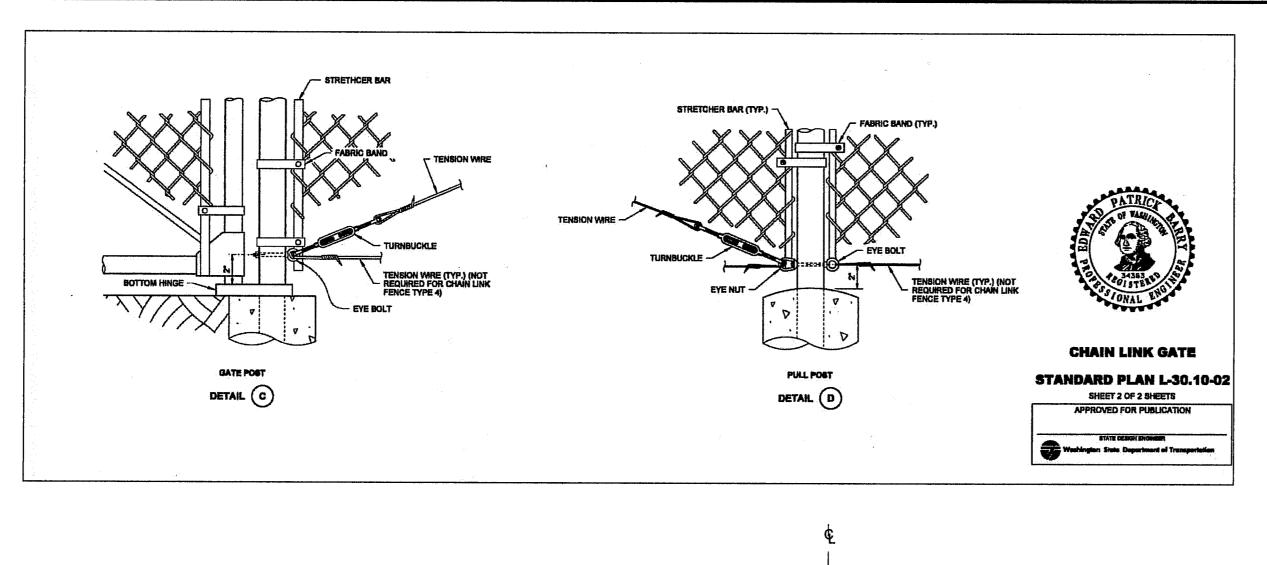
CHECKED BY:
TEB

MALLOY VILLAGE LLC
22410 HAWTHORNE BLVD, STE 5
TORRANCE, CA 90501

SEWER PUMP STATION UPGRADE PLAN
MALLOY VILLAGE PUD 2
FERNDALE WASHINGTON

SPS-4

SCALE: 4 OF 7
JUNE 2016 H: 1" = 4' V: N/A



REMOVE EX. TOPSOIL WITHIN ROAD ALIGNMENT TO FIRM

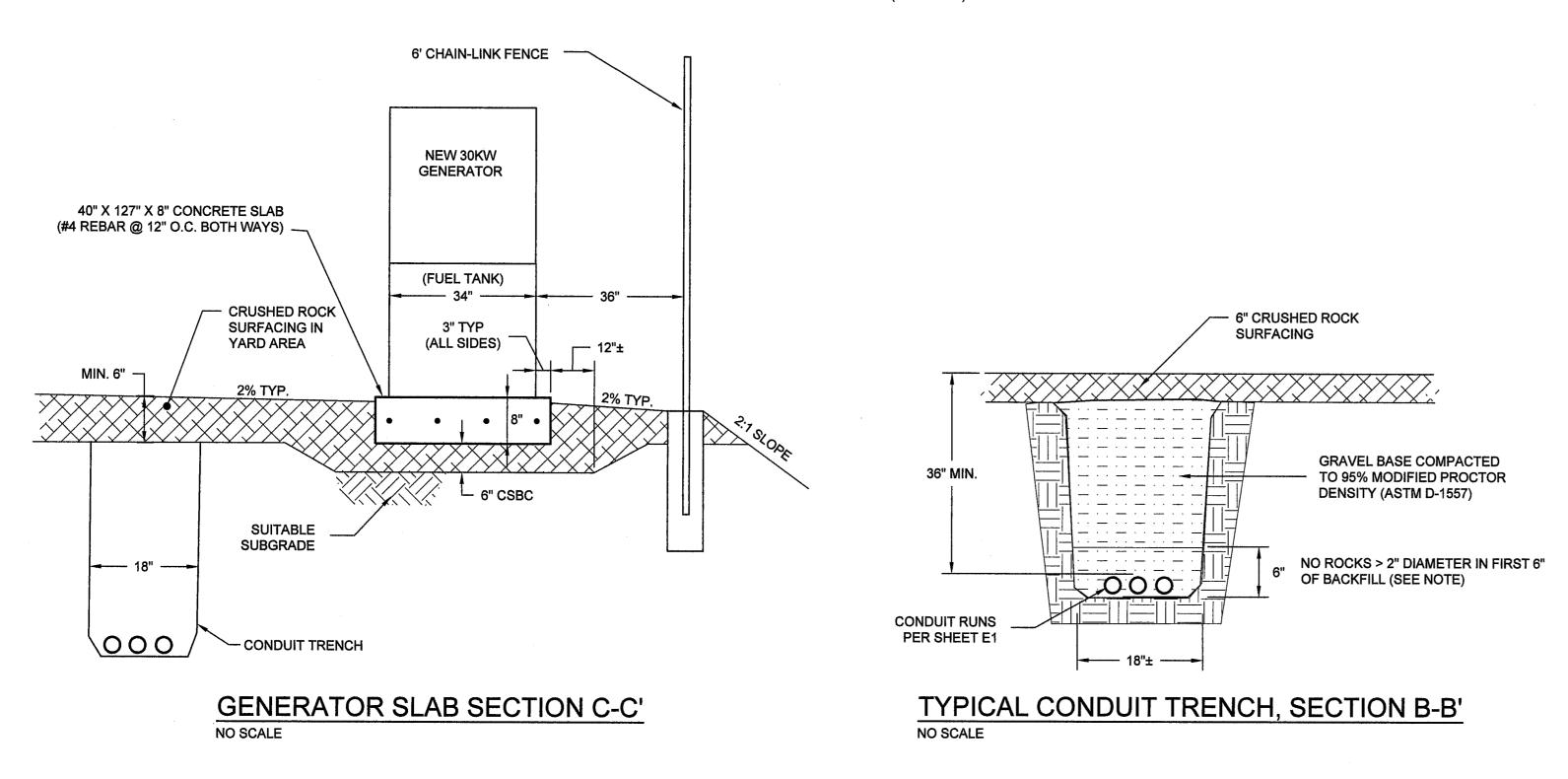
NATIVE SUBGRADE AND REPLACE — WITH COMPACTED CSBC

