

Shelf
4

City of Albany

LINN COUNTY, OREGON

COPY

VOLUME 3 - CONTRACT DOCUMENTS
PROJECT DRAWINGS

SS-06-05
34TH AVENUE LIFT STATION
LIFT STATION IMPROVEMENTS

April 2008

ENGINEER:

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Consulting 541/266-0355 ■ fax 541/266-7504
Engineers email: mail@hbh-consulting.com

SS-06-05 --- ASBUILT---SLB

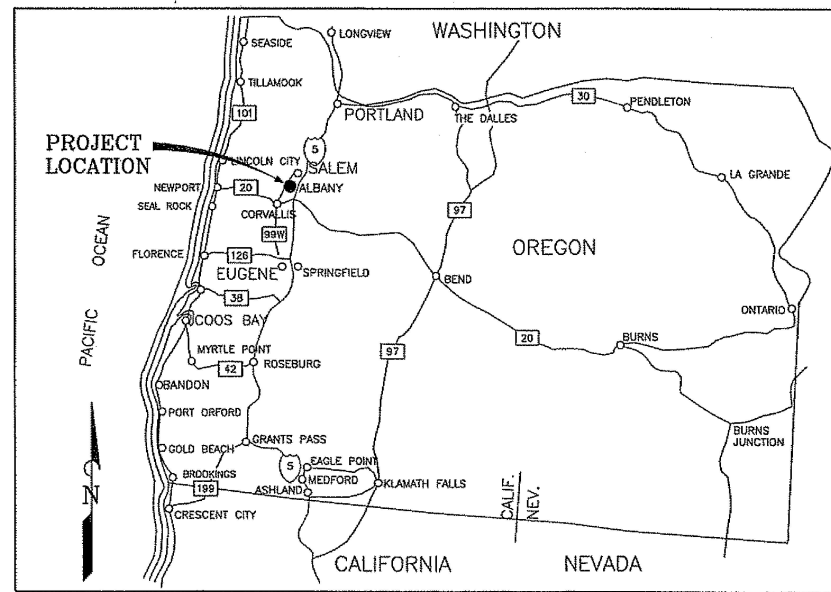
CITY OF ALBANY

LINN COUNTY, OREGON

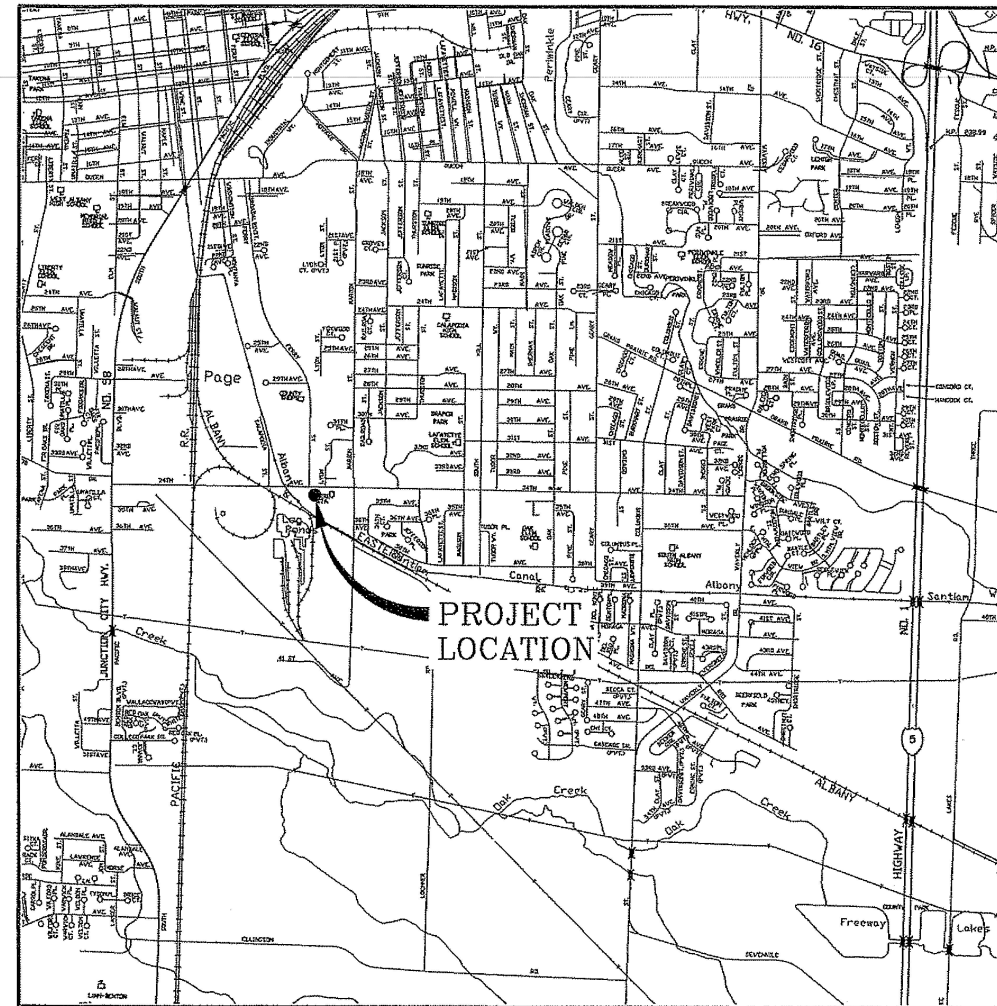
SS-06-05

34TH AVENUE LIFT STATION LIFT STATION IMPROVEMENTS

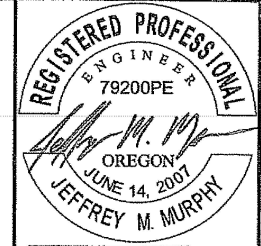
PROJECT NO. 2007-010
APRIL 2008



LOCATION MAP



VICINITY MAP



EXPIRATION DATE: 12/31/08

H B H
486 E Street, Suite 3
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Consulting 541/266-0355 fax 541/266-7504
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IF THIS LINE IS NOT 1" DRAWING SCALE IS NOT AS SHOWN
0" 1" 2" 3" 4" 5" 6" 7" 8" 9" 10"
Designed By: JMM Drawn By: JMM Checked By: JGP Project No: 2007-010
File: C:\PROJECTS\SS\SS-06-05\Drawings\G1.dwg

REV.	DATE	DESCRIPTION	BY
1	8/20/07	REVISED PER CITY COMMENTS	DDN

PAGE NO.	SHEET	SHEET TITLE	PAGE NO.	SHEET	SHEET TITLE
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02	G2	SITE PLAN	28	E2	ELECTRICAL BUILDING PLAN
03	C1	DEMOLITION PLAN	29	E3	MCP DETAILS AND PROJECT NOTES
04	C2	SURFACING PLAN	30	E4	ELECTRICAL DETAILS
05	M1	DISCHARGE HEADER PLAN	31	E5	ONE LINE POWER DIAGRAM
06	M2	WETWELL ELEVATION	32	E6	PLC NETWORK AND PANEL SCHEDULES
07	M3	FLOWMETER VAULT	33	E7	CONTROL SCHEMATIC 1
08	M4	PROVISIONS FOR FUTURE PIQ STATION	34	E8	CONTROL SCHEMATIC 2
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23	D3	LIFT STATION DETAILS			
24	D4	LIFT STATION DETAILS			
25	D5	LIFT STATION DETAILS			
26	D6	LIFT STATION DETAILS			

OWNER
CITY OF ALBANY
333 BROADALBIN SW
ALBANY, OREGON 97321-0144

ENGINEER
HBH CONSULTING ENGINEERS
486 E STREET, SUITE 3
COOS BAY, OREGON 97420
PROJECT MANAGER - J. GARRETT PALLO, PE
PROJECT ENGINEER - JEFFREY M. MURPHY, PE

SURVEYOR
HBH CONSULTING ENGINEERS
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MEDFORD, OREGON 97504
PROJECT SURVEYOR - JOHN P. PARIAN, PLS

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CAMTRONICS, INC.
224 NELSON LANE
CAMAS VALLEY, OREGON 97416
ELECTRICAL ENGINEER - TERRY NELSON, PE

GEOTECHNICAL CONSULTANT
PBS ENGINEERING + ENVIRONMENTAL
271 N. BAXTER
COQUILLE, OR 97423
SENIOR GEO. ENGINEER - RAJIV ALLI, PE
PROJECT GEO. ENGINEER - ANDREA SCHEELE, PE

STRUCTURAL CONSULTANT
WDY STRUCTURAL AND CIVIL ENGINEERS
6443 SW BEAVERTON-HILLSDALE HWY, SUITE 210
PORTLAND, OREGON 97221
STRUCTURAL ENGINEER - DOUGLAS E. PAYOLA, PE, SE
STRUCTURAL ENGINEER - MEIKO WINING, PE, SE

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

34TH AVENUE LIFT STATION
LIFT STATION IMPROVEMENTS

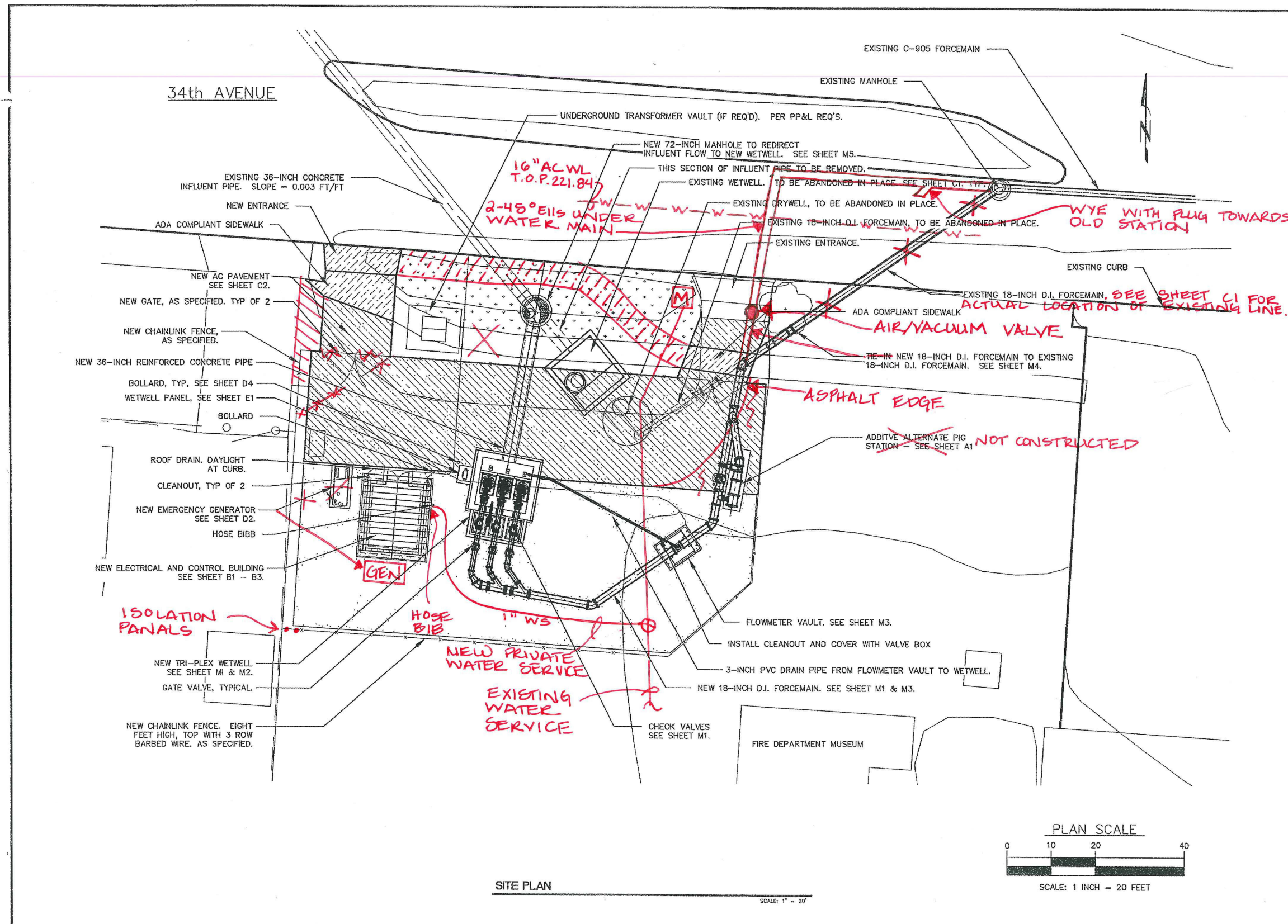
COVER SHEET

G1

Date: 4/3/2008

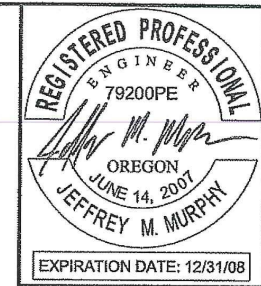
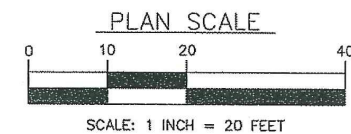
1 of 39

SS-06-05 ---- ASBUILT ---- SLB



SITE PLAN

SCALE: 1" = 20'



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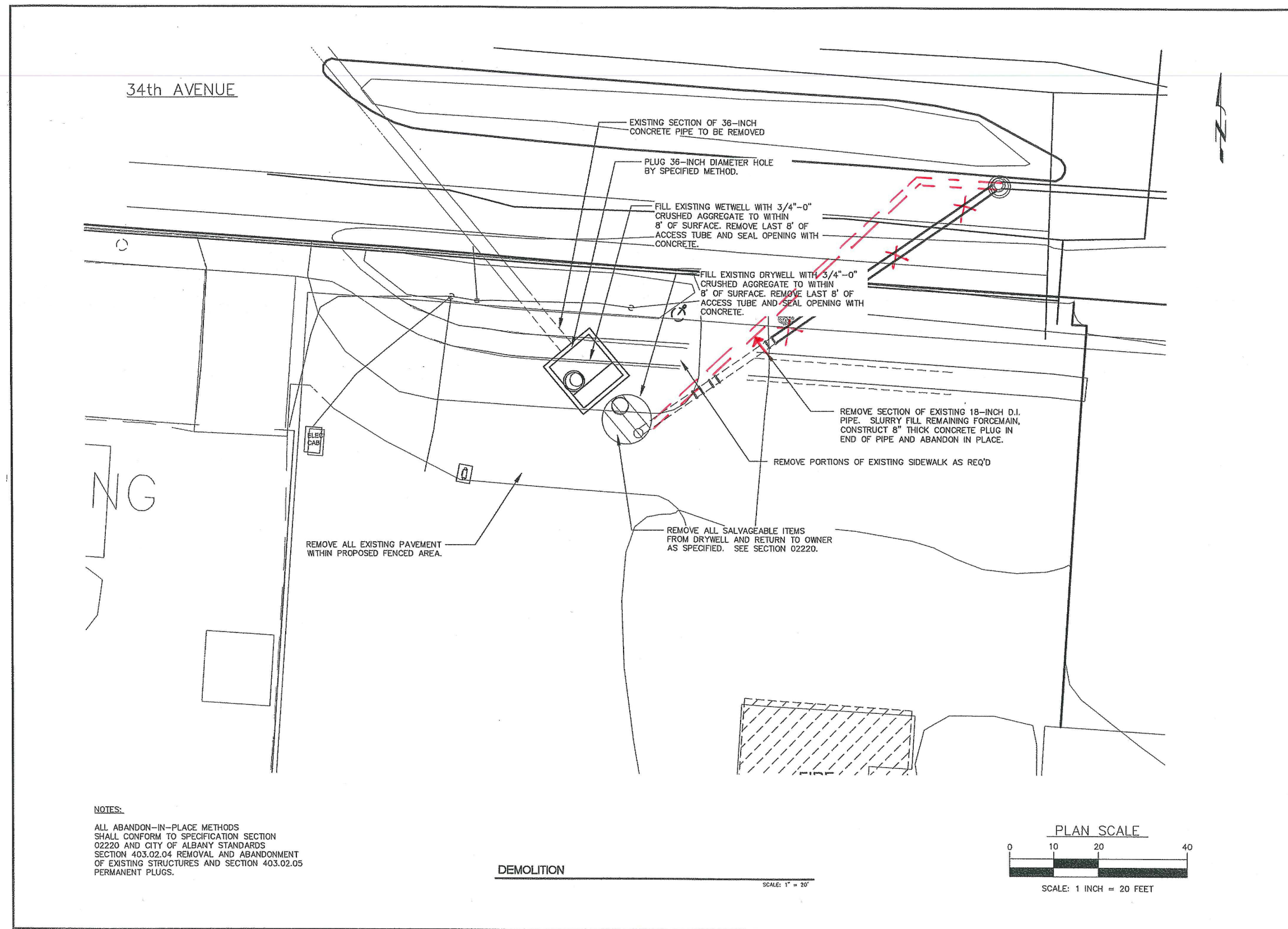
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 Drawn By: JMM Checked By: JGP Project No.:
 Date: 4/1/08 Layer: G2

REV.	DATE	DESCRIPTION

CITY OF ALBANY
 333 BROADALBIN SW, ALBANY OR 97321
 34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION
 SITE PLAN

Sheet No. **G2**
 Date: 4/4/2008
 2 of 39

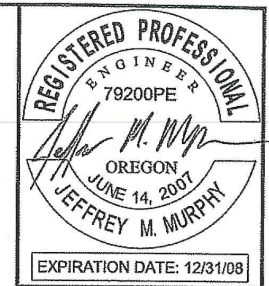
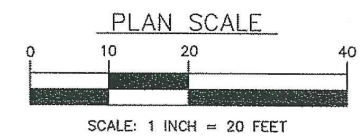
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NOTES:
 ALL ABANDON-IN-PLACE METHODS SHALL CONFORM TO SPECIFICATION SECTION 02220 AND CITY OF ALBANY STANDARDS SECTION 403.02.04 REMOVAL AND ABANDONMENT OF EXISTING STRUCTURES AND SECTION 403.02.05 PERMANENT PLUGS.

DEMOLITION

SCALE: 1" = 20'



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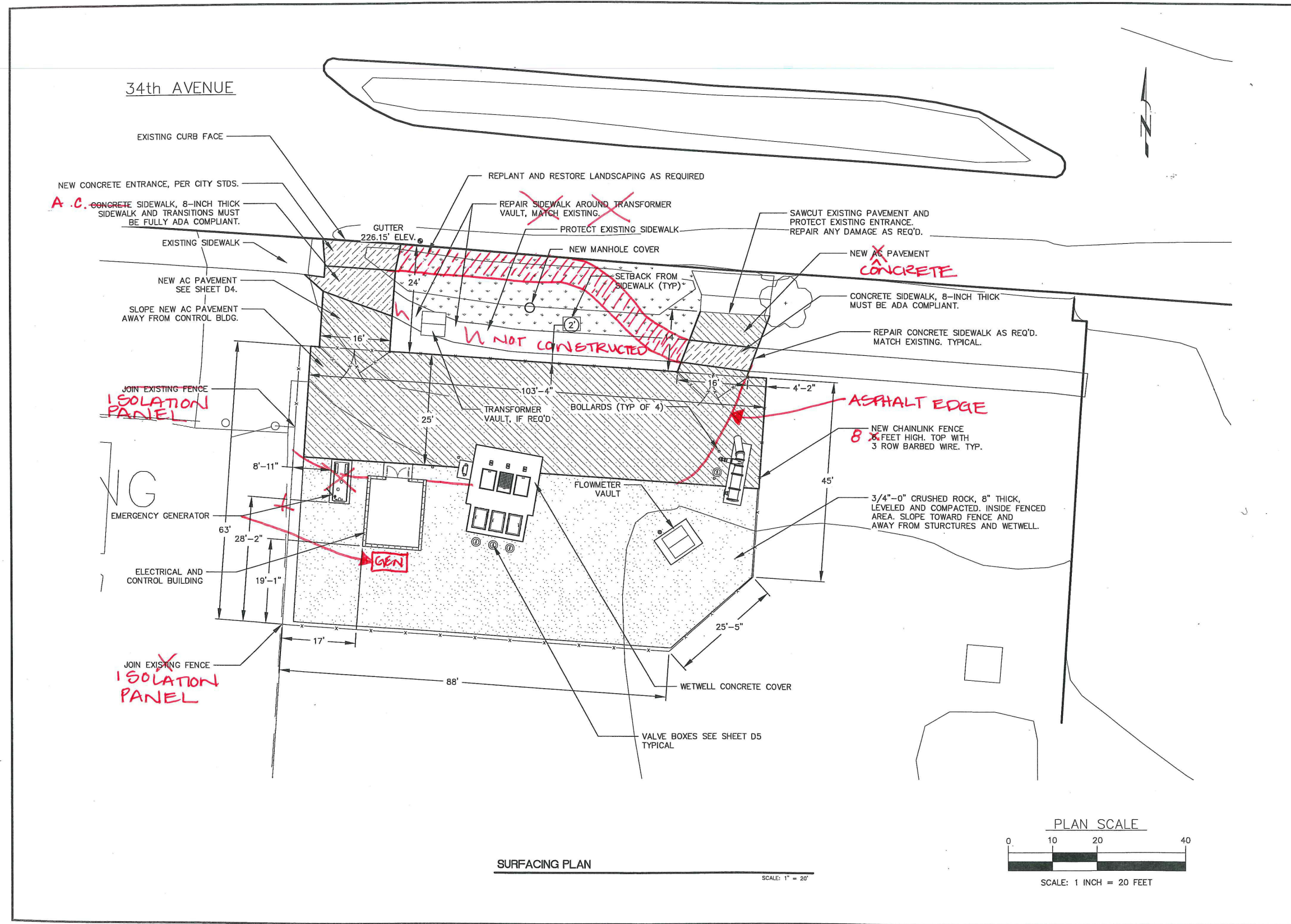
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 File: C:\PROJECTS\DWG\ Layout: C1

REV.	DATE	DESCRIPTION	BY

CITY OF ALBANY
 333 BROADALBIN SW, ALBANY OR 97321
 34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION
 DEMOLITION

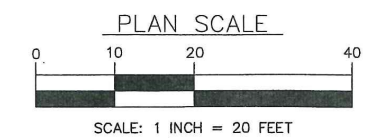
Sheet No. **C1**
 Date: 4/4/08
 3 of 39

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SURFACING PLAN

SCALE: 1" = 20'



REGISTERED PROFESSIONAL ENGINEER
 79200PE
 OREGON
 JUNE 14, 2007
 JEFFREY M. MURPHY
 EXPIRATION DATE: 12/31/08

H B H
 486 E Street, Suite 3
 Coos Bay, Oregon 97420
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 Engineers email: mail@hbh-engineers.com

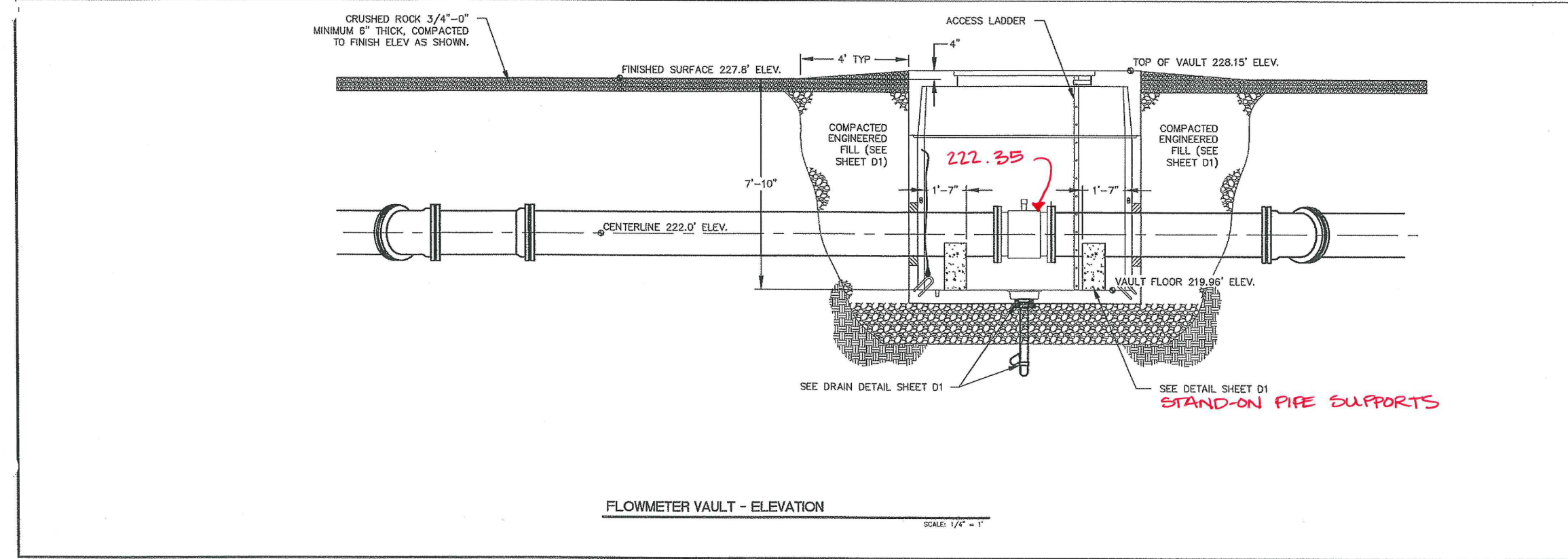
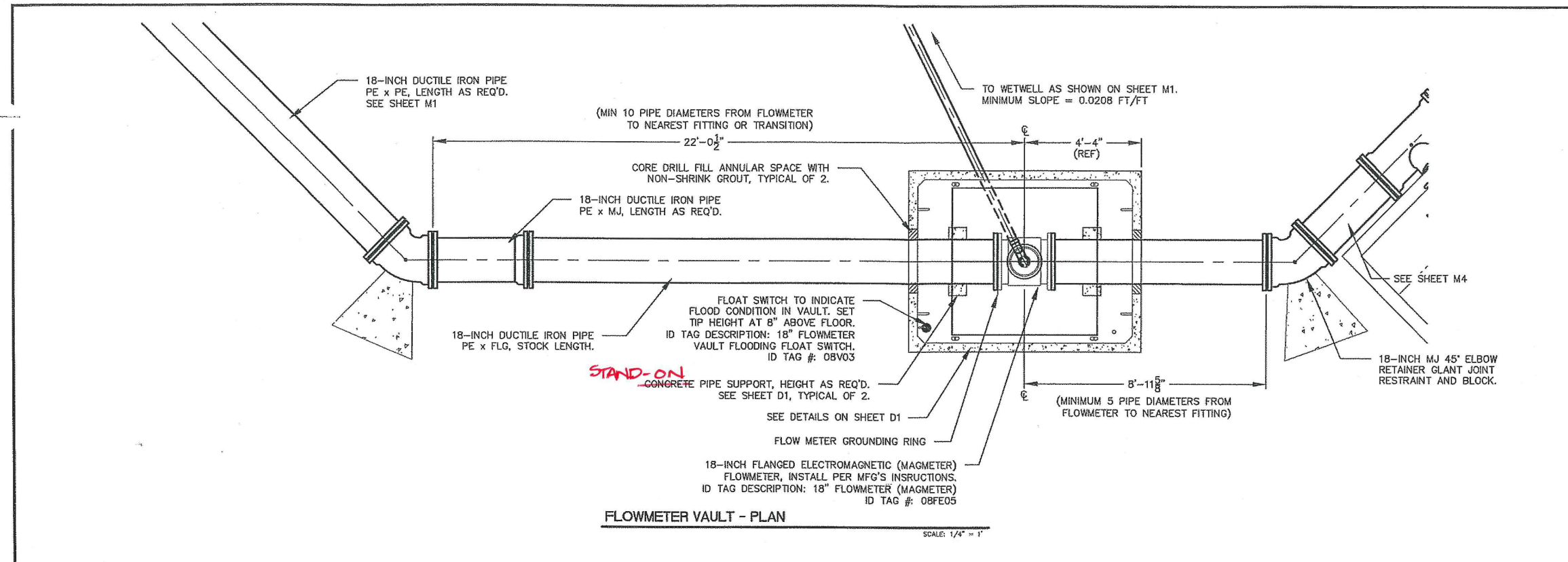
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REV.	DATE	DESCRIPTION

CITY OF ALBANY
 333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
SURFACING PLAN

Sheet No. **C2**
 Date: 4/4/08
 4 of 39

SS-06-05 --- ASBUILT --- SLB



REGISTERED PROFESSIONAL ENGINEER
79200PE
OREGON
JUNE 14, 2001
JEFFREY M. MURPHY
EXPIRATION DATE: 12/31/08

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Engineers email: mail@hbh-engineers.com

Designed By: JMM | Drawn By: JMM | Checked By: JCP | Project No: 2007-010
File: C:\PROJECTS\DWG | Layout: M3

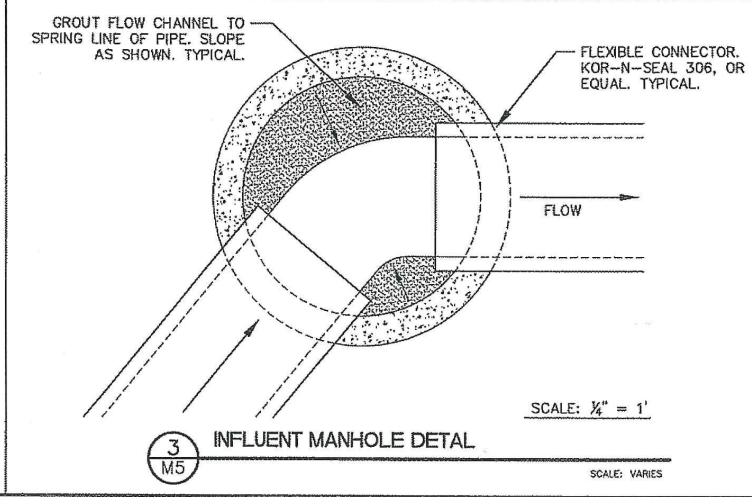
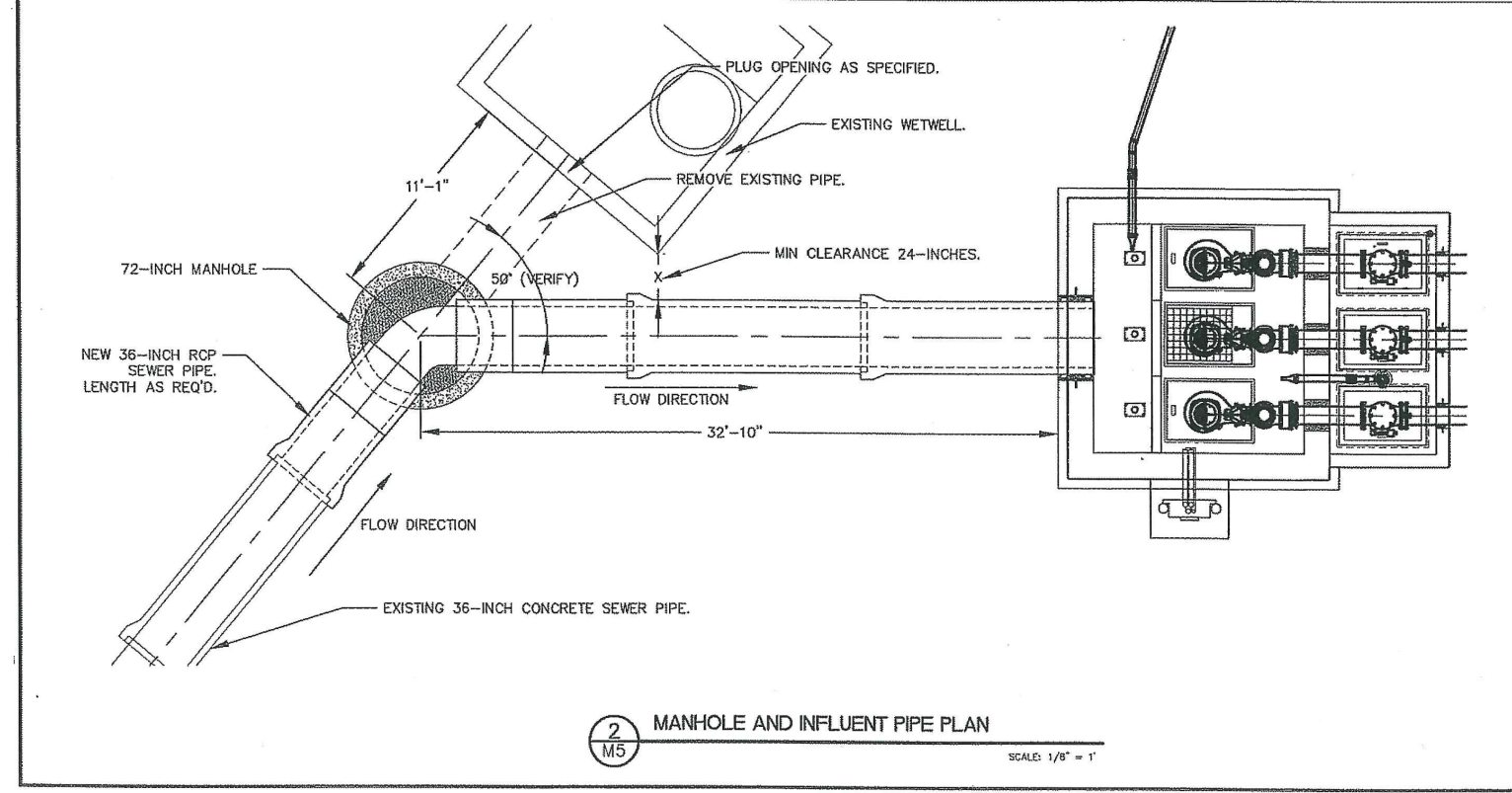
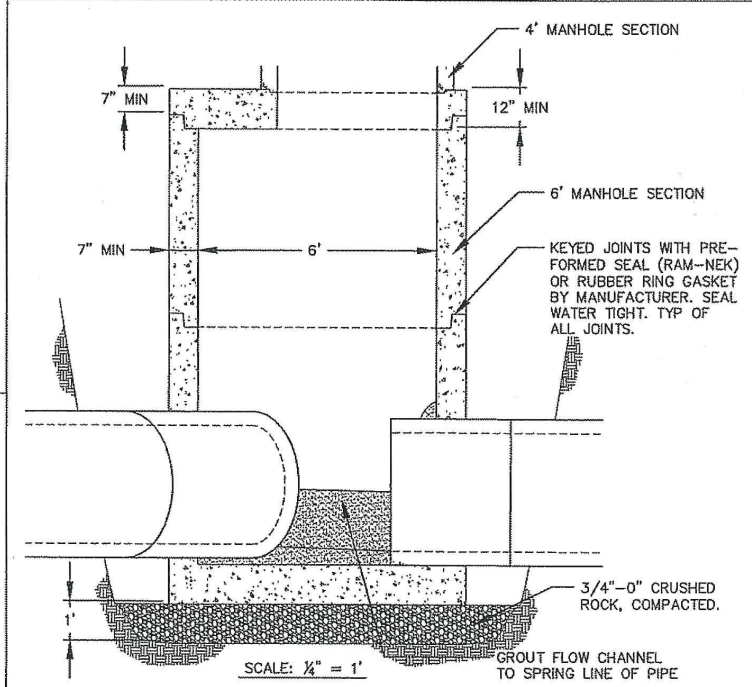
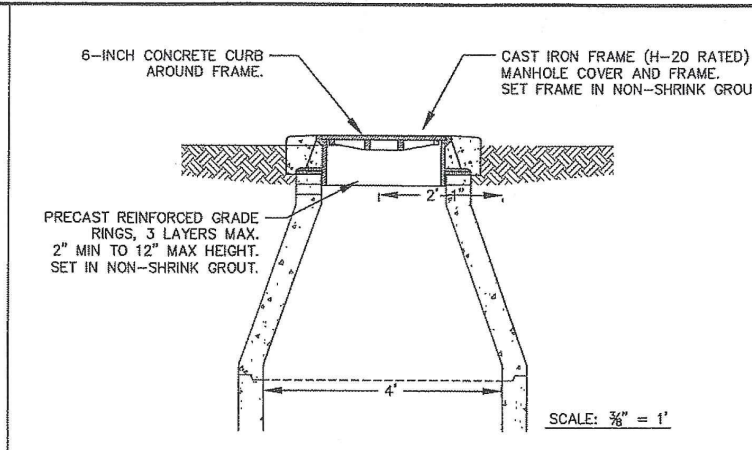
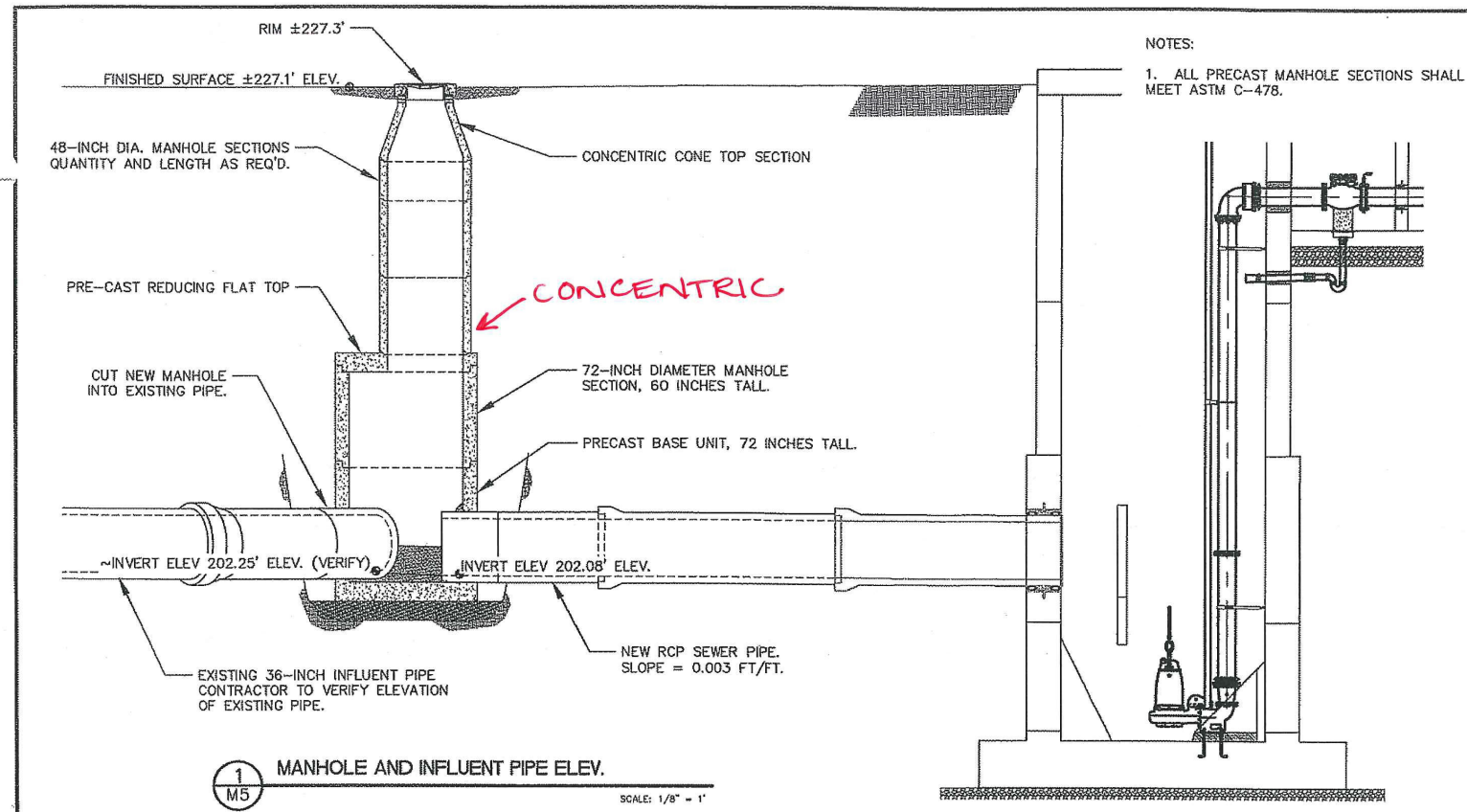
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REV	DATE	DESCRIPTION

CITY OF ALBANY
333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
FLOWMETER VAULT

M3
4/4/08
7 OF 39

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H B H Consulting Engineers 486 E Street, Suite 3 Coos Bay, Oregon 97420 541/266-0365 fax 541/266-7504 email: mjm@hbh-engineers.com	
BY: _____ DATE: _____ REV: _____	DESCRIPTION: INFLUENT PIPELINE
CITY OF ALBANY 333 BROADALBIN SW, ALBANY OR 97321 34th AVENUE LIFT STATION NEW TRI-PLEX PUMPING STATION	SHEET NO. M5 DATE: 4/4/08 9 OF 39

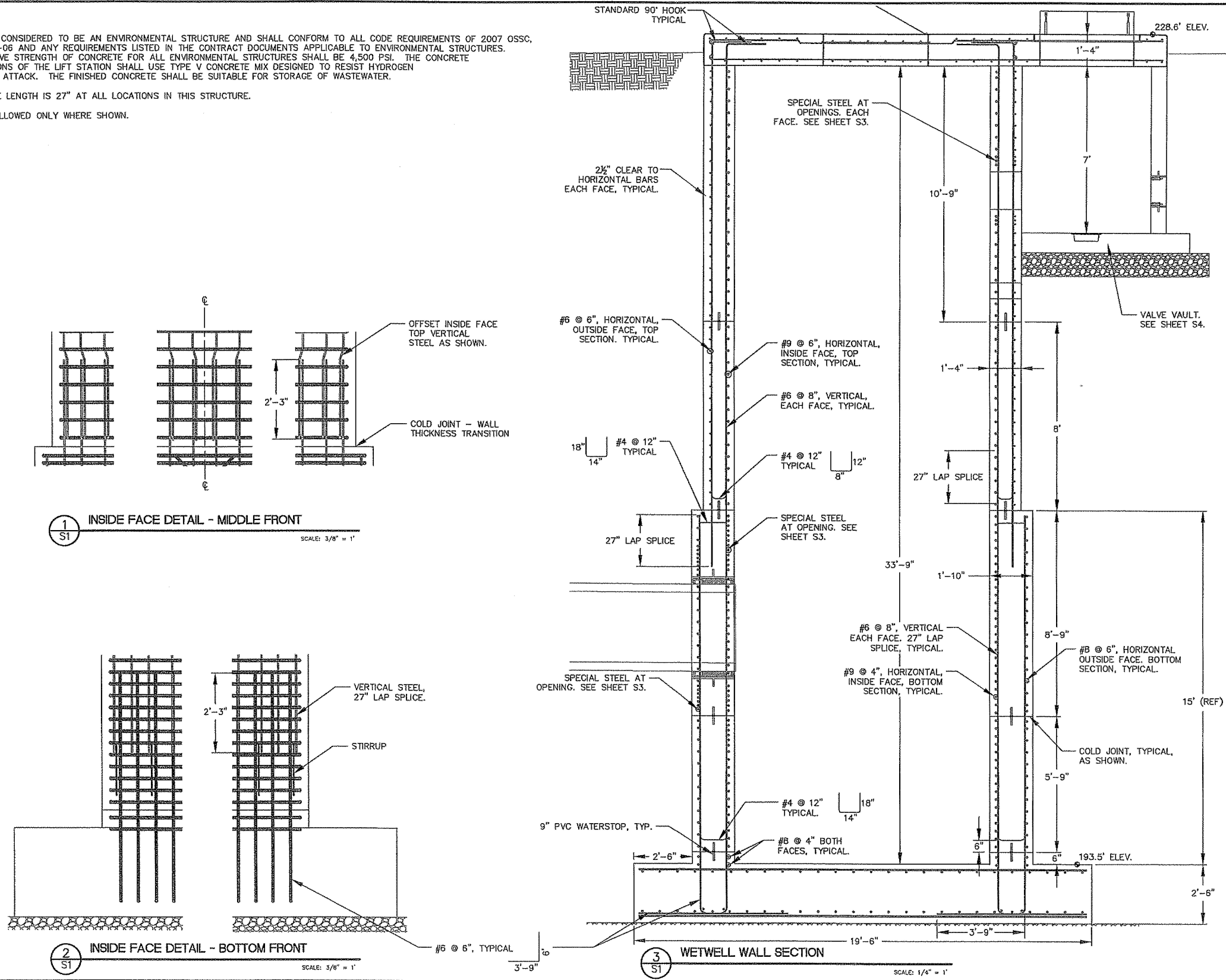
SS-06-05 --- ASBUILT ---SLB

NOTES:

THIS STRUCTURE IS CONSIDERED TO BE AN ENVIRONMENTAL STRUCTURE AND SHALL CONFORM TO ALL CODE REQUIREMENTS OF 2007 OSSC, ACI 350-06, 350.3-06 AND ANY REQUIREMENTS LISTED IN THE CONTRACT DOCUMENTS APPLICABLE TO ENVIRONMENTAL STRUCTURES. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE FOR ALL ENVIRONMENTAL STRUCTURES SHALL BE 4,500 PSI. THE CONCRETE MIX FOR ALL PORTIONS OF THE LIFT STATION SHALL USE TYPE V CONCRETE MIX DESIGNED TO RESIST HYDROGEN SULFIDE CORROSION ATTACK. THE FINISHED CONCRETE SHALL BE SUITABLE FOR STORAGE OF WASTEWATER.

MINIMUM LAP SPLICE LENGTH IS 27" AT ALL LOCATIONS IN THIS STRUCTURE.

COLD JOINTS ARE ALLOWED ONLY WHERE SHOWN.



REGISTERED PROFESSIONAL ENGINEER
 79200PE
 JEFFREY M. MURPHY
 OREGON
 JUNE 14, 2007
 EXPIRATION DATE: 12/31/08

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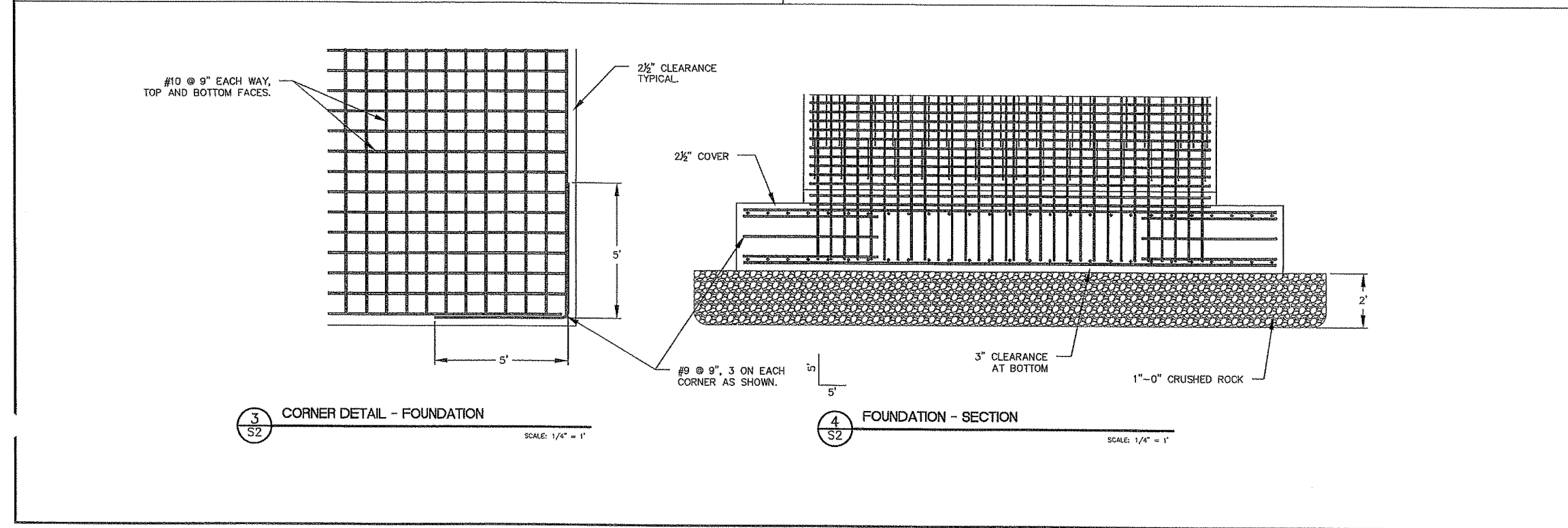
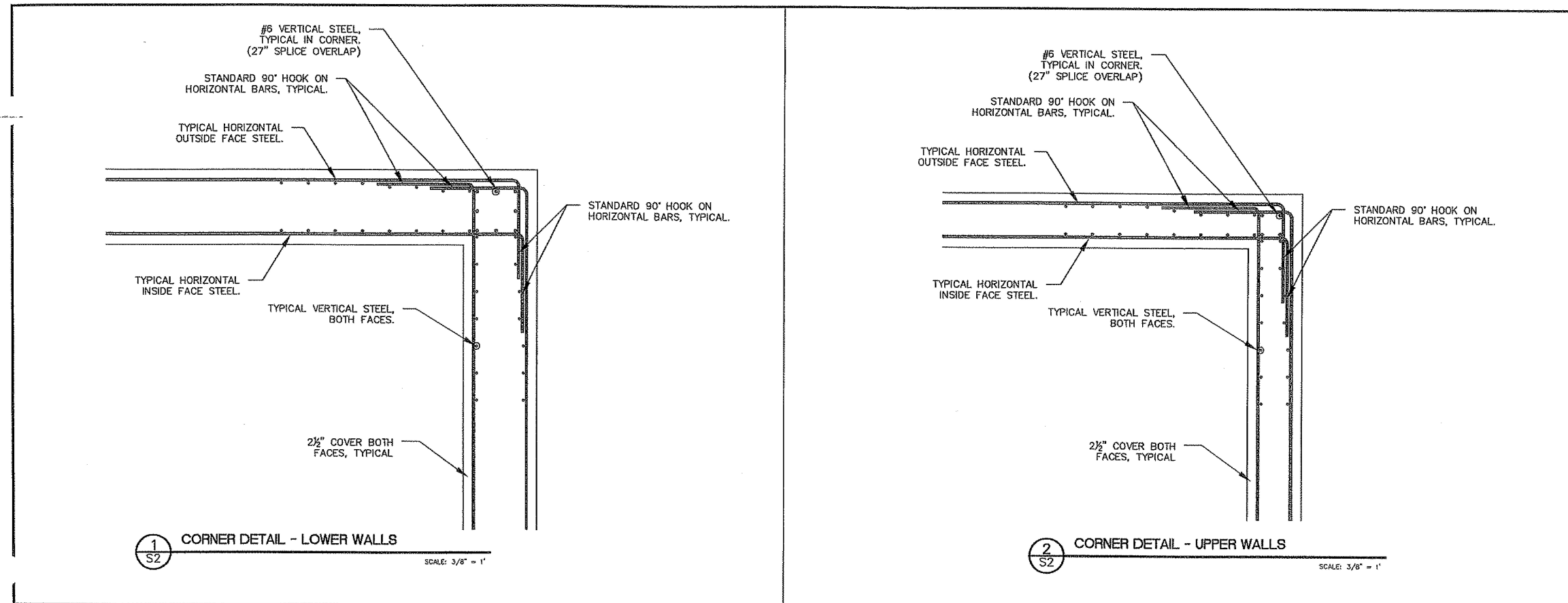
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CITY OF ALBANY
 333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION
WETWELL STRUCTURAL SECTION

Sheet No: **S1**
 Date: **4/4/2008**
 11 of 39

SS-06-05 --- ASBUILT ---SLB



REGISTERED PROFESSIONAL ENGINEER
79200PE
Jeffrey M. Murphy
OREGON
JUNE 14, 2007
JEFFREY M. MURPHY

EXPIRATION DATE: 12/31/08

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email: mol@hbh-engineers.com

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File: C:\PROJECTS\DWG\ | Layout: S2