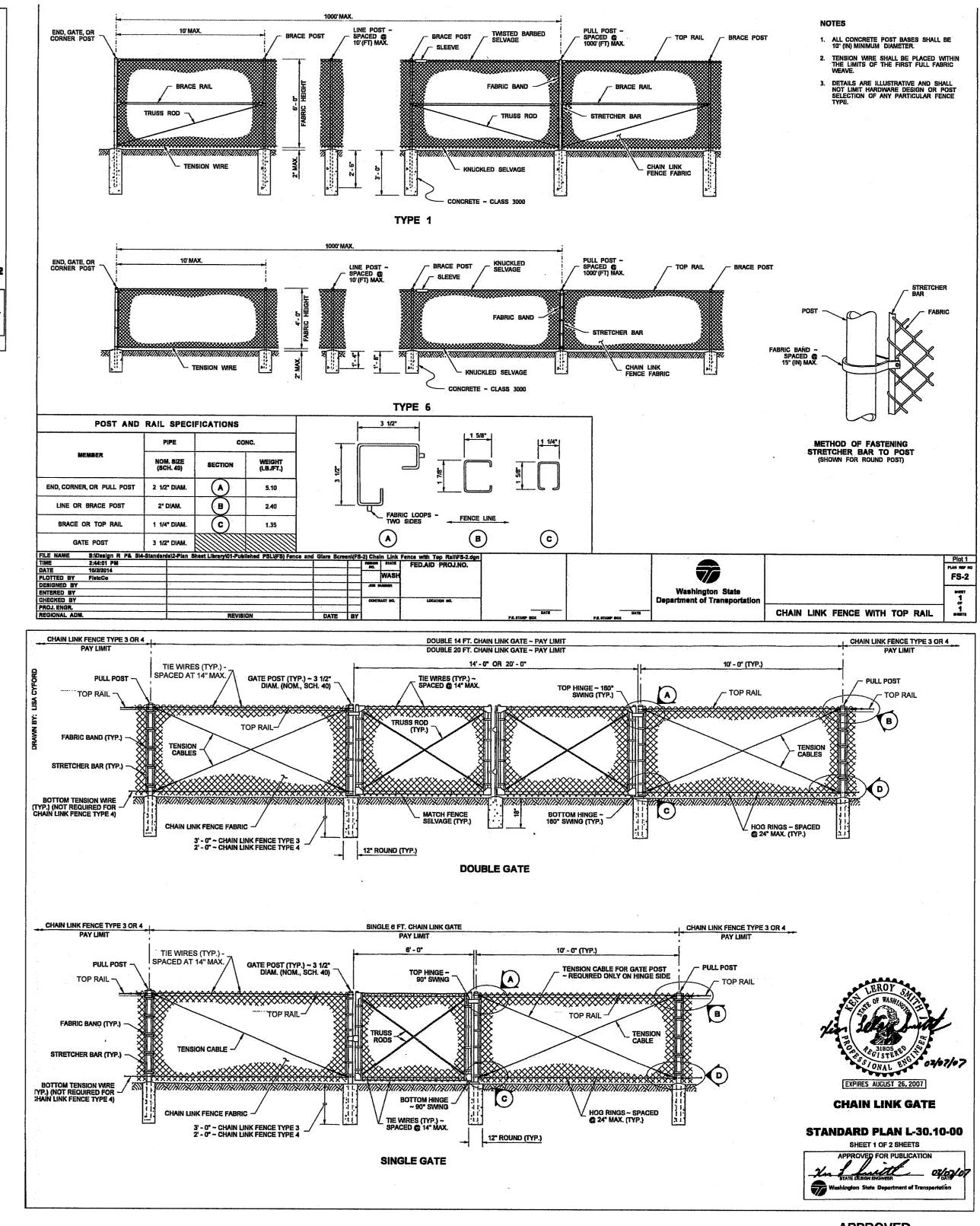


6" MIN. COMPACTED CSBC

EX. GRAVEL ROAD BASE

(THICKNESS VARIES)



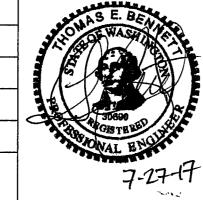


APPROVED AUG 28 2017

COF PROJECT 16011-COMM-MECH

CITY OF FEREDALE PUBLIC WORKS DEPARTMENT

<u> </u>	ISSUED FOR REVIEW	NCS	6/06/16	
1	REVISED PER COF COMMENTS	NCS	6/16/16	
2	RECORD DRAWING SET	TEB	7/27/17	
3				: ح
4				
NO.	REVISION	BY	DATE	



BENNETT
ENGINEERING, LLC

CIVIL ENVIRONMENTAL
2324 JAMES STREET BELLINGHAM, WA 98225 Ph: (360) 671-2600 Cell: (360) 739-9844

	JOB NO.,	15007
L	DWG. NAME:	07 SPS-1-7
	DESIGNED BY:	TEB
	DRAWN BY:	TEB
	CHECKED BY:	TEB

MALLOY VILLAGE LLC
2410 HAWTHORNE BLVD, STE 5
TORRANCE, CA 90501

DETAILS
MALLOY VILLAGE PUD 2
FERNDALE WASHINGTON

	MALLOY VILLAGE PUD 2	
	FERNDALE WASHINGTON	
ATE.	SCALE:	