IF THIS LINE IS NOT 1" DRAWING SCALE IS NOT AS SHOWN

REV.	DATE	DESCRIPTION

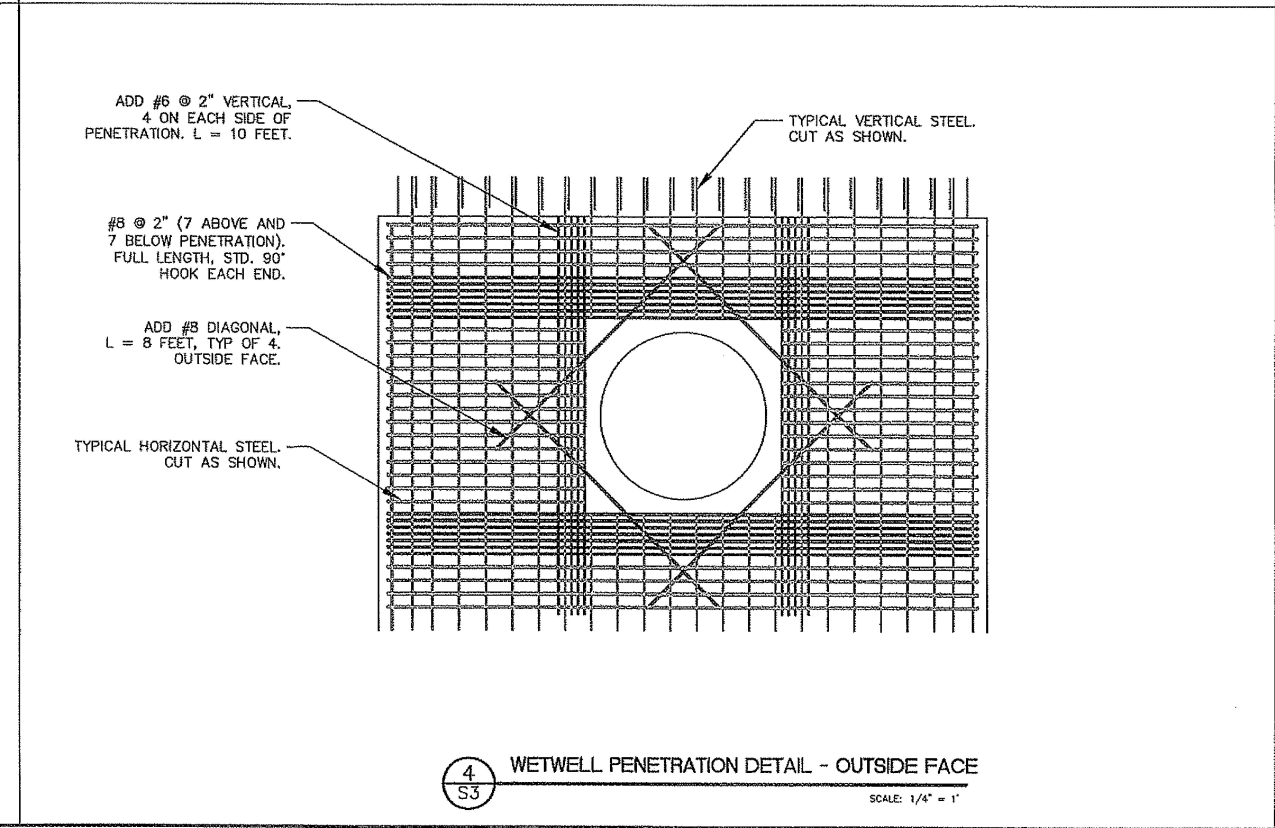
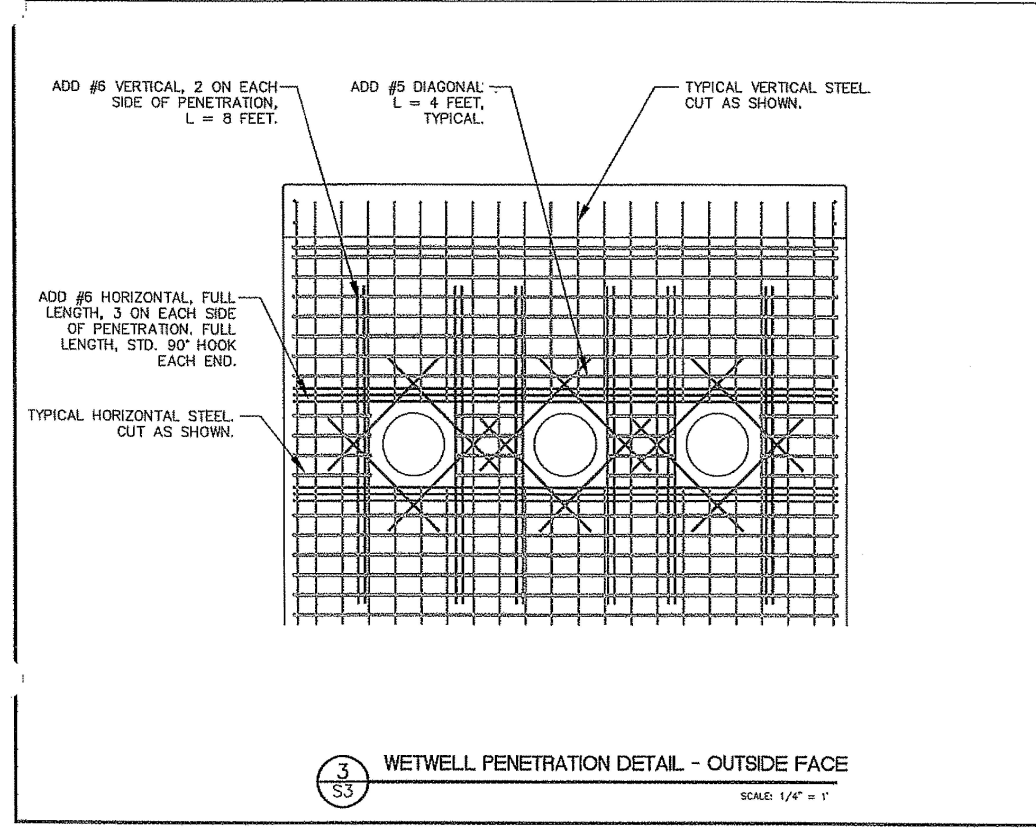
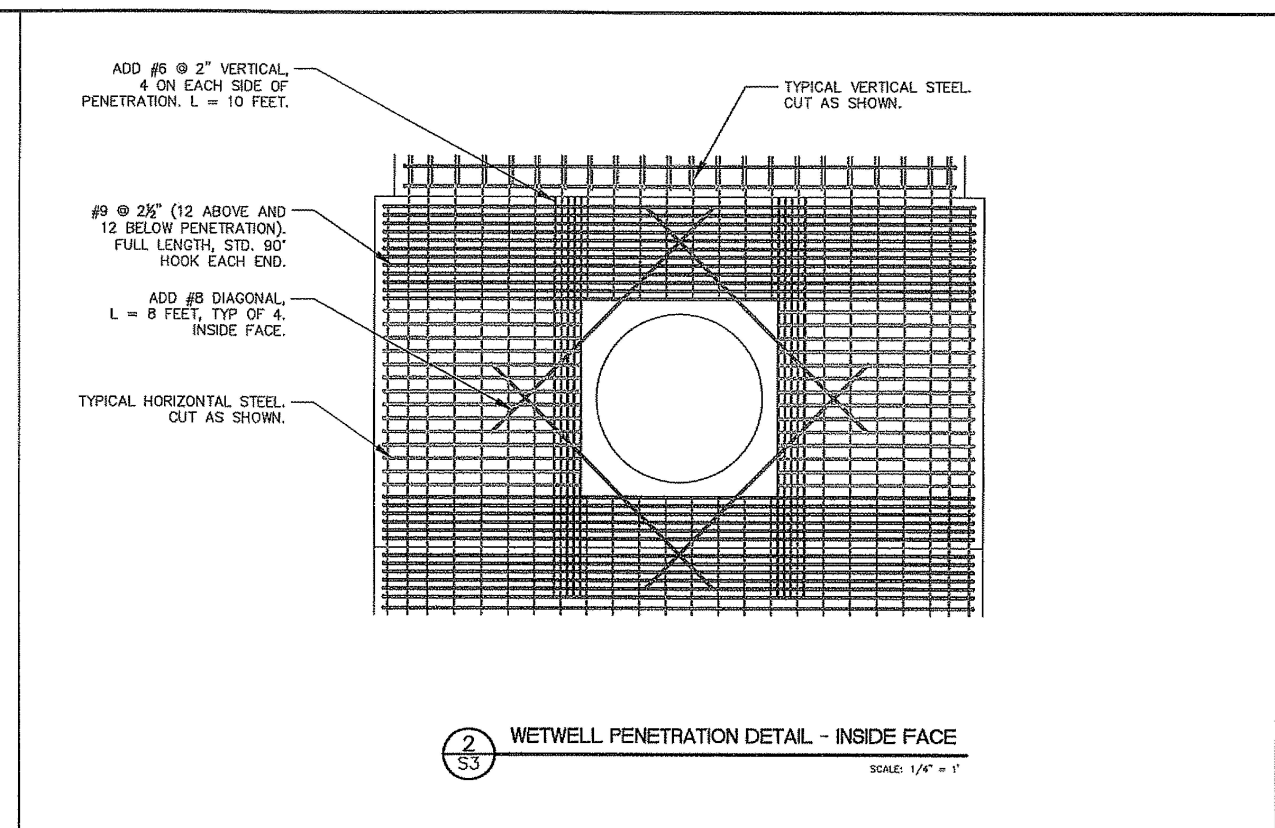
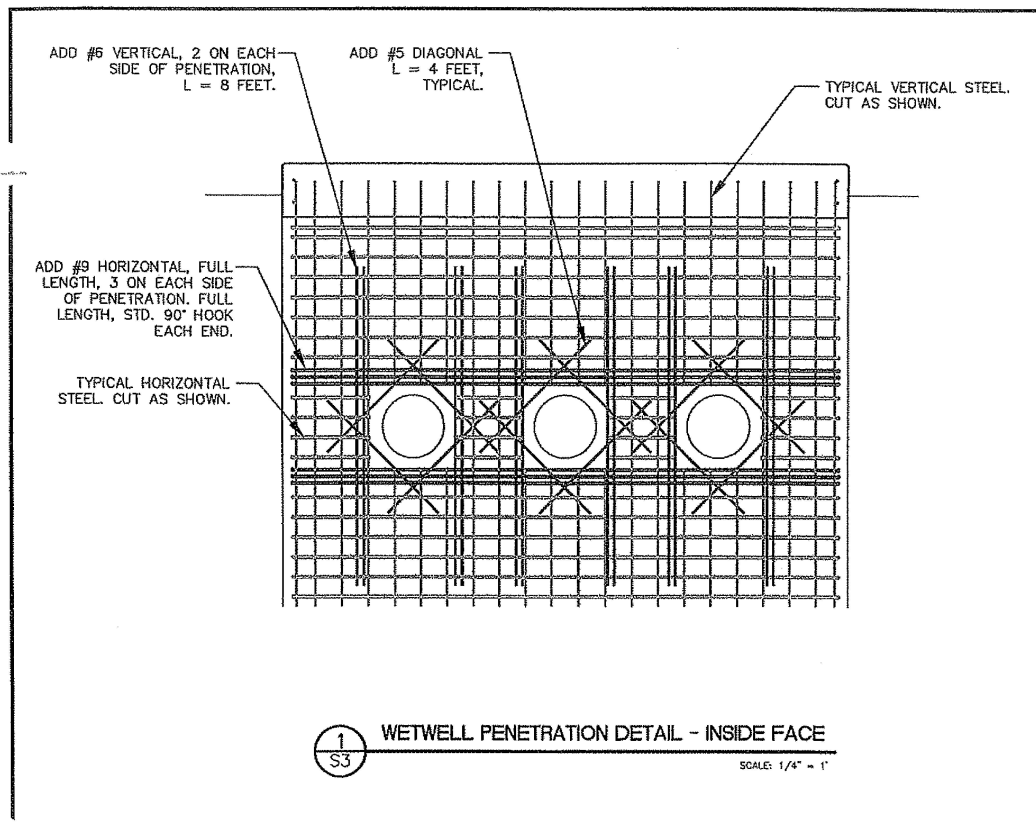
CITY OF ALBANY
333 BROADALBIN SW, ALBANY OR 97321

34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION

WETWELL STRUCTURAL DETAILS

Sheet No. **S2**
Date: 4/4/2008
12 of 39

SS-06-05 --- ASBUILT --- SLB



REGISTERED PROFESSIONAL ENGINEER
79200PE
OREGON
JUNE 14, 2007
JEFFREY M. MURPHY

EXPIRATION DATE: 12/31/08

H B H
Consulting Engineers

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Coos Bay, Oregon 97420
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0"

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File: C:\PROJECTS\DWG\ Layer: S3

REV.	DATE	DESCRIPTION

CITY OF ALBANY
333 BROADALBIN SW, ALBANY OR 97321

34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION

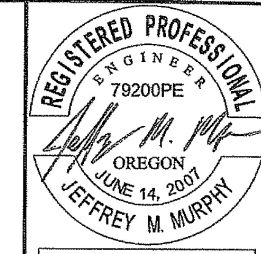
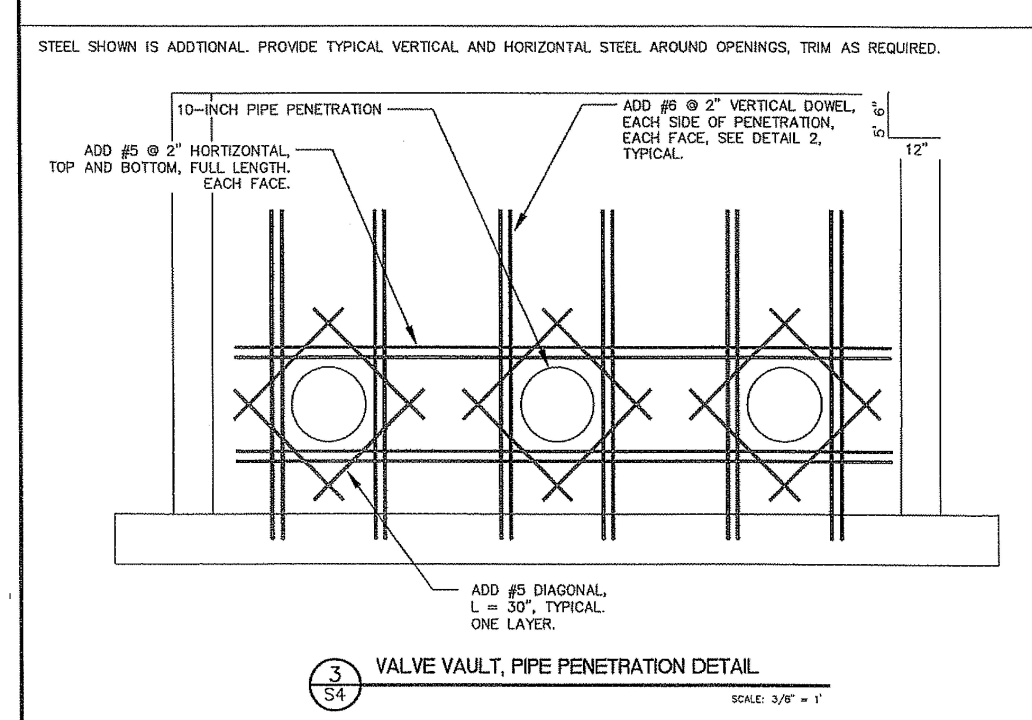
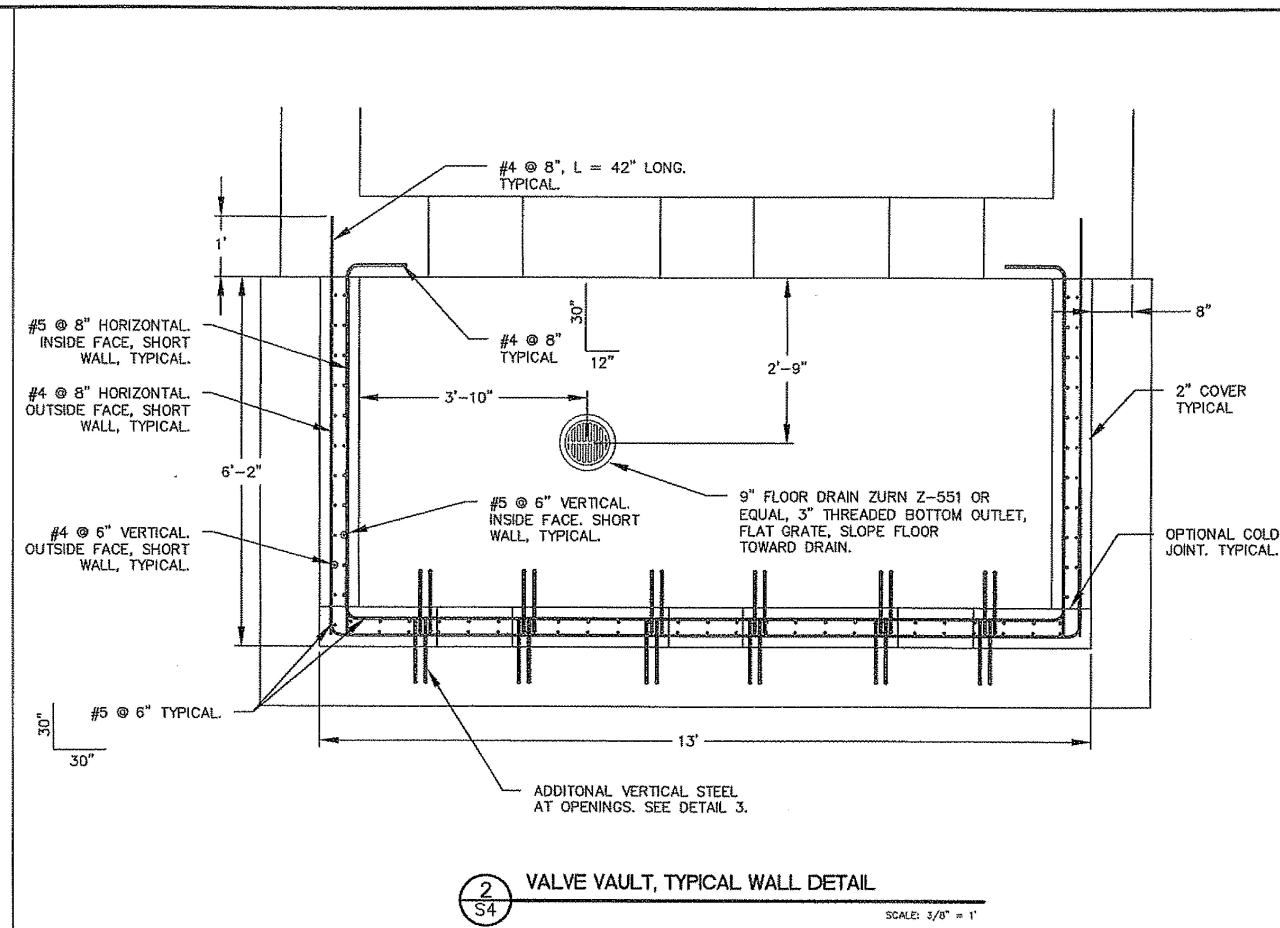
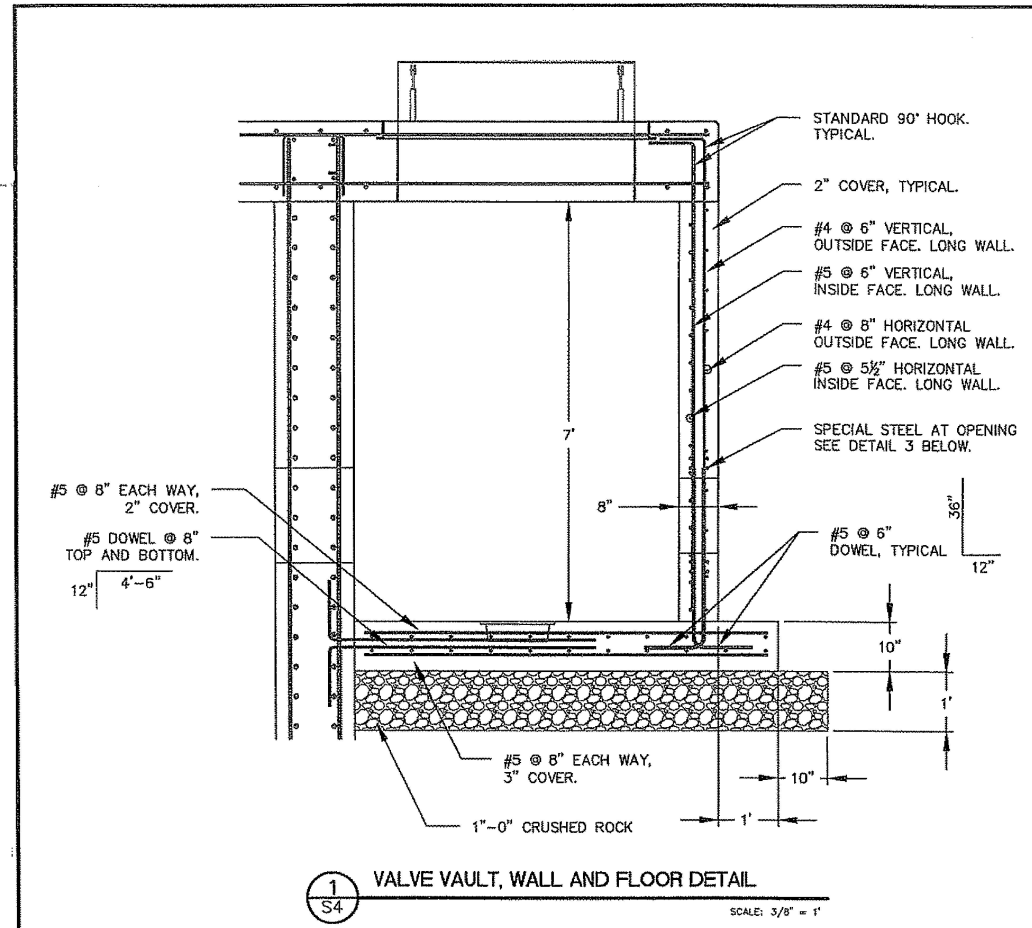
WETWELL PENETRATION DETAILS

S3

4/4/2008

13 of 39

SS-06-05 --- ASBUILT ---SLB



EXPIRATION DATE: 12/31/08

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IF THIS LINE IS NOT 1" DRAWING SCALE IS NOT AS SHOWN

Designed By: JMM/Checked By: JGP/Project No: 2007-010
File: C:\PROJECTS\DWG\ Layout: S4

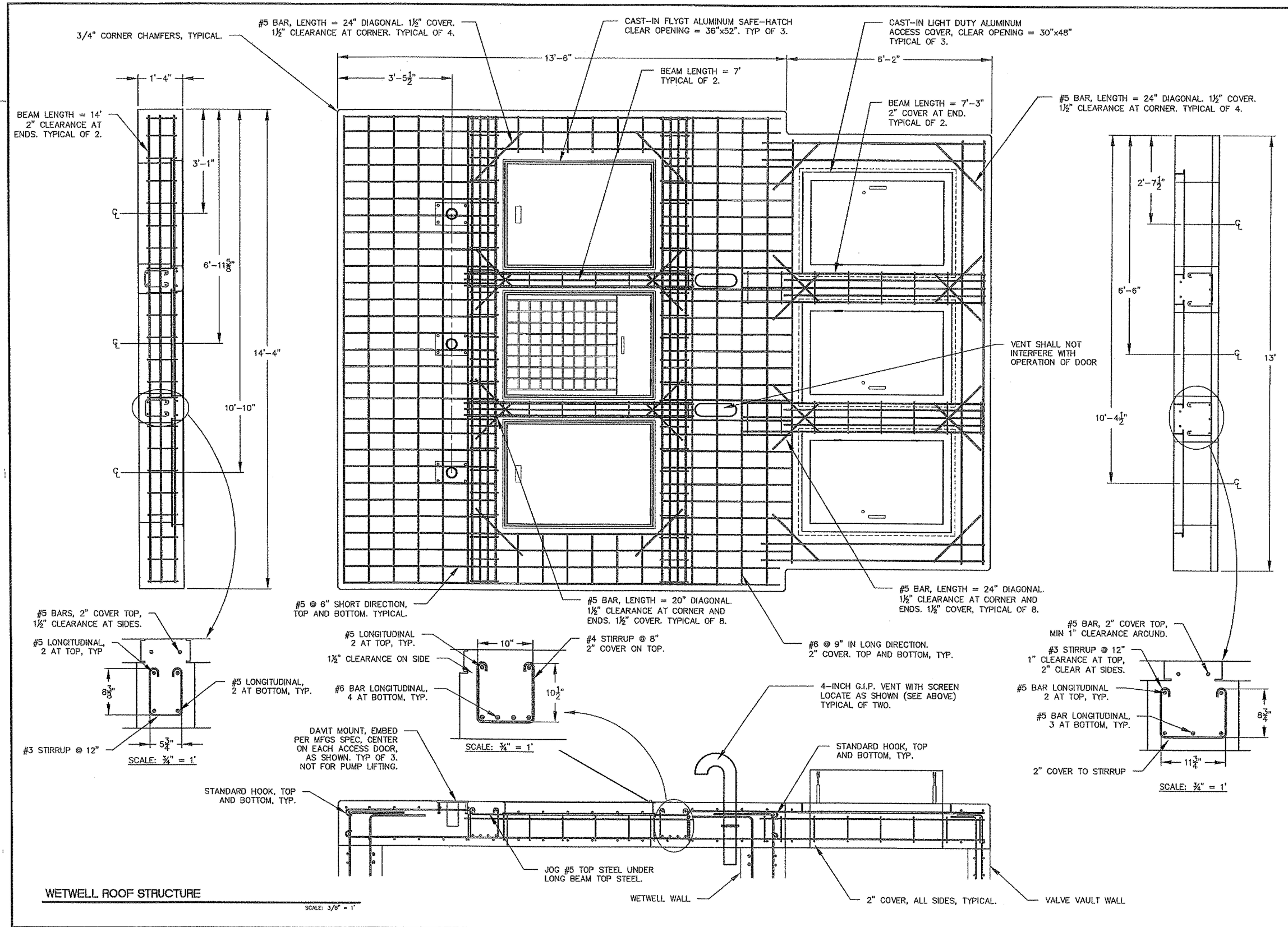
REV.	DATE	DESCRIPTION

CITY OF ALBANY
333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
WETWELL STRUCTURAL DETAILS
VALVE VAULT STRUCTURAL DETAILS

S4
4/4/2008

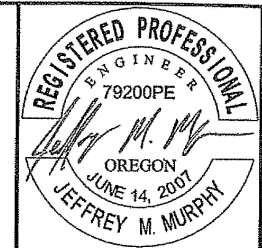
14 of 39

SS-06-05 --- ASBUILT ---SLB



WETWELL ROOF STRUCTURE

SCALE: 3/8" = 1'



EXPIRATION DATE: 12/31/08

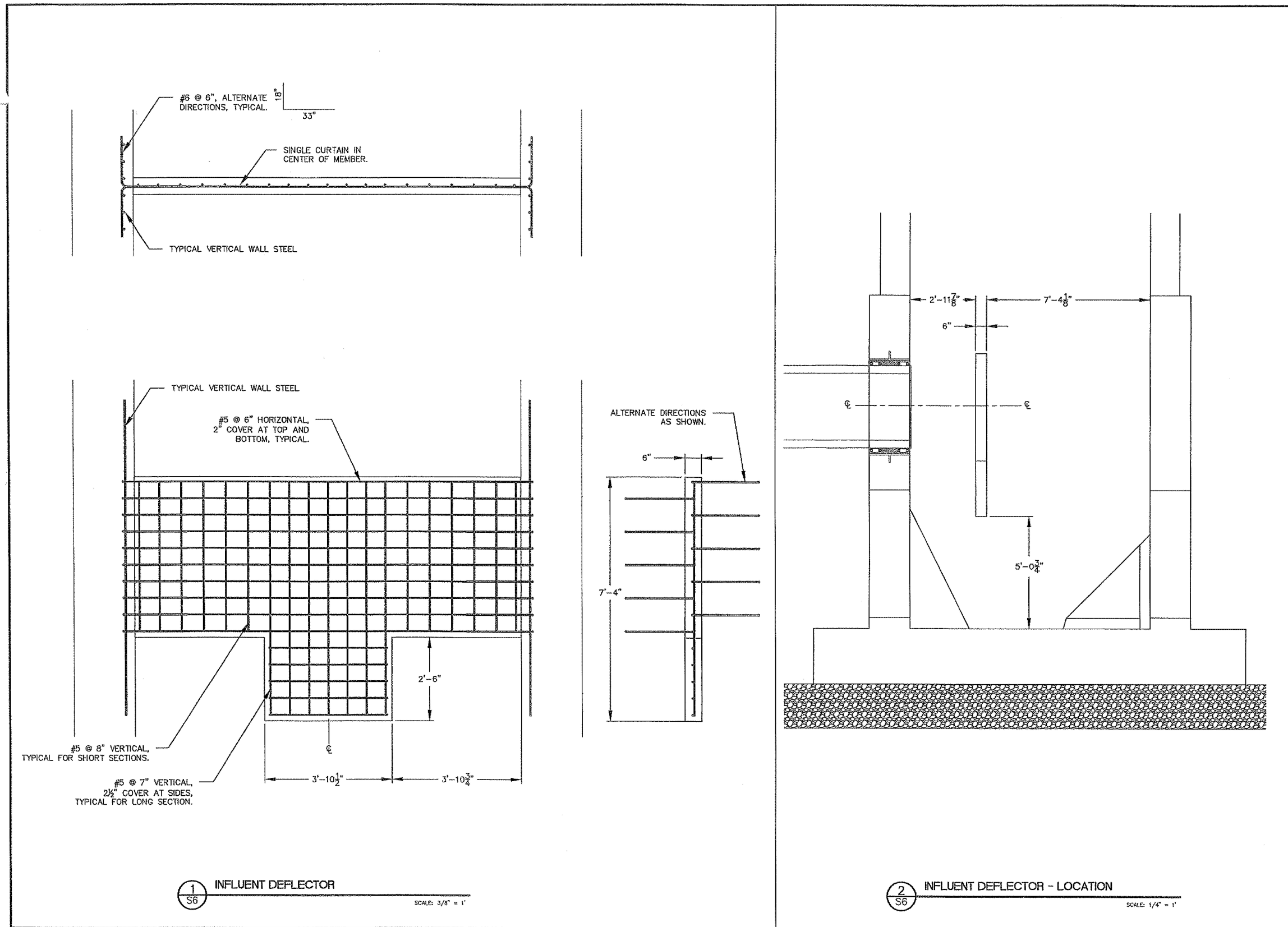
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 Coos Bay, Oregon 97420
 541/266-0355 fax 541/266-7504
 email: mail@hbh-engineers.com

REV.	DATE	DESCRIPTION	BY

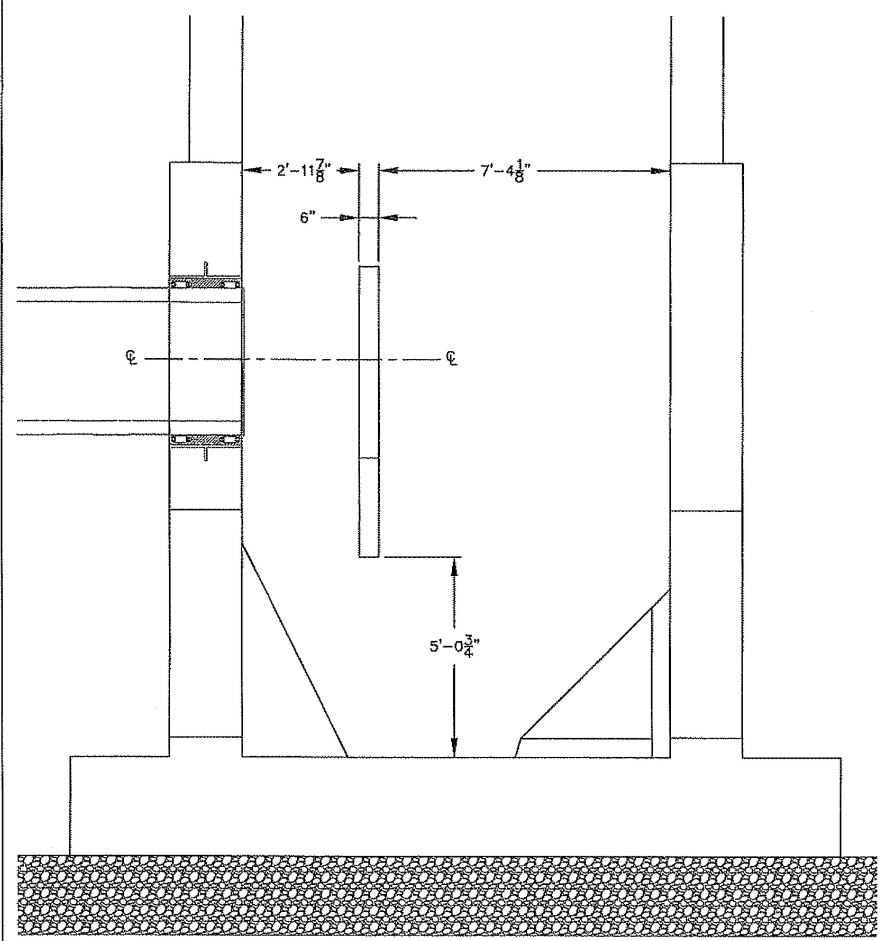
CITY OF ALBANY
 333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
WETWELL STRUCTURAL DETAILS
ROOF STRUCTURAL DETAILS

Sheet No. **S5**
 Date: **4/4/2008**
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SS-06-05 --- ASBUILT ---SLB



1 INFLUENT DEFLECTOR
SCALE: 3/8" = 1'



2 INFLUENT DEFLECTOR - LOCATION
SCALE: 1/4" = 1'

REGISTERED PROFESSIONAL ENGINEER
79200PE
OREGON
JUNE 14, 2007
JEFFREY M. MURPHY
EXPIRATION DATE: 12/31/08

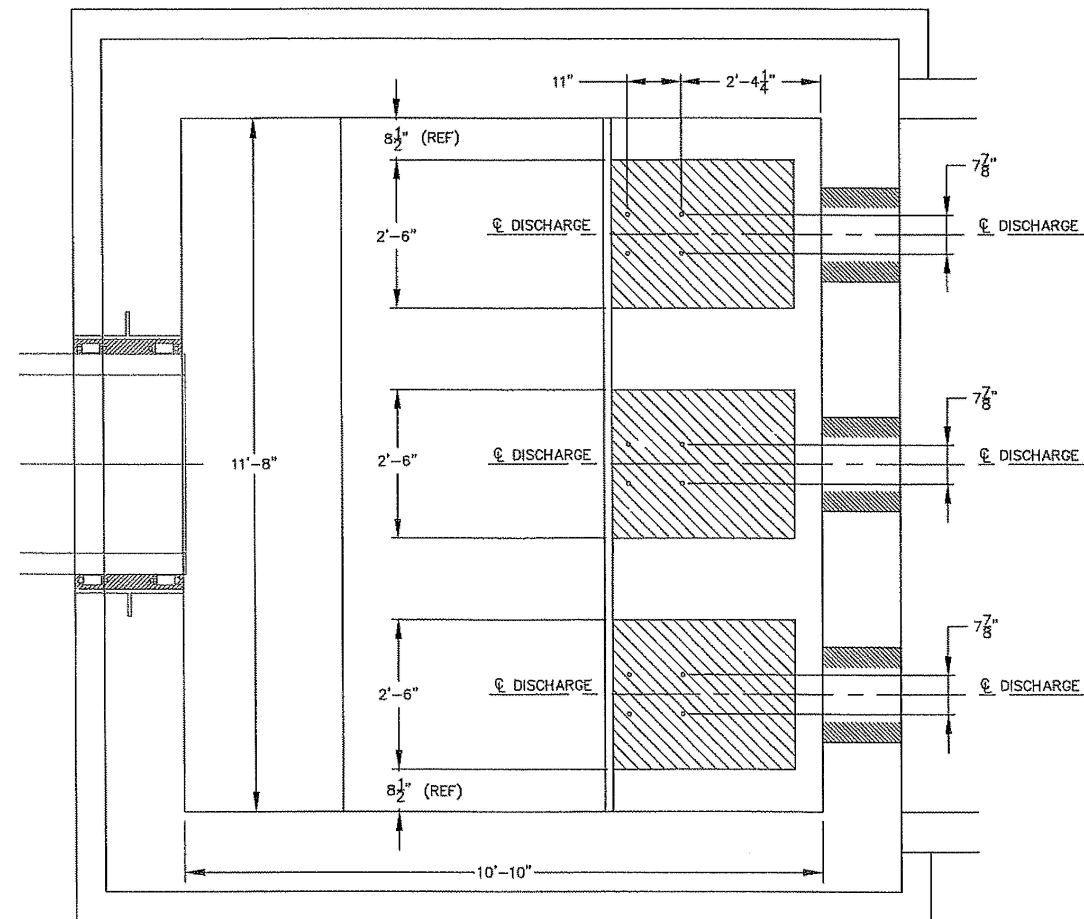
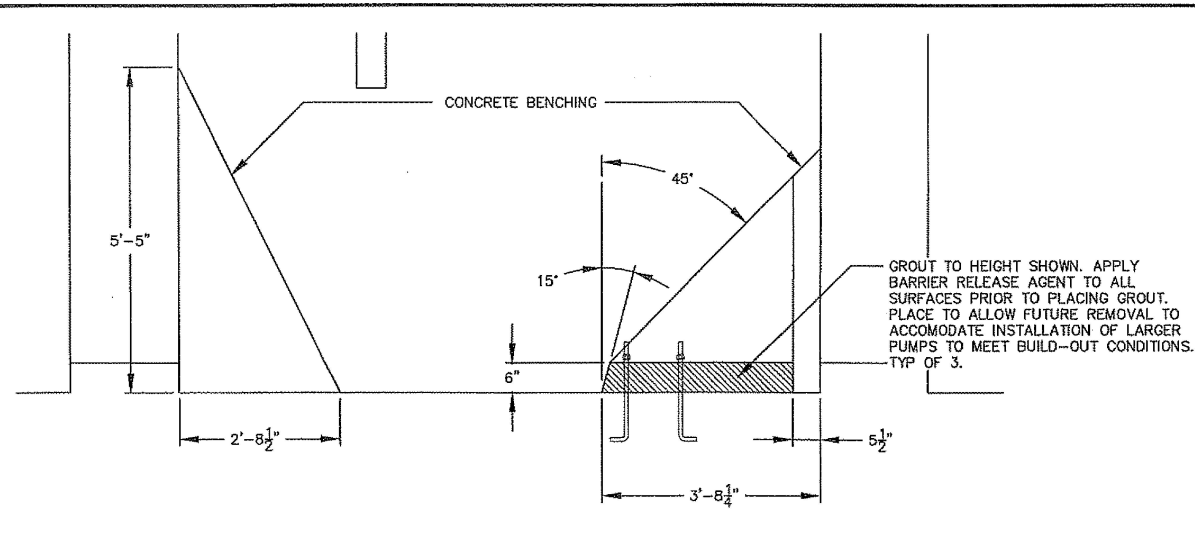
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DESIGNED BY: JMM DRAWN BY: JMM CHECKED BY: JGH PROJECT NO: 2007-010
FILE: C:\PROJECTS\DWG LAYOUT: S6

REV.	DATE	DESCRIPTION	BY

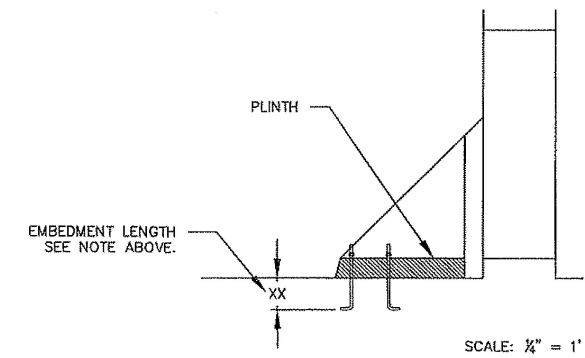
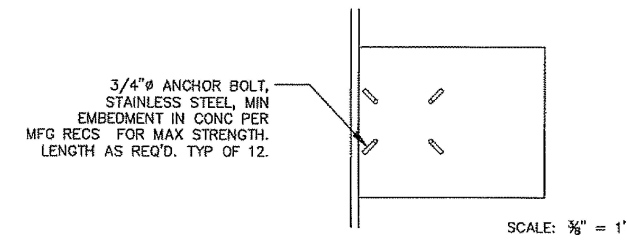
CITY OF ALBANY
333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
WETWELL STRUCTURAL DETAILS
INFLUENT DEFLECTOR DETAILS

SS-06-05 --- ASBUILT ---SLB

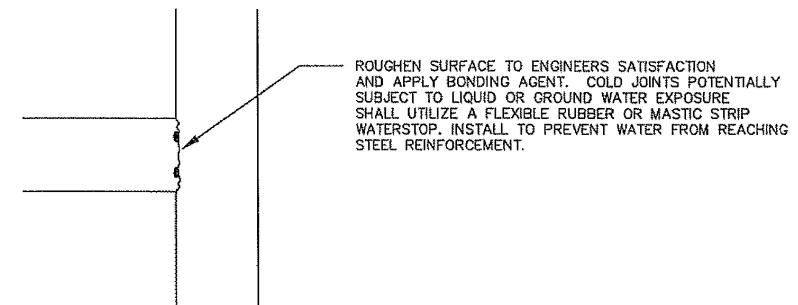


1 SUMP AND PUMP MOUNTING DETAIL
SCALE: 3/8" = 1'

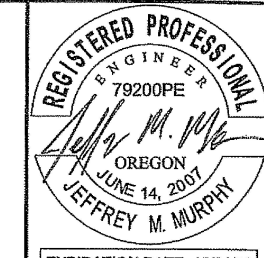
NOTE:
PUMP ANCHOR BOLT SHALL BE EITHER 3/4" DIAMETER CAST-IN ANCHOR AS SHOWN, OR 3/4" DIAMETER STAINLESS STEEL WEDGE ANCHOR BOLT. EMBEDMENT DEPTH SHALL BE MANUFACTURERS RECOMMENDATION FOR MAXIMUM STRENGTH FOR TENSION AND SHEAR. THE PORTION OF BOLT IN PLINTH SHALL NOT CONTRIBUTE TO EMBEDMENT DEPTH. ANCHORAGE SUBJECT TO ENGINEER APPROVAL.



2 PUMP ANCHOR BOLT DETAIL
SCALE: VARIES



3 TYPICAL COLD JOINT DETAIL
SCALE: NTS



EXPIRATION DATE: 12/31/08

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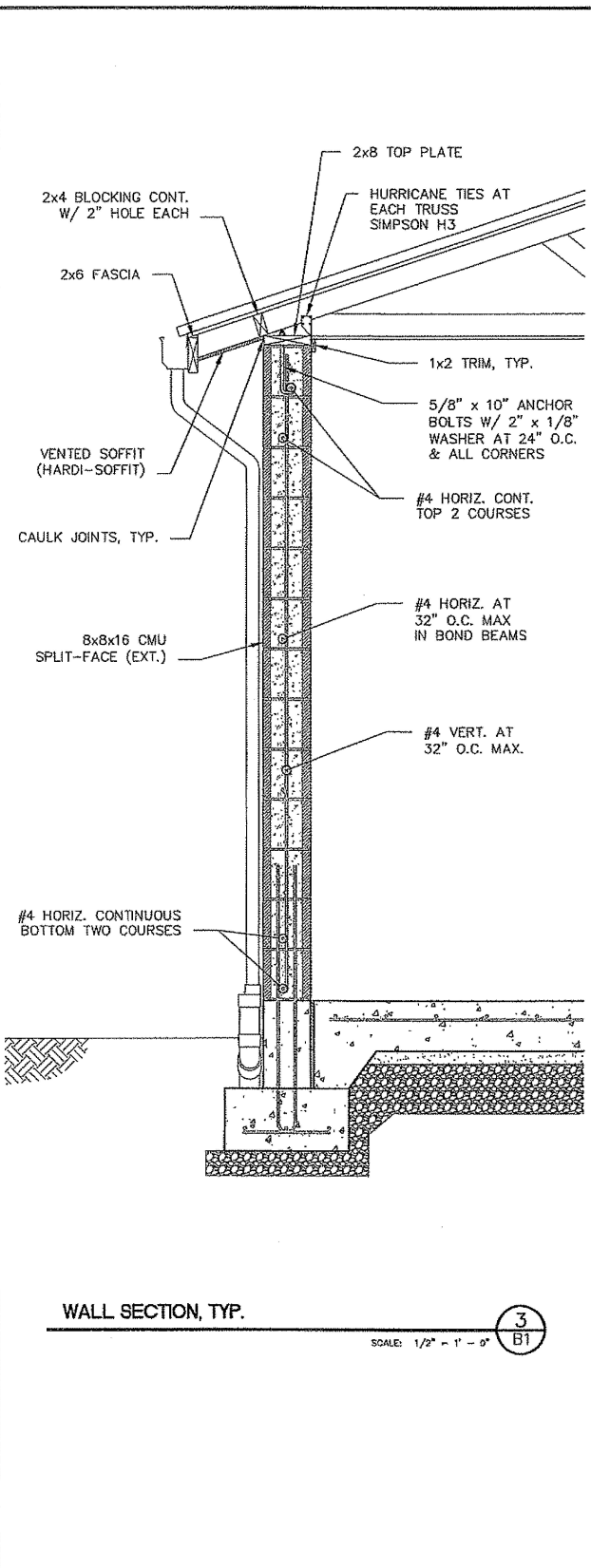
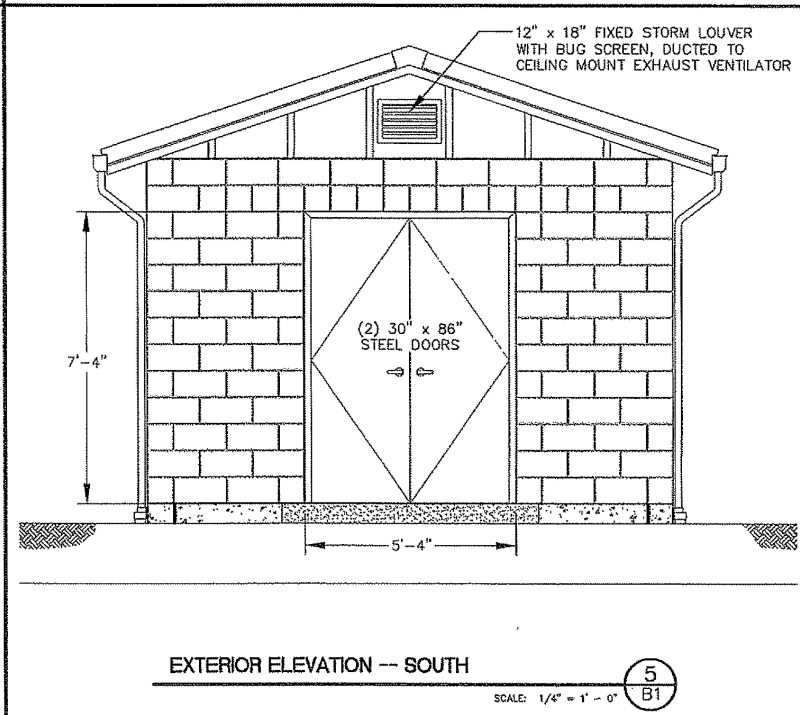
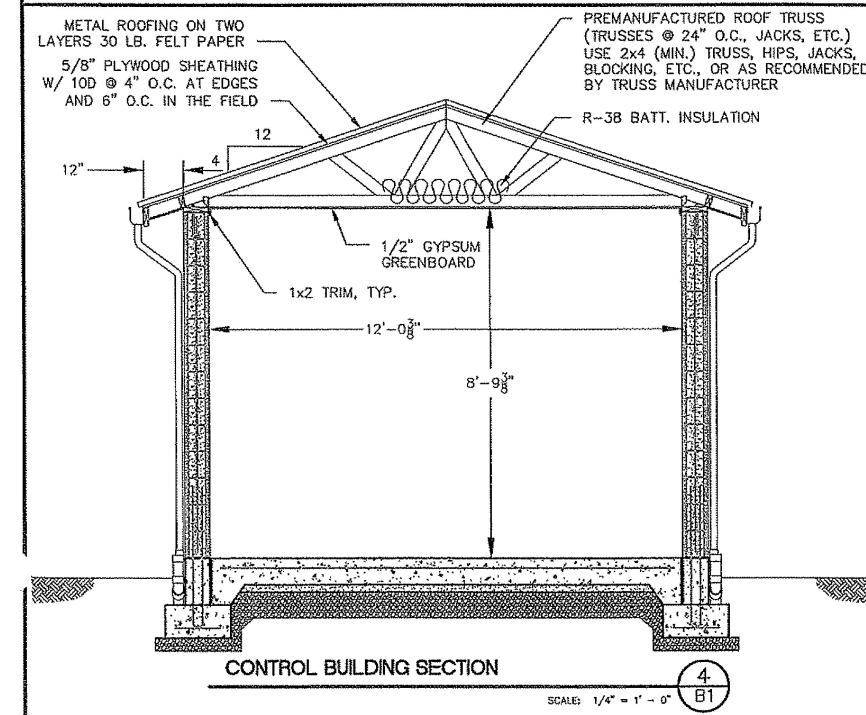
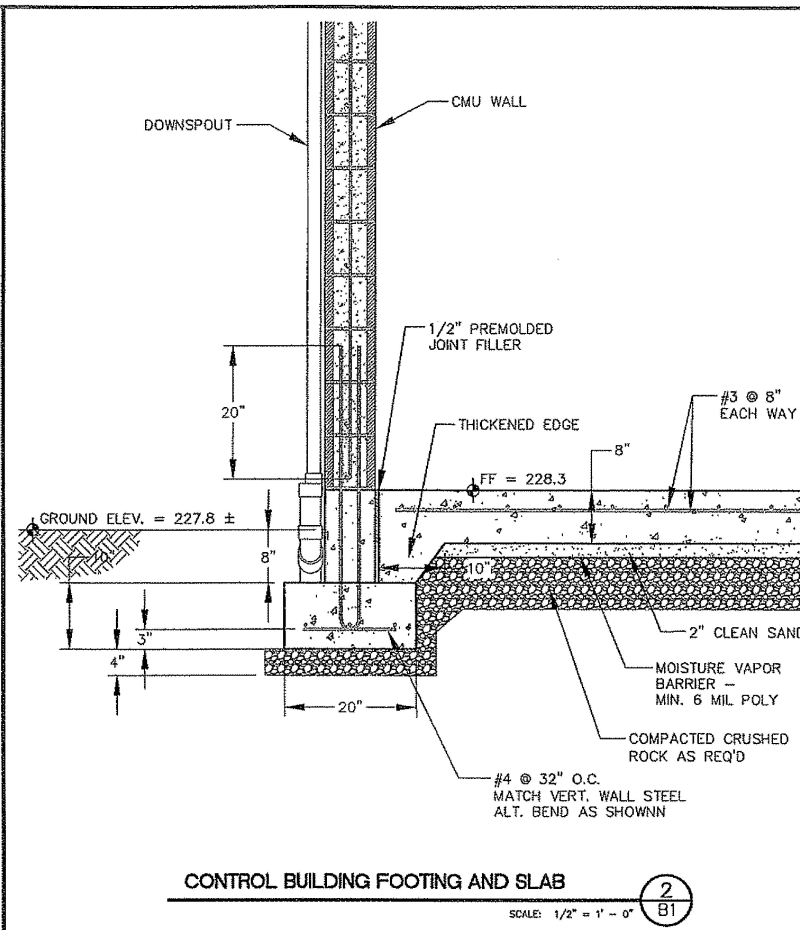
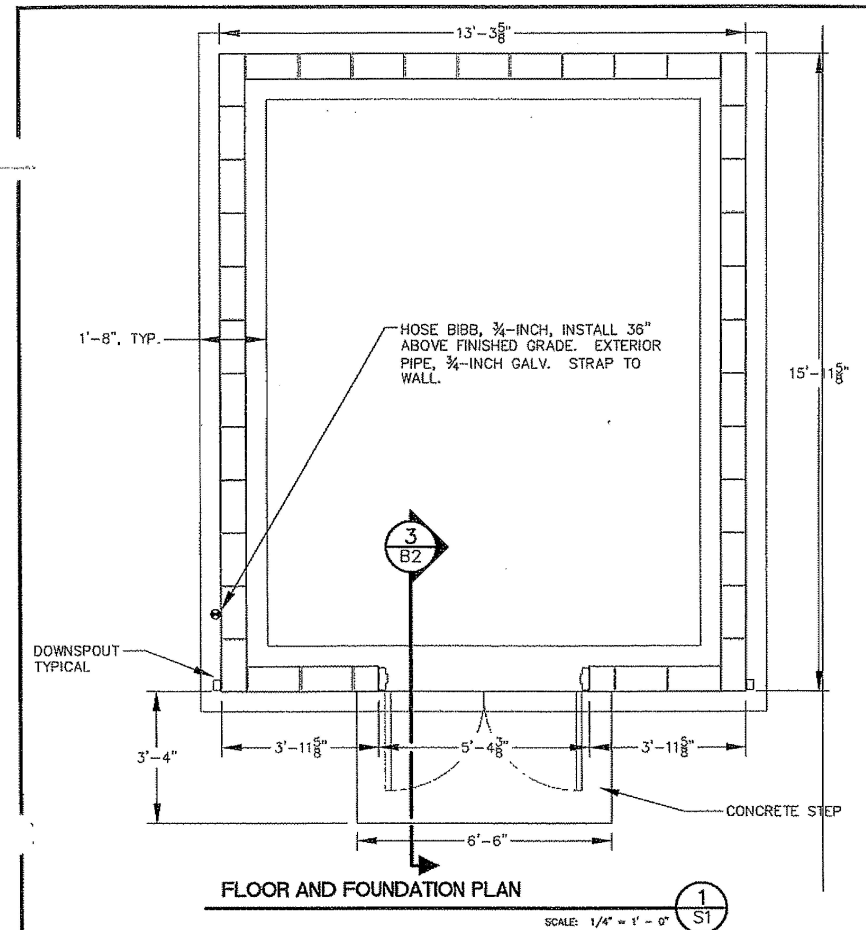
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REV.	DATE	DESCRIPTION

CITY OF ALBANY
333 BROADALBIN SW, ALBANY OR 97321
34th AVENUE LIFT STATION
NEW TRI-FLEX PUMPING STATION
WETWELL STRUCTURAL DETAILS
SUMP AND PUMP MOUNTING

Sheet No. S7
Date: 4/4/2008
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SS-06-05 --- ASBUILT ---SLB



REGISTERED PROFESSIONAL ENGINEER
 79200PE
 OREGON
 JUNE 14, 2007
 JEFFREY M. MURPHY
 EXPIRATION DATE: 12/31/08

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 Consulting Engineers
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 File: V:\eng\control_building.dwg / Layout: B1

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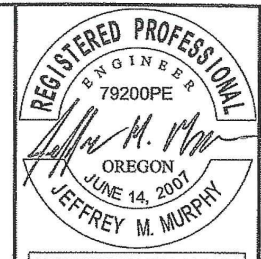
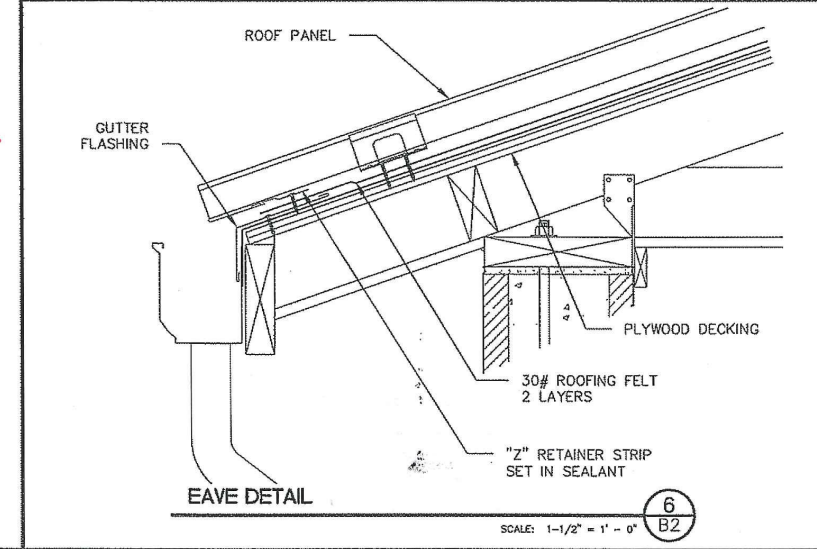
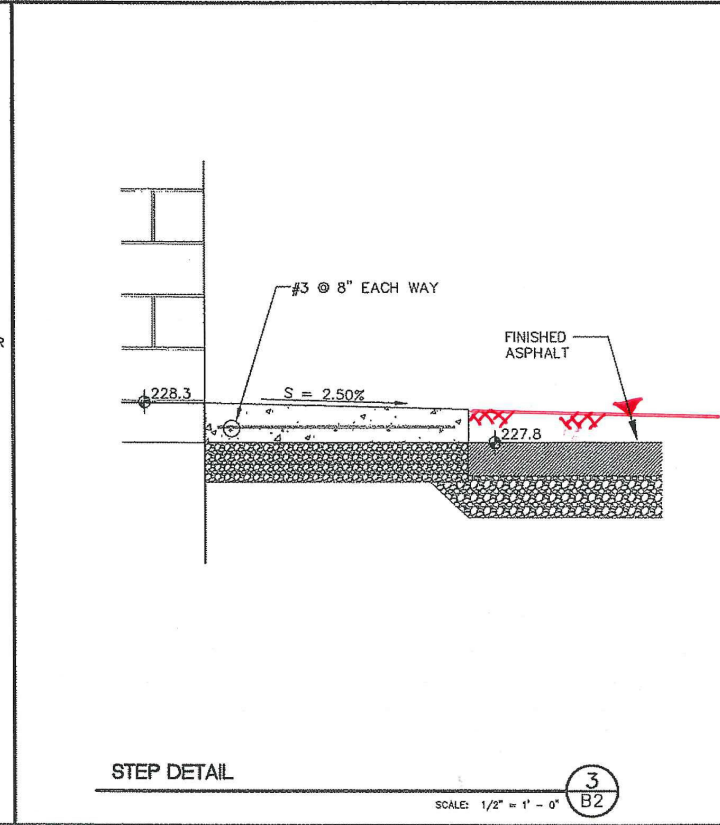
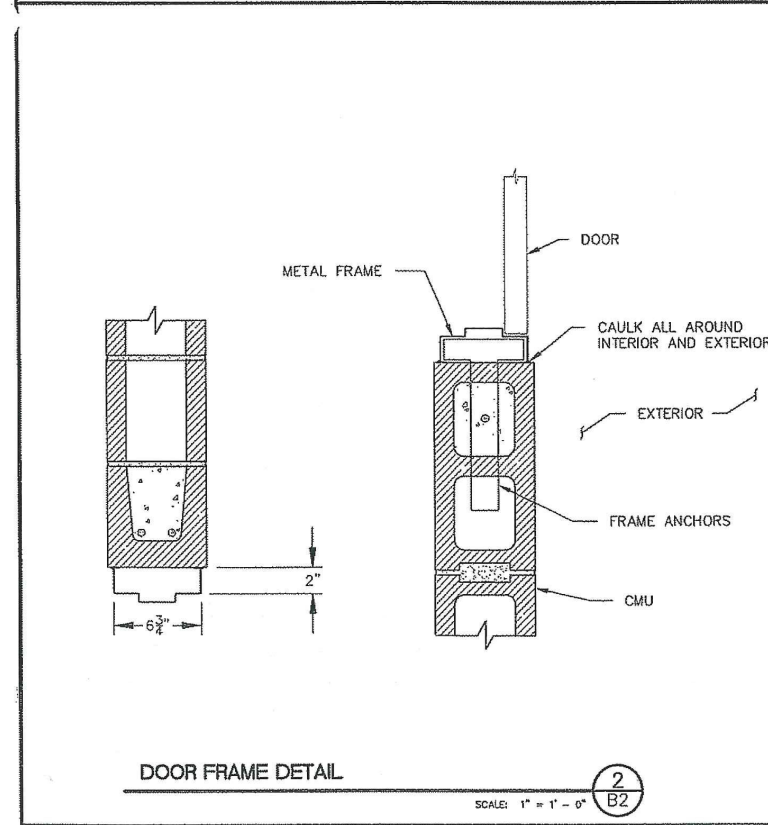
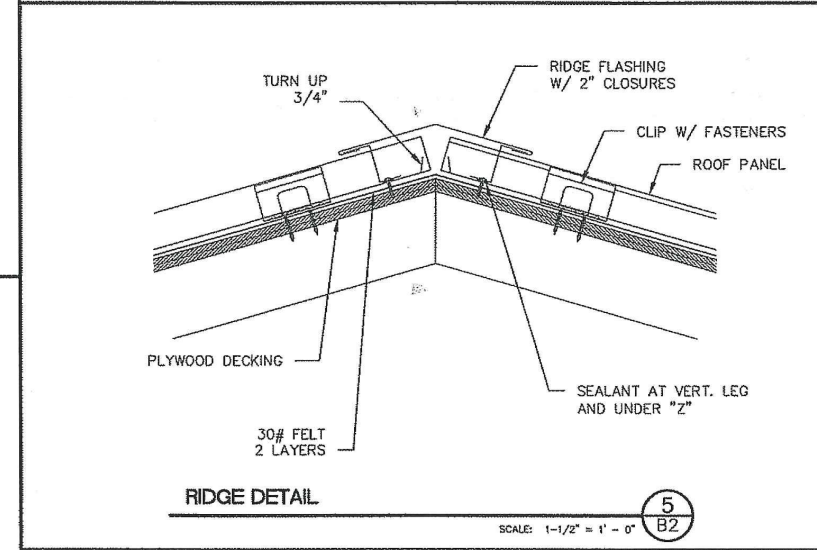
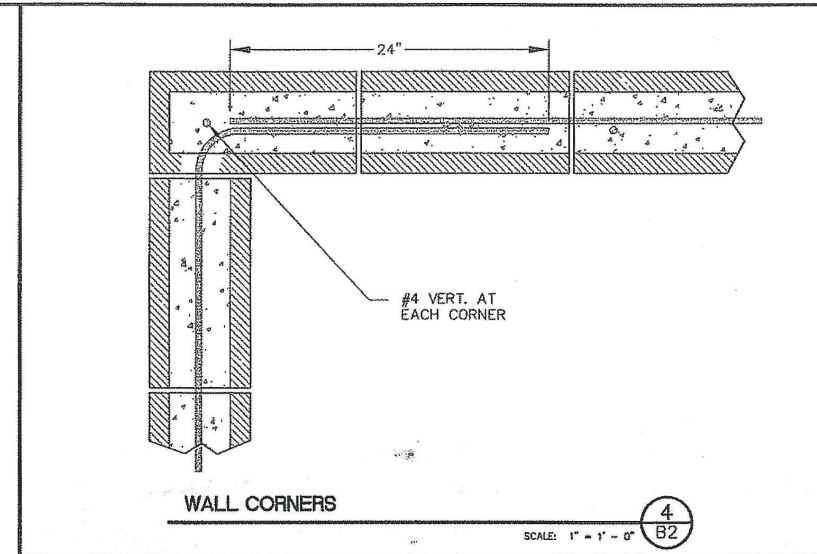
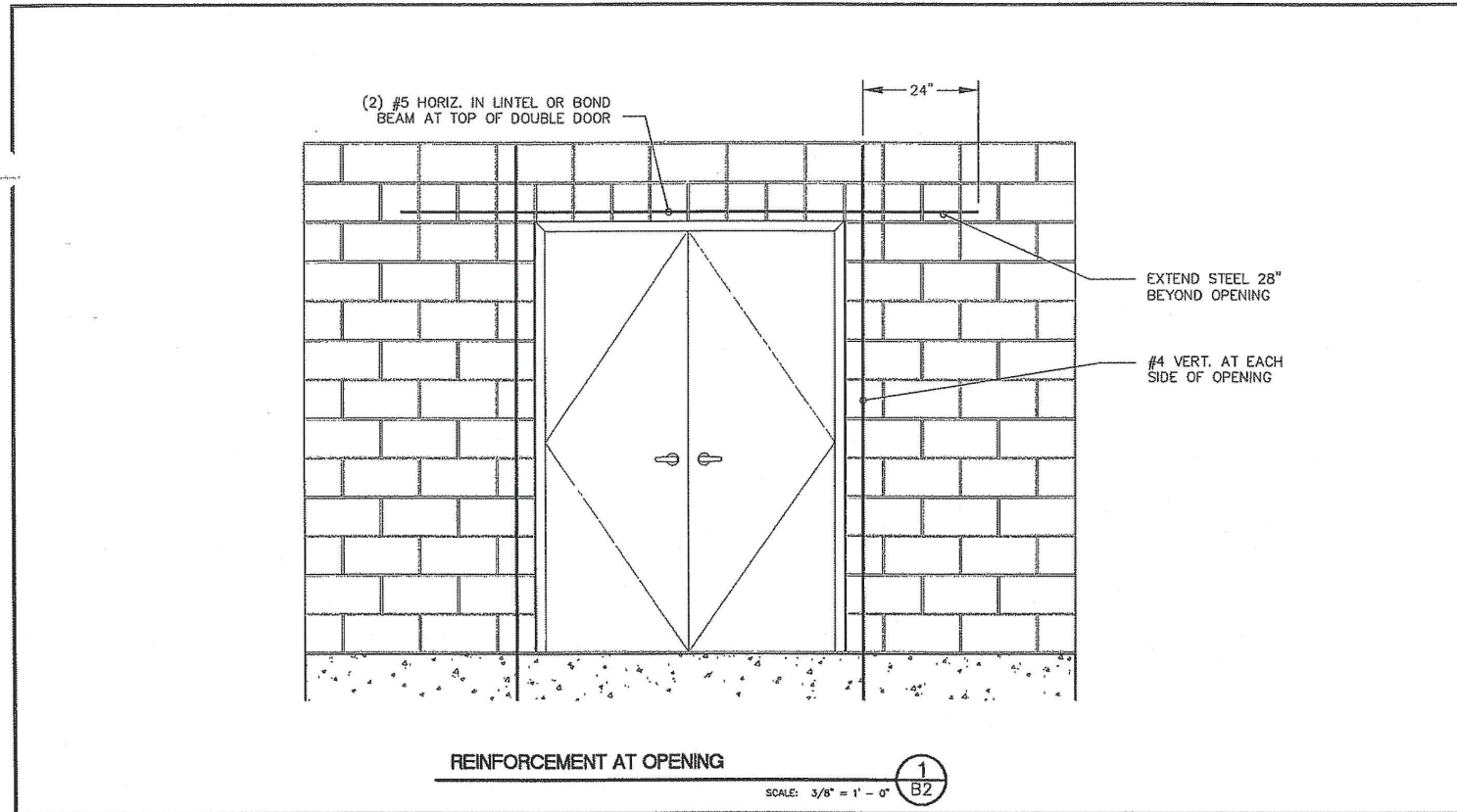
REV.	DATE	DESCRIPTION