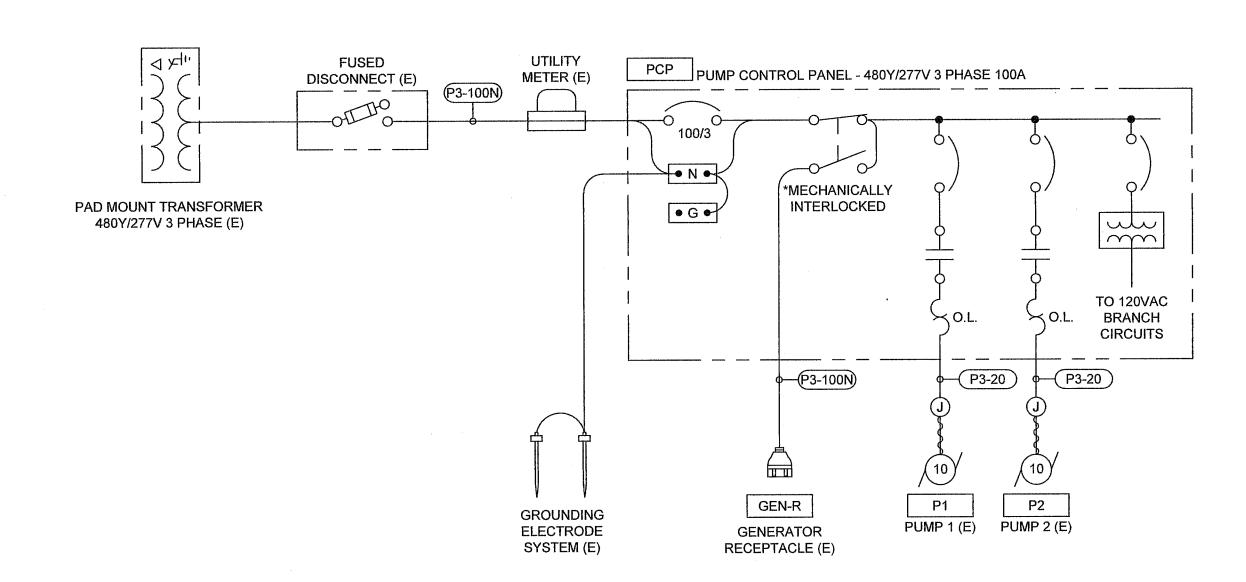
H: N/A

JUNE 2016

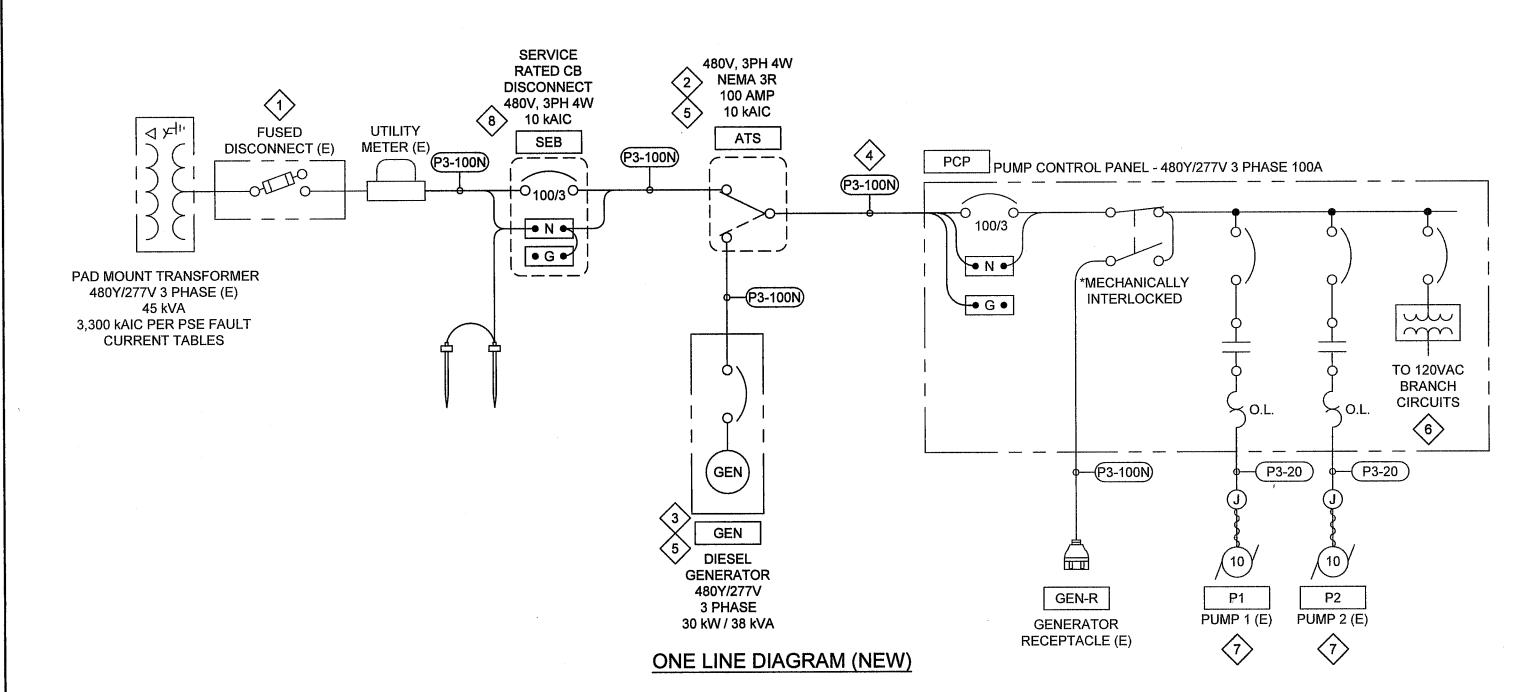
DRAWING: SPS-5 SHEET:

5 of 7 v: **N/A**

RACE	WAYS AND CONDUCTORS	CALLO	UTS AND DESIGNATIONS	CONTROLS ANI	O INSTRUMENTATION	ST	FANDARD ABBREVIATIONS			gineers
~	MANUFACTURERS CORD/CABLE	о—(A	CONDUIT CALLOUT	NORMALLY NORMALLY CLOSED OPEN		A, AMP	AMPERE AIR COMPRESSOR	PROJECT GENERAL NOTES:	Z Engineers, PLLC One Fifth Street, Ste 150 Wenatchee, WA 98801	
~	HEAT TAPE ON PIPING			OLOGED OF LIV		AC AFF AI	AR COMPRESSOR ABOVE FINISHED FLOOR ANALOG INPUT POINT (PLC)	THE ELECTRICAL DRAWINGS AND SCHEDULES ARE FUNCTIONAL IN	Wenatchee, WA 98801	www.z-englneers.com
	FLEXIBLE CONDUIT TWISTED SHIELDED PAIR	1 A	TRENCH CALLOUT	0-10 0-50	TEMPERATURE SWITCH - TS	AIC AL	AMPERES INTERRUPTING CAPACITY ALARM	NATURE AND DO NOT SPECIFY EXACT LOCATIONS OF EQUIPMENT OR EQUIPMENT TERMINATIONS. IT IS THE INTENT OF THESE DRAWINGS		
— s —	SEWER LINE	EF-1	EQUIPMENT CALLOUT			ALT	ALTERNATOR ANALOG OUTPUT POINT (PLC)	TO DESCRIBE AND PROVIDE FOR THE FURNISHING, INSTALLING, TESTING AND PLACING IN FULLY OPERATIONAL CONDITION ALL		
—ОЕ—	OVERHEAD ELECTRICAL			010 00	LEVEL SWITCH - LS	AO ATS BAT	AUTOMATIC TRANSFER SWITCH BATTERY	EQUIPMENT, MATERIALS, DEVICES AND NECESSARY APPURTENANCES TO PROVIDE A COMPLETE ELECTRICAL SYSTEM.		•
EE	EXISTING CONDUIT UNDERGROUND CONDUIT EXPOSED	F1	LIGHTING FIXTURE CALLOUT: SEE SCHEDULE	0		BC BH	BATTERY CHARGER BLOCK HEATER	TOGETHER WITH SUCH OTHER MISCELLANEOUS INSTALLATIONS AND EQUIPMENT SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE		
	CONDUIT BELOW GRADE OR CONCEALED	×	DRAWING KEY NOTE CALLOUT	Jo No	PRESSURE SWITCH - PS	BP C	BYPASS CONTACTOR CONDUIT (RGS)	ALL MATERIALS, APPLIANCES AND APPARATUS NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, BUT WHICH ARE		
	CONDUIT CAPPED CONDUIT BENT UP OR TOWARD	·	DETAIL MUMPED	000 00	LIMIT SWITCH - LS	CAP	CAPACITOR CIRCUIT BREAKER	NECESSARY TO MAKE A COMPLETE, FULLY OPERATIONAL INSTALLATION OF ALL ELECTRICAL SYSTEMS SHOWN ON THE		
	CONDUIT BENT DOWN OR AWAY	(X -	DETAIL NUMBER DETAIL IDENTIFIER			CB CKT CNT	CIRCUIT COUNTER	DRAWINGS.		and a
	GROUNDING CAD WELD CONNECTION	XX	REFERENCE DRAWING NUMBER		CONTACT - CR = CONTROL RELAY, MS-MOTOR STARTER, OR AS INDICATED	CP CPT	CONTER CONTROL PANEL CONTROL POWER TRANSFORMER	2. THIS PROJECT INCLUDES THE INSTALLATION OF PACKAGED EQUIPMENT SYSTEM(S) OR SUB-SYSTEM(S) THAT WILL REQUIRE	QUANTE OF W	WASHIDA
	CONDUCTORS NOT CONNECTED		— PANEL AND CIRCUIT (EXAMPLE: PANEL LPA,	0000	SWITCH - SW	CR CT	CONTROL RELAY CURRENT TRANSFORMER	COORDINATION BETWEEN THE CONTRACTOR AND THE MANUFACTURER TO DETERMINE THE DETAILED INSTALLATION	Burg	KAL
—	CONDUCTORS CONNECTED		CIRCUITS 1 AND 3)		3441011-344	CV DEM	CHECK VALVE DEMAND	REQUIREMENTS. THE ENGINEER HAS SHOWN GENERAL INSTALLATION INFORMATION FOR THESE SYSTEMS BASED ON THE	3	463
	CONDUIT SEALS CLASS 1, DIV. 1	LPA-1.3 - 17	→ PHASE/SWITCHLEG CONDUCTOR — HOMERUN/CONDUIT	00000	FLOW SWITCH - FS	DI DO	DIGITAL INPUT POINT (PLC) DIGITAL OUTPUT POINT (PLC)	BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN. WHERE INDICATED ON THE DRAWINGS TO 'PROVIDE A COMPLETE AND	ROFFES ION	TERED INC.
	EXPLOSION PROOF NEW EQUIPMENT (STANDARD LINEWEIGHT)		GROUND CONDUCTOR			DWG E OR (E)	DRAWING EXISTING DEVICE	OPERATIONAL SYSTEM' THE CONTRACTOR SHALL PROVIDE ALL MATERIALS. INSTALLATION. AND COORDINATION WITH THE	6-8	20/6
	EXISTING EQUIPMENT (E) (LIGHT LINEWEIGHT)		NEUTRAL CONDUCTOR	РВ		EF E.O.D.O.	EXHAUST FAN ELECTRICAL OPERATED DRAW OUT	MANUFACTURER REQUIRED SO THE EQUIPMENT IS INSTALLED AND OPERATES IN A SATISFACTORY MANNER. MINOR CHANGES IN		
	EQUIPMENT TO BE REMOVED.			PB	PUSHBUTTON - PB	FE FS	FLOW ELEMENT FLOW SWITCH	EQUIPMENT LOCATIONS (LESS THAN 20 FEET), QUANTITY OF TERMINATIONS OR WIRES, JUNCTION BOXES, CONDUIT, ETC SHALL BE		