CITY OF ALBANY
 333 Broadalbin SW, Albany, OR 97321
 34th Avenue Lift Station
 Lift Station Improvements

**ELECTRICAL AND CONTROL BUILDING
 STRUCTURAL DETAILS**

Sheet No. **B1**
 Date: 4/4/2008
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SS-06-05 --- ASBUILT---SLB



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FILE: VAWCONTRBLDING.dwg

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REV.	DATE	DESCRIPTION

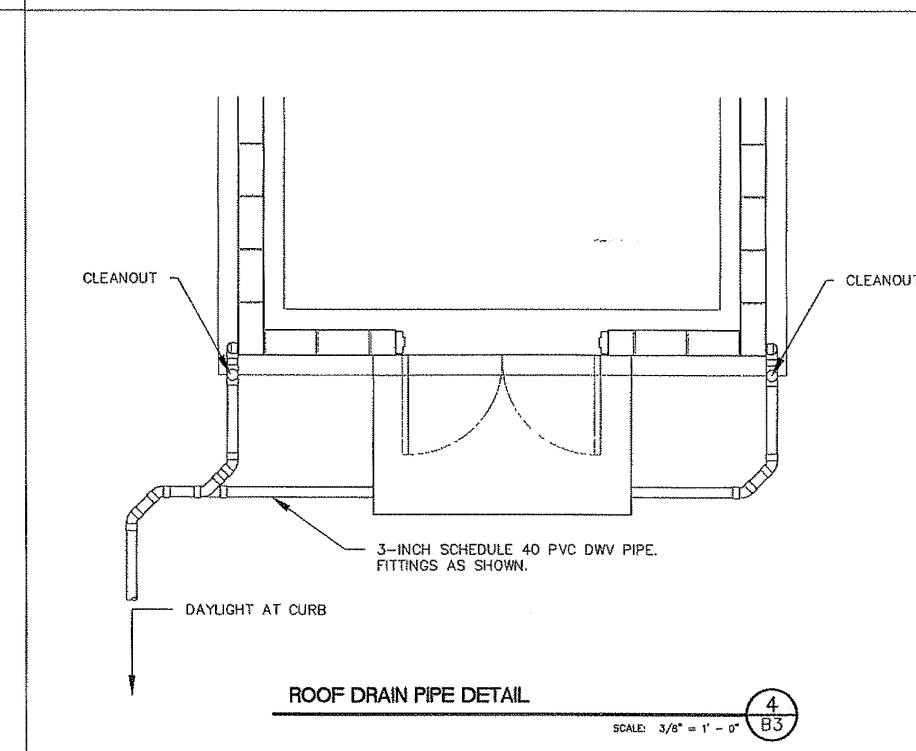
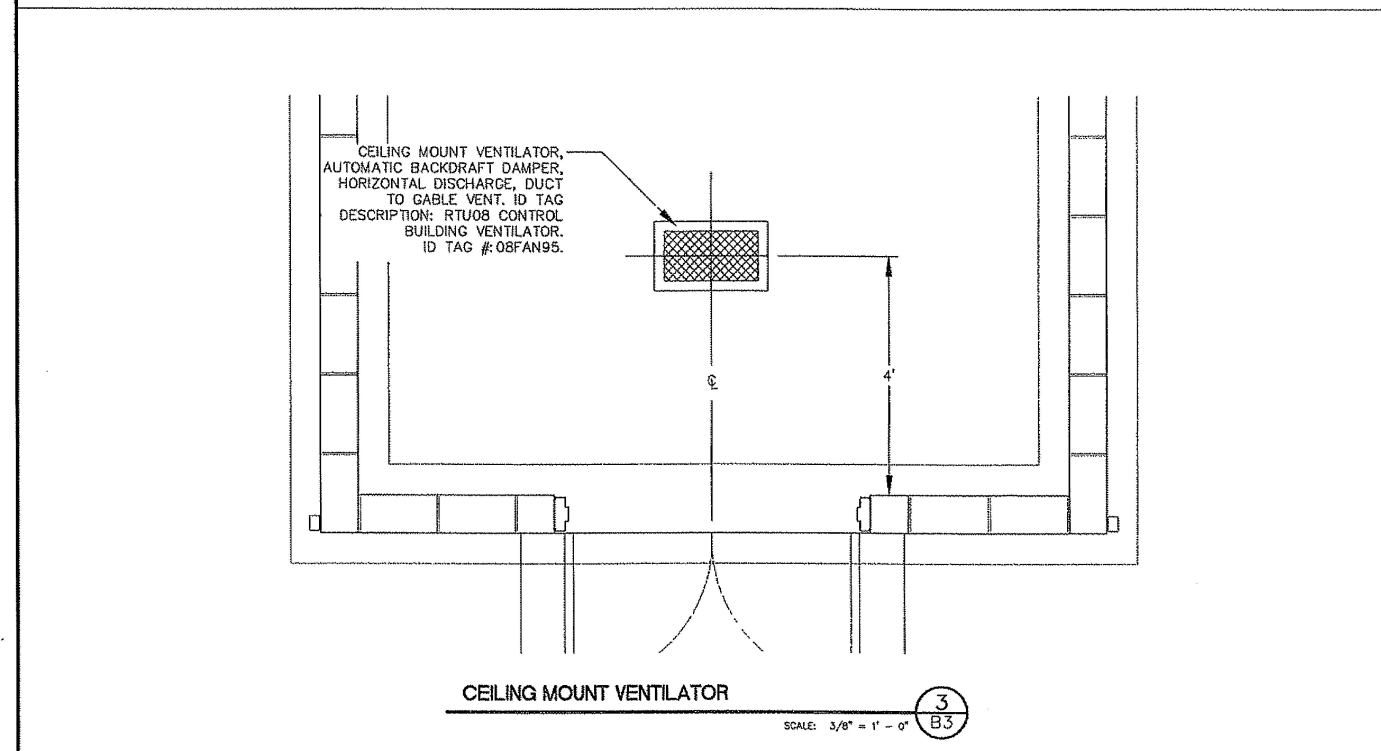
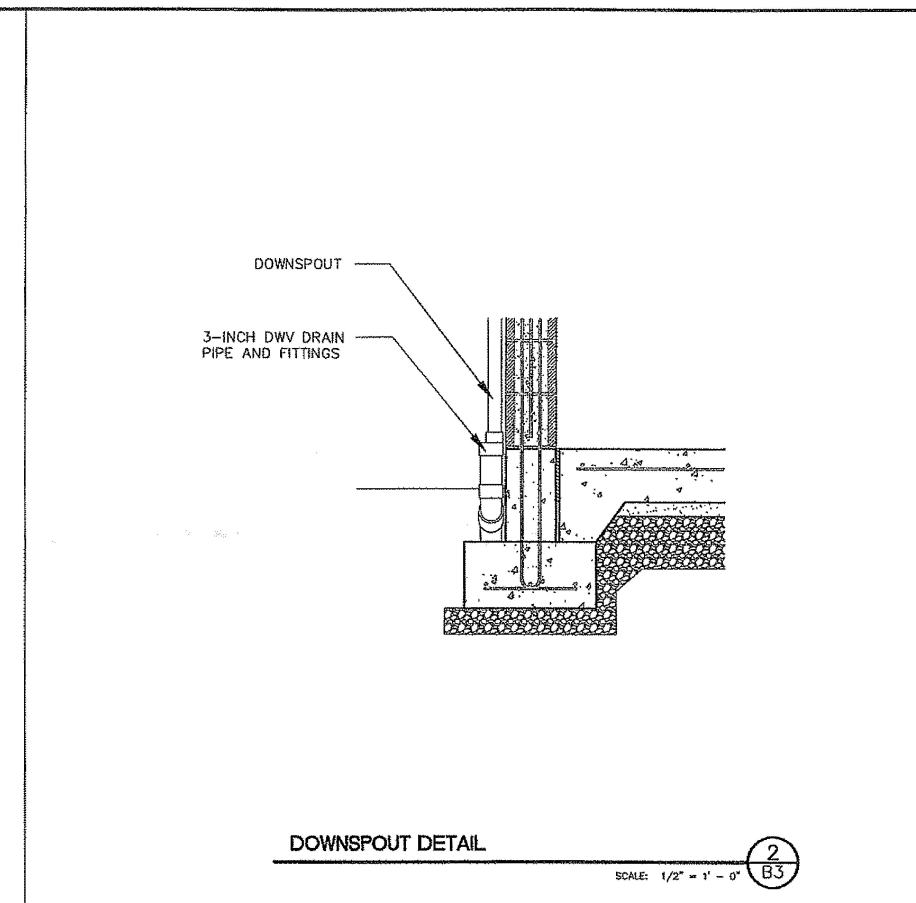
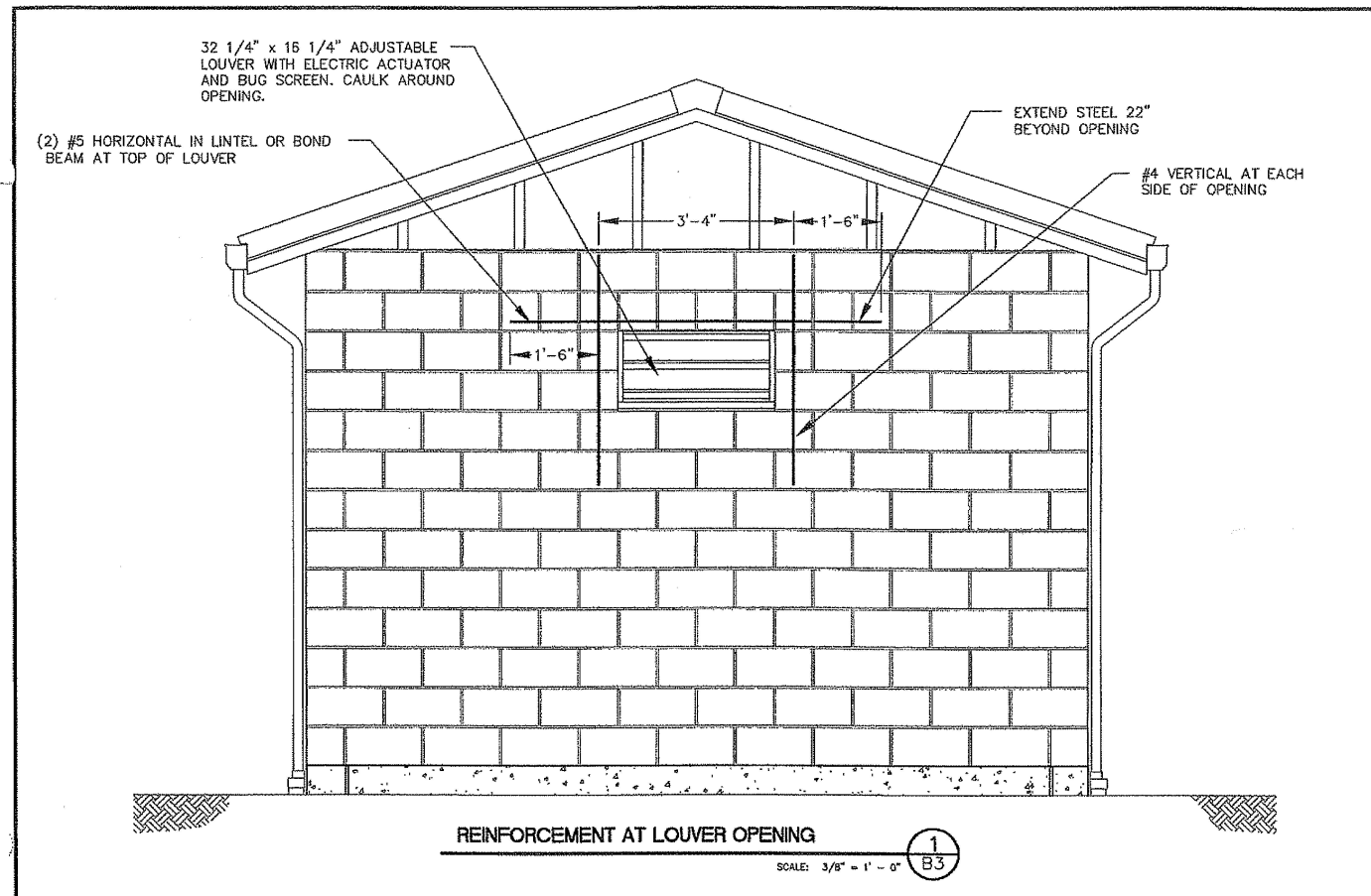
CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

34TH AVENUE LIFT STATION
LIFT STATION IMPROVEMENTS

ELECTRICAL AND CONTROL BUILDING
STRUCTURAL DETAILS

Sheet No. **B2**
Date: 4/4/2008
19 of 39

SS-06-05 ---- ASBUILT ---- SLB



REGISTERED PROFESSIONAL ENGINEER
79200PE
OREGON
JUNE 14, 2007
JEFFREY M. MURPHY
EXPIRATION DATE: 12/31/08

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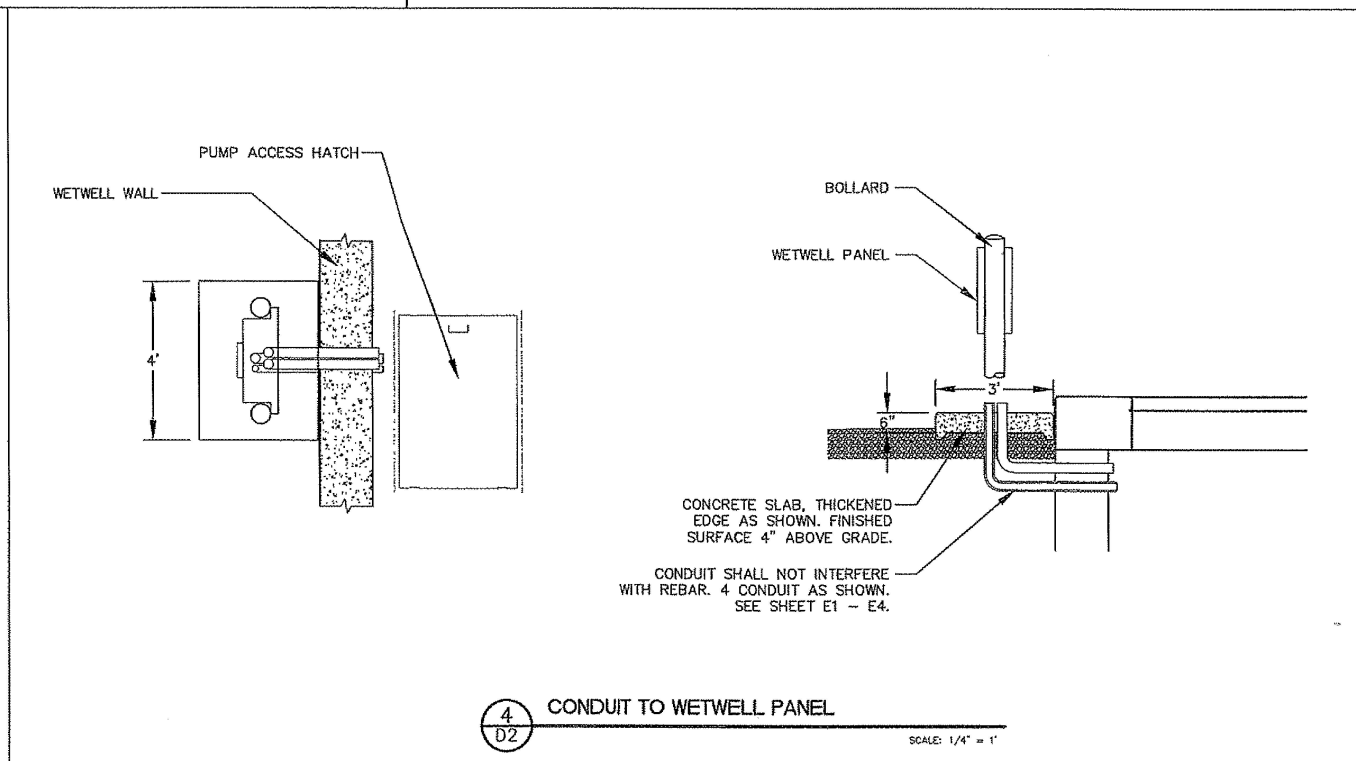
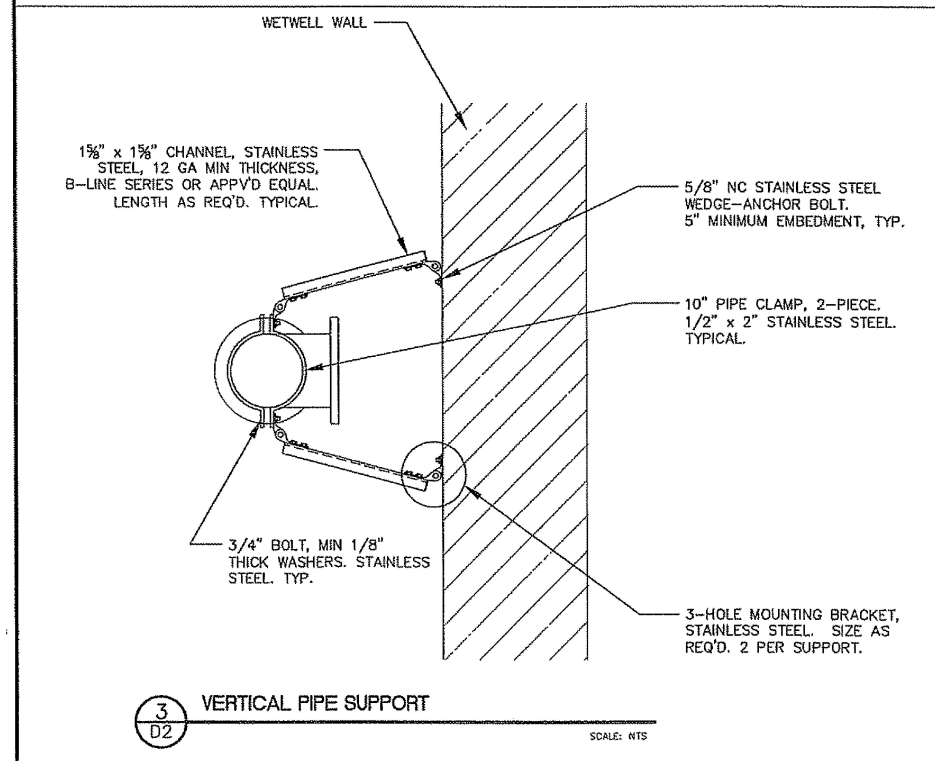
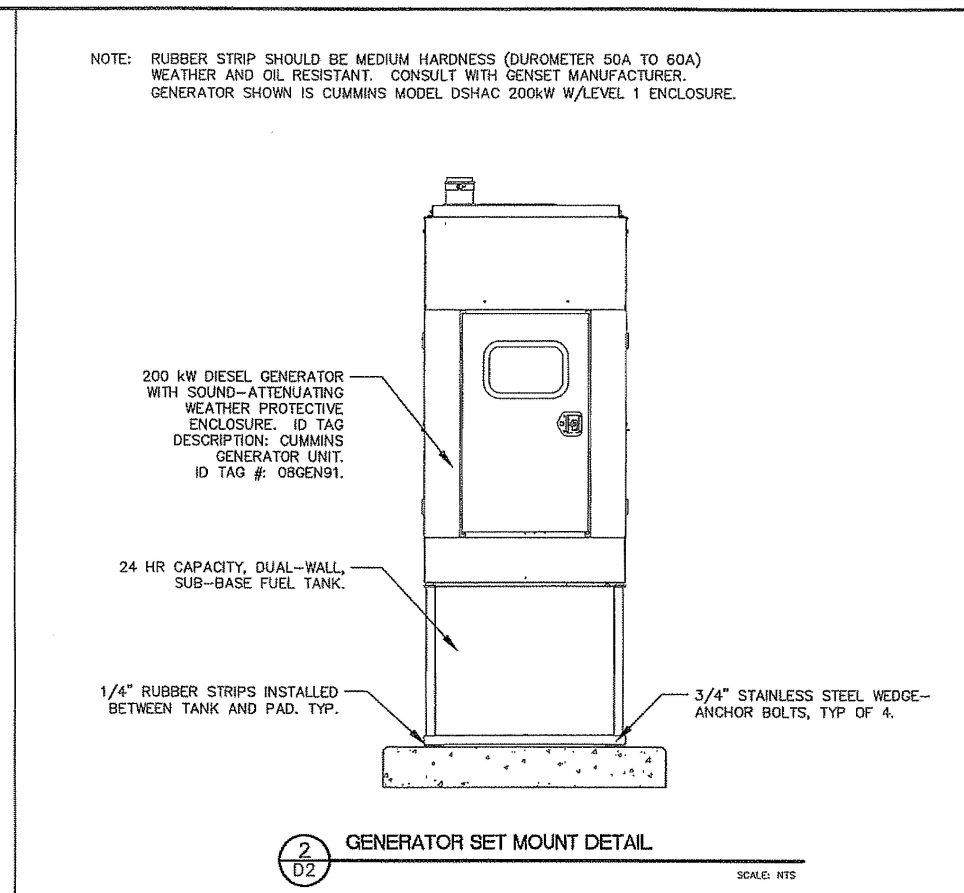
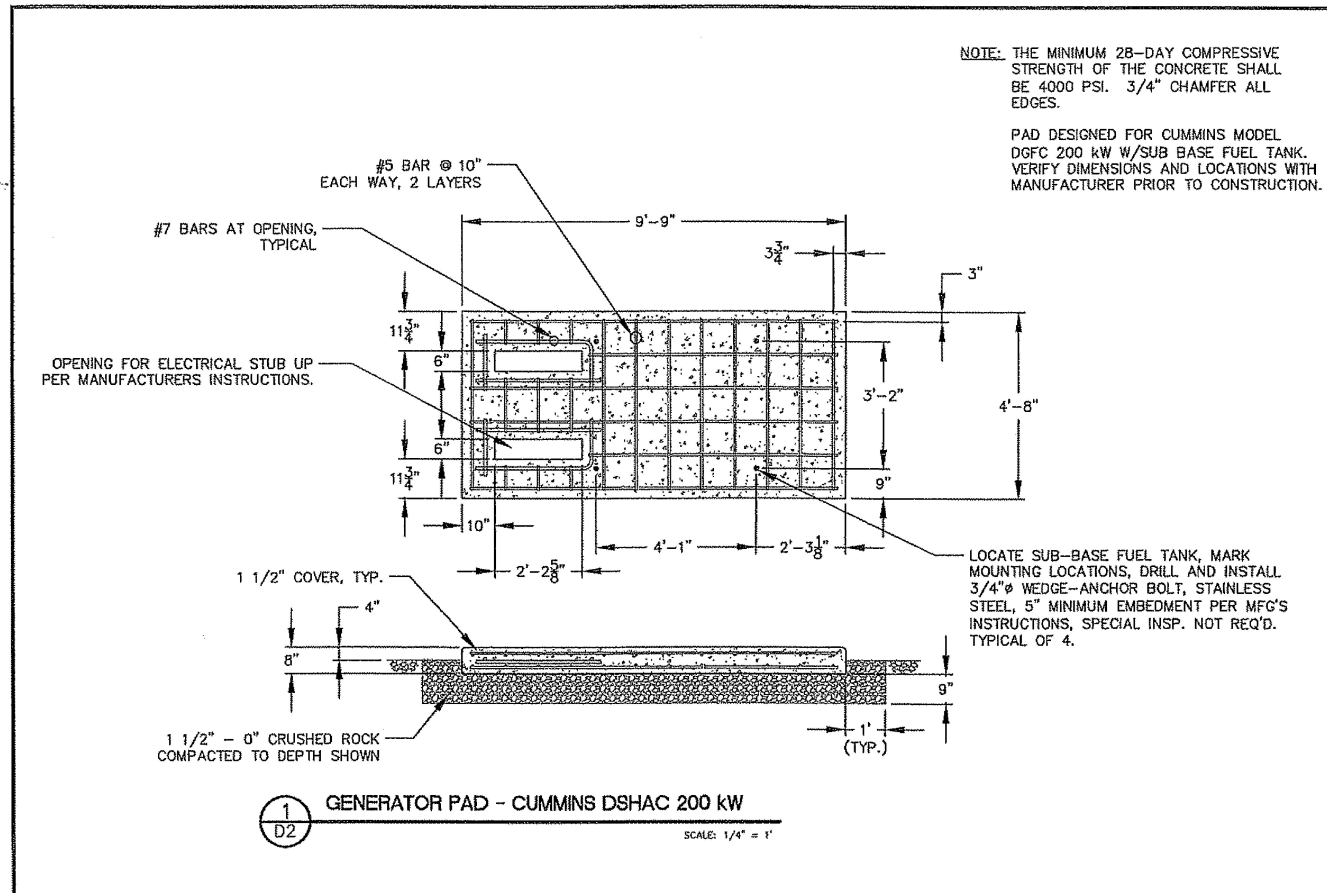
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REV.	DATE	DESCRIPTION	BY

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321
34TH AVENUE LIFT STATION
LIFT STATION IMPROVEMENTS
ELECTRICAL AND CONTROL BUILDING
BUILDING DETAILS

SS-06-05 --- ASBUILT---SLB

Sheet No. **B3**
Date: 4/4/2008
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EXPIRATION DATE: 12/31/08

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0" 1" 2" 3" 4" 5" 6" 7" 8" 9" 10" 11" 12" 13" 14" 15" 16" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"

Designed By: JMM | Drawn By: JMM | Checked By: JMM | Project No.: 2007-010
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REV.	DATE	DESCRIPTION	BY

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

34th AVE LIFT STATION
NEW TRI-PLEX PUMPING STATION

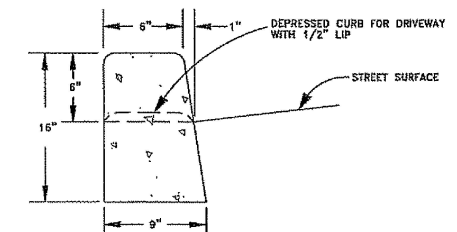
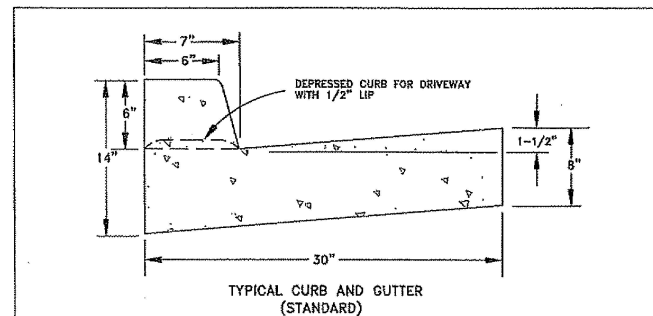
LIFT STATION DETAILS

D2

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SS-06-05 --- ASBUILT---SLB



- NOTES:
1. STRAIGHT CURB SHALL NOT BE CONSTRUCTED WITHOUT APPROVAL OF THE CITY ENGINEER.
 2. CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB. IF CURB IS INSTALLED AGAINST EXISTING SIDEWALK, THE CONTRACTION JOINT SHALL MATCH THE NEAREST PANEL JOINTS IN THE SIDEWALK. CONTRACTION JOINTS SHALL NOT BE MORE THAN 15' APART.
 3. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 PSI.
 4. ALL RADII SHALL BE 3/4" UNLESS NOTED OTHERWISE.
 5. STREET STRUCTURAL SECTION SHALL EXTEND TO BACK OF CURB.
 6. WHEN REMOVING AND REPLACING EXISTING CURBING ON ASPHALT STREETS, A MINIMUM 24" WIDTH OF PAVEMENT SHALL BE SAWCUT AND REMOVED ALONG THE ENTIRE LENGTH OF NEW CURB. EXISTING ASPHALT SHALL BE REPLACED IN ACCORDANCE WITH DETAIL DWG. NO. 206.

CITY OF ALBANY, OREGON
PUBLIC WORKS DEPARTMENT

DETAILS FOR
TYPICAL CURB AND GUTTER
AND STRAIGHT CURB

NO SCALE	MAY 1998	NO. 304
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1 CURB AND GUTTER DETAIL
D3 SCALE: NTS

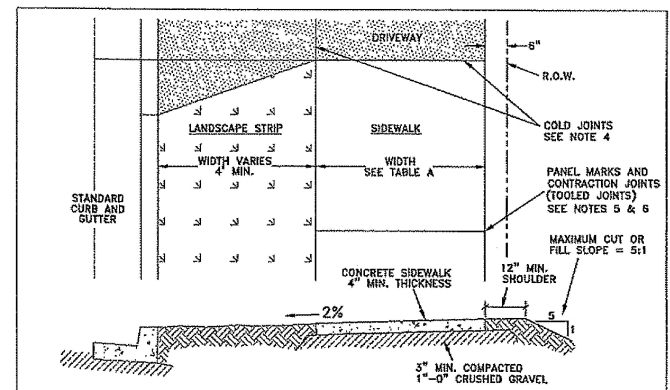


TABLE A
STANDARD SIDEWALK WIDTH

STREET TYPE	SETBACK SIDEWALK (STANDARD LOCATION)	CURBSIDE SIDEWALK (APPROVAL REQUIRED)
ARTERIALS AND COLLECTORS	6 FT.	7 FT.
LOCAL	5 FT.	6 FT.

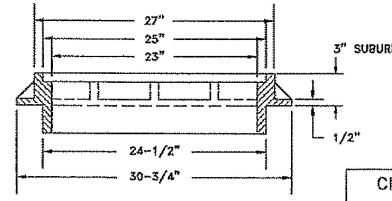
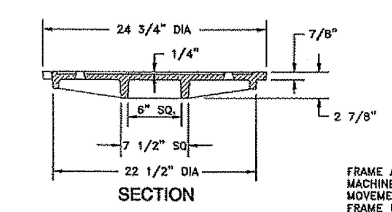
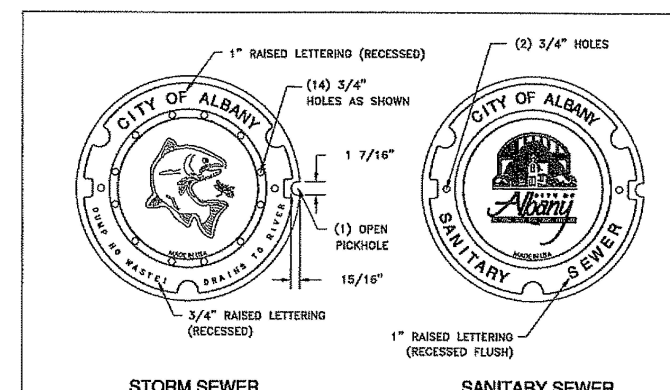
- STANDARD SIDEWALK SPECIFICATIONS
1. STANDARD SIDEWALK SHALL BE CONSTRUCTED A MINIMUM OF 4' BEHIND THE CURB. SIDEWALK CONSTRUCTED ADJACENT TO THE CURB IS NOT PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
 2. CONCRETE FOR SIDEWALK SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI AND A 2" TO 4" SLUMP.
 3. THE SIDEWALK AND LANDSCAPE STRIP SHALL SLOPE TOWARD THE CURB AT 2% GRADE. HORIZONTAL AND VERTICAL ALIGNMENT SHALL NOT VARY MORE THAN 1/4" FROM ESTABLISHED LINE AND GRADE AS MEASURED WITH A STRAIGHT EDGE.
 4. COLD JOINTS SHALL BE LOCATED IN SIDEWALKS AT DRIVEWAY SECTIONS AND CHANGES OF DIRECTION. SIDEWALK SHALL NOT BE CONSTRUCTED MONOLITHICALLY WITH CURBING OR OTHER ADJACENT NON-PEDESTRIAN SURFACES. FULL DEPTH JOINT MATERIAL (3 WRAPS MIN. OF NO. 15 ROOFING FELT) SHALL BE PLACED AROUND UTILITY POLES AND FIRE HYDRANTS LOCATED WITHIN THE SIDEWALK AREA.
 5. THE SIDEWALK SHALL BE DIVIDED INTO EVENLY SPACED PANELS USING A ROUNDED JOINTING TOOL. PANEL LENGTH SHALL EQUAL SIDEWALK WIDTH.
 6. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT EVERY OTHER PANEL MARK. DEPTH OF THE JOINTS SHALL BE 1.5" IN SIDEWALK SECTIONS AND 2" IN DRIVEWAY SECTIONS.
 7. ALL SIDEWALKS SHALL BE FINISHED WITH A "LIGHT BROOM" FINISH. THE DIRECTION OF BROOMING SHALL BE PERPENDICULAR TO THE LENGTH OF THE SIDEWALK. OUTSIDE EDGES OF THE SIDEWALK AND PANEL MARKS SHALL BE FINISHED WITH A STANDARD EDGING TOOL HAVING A 1/2" RADIUS.
 8. SEE DETAIL DWG. NO. 314 FOR SIDEWALK SPECIFICATIONS RELATIVE TO CONSTRUCTION AROUND OBSTACLES (MAILBOXES, POLES, ETC.).

CITY OF ALBANY, OREGON
PUBLIC WORKS DEPARTMENT

STANDARD (SETBACK) SIDEWALK

NO SCALE	MARCH 2007	NO. 313
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2 SETBACK SIDEWALK
D3 SCALE: NTS



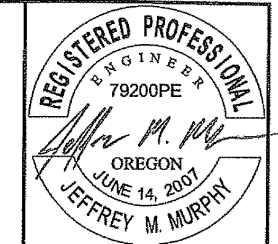
FRAME AND COVER ASSEMBLY SHALL BE MACHINED AS NECESSARY TO PREVENT MOVEMENT OF THE COVER WITHIN THE FRAME UNDER TRAFFIC LOADS.

CITY OF ALBANY, OREGON
PUBLIC WORKS DEPARTMENT

MANHOLE FRAME & COVER

NO SCALE	MARCH 2007	NO. 407
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3 MANHOLE FRAME AND COVER
D3 SCALE: NTS



EXPIRATION DATE: 12/31/08

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REV.	DATE	DESCRIPTION

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

34th AVE LIFT STATION
NEW TRI-PLEX PUMPING STATION

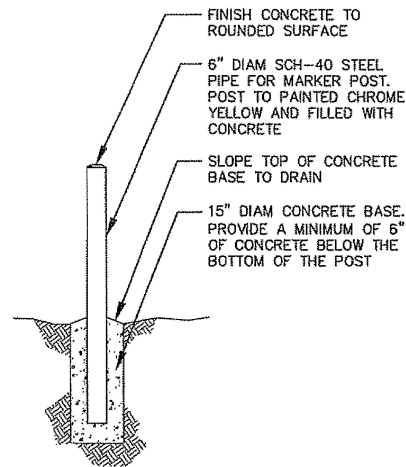
LIFT STATION DETAILS

D3
4/4/2008

SS-06-05 --- ASBUILT --- SLB
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NOTES:

MINIMUM EMBEDMENT OF POST INTO CONCRETE BASE SHALL BE 2'-6". POST SHALL SET A MINIMUM OF 4'-0" ABOVE THE FINISHED CONCRETE BASE SURFACE.
 BOLLARDS SHALL BE PLACED ONLY WHERE REQUIRED BY THE ENGINEER.



1 D4 BOLLARD DETAIL

SCALE: NTS

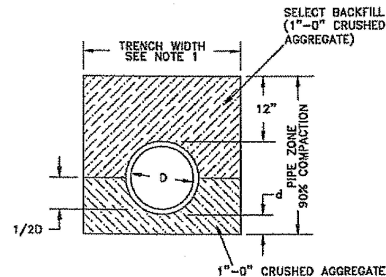
LEGEND

D = INSIDE DIAMETER
 d = DEPTH OF BEDDING MATERIAL BELOW PIPE BELL.

D	d (min.)
27" & SMALLER	4"
30" TO 60"	6"
66" & LARGER	8"

NOTES:

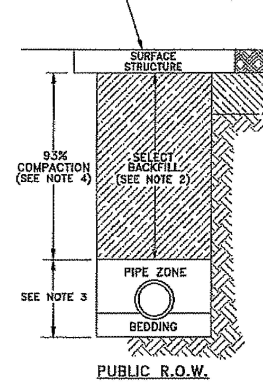
1. THE MAXIMUM CLEAR WIDTH OF THE TRENCH AT THE TOP OF THE PIPE SHALL NOT EXCEED THE PIPE OD + 2". MINIMUM TRENCH WIDTH SHALL BE PIPE OD + 1".
2. WHERE DIRECTED BY THE ENGINEER, GRANULAR TRENCH STABILIZATION SHALL BE PLACED PRIOR TO PLACEMENT OF THE BEDDING, SIZE AND DEPTH ARE DEPENDENT ON SOIL CONDITIONS.
3. FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6" AND REFILLED WITH GRANULAR MATERIAL AS DIRECTED BY THE ENGINEER.
4. BEDDING AND BACKFILL MATERIALS IN THE PIPE ZONE SHALL BE COMPACTED AS SPECIFIED PRIOR TO BACKFILLING THE REMAINDER OF THE TRENCH.
5. ALL COMPACTION REQUIREMENTS SHALL BE PER MODIFIED PROCTOR TEST METHOD ASTM D1557.
6. SEE DETAIL DWG. NO. 205 FOR DETAILS RELATING TO TRENCH BACKFILL ABOVE THE PIPE ZONE.



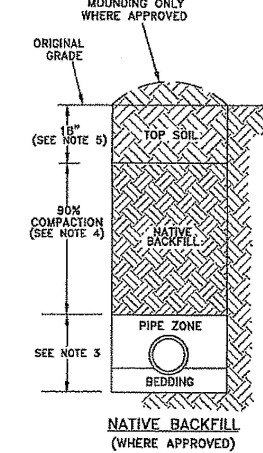
2 D4 PIPE ZONE DETAIL

SCALE: NTS

FOR SURFACE STRUCTURE SEE DETAIL DWG. NOS. 206 AND 207



PUBLIC R.O.W.



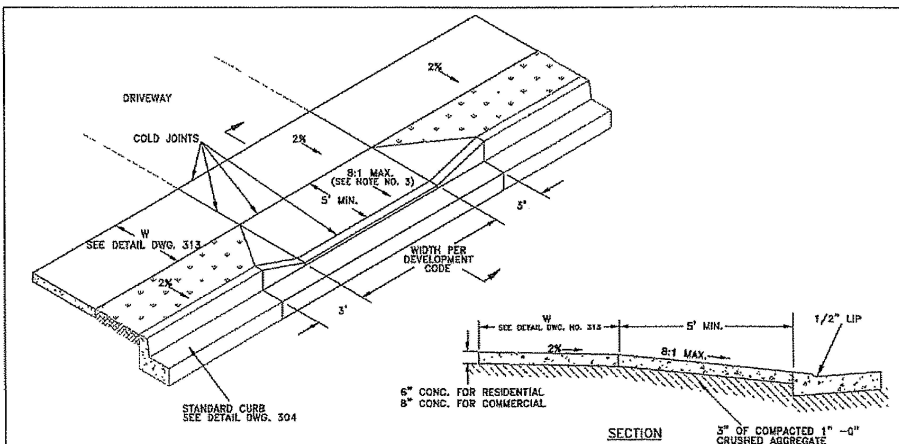
NATIVE BACKFILL (WHERE APPROVED)

NOTES:

1. FULL PANEL REPLACEMENT IS REQUIRED ON CONCRETE SURFACES. SEE DETAIL DWG. NO. 207.
2. SELECT BACKFILL IN THE TOP 6" OF TRENCH SHALL BE 1"-0" CRUSHED AGGREGATE.
3. FOR BEDDING AND PIPE ZONE REQUIREMENTS, SEE DETAIL DWG. NO. 204.
4. ALL COMPACTION REQUIREMENTS SHALL BE PER MODIFIED PROCTOR TEST METHOD ASTM D1557.
5. APPROVED TOP SOIL SHALL BE LIGHTLY COMPACTED TO RESIST SETTLEMENT. EXISTING TOP SOIL MAY BE SALVAGED WITH APPROVAL OF ENGINEER.

3 D4 TRENCH BACKFILL DETAIL

SCALE: NTS

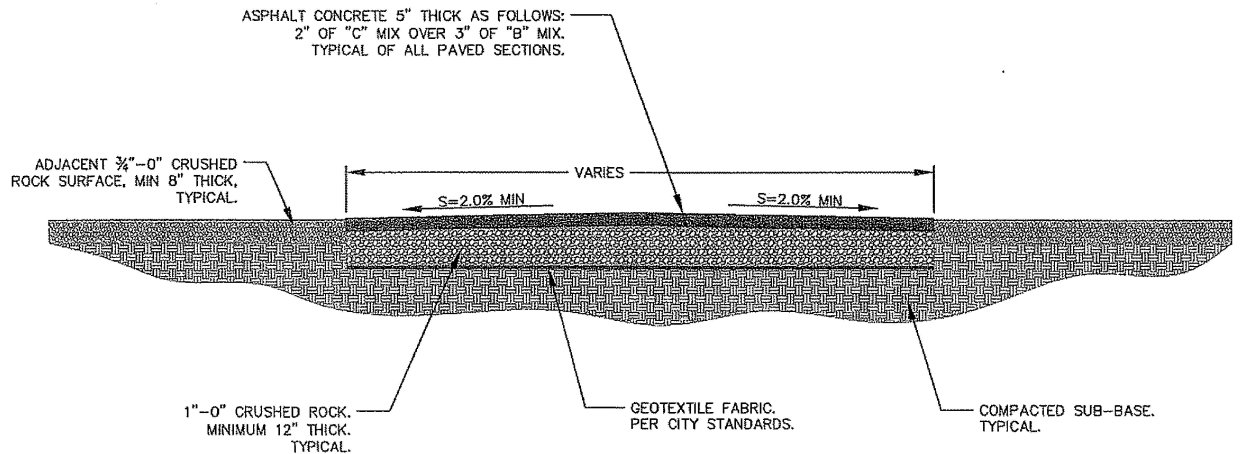


- NOTES:
1. ALL CONCRETE TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
 2. IF DRIVEWAY WIDTH IS 16' OR GREATER, PROVIDE CONTRACTION JOINT AT MIDPOINT OF DRIVEWAY.

CITY OF ALBANY, OREGON
 PUBLIC WORKS DEPARTMENT
 RESIDENTIAL AND COMMERCIAL
 DRIVEWAYS WITH
 SETBACK SIDEWALK
 NO SCALE JULY 2005 NO. 308

4 D4 DRIVEWAY ENTRANCE

SCALE: NTS



5 D4 TYPICAL PAVEMENT SECTION

SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER
 79200PE
 JEFFREY M. MURPHY
 OREGON
 JUNE 14, 2007
 EXPIRATION DATE: 12/31/08

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REV.	DATE	DESCRIPTION

CITY OF ALBANY
 333 BROADALBIN SW, ALBANY, OR 97321
 34th AVE LIFT STATION
 NEW TRI-PLEX PUMPING STATION
 LIFT STATION DETAILS

Sheet No. D4
 Date: 4/4/2008
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SS-06-05 --- ASBUILT ---SLB

TABLE A - THRUST COLLAR DIMENSIONS			
PIPE SIZE	H	W	L
12" AND UNDER	1'-6"	2'	1'-6"
16"	2'	2'	2'-6"
20"	2'-6"	2'	2'-9"
24"	3'	2'	3'

NOTE: TABLE VALUES ARE BASED ON 200 PSI WATER PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.

TABLE B - BEARING AREA IN SQ. FT.					
FITTING SIZE	TEE AND HYDRANT	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	1.3	1.8	1.0		
5	2.8	4.0	2.2	1.1	
8	5.0	7.1	3.8	2.0	1.0
10	7.9	11.1	6.0	3.1	1.5
12	11.3	16.0	8.7	4.4	2.2
16	20.1	28.4	15.4	7.8	3.9
20	31.4	44.4	24.0	12.3	6.2
24	45.2	64.0	34.8	17.7	8.9

NOTE: WATER PIPE AND FITTINGS SHALL BE MECHANICALLY OR INTERNALLY RESTRAINED WHERE POSSIBLE IN LIEU OF CONVENTIONAL CONCRETE BLOCKING. DETAILS RELATIVE TO MATERIALS AND LENGTH OF PIPE RUNS TO BE RESTRAINED WILL BE DETERMINED BY THE CITY ENGINEER. THE USE OF CONCRETE BLOCKING WILL BE LIMITED TO CERTAIN APPLICATIONS AND WILL REQUIRE APPROVAL OF THE CITY ENGINEER.

2. WHERE APPROVED, CONCRETE BLOCKING SHALL BE CONSTRUCTED AS SHOWN IN THESE DETAIL DRAWINGS.

3. CONCRETE GRAVITY BLOCKING IS NOT PERMITTED UNDER ANY CIRCUMSTANCES.

4. THE USE OF TIE-BACK RODS WILL REQUIRE APPROVAL OF THE CITY ENGINEER. WHERE APPROVED, TIE-BACK ROD ASSEMBLIES SHALL BE 5/8" INCH MIN. DIA. GALVANIZED STEEL.

5. ALL JOINTS BETWEEN THRUST COLLARS AND FITTING ASSEMBLIES SHALL BE MECHANICALLY RESTRAINED.

CITY OF ALBANY, OREGON PUBLIC WORKS DEPARTMENT		
STANDARD BLOCKING DETAILS		
NO SCALE	FEBRUARY 2000	NO. 501

1 STANDARD BLOCKING DETAIL
SCALE: NTS

CAST IRON COVER WITH "WATER" EMBOSSED ON TOP

THE VALVE BOX ASSEMBLY SHALL BE INSTALLED PLUMB AND CENTERED OVER THE OPERATING NUT ON THE VALVE.

VALVE BOX FRAME AND COVER OLYMPIC FOUNDRY, INC. PART NO. VB 910

FINAL SURFACE GRADE

3" MAX. 2" MIN.

6" MIN. OVERLAP

ONE RISER SECTION 3034 PVC.

OPERATOR EXTENSION REQUIRED IF VALVE NUT IS DEEPER THAN 3" FROM FINISHED GRADE. SEE DETAIL DWG. NO. 505.

THRUST BLOCK PRECAST CONCRETE PIER BLOCK

FIRE HYDRANT SEE TABLE B

NOTES:

- THE VALVE BOX ASSEMBLY SHALL CONSIST OF A MAXIMUM OF 2 COMPONENTS: THE ADJUSTABLE CAST IRON VALVE BOX (FRAME AND COVER) AND A 6" DIA. 3034 PVC SPOOL IN ONE PIECE FROM THE VALVE TO THE BOX.
- ADJUSTABLE VALVE BOXES SHALL BE SUPPLIED WITHOUT BOTTOM FLANGES.
- THE VALVE BOX ASSEMBLY SHALL BE INSTALLED PLUMB AND CENTERED OVER THE OPERATING NUT ON THE VALVE.

CITY OF ALBANY, OREGON PUBLIC WORKS DEPARTMENT		
STANDARD VALVE BOX DETAIL		
NO SCALE	FEBRUARY 2002	NO. 502

2 VALVE BOX DETAIL
SCALE: NTS

NUT: 2" SQUARE SOLID MILD STEEL BAR STOCK OR APPROVED EQUAL

6"

ROCK GUARD/CENTERING ASSEMBLY: 10 GAUGE OR 1/8" STEEL PLATE SEE NOTE 2

FILLET WELDS SEE NOTE 1

SHAFT: 1" MILD STEEL BAR STOCK

SOCKET ASSEMBLY:
2 1/2" X 2 1/2" X 3/8" FLAT BAR
3" X 3" X 3/8" X 2 1/2" SQUARE TUBE

NOTES:

- ALL WELDS SHALL BE 1/4" FILLET WELDS FOR FULL LENGTH OF CONTACT BETWEEN COMPONENTS.
- DIAMETER OF CENTERING PLATE ASSEMBLY SHALL BE 1/4" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX RISER SECTION.
- MINIMUM OVERALL LENGTH IS 12".

CITY OF ALBANY, OREGON PUBLIC WORKS DEPARTMENT		
VALVE OPERATOR EXTENSION		
NO SCALE	JULY 2005	NO. 503

3 VALVE OPERATOR EXTENSION
SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER
79200PE
OREGON
JUNE 14, 2007
JEFFREY M. MURPHY

EXPIRATION DATE: 12/31/08

488 E Street, Suite 3
Coos Bay, Oregon 97420
Consulting 541/266-0355 Fax 541/266-7504
Engineers email: mail@hbm-engineers.com

H B H
Consulting Engineers

IF THIS LINE IS NOT A DRAWING SCALE IS NOT SHOWN

0' 1" 2007-010

Designed By: JMM Drawn By: JMM Checked By: JMM Project No: 2007-010
File: C:\PROJECTS\DWG\

REV.	DATE	DESCRIPTION

BY: _____

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

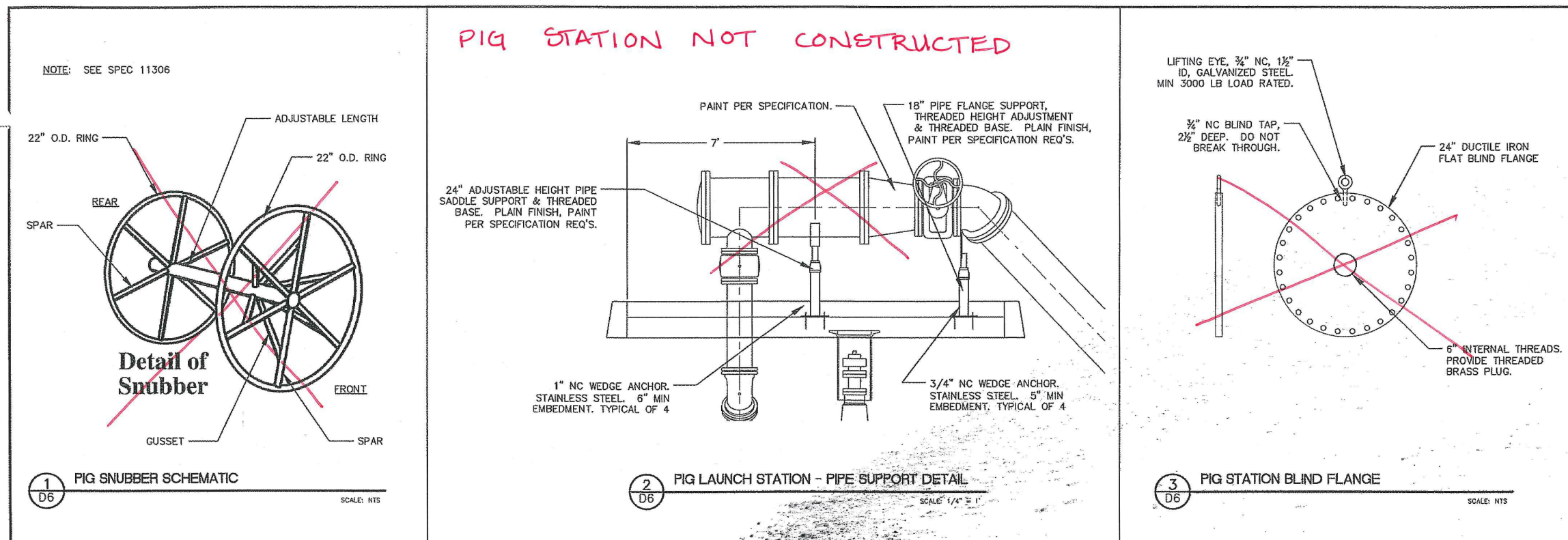
34th AVE LIFT STATION
NEW TRI-FLEX PUMPING STATION