	TIMO AND DECEDEACHES		I AND DOWED DISTRIBUTION		1 GOLDOTTON 1 B	FT FU	FLOW TRANSMITTER FUSED	INCLUDED IN THE CONTRACT PRICE.		
LIGH	TING AND RECEPTACLES	ELECTRICA	L AND POWER DISTRIBUTION	0 0 0 0	TIME DELAY - TD	FVNR G, GND	FUSED FULL VOLTAGE NON-REVERSING GROUND	3. CONTRACTOR SHALL COORDINATE WITH OWNER AND UTILITY FOR REMOVAL OF EXISTING EQUIPMENT AND ANY REQUIRED PHASING TO		F
-				To	HIVIE DELAT - ID	G, GND GEN GFCI/GFI	GROUND GENERATOR GROUND FAULT CIRCUIT INTERRUPTER	MAINTAIN ALL REQUIRED POWER AND CONNECTIONS.		
1	FLUORESCENT LIGHTING FIXTURE. FIXTURE IDENTIFIER AND SWITCHED CIRCUIT INDICATED. REFER TO LIGHTING		PANELBOARD 208Y/120V OR 120/240V			H H HH	HOT, HIGH HAND HOLE	4. COORDINATE WITH OWNER FOR DETAILED EQUIPMENT CONNECTION REQUIREMENTS. GENERAL POWER DISTRIBUTION AND CIRCUIT		
F1	SCHEDULE FOR FIXTURE AND LAMP TYPE.		PANELBOARD 480Y/277V			HID	HIGH INTENSITY DISCHARGE	DESIGNATIONS ARE SHOWN ON THE DRAWINGS.		
· ·			UTILITY METER	OFF HAND AUTO		HOA HTR IC	HAND-OFF-AUTO HEATER ISOLATION CONTACTOR	5. ALL ELECTRICAL SERVICE REQUIREMENTS SHALL BE COORDINATED AND INSTALLED IN STRICT ACCORDANCE WITH PSE AND CITY OF		
	FLUORESCENT LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK		UTILITY METER	HAND		ISR KW	INTRINSICALLY SAFE RELAY KILOWATT	FERNDALE REQUIREMENTS.		
F1		5	MOTOR CONNECTION NUMBER INDICATES HORSEPOWER	******	SELECTOR SWITCH. HAND-OFF-AUTO	KWH KWD	KILOWATT KILOWATT HOUR KILOWATT DEMAND	6. THE NUMBER OF CONDUCTORS AND CONDUIT ROUTING WILL VARY BASED ON HOW THE CONTRACTOR ELECTS TO ROUTE AND COMBINE	NOIS	
4	LIGHTING FIXTURE, EMERGENCY DUAL HEAD WITH INTEGRAL BATTERY PACK. EXIT SIGN WHERE INDICATED.	, O.L.	THERMAL OVERLOAD RELAY	— ————————————————————————————————————	SHOWN. X'S INDICATE CONTACT SWITCHING CONVENTION.	LC LCP	LIGHTING CONTACTOR LOCAL CONTROL PANEL	CIRCUITING. THE CONTRACTOR SHALL PROVIDE DETAILED REDLINE MARKUPS ON A DEDICATED SET OF CONSTRUCTION DRAWINGS TO	REVI	
	LED EXIT SIGN) 9.2.	THERWAL OVERLOAD RELAT	— o o x		LE	LOCAL CONTROL PANEL LEVEL ELEMENT LIMIT SWITCH	THE ENGINEER UPON COMPLETION OF THE PROJECT FOR PREPARATION OF RECORD DRAWINGS. THIS INCLUDES ACTUAL		
<u>•</u>	INCANDESCENT, COMPACT FLUORESCENT OR H.I.D. LIGHTING	<u> </u>	FULL VOLTAGE NON REVERSING MOTOR STARTER NUMBER INDICATES NEMA SIZE			LT	LEVEL TRANSMITTER	RACEWAY ROUTING, CONDUCTOR QUANTITIES, PANEL SCHEDULES, RECEPTACLE CONFIGURATIONS AND MOUNTING ELEVATIONS, ETC.		
	FIXTURE, CEILING MOUNTED		NUMBER INDICATES NEMA SIZE			LTG M MCC	LIGHTING METER MOTOR CONTROL CENTER	7. ALL MATERIALS SHALL CONFORM TO THE NATIONAL ELECTRICAL		
HPC)	PHOTOELECTRIC CONTROL UNIT. WALL MOUNTED	又	REDUCED VOLTAGE SOLID STATE STARTER	(AM)	AMMETER	MCP MFR	MAIN CONTROL CENTER MAIN CONTROL PANEL MANUFACTURER	CODE ARTICLE 110-14C. WIRING AND CIRCUIT BREAKERS ON THIS PROJECT ARE DESIGNED FOR 75 DEG C OPERATION ABOVE 100		
\leftarrow	LIGHTING FIXTURE, POLE MOUNT		VARIABLE FREQUENCY DRIVE			MOV MS	MOTOR OPERATED VALVE OR METAL OXIDE VARISTOR MOTOR STARTER	AMPERES; 60 DEG C FOR 100 AMPERES AND BELOW. ALL PRODUCTS FURNISHED ON THIS PROJECT SHALL HAVE ELECTRICAL		
П	LIGHTING FIXTURE, WALL MOUNT		VARIABLE FREQUENCY DRIVE	(VM)	VOLTMETER	MTS	MANUAL TRANSFER SWITCH NEUTRAL	TERMINATIONS RATED FOR 60 DEG C FOR AMPACITIES OF 100 AMPERES AND BELOW, AND RATED FOR 75 DEG C FOR AMPACITIES		<u> </u>
' [_] 311	DUPLEX RECEPTACLE, NUMBER INDICATES		LINE REACTOR/FILTER	(GEN)	GENERATOR	NC NO	NORMALLY CLOSED NORMALLY OPEN	ABOVE 100 AMPERES. ALL CONDUCTORS SHALL BE COPPER.		
Φ	CIRCUIT. GFCI WHERE INDICATED	• G •	BUS CONNECTION (N=NEUTRAL, G=GROUND)			OI OIT	OPERATOR INTERFACE OPERATOR IN TROUBLE			