LIFT STATION DETAILS

NO SCALE JULY 2005 NO. 503

Sheet No. **D5**
Date 4/4/2008
25 of 39

SS-06-05 --- ASBUILT ---SLB

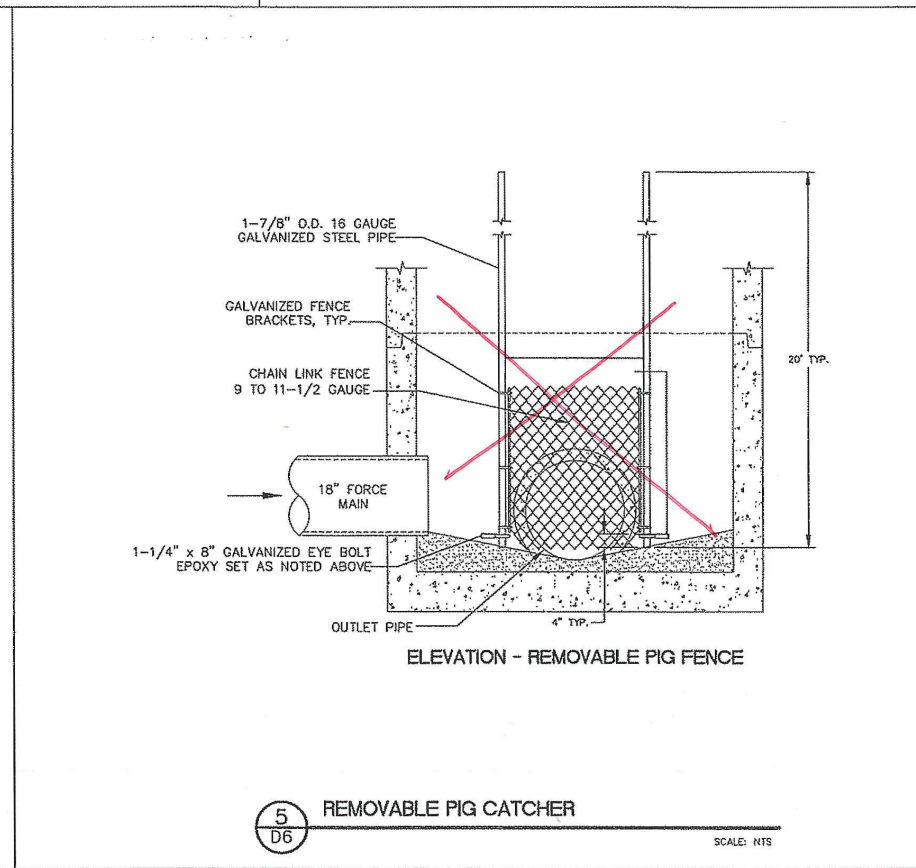
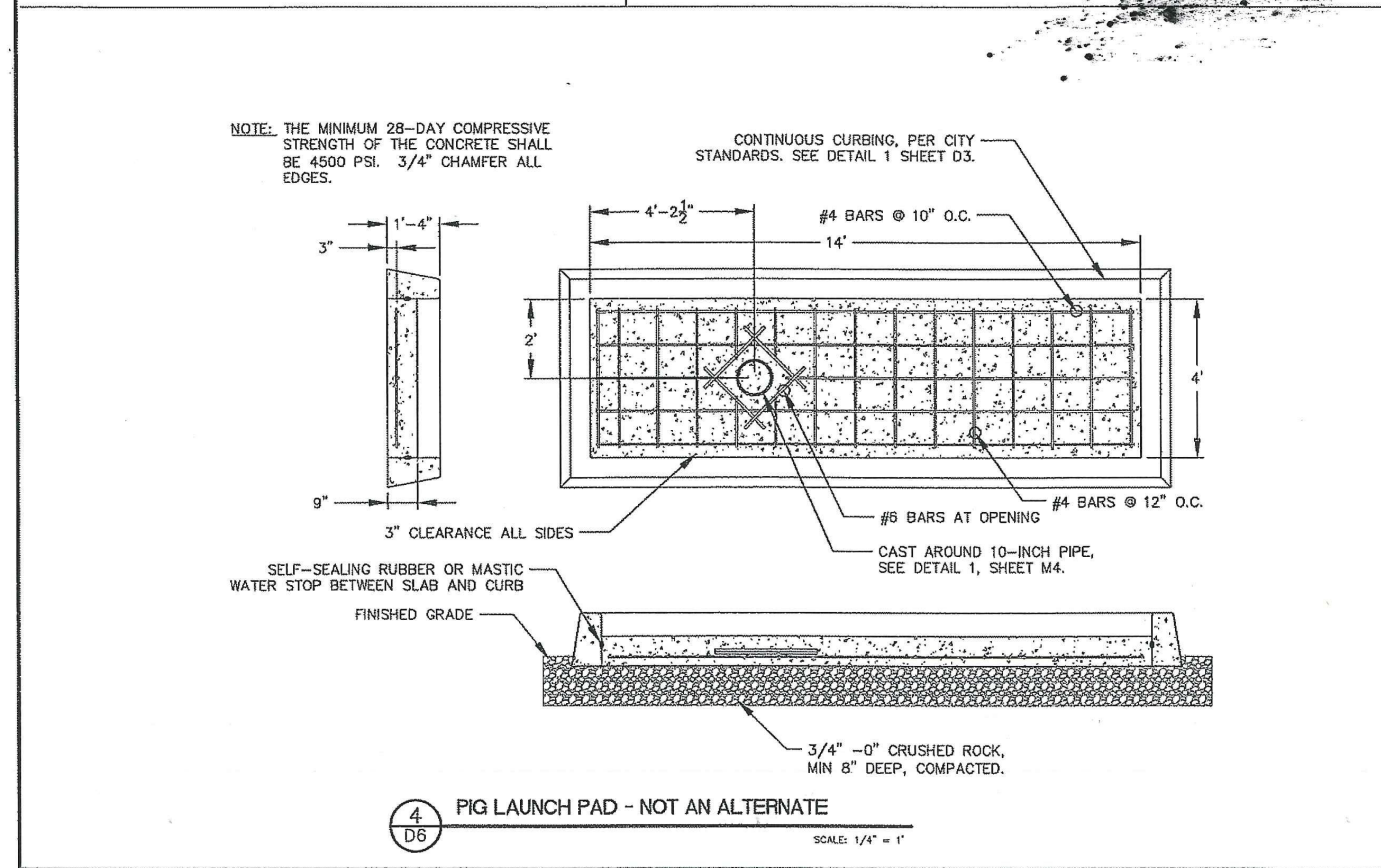


REGISTERED PROFESSIONAL ENGINEER
79200PE
OREGON
JUNE 14, 2007
JEFFREY M. MURPHY

EXPIRATION DATE: 12/31/08

H B H
Consulting Engineers
488 E Street, Suite 3
Coos Bay, Oregon 97420
541/266-0355 fax 541/266-7504
email: mail@hbh-engineers.com

DESIGNED BY: JMM | DRAWN BY: JMM | CHECKED BY: JGP | PROJECT NO.: 2007-010
FILE: C:\PROJECTS\DWG | LAYOUT: D6

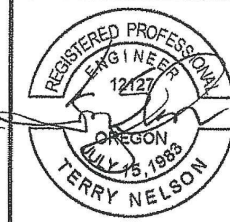
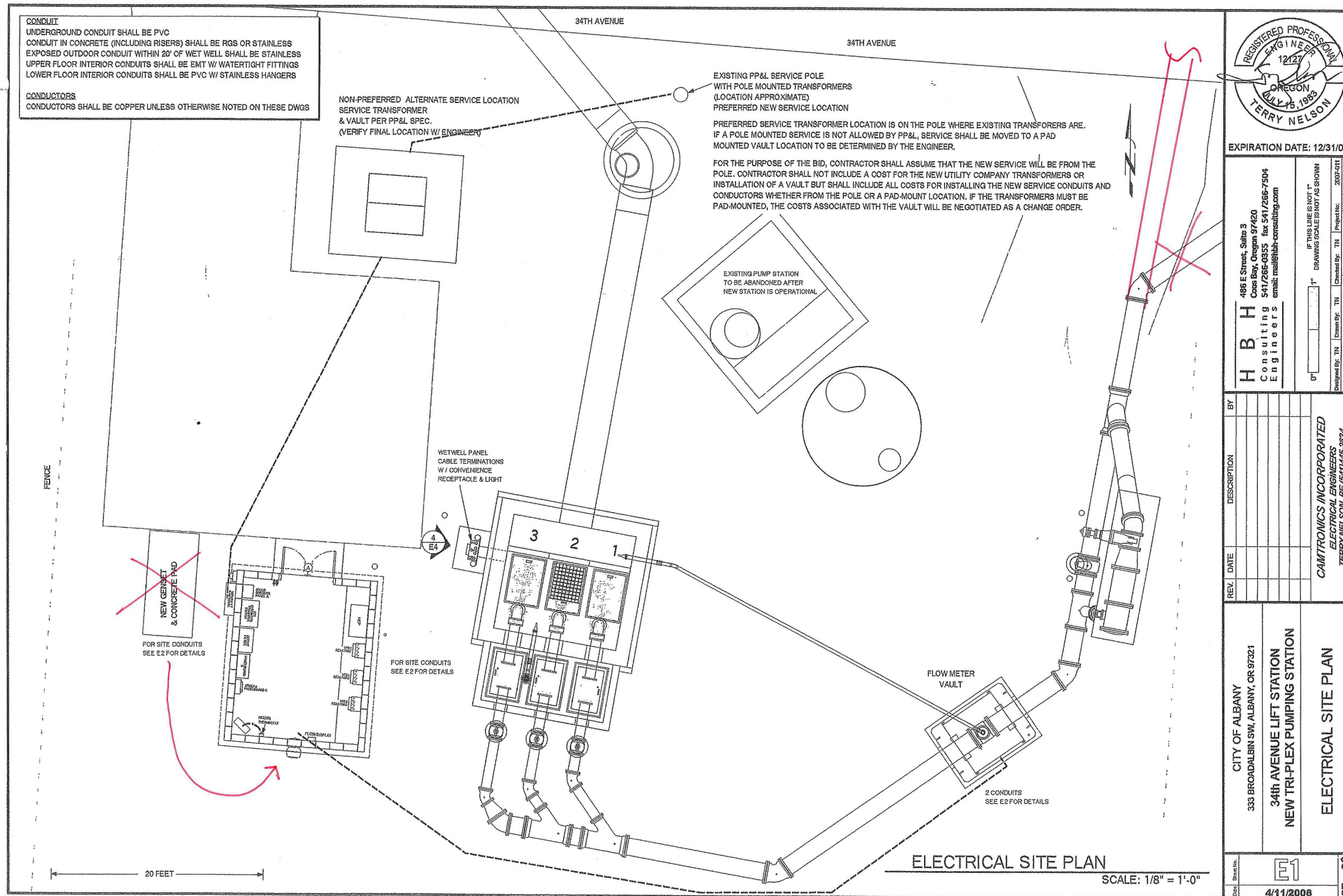


REV.	DATE	DESCRIPTION

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321
34th AVE LIFT STATION
NEW TRI-FLEX PUMPING STATION
ADDITIVE ALTERNATE
PIG STATION DETAILS

Sheet No. **D6**
Date: 4/4/2008
26 of 39

SS-06-05 ---- ASBUILT ---- SLB



EXPIRATION DATE: 12/31/08

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 Coos Bay, Oregon 97420
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IF THIS LINE IS NOT IN DRAWING SCALE IS NOT AS SHOWN

Designed By: TN Drawn By: TN Checked By: TN Project No.: 2007-011 ELEC

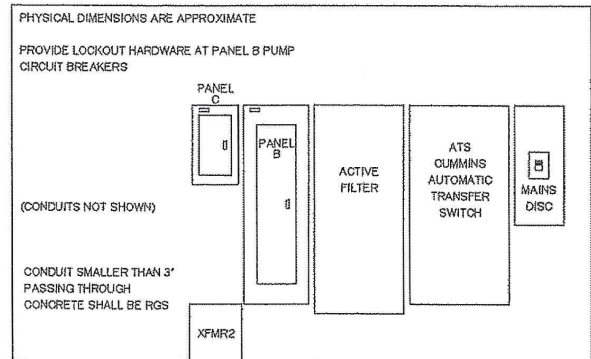
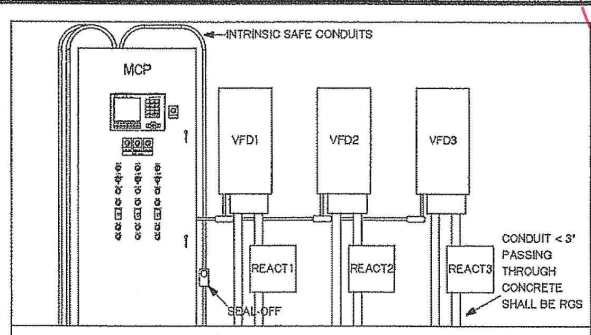
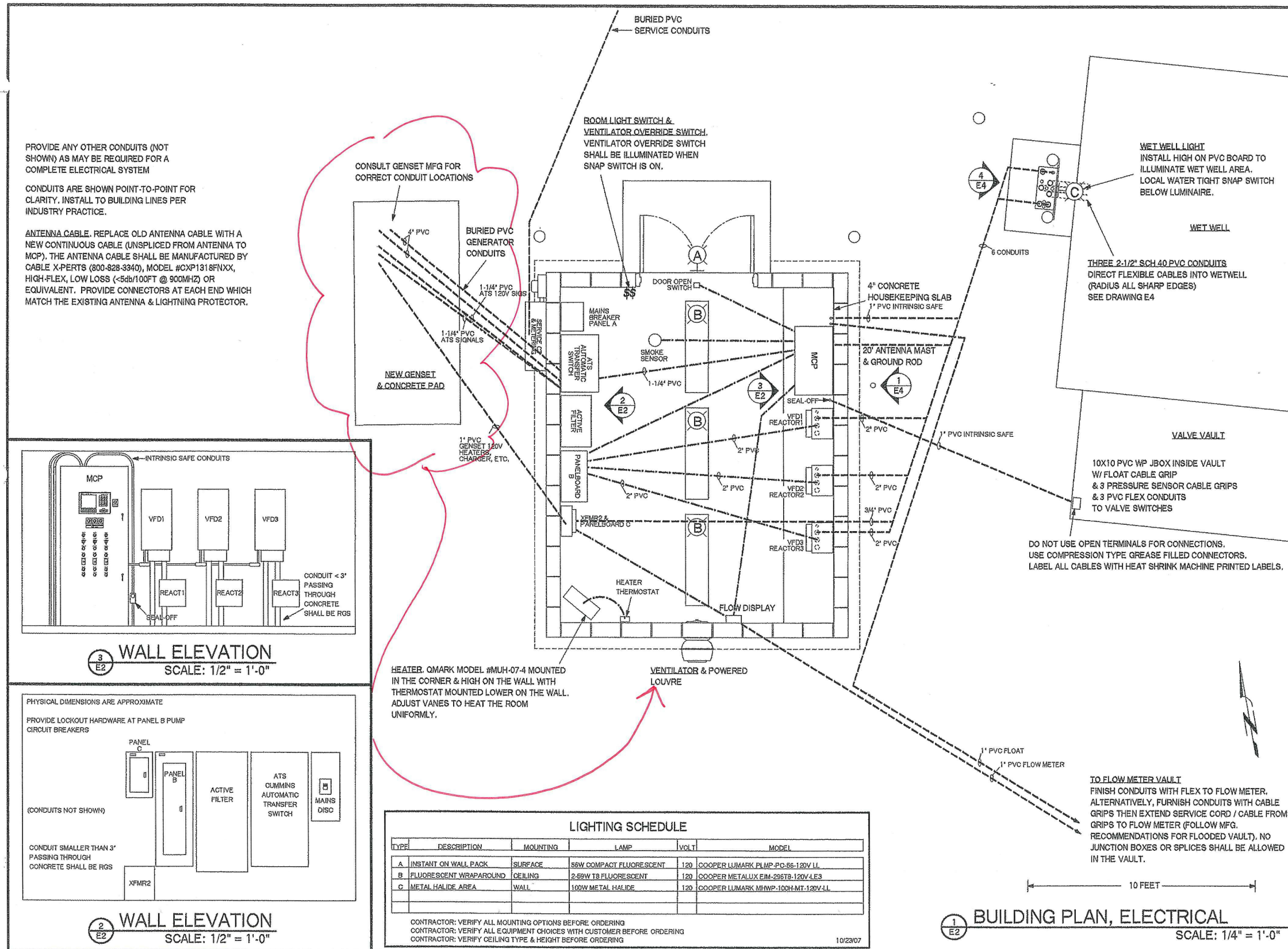
REV.	DATE	DESCRIPTION	BY

CAMTRONICS INCORPORATED
 ELECTRICAL ENGINEERS
 TERRY NELSON, PE (541)445-2824

CITY OF ALBANY
 333 BROADALBIN SW, ALBANY, OR 97321
 34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION
 ELECTRICAL SITE PLAN

Sheet No. **E1**
 Date: 4/11/2008
 27 of 31

SS-06-05 --- ASBUILT ---SLB

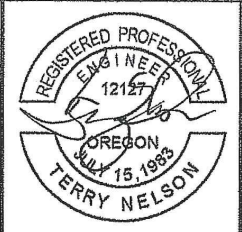


LIGHTING SCHEDULE

TYPE	DESCRIPTION	MOUNTING	LAMP	VCLT	MODEL
A	INSTANT ON WALL PACK	SURFACE	85W COMPACT FLUORESCENT	120	COOPER LUMARK PLMP-PC-56-120V-LL
B	FLUORESCENT W/ PARABOULD	CEILING	2-85W T8 FLUORESCENT	120	COOPER METALUX EIM-296TS-120V-LES
C	METAL HALIDE AREA	WALL	100W METAL HALIDE	120	COOPER LUMARK MHWP-100H-MT-120V-LL

CONTRACTOR: VERIFY ALL MOUNTING OPTIONS BEFORE ORDERING
 CONTRACTOR: VERIFY ALL EQUIPMENT CHOICES WITH CUSTOMER BEFORE ORDERING
 CONTRACTOR: VERIFY CEILING TYPE & HEIGHT BEFORE ORDERING

10/23/07



EXPIRATION DATE: 12/31/08

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 Consulting Engineers
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 Coos Bay, Oregon 97420
 541/266-0955 fax 541/266-7504
 email: mail@hbh-engineers.com

BY: _____
 DATE: _____

DESCRIPTION: _____

REV. DATE: _____

CITY OF ALBANY
 333 BRONDALBIN SW, ALBANY, OR 97321
 34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION

BUILDING PLAN, ELECTRICAL

Sheet No. **E2**
 Date: 4/11/2008
 28 of 30

SS-06-05 --- ASBUILT --- SLB

GENERAL
THE FOLLOWING NOTES APPLY TO THE ENTIRE CONTRACT DRAWINGS SET & THE ENTIRE PROJECT.

CONSULT THE MECHANICAL DRAWINGS & DIVISION 16 SPECIFICATIONS FOR RELATED INFORMATION.

NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY THE ELECTRICAL ENGINEER.

ALL DIMENSIONS AND PLACEMENTS ARE APPROXIMATE. VERIFY ACTUAL DIMENSIONS FROM EQUIPMENT MANUFACTURERS AND ACTUAL SITE MEASUREMENTS.
NOT ALL CONDUITS OR CONDUCTORS ARE SHOWN ON THE DIAGRAMS. WHETHER SHOWN OR NOT, CONTRACTOR SHALL INSTALL ALL CONDUITS & CONDUCTORS NECESSARY FOR A COMPLETE SYSTEM. COMPARE ALL CONTRACT DRAWINGS WITH ACTUAL EQUIPMENT BEFORE PLACING CONDUIT. CONTRACTOR SHALL BE RESPONSIBLE FOR RESOLVING ALL SIZE AND PLACEMENT CONFLICTS.

VERIFY ALL PART NUMBERS & MODEL NUMBERS SPECIFIED ON THESE DRAWINGS BEFORE ORDERING. CHECK FOR CORRECT VOLTAGE, PHASE, SIZE, FINISH, CAPACITY, CONNECTIONS, ETC., & FOR GENERAL CONSISTENCY WITH THE DESIGN GOALS OF THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR RESOLVING ANY CONFLICTS THAT ARRISE FROM INCORRECT OR INCOMPLETE PART NUMBERS OR SERIES DESIGNATIONS.

ENCLOSURES, BOXES
ENCLOSURE & BOX SIZES ARE MINIMUMS, CONTRACTOR MAY INCREASE SIZES AS NECESSARY.
UNLESS OTHERWISE NOTED, RATINGS SHALL BE:
NEMA 1, INDOOR DRY LOCATIONS
NEMA 3R, OUTDOOR NON-CORROSIVE LOCATIONS
NEMA 4, OUTDOOR SECURITY SENSITIVE LOCATIONS
NEMA 4X, WET CORROSIVE OR MARINE LOCATIONS

RACEWAY
NOT ALL CONDUITS OR CONDUCTORS ARE SHOWN ON THE DIAGRAMS. WHETHER SHOWN OR NOT, CONTRACTOR SHALL INSTALL ALL CONDUITS & CONDUCTORS NECESSARY FOR A COMPLETE SYSTEM.
CONTRACTOR SHALL SIZE RACEWAY TO PROVIDE A FULLY OPERATIONAL SYSTEM. SIZES SHOWN ON THE DRAWINGS ARE MINIMUMS & SHALL BE VERIFIED TO ACTUAL SITE CONDITIONS BEFORE INSTALLING.
COMPARE ALL CONTRACT DRAWINGS WITH ACTUAL EQUIPMENT BEFORE PLACING CONDUIT. CONTRACTOR SHALL BE RESPONSIBLE FOR RESOLVING ALL SIZE AND PLACEMENT CONFLICTS.

UNDERGROUND CONDUIT SHALL BE PVC.
CONDUIT CAST IN CONCRETE SHALL BE RIGID GALVANIZED STEEL OR STAINLESS STEEL.
STUB UPS SHALL BE RIGID GALVANIZED STEEL OR STAINLESS STEEL OR AS NOTED.
EMT MAY BE USED ONLY WHERE NOTED. EMT CONNECTORS SHALL BE WATER TIGHT.
LABEL THE DESTINATIONS OF ALL CONDUITS INSIDE THE BOXES WHERE THEY TERMINATE.
INSTALL POLY PULL TAPE IN ALL CONDUITS LONGER THAN 6 FEET EXCEPT PARALLELED FEEDERS & SERVICES

CONDUCTORS
NOT ALL CONDUITS OR CONDUCTORS ARE SHOWN ON THE DIAGRAMS. WHETHER SHOWN OR NOT, CONTRACTOR SHALL INSTALL ALL CONDUITS & CONDUCTORS NECESSARY FOR A COMPLETE SYSTEM.
CONTRACTOR SHALL SIZE CONDUCTORS TO PROVIDE A FULLY OPERATIONAL SYSTEM. SIZES SHOWN ON THE DRAWINGS ARE MINIMUMS & SHALL BE VERIFIED TO ACTUAL SITE CONDITIONS BEFORE INSTALLING.
FEEDER CONDUCTORS SHALL BE SIZED TO ALLOW NO MORE THAN 2% VOLTAGE DROP.
BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED TO ALLOW NO MORE THAN 3% VOLTAGE DROP.
CONDUCTORS SHALL BE SIZED TO ALLOW NO MORE THAN 6% VOLTAGE DROP FROM THE SERVICE ENTRANCE TO ANY SERVED EQUIPMENT.
CONDUCTORS SHALL BE IN CONDUIT
CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE NOTED
LABEL ALL WIRES WITH MACHINE PRINTED HEAT SHRINK TAGS

EQUIPMENT SIZES & RATINGS
CONTRACTOR SHALL SIZE CIRCUIT BREAKERS, CONTACTORS, PANELBOARDS, TRANSFORMERS, ALL ELECTRICAL EQUIPMENT, TO PROVIDE A FULLY OPERATIONAL SYSTEM. SIZES SHOWN ON THE DRAWINGS ARE MINIMUMS & SHALL BE VERIFIED TO ACTUAL SITE CONDITIONS BEFORE INSTALLING.
CONTRACTOR SHALL SELECT BREAKERS, FUSES, DISCONNECTS, ETC., WITH FAULT INTERRUPT RATINGS SUFFICIENT FOR THE SERVICE. OBTAIN FROM POWER COMPANY THE ACTUAL AVAILABLE FAULT CURRENT AT THE SERVICE. BEFORE ORDERING EQUIPMENT.

POWER UTILITY SERVICE
SEE NOTES THROUGHOUT THE CONTRACT DOCUMENTS, ESPECIALLY ON DRAWINGS E1, E2, E3, AND SPECIFICATION SECTION 16210.

PLC SPECIFICATIONS
SEE STATION NETWORK DRAWING E6 FOR ALLEN BRADLEY PLC & HMI PART NUMBERS

OTHER MCP EQUIPMENT SPECIFICATIONS
SEE THE DIVISION 16 SPECIFICATIONS FOR FURTHER DETAILS.
SURGE SUPPRESSOR IS DIN-MOUNTED 120V, 6A, CUTTLER-HAMMER (AUTOMATIONDIRECT #AP12060)
RELAYS SHALL BE AUTOMATIONDIRECT MODEL QL2X1-D04 / SOL08D WITH INDICATING LED & DIODE UNLESS OTHERWISE NOTED.
FUSES SHALL BE SERIES 217, 6X20MM, HOUSED IN KNIFE-SWITCH DIN RAIL TERMINAL BLOCKS
PILOT CONTROLS SHALL BE 30MM OIL-TIGHT WITH PUSH-TO-TEST LED LAMPS
TERMINAL-TO-PLC WIRING SHALL BE RED #18 TFFM OR MTW OR EQUIV.
24VDC WIRING SHALL BE BLUE, 0VDC WIRING SHALL BE YELLOW
CABLE FOR 4-20MA LOOPS & OTHER SIGNALS SHALL BE BELDEN 9536
CONDUCTORS BETWEEN THE MINI-CAS MODULES IN THE MCP & THE WETWELL PANEL SHALL BE THWN #14
CONTRACTOR SHALL SUPPLY A SEALED PACKAGE OF THE AS VFD CONFIGURATION SOFTWARE FOR PO, WITH PO INTERFACE CABLE

SEE THE CONTRACT DRAWINGS & SPECIFICATIONS FOR ADDITIONAL EQUIPMENT SPECIFICATIONS

SPARES
CONTRACTOR SHALL SUPPLY THE FOLLOWING SPARE PARTS:
(1) RHINO POWER SUPPLY
(1) RHINO BATTERY CONTROL MODULE
(1) FLYGT MINI GAS MODULE
(4) LED INDICATOR BULBS OF EACH COLOR USED
(5) FUSES OF EACH SIZE & TYPE USED
(2) RELAYS & RELAY BASES OF EACH SIZE & TYPE USED
(1) LOOP ISOLATOR
(12) DIN WIRING TERMINALS

OPERATION
THE PLC & HMI SHALL BE PROGRAMMED TO MAKE AN INTUITIVE & EFFICIENT CONTROL SYSTEM. THE SOFTWARE INTEGRATOR SHALL IMPLEMENT LADDER LOGIC & HMI SCREEN OPERATIONS SO AS TO SATISFY THE ENGINEER.

THE PUMPS SHALL OPERATE AS A TRIPLEX ALTERNATING LEAD/LAG/BACKUP PUMP STATION WITH AUTOMATIC SWITCH TO BACKUP WHEN THE LEAD PUMP FAILS. IF ONE PUMPS SELECTOR SWITCH IS OFF, THEN THE REMAINING TWO PUMPS SHALL OPERATE AS AN ALTERNATING LEAD/LAG DUPLEX SYSTEM WITH THE LAG PUMP ACTING AS A BACKUP. IF ONLY ONE PUMPS SELECTOR SWITCH IS IN AUTO WHILE THE OTHER PUMPS ARE OFF, THEN THE ONE IN AUTO SHALL BECOME THE LEAD PUMP AND THE NEXT PUMP TO BE TURNED TO AUTO SHALL BE THE LAG PUMP. THE LEAD & LAG PUMPS SHALL ALTERNATE AFTER EACH PUMP CYCLE.

THE HMI SHALL DISPLAY WET WELL LEVEL IN FEET OF WATER MEASURED FROM THE BOTTOM OF THE WELL. IT SHALL ALSO DISPLAY & OFFER AN INTUITIVE MEANS TO ADJUST SETPOINTS FOR HIGH LEVEL ALARM, LOW LEVEL ALARM, LEAD PUMP OFF LEVEL, LAG PUMP OFF LEVEL, LEAD PUMP ON LEVEL, LAG PUMP ON LEVEL, OVERFLOW LEVEL & ANY OTHER SETPOINTS REQUIRED BY THE ENGINEER.

THE HMI SHALL DISPLAY RUNNING TIME FOR EACH OF THE PUMPS & THE GENERATOR & POWER OUTAGE ACCUMULATED TIME. TIMES SHALL BE DISPLAYED IN HUNDRETH-HOUR PRECISION & SHALL ROLL OVER TO ZERO AFTER 99,999.99 HOURS. THE RUNNING TIME SCREEN SHALL BE THE DEFAULT POWER-UP SCREEN.