34	FOURPLEX RECEPTACLE, NUMBER INDICATES CIRCUIT.	$\overline{\Delta}$		(MS)	MOTOR STARTER	OL OT	OVERLOAD RELAY OVER TEMP			SN
3	DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER	54.7	HEATER, NUMBER INDICATES KW			P PB	POWER PUSH BUTTON		Щ	<u> </u>
3 (753)	NUMBER INDICATES CIRCUIT. DUPLEX RECEPTACLE FLOOR MOUNTED, NUMBER	∠_ <u></u>		(PFR)	PHASE FAIL RELAY	PE PFR	PHOTO ELECTRIC RELAY PHASE FAILURE RELAY	DEMOLITION WORK:	A□	A
3 🔯	INDICATES CIRCUIT.	50	DISCONNECT SWITCH - HP RATED, AS INDICATED	(ETM)	ELAPSED TIME METER	PLC PNL	PROGRAMMABLE LOGIC CONTROLLER PANEL	ALL DEMOLITION WORK REQUIRED UNDER THIS CONTRACT IS NOT) 2 GR	/EV
	SPECIAL PURPOSE RECEPTACLE OR DEDICATED EQUIPMENT CONNECTION, AS NOTED.	<u> </u>				POT	PANEL POTENTIOMETER PRESSURE SWITCH	SHOWN ON THE DRAWINGS.	jy g	38.
>	TELEPHONE OUTLET		DISCONNECT SWITCH (FUSED)	(sct)	STARTS COUNTER	PT PVC	POTENTIAL TRANSFORMER POLY VINYL CHLORIDE (CONDUIT)	2. THE CONTRACTOR SHALL INSPECT THE EXISTING SITES AND INSTALLATIONS PRIOR TO BIDDING AND SHALL MAKE HIS OWN	,	I A
_	DATA OUTLET		TRANSFORMER			RGS RTM	RIGID GAVLANIZED STEEL (CONDUIT) RUN TIME METER	JUDGMENT AS TO THE WORK REQUIRED TO PROVIDE COMPLETE DEMOLITION AS SHOWN OR WITHIN THE INTENT OF THE CONTRACT	AGE	
	DATA OUTLET			(CR)	CONTROL RELAY	RV	REDUCED VOLTAGE SIGNAL	DOCUMENTS.		S
	SPLIT TELEPHONE DATA OUTLET	OTTO O	CARTRIDGE FUSE AND FUSEHOLDER	(TDR)	TIME DELAY RELAY	SA	SURGE ARRESTOR SERVICE ENTRANCE	3. EXISTING EQUIPMENT, SYSTEMS, AND MATERIALS REMOVED DURING DEMOLITION SHALL BE MADE AVAILABLE FOR THIS INSPECTION AND]]]
⊳ ic	INTERCOM	≪	ATS - AUTOMATIC TRANSFER SWITCH MTS - MANUAL TRANSFER SWITCH		· · · · · · · · · · · · · · · · · · ·	SE SHT SS	SERVICE ENTRANCE SHEET STAINLESS STEEL	DECISION AS TO WHETHER THE OWNER WILL RETAIN POSSESSION. ITEMS SELECTED FOR RETENTION SHALL BE TURNED OVER TO THE	LLOY	Ž Ž
\$ 3a	SWITCH, NUMBERS REFER TO SWITCH TYPE AND SWITCHED CIRCUIT.	70		0-(-)-0	SV-SOLENOID VALVE	SSS	SOLID STATE STARTER SOLENOID VALVE	OWNER. THESE ITEMS SHALL BE DELIVERED TO A LOCATION ON THE PREMISES SELECTED BY THE OWNER. ALL MATERIAL NOT SELECTED		S
· •		200/3	THERMAL MAG CIRCUIT BREAKER,	PT	INSTRUMENT (L=LEVEL, F=FLOW	T	THERMOSTAT TIME CLOCK	FOR RETENTION BY THE OWNER AND DEBRIS SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR.	M M M M M	K
<u> </u>	JUNCTION BOX	0/	RATING/NO. POLES		P=PRESSURE)	TDR TST	TIME CLOCK TIME DELAY TWISTED SHIELDED THREE CONDUCTOR (TRIAD)	4. SEE CIVIL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL	M	<u>E</u>
(J) _{EX}	JUNCTION BOX, EXPLOSION PROOF	200/3	MOTOR CIRCUIT PROTECTOR,	0-(R)-0	INDICATING LIGHT, LETTER INDICATES: R-RED, G-GREEN, A-AMBER,	TYP UH	TYPICAL UNIT HEATER	DEMOLITION AND PHASING REQUIREMENTS.	SE	C
T	THERMOSTAT	200/3 MCP O	RATING/NO. POLES		W-WHITE, B-BLUE	UPS VS	UNINTERUPTABLE POWER SUPPLY VIBRATION SWITCH			
(H)	HUMIDISTAT	×	GROUND ROD AND WELL		D.C. TERMINAL	VS VT VFD	VIBRATION SWITCH VIBRATION TRANSMITTER VARIABLE FREQUENCY DRIVE			
		_ XX	C. C	\bigcirc	A.C. TERMINAL	VSD	VARIABLE PREQUENCY DRIVE VARIABLE SPEED DRIVE WATT			
			GROUNDING ELECTRODE	\otimes	FIELD INSTRUMENT HORN	WHM WP	WATT HOUR METER WEATHER PROOF		CAD FILE: Electric	ical dwg
			· · · · · · · · · · · · · · · · · · ·			XFMR XP	TRANSFORMER EXPLOSION PROOF		PROJ. #: P15117	7
		<<	PULL OUT PLUG-RECEPTACLE/MCC CONNECTION	[6 6]	SPEED POTENTIOMETER	XMTR	TRANSMITTER		DRAWN BY: AB	
		- +	BATTERY						DESIGN BY: BZ CHECKED BY: B.	3Z
		w	SIDEWALK SNOWMELT							INCH 1"
			·					APPROVED	AT FULL SIZE	•
								AUG 28 2017	SCALE OF SHEE	T: NONE
									LAST UPDATED: SHEET NO.	
								CITY OF FERNDARE		6 OF 7
							1	PUBLIC WORKS DEPARTMENT	DRAWING:	



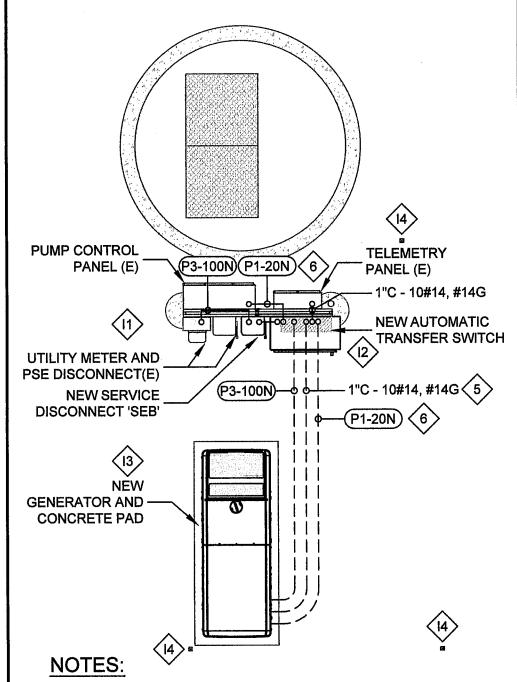
ONE LINE DIAGRAM (EXISTING)



KEY NOTES:

- COORDINATE WITH CITY OF FERNDALE WASTE WATER OPERATIONS FOR OUTAGE SCHEDULING. PROVIDE TEMPORARY POWER TO MAINTAIN EQUIPMENT OPERATION DURING CONSTRUCTION, AS REQUIRED BY THE CITY.
- PROVIDE NEW AUTOMATIC TRANSFER SWITCH. SWITCH SHALL FIT IN AVAILABLE SPACE. PROVIDE ALL REQUIRED MODIFICATIONS FOR MOUNTING IN AVAILABLE SPACE, AND FOR POWER AND CONTROL CONNECTIONS TO NEW GENERATOR LOCATION. SWITCH SHALL BE 480Y/277V THREE PHASE, 4W, 3 POLE WITH SOLID NEUTRAL, OPEN / PROGRAMMABLE TRANSITION, NEMA 3R ENCLOSURE.
- PROVIDE NEW DIESEL GENERATOR IN WEATHERPROOF AND SOUND ATTENUATED ENCLOSURE, WITH SUB BASE DIESEL FUEL TANK, PER SPECIFICATIONS AND RATED AS INDICATED. PROVIDE NEW CONCRETE EQUIPMENT PAD PER CITY AND CIVIL SPECIFICATIONS. FINAL LOCATIONS TO BE COORDINATED WITH CIVIL ENGINEER AND CITY OF FERNDALE.
- CONTRACTOR MAY RE-USE EXISTING RACEWAY AND CONDUCTORS WHERE THEY ARE IN GOOD CONDITION. REPLACE WHERE NECESSARY TO MEET ELECTRICAL CODES, OR WHERE REQUIRED TO EXTEND TO NEW EQUIPMENT LOCATIONS. PROVIDE CONNECTIONS TO EXISTING GROUNDING ELECTRODE SYSTEM.
- PROVIDE CONNECTIONS FROM NEW GENERATOR AND ATS TO EXISTING TELEMETRY PANEL. SIGNALS SHALL BE FROM DRY CONTACT CLOSURES FOR GENERATOR RUN, GENERATOR FAIL, ATS IN EMERGENCY POSITION, ATS UTILITY POWER AVAILABLE, AND GENERATOR INTRUSION. PROVIDE JUNCTION BOX BETWEEN GENERATOR, ATS AND CONTROL PANEL FOR CONTROL SIGNAL ROUTING.
- PROVIDE NEW 20A 120V CIRCUIT FROM EXISTING PUMP CONTROL PANEL TO NEW RECEPTACLE IN GENERATOR ENCLOSURE FOR BATTERY CHARGER AND HEATER.
- 7 GENERATOR IS SIZED FOR FUTURE PUMP UPGRADE TO 11HP PUMPS.
- PROVIDE SERVICE RATED 100 A 3 POLE CIRCUIT BREAKER DISCONNECT IN NEMA 3R ENCLOSURE.

PUMP STATION #19 - ONE LINE DIAGRAMS



- 1. PROPOSED APPROXIMATE LOCATION OF NEW GENERATOR AND CONCRETE GENERATOR PAD. SEE GENERATOR MANUFACTURER SPECIFICATIONS AND CIVIL DRAWINGS FOR PAD REQUIREMENTS.
- FIELD COORDINATE WITH CITY AND CIVIL ENGINEER DURING CONSTRUCTION FOR FINAL EQUIPMENT PAD SIZE AND LOCATION.
- 3. EXTEND NEW GENERATOR AND ATS STATUS SIGNALS TO TELEMETRY PANEL.
- 4. GENERATOR ENCLOSURE SHALL INCLUDE INTRUSION LIMIT SWITCHES ON ALL EXTERIOR DOORS; WIRE IN SERIES TO TELEMETRY PANEL PLC INPUT.

ELECTRICAL SITE PLAN
SCALE: NONE

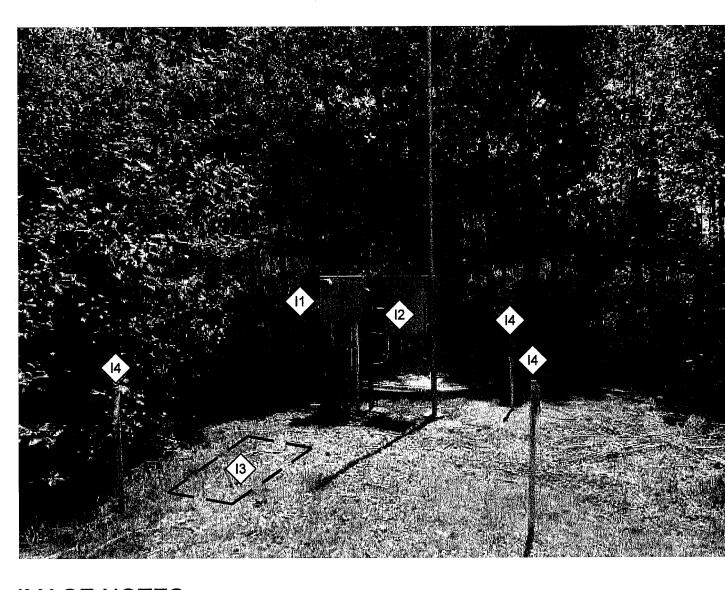


IMAGE NOTES:

- COORDINATE WITH CITY OF FERNDALE WASTE WATER OPERATIONS FOR OUTAGE SCHEDULING. PROVIDE TEMPORARY POWER TO MAINTAIN EQUIPMENT OPERATION DURING CONSTRUCTION, AS REQUIRED BY THE CITY.
- PROVIDE NEW SERVICE DISCONNECT AND AUTOMATIC TRANSFER SWITCH. SWITCH SHALL FIT IN AVAILABLE SPACE. PROVIDE ALL REQUIRED MODIFICATIONS FOR MOUNTING IN AVAILABLE SPACE, AND FOR POWER AND CONTROL CONNECTIONS TO NEW GENERATOR LOCATION.
- PROVIDE NEW DIESEL GENERATOR IN WEATHERPROOF AND SOUND ATTENUATED ENCLOSURE, WITH SUB BASE DIESEL FUEL TANK, PER SPECIFICATIONS AND RATED AS INDICATED. PROVIDE NEW CONCRETE EQUIPMENT PAD PER GENERATOR MANUFACTURER SPECIFICATIONS. FINAL LOCATIONS TO BE COORDINATED WITH CITY.
- SURVEY STAKES INDICATE EASMENT BOUNDARY SEE CIVIL DRAWINGS.

ELECTRICAL SITE PLAN PHOTO DETAILS

SCALE: NONE

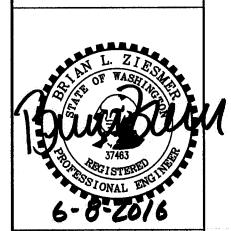
SINGLE PHASE RACEWAY & CONDUCTORS						THREE PHASE RACEWAY & CONDUCTORS						
FEEDER	AMPERAGE	# OF	CONDUIT	COND.	GROUND	FEEDER	AMPERAGE	# OF	CONDUIT	COND.	GROUND	
ID		SETS		EACH	COND.	ΟI		SETS		EACH	COND.	
P1-20	20A	(1)	3/4"	(2) #12	(1) #12	P3-20	20A	(1)	3/4"	(3) #12	(1) #12	
P1-25	25A	(1)	3/4"	(2) #12	(1) #12	P3-25	25A	(1)	3/4"	(3) #12	(1) #12	
P1-30	30A	(1)	3/4"	(2) #10	(1) #10	P3-30	30A	(1)	3/4"	(3) #10	(1) #10	
P1-35	35A	(1)	1"	(2)#8	(1) #10	P3-35	35A	(1)	1"	(3)#8	(1) #10	
P1-40	40A	(1)	1"	(2) #8	(1) #10	P3-40	40A	(1)	1"	(3) #8	(1) #10	
P1-45	45A	(1)	1"	(2)#6	(1) #10	P3-45	45A	(1)	1"	(3) #6	(1) #10	
P1-50	50A	(1)	1"	(2) #6	(1) #10	P3-50	50A	(1)	1"	(3) #6	(1) #10	
P1-60	60A	(1)	1"	(2) #4	(1) #10	P3-60	60A	(1)	1-1/4"	(3) #4	(1) #10	
P1-70	70A	(1)	1"	(2) #4	(1) #8	P3-70	70A	(1)	1-1/4"	(3) #4	(1) #8	
P1-80	80A	(1)	1-1/4"	(2) #3	(1) #8	P3-80	80A	(1)	1-1/4"	(3) #3	(1) #8	
P1-90	90A	(1)	1-1/4"	(2) #2	(1) #8	P3-90	90A	(1)	1-1/4"	(3) #2	(1) #8	
P1-100	100A	(1)	1-1/4"	(2) #1	(1) #8	P3-100	100A	(1)	1-1/2"	(3) #1	(1) #8	
P1-125	125A	(1)	1-1/4"	(2) #1	(1) #6	P3-125	125A	(1)	1-1/2"	(3) #1	(1) #6	
P1-150	150A	(1)	1-1/2"	(2) #1/0	(1) #6	P3-150	150A	(1)	2"	(3) #1/0	(1) #6	
NOTES:	1. FEEDER II	D FOLLOW	ED BY THE	SUFFIX "N'	'INDICATES	S NEUTRAL	CONDUCTOR	. PROVID	E			
	ADDITIONAL	NEUTRAL	CONDUCTO	R SIZED T	O MATCH P	HASE CON	IDUCTORS.					
	2. CONDUCT	OR AMPAG	CITY BASED	ON NEC T	ABLE 310.1	6.						
	3. CONDUIT	FILL BASE	D ON NEC A	NNEX C, T	ABLE C.1 F	OR THHN 1	TYPE CONDUC	TORS. CO	ONTRACTOR	<u> </u>		
	SHALL PROV	IDE ADJUS	STMENTS AS	NECESSA	ARY FOR O	THER CON	DUCTOR TYPE	S.				
	4. CONTRAC	TOR MAY	COMBINE B	RANCH CIF	RCUITS IN C	COMMON R	RACEWAY UP T	O SIX CU	RRENT			
	CARRYING C	CONDUCTO	DRS. ADJUS	STMENT FA	CTORS SH	ALL BE AP	PLIED PER NE	C TABLE 3	310.15(B)(2)(a	a).		

5. MINIMUM CONDUIT SIZE FOR UNDERGROUND RACEWAY IS 1 INCH.

		LOA	D CALCULA	TION				
EQ ID	EQUIPMENT DESCRIPTION	SUPPLY POWER	CONNECTED LOAD	HP / KVA	LOAD AMPS	DEMAND FACTOR (%)	DEMAND AMPS	
P-1	PUMP 1	480V, 3PH	10.0	HP	14.0	125%	17.5	
P-2	PUMP 2	480V, 3PH	10.0	HP	14.0	100%	14.0	
T 1	LIGHTING PANEL	480V, 1PH	7.5	kVA	15.6	80%	12.5 APP	KUV
			<u></u>		43.6		44.0 AUG	28 21

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Engineers, PLLC Tel: 509.888.9364



REVISION

DESCRIPTION

BY APR. DA

SEWER PUMP STATION UPGRADE

CAD FILE: Electrical.dwg
PROJ. #: P15117
DRAWING NO. E2
DRAWN BY: AB
DESIGN BY: BZ
CHECKED BY: BZ
ONE INCH
0 1"
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY
SCALE OF SHEET: NONE

SHEET NO. 7 OF

DRAWING: E2