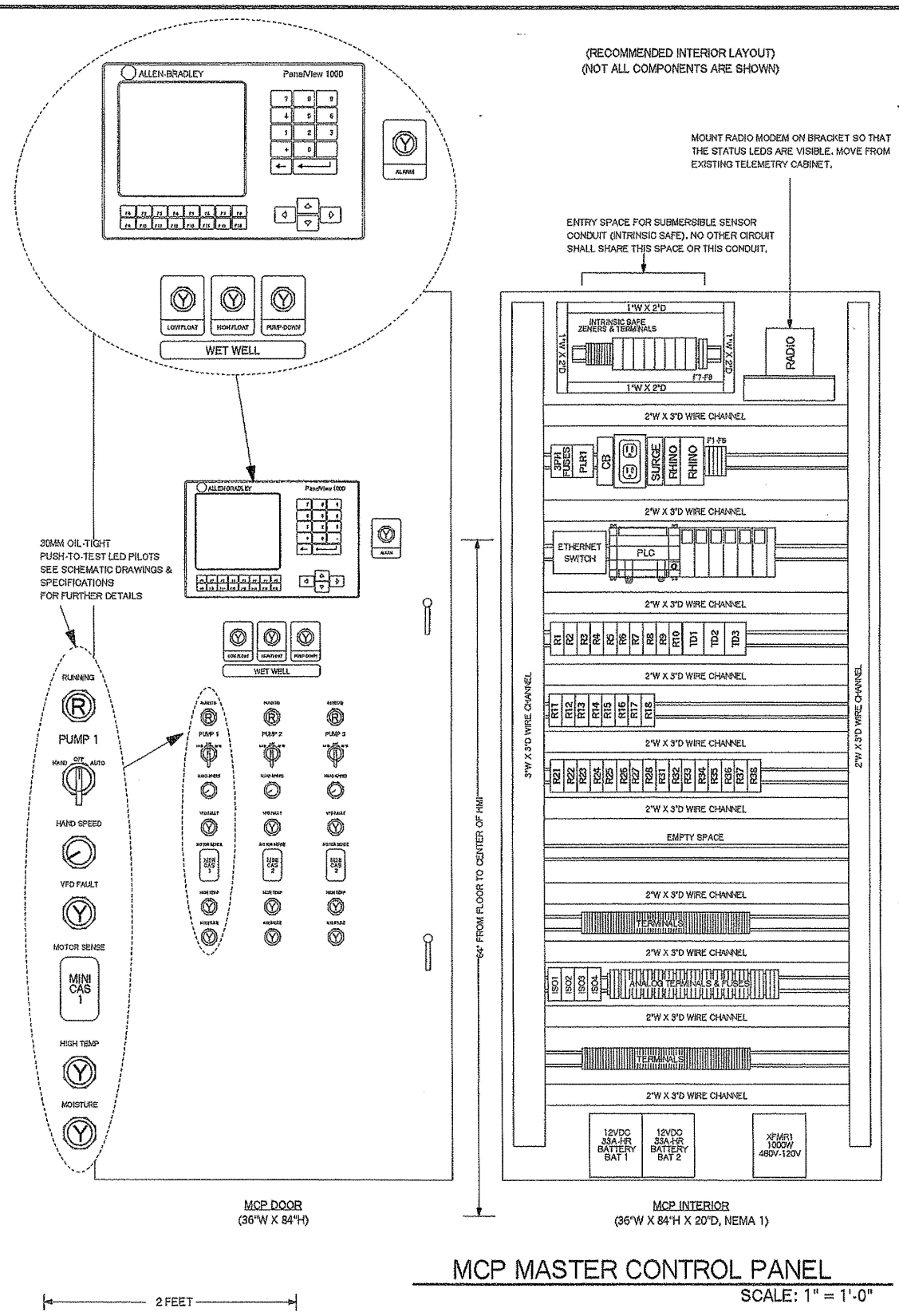
DISPLAY SCREENS IN THE HMI SHALL BE GROUPED LOGICALLY & NAVIGATION BETWEEN THEM SHALL BE INTUITIVE.

THE PLC / HMI SHALL TEST FOR ALARMS & SHALL DISPLAY THOSE ALARMS IN ENGLISH MESSAGES. ALARMS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO HIGH / LOW LEVEL, HIGH LIMIT, LOW LIMIT, LAG PUMP ON, BACKUP SENSOR POWER FAIL, GENERATOR TROUBLE, VFD 1/2/3 FAULT, PUMP 1/2/3 HIGH TEMPERATURE, PUMP 1/2/3 MOISTURE, BATTERY FAIL, 24VDC POWER FAIL, CONTROLS BATTERY CHARGING SYSTEM FAILURE, BACKUP PUMP-DOWN, AND PUMP 1/2/3 FLOW FAILURE.

SOADA PROGRAMMING AT THE WASTEWATER TREATMENT PLANT WILL BE THE RESPONSIBILITY OF THE CITY WITH COORDINATION HELP FROM THE CONTRACTOR.

SOFTWARE INTEGRATOR SHALL PROVIDE 2 HOURS OF TRAINING TO CITY STAFF CONCERNING THE OPERATION & MAINTENANCE OF THE CONTROL SYSTEM & SHALL PROVIDE A USER MANUAL THAT ILLUSTRATES THE HMI SCREENS, THEIR MEANINGS, & ALL ALARM MESSAGES & THEIR MEANINGS.

SOFTWARE INTEGRATOR SHALL BE TERRY NELSON, CAMTRONICS, INC., (541) 445-2824. SEE SPECIFICATION 16421 FOR INTEGRATOR REQUIREMENTS.



REGISTERED PROFESSIONAL ENGINEER
TERRY NELSON
EXPIRY 15, 1983

EXPIRATION DATE: 12/31/08

H B H
Consulting Engineers
486 E Street, Suite 3
Coos Bay, Oregon 97420
541/266-0355 fax 541/266-7504
email: mail@hbh-engineers.com

IF THIS LINE IS NOT TO BE DRAWING SCALE IS NOT AS SHOWN
0' 1" 2"

Designed By: TN
Drawn By: TN
Checked By: TN
Project No: 2007-011
ELED

REV.	DATE	DESCRIPTION	BY

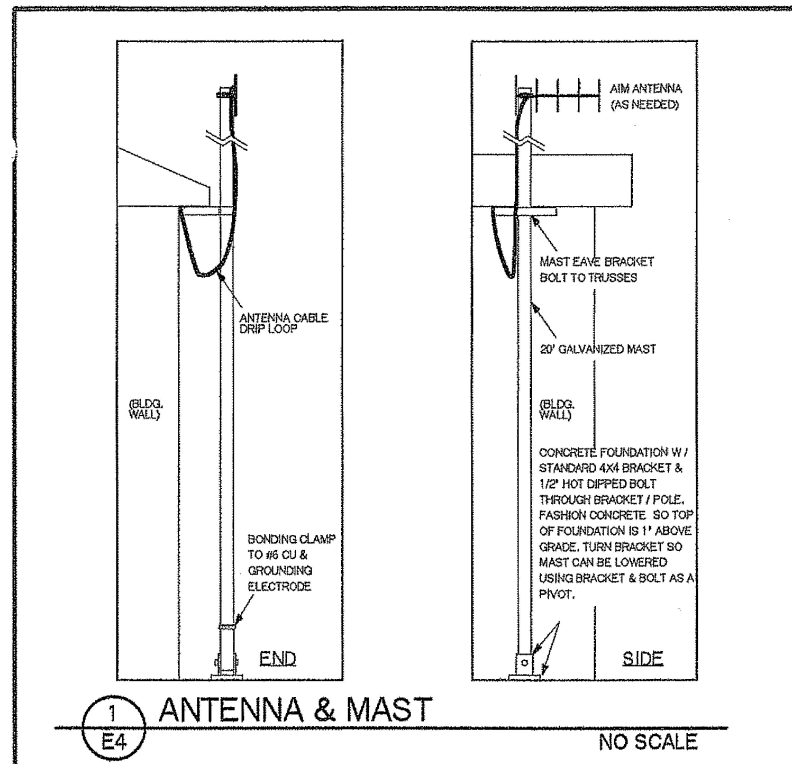
CAMTRONICS INCORPORATED
ELECTRICAL ENGINEERS
TERRY NELSON, PE (541) 445-2824

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION

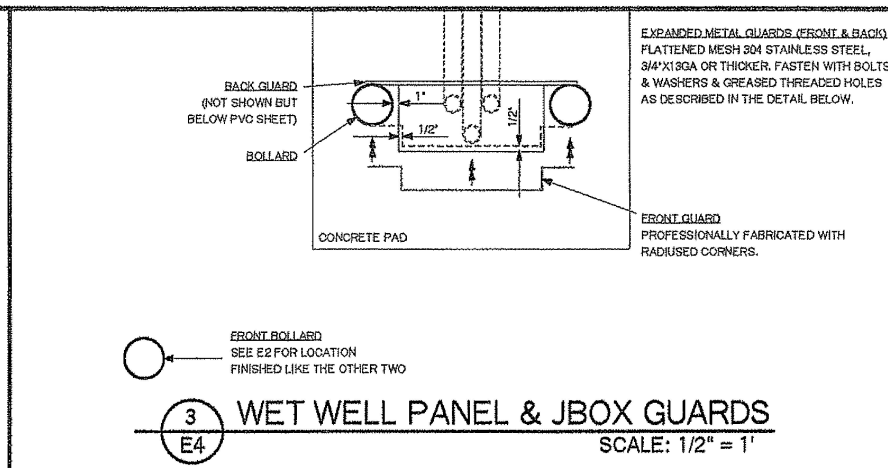
MCP DETAIL & PROJECT NOTES

Sheet No. **E3**
Date **4/11/2008**
29 of 39

SS-06-05 --- ASBUILT ---SLB



1 ANTENNA & MAST
E4 NO SCALE



3 WET WELL PANEL & JBOX GUARDS
E4 SCALE: 1/2" = 1'

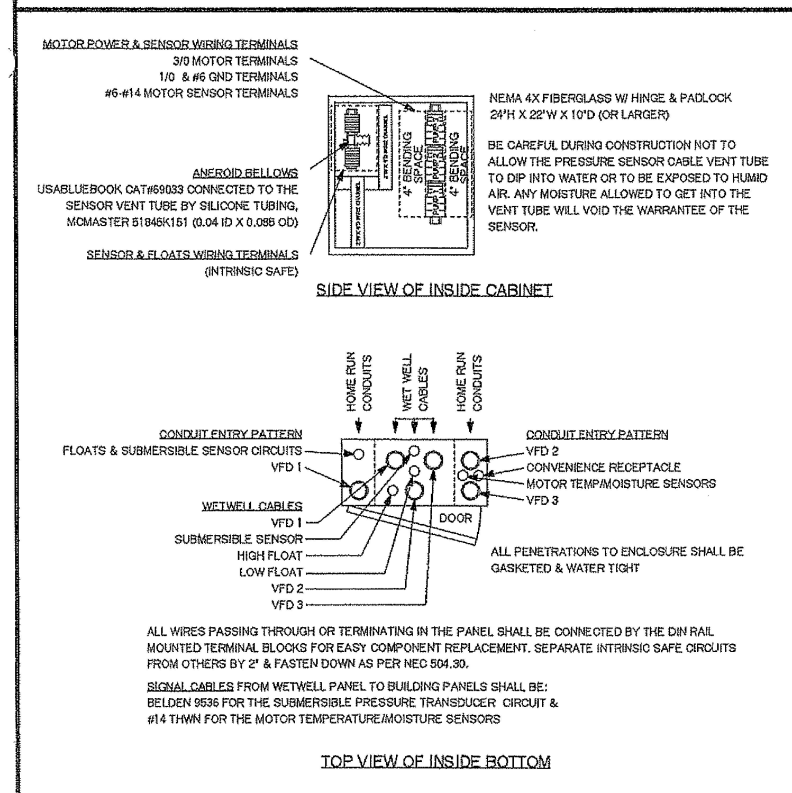
FABRICATION NOTES
DIMENSION SCALE IS APPROXIMATE. VERIFY ALL DIMENSIONS BY ACTUAL MATERIALS USED & SITE CONDITIONS.

ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED. PANEL & SHEET MOUNTING BOLTS SHALL INCLUDE STAINLESS WASHERS & SPLIT RING LOCK WASHERS.

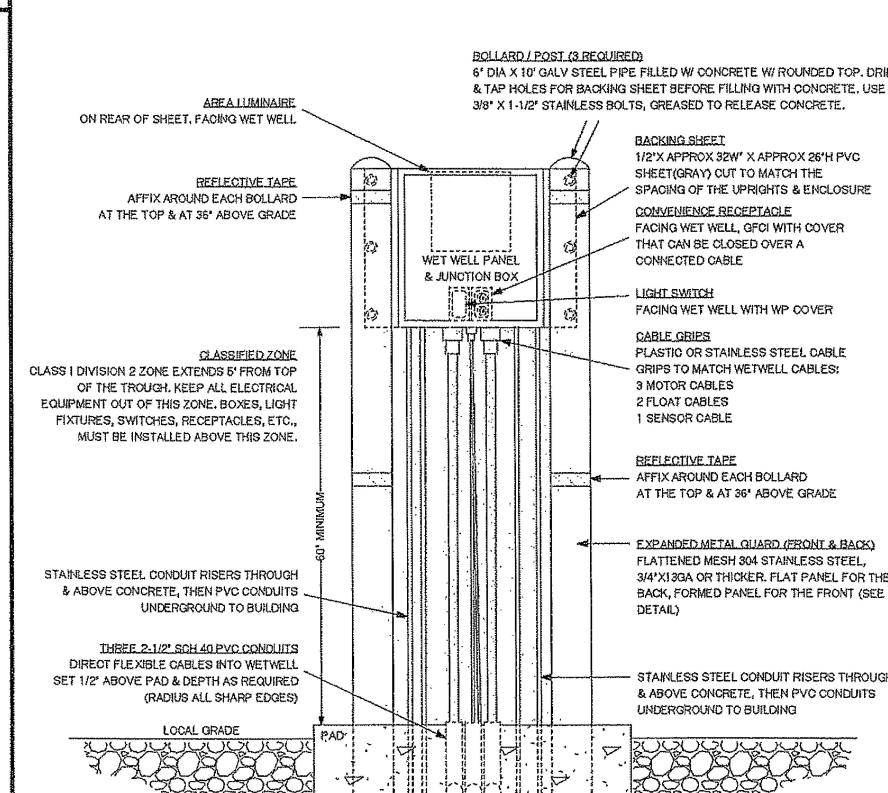
DRILL & TAP FASTENERS TO THE TUBE UPRIGHTS. GREASE ALL BOLTS EXTENDING INTO THE SQUARE TUBE, THEN FILL EACH TUBE WITH CONCRETE. ALL BOLTS SHALL BE REMOVABLE AFTER THE CONCRETE HAS CURED, THEREFOR GREASE LIBERALLY & MOVE DURING CURING.

PRIME & PAINT BOLLARDS WITH OIL BASED ENAMEL SPECIFICALLY FORMULATED FOR COATING GALVANIZED STEEL. GRAY COLOR TO MATCH PVC SHEET.

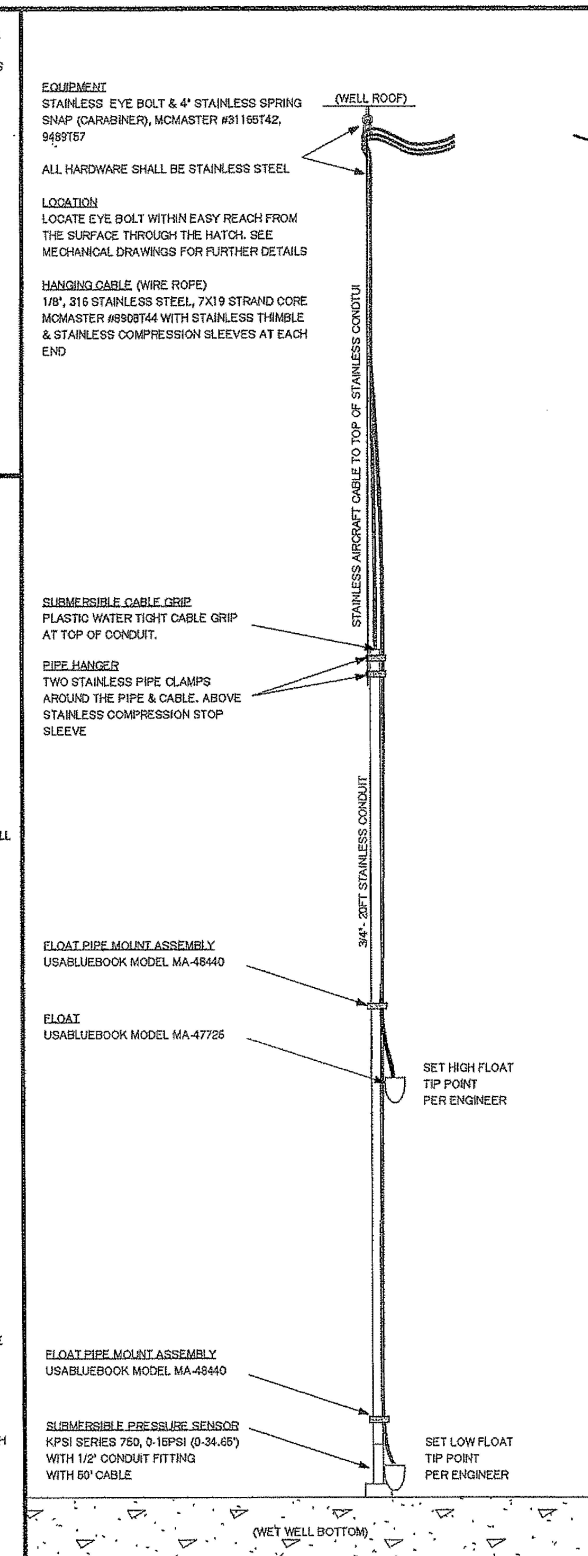
RADIUS ALL EXPOSED EDGES & CORNERS OF SHEETING & HARDWARE SUCH THAT EDGES & CORNERS ARE NOT SHARP



2 WETWELL PANEL & JBOX DETAIL
E4 SCALE: 1/2" = 1'



4 WETWELL PANEL & JBOX ELEVATION
E4 SCALE: 1/2" = 1'



5 WETWELL SENSOR TREE
E4 NO SCALE

REGISTERED PROFESSIONAL
ENGINEER
TERRY NELSON
JULY 15, 1983

EXPIRATION DATE: 12/31/08

486 E Street, Suite 3
Coos Bay, Oregon 97420
541/266-0355 fax 541/266-7504
email: tnel@hbh-engineers.com

H B H
Consulting Engineers

IF THIS LINE IS NOT 1" DRAWING SCALE IS NOT AS SHOWN

0' 1' 2'

Designed By: T.N. Drawn By: T.N. Checked By: T.N. Project No.: 2007-011
ELEC.

REV.	DATE	DESCRIPTION	BY

CAMTRONICS INCORPORATED
ELECTRICAL ENGINEERS
TERRY NELSON, PE (941)445-2824

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION

ELECTRICAL DETAILS

SS-06-05 --- ASBUILT---SLB

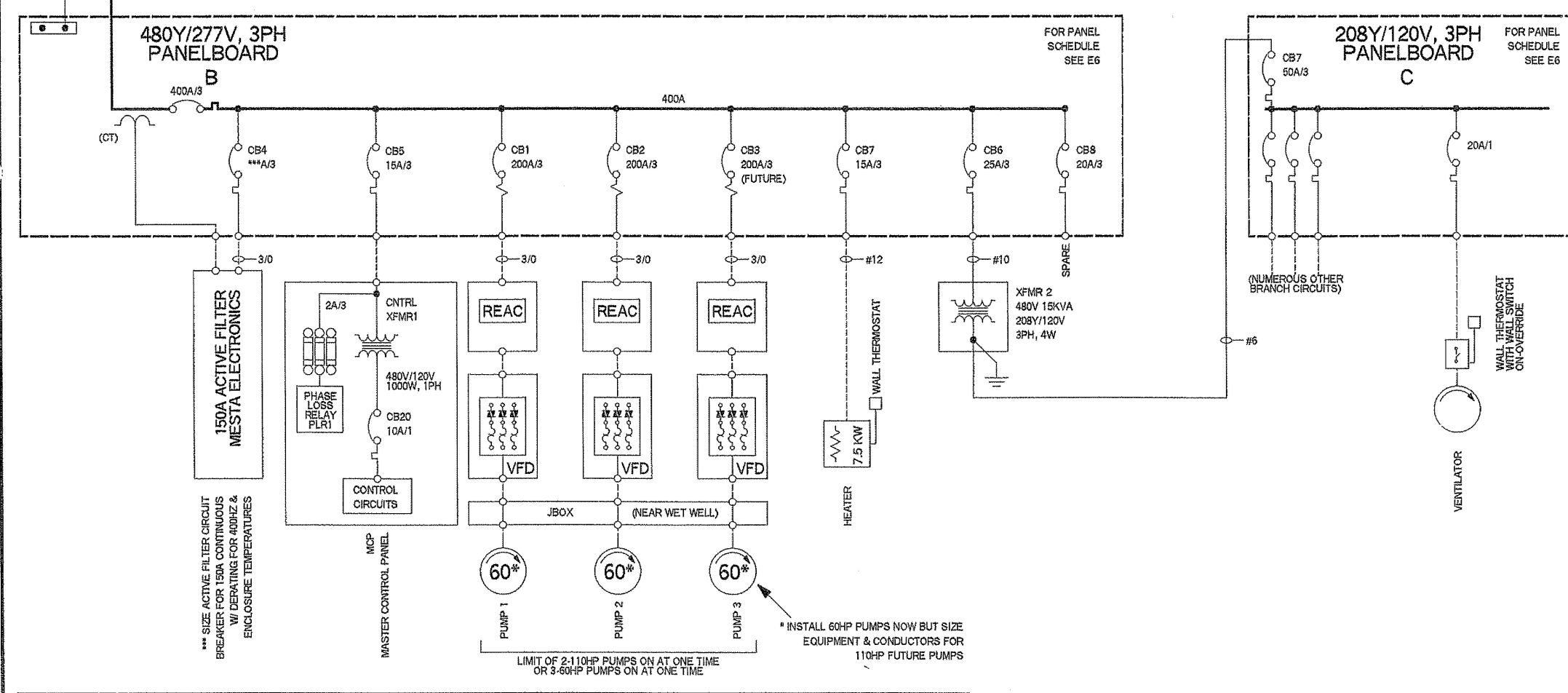
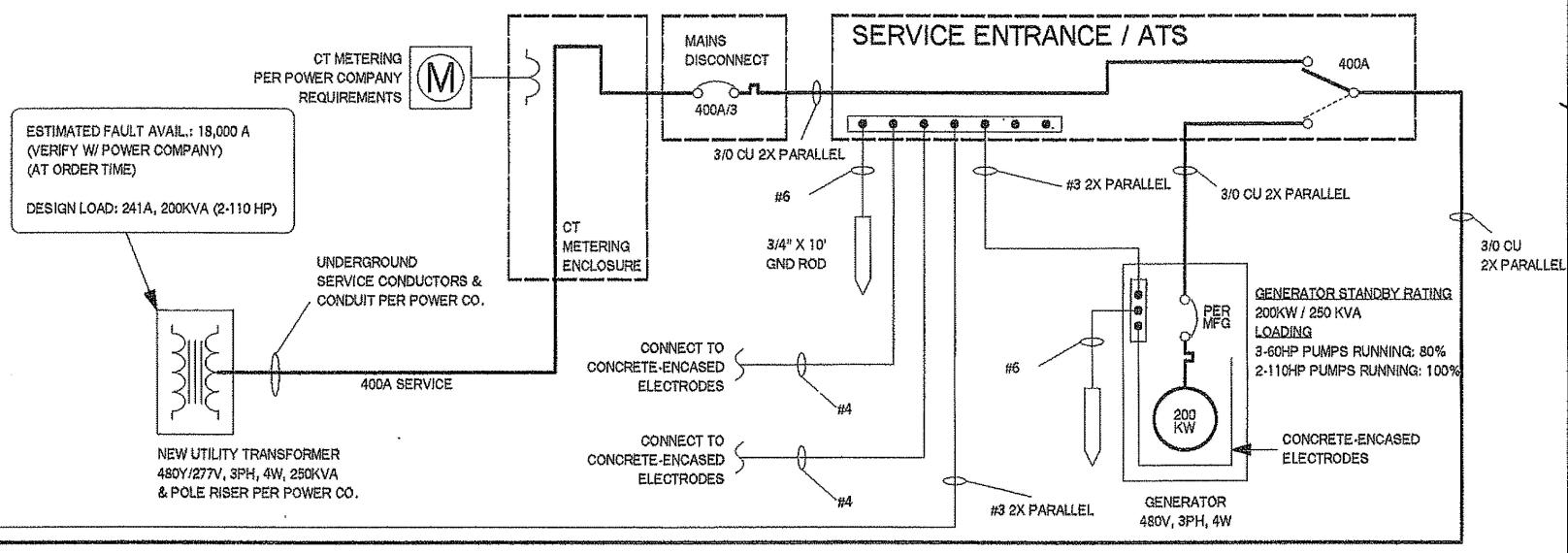
30 of 30
4/11/2008

CONDUCTORS
 NOT ALL CONDUITS OR CONDUCTORS ARE SHOWN ON THE DIAGRAMS. WHETHER SHOWN OR NOT, CONTRACTOR SHALL INSTALL ALL CONDUITS & CONDUCTORS NECESSARY FOR A COMPLETE SYSTEM. CONTRACTOR SHALL SIZE CONDUCTORS TO PROVIDE A FULLY OPERATIONAL SYSTEM. SIZES SHOWN ON THE DRAWINGS ARE MINIMUMS & SHALL BE VERIFIED TO ACTUAL SITE CONDITIONS BEFORE INSTALLING. FEEDER CONDUCTORS SHALL BE SIZED TO ALLOW NO MORE THAN 2% VOLTAGE DROP. BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED TO ALLOW NO MORE THAN 3% VOLTAGE DROP. CONDUCTORS SHALL BE SIZED TO ALLOW NO MORE THAN 6% VOLTAGE DROP FROM THE SERVICE ENTRANCE TO ANY SERVED EQUIPMENT.

CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE NOTED

EQUIPMENT SIZES & RATINGS
 CONTRACTOR SHALL SIZE CIRCUIT BREAKERS, CONTACTORS, PANELBOARDS, TRANSFORMERS, ALL ELECTRICAL EQUIPMENT, TO PROVIDE A FULLY OPERATIONAL SYSTEM. SIZES SHOWN ON THE DRAWINGS ARE MINIMUMS & SHALL BE VERIFIED TO ACTUAL SITE CONDITIONS BEFORE INSTALLING. CONTRACTOR SHALL SELECT BREAKERS, FUSES, DISCONNECTS, ETC., WITH FAULT INTERRUPT RATINGS SUFFICIENT FOR THE SERVICE. OBTAIN FROM POWER COMPANY THE ACTUAL AVAILABLE FAULT CURRENT AT THE SERVICE. BEFORE ORDERING EQUIPMENT.

POWER UTILITY SERVICE
 CONTRACTOR SHALL PROVIDE ALL EQUIPMENT NECESSARY TO SUPPLY OR UPGRADE POWER TO THE PROJECT. THIS MAY INCLUDE SUCH ITEMS AS SWITCHGEAR, TRANSFORMERS, METERING EQUIPMENT, UNDERGROUND CONDUITS, TRANSFORMER PADS OR VAULTS, RISERS, CONDUCTORS, ETC. SEE THE NOTES ON DWG E1 FOR MORE INFORMATION ABOUT SERVICE CHANGES AND BIDDING ON JUST THE POLE-MOUNT OPTION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY POWER AS MAY BE NECESSARY DURING THE CONSTRUCTION OF THE PROJECT.



SYMBOLS:

REAC 3% LINE REACTOR

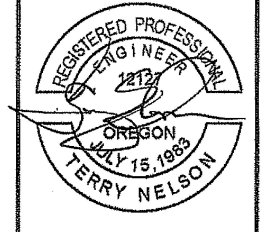
MOTOR PROTECTION (MAGNETIC) CIRCUIT BREAKER W/ ADJ INST TRIP

THERMAL-MAGNETIC OVERLOAD CIRCUIT BREAKER

90 MOTOR (90 HP)

LOCAL DISCONNECT

STATION ONE-LINE DIAGRAM
 SCALE: NONE



REGISTERED PROFESSIONAL ENGINEER
 2123
 OREGON
 JULY 15, 1983
 TERRY NELSON

EXPIRATION DATE: 12/31/08

486 E Street, Suite 3
 Coos Bay, Oregon 97420
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 Consulting Engineers

DESIGNED BY: TN
 DRAWN BY: TN
 CHECKED BY: TN
 PROJECT NO.: 2007-011
 DATE: 4/11/08

REV.	DATE	DESCRIPTION	BY

CAMTRONICS INCORPORATED
 ELECTRICAL ENGINEERS
 TERRY NELSON, PE (641)445-2824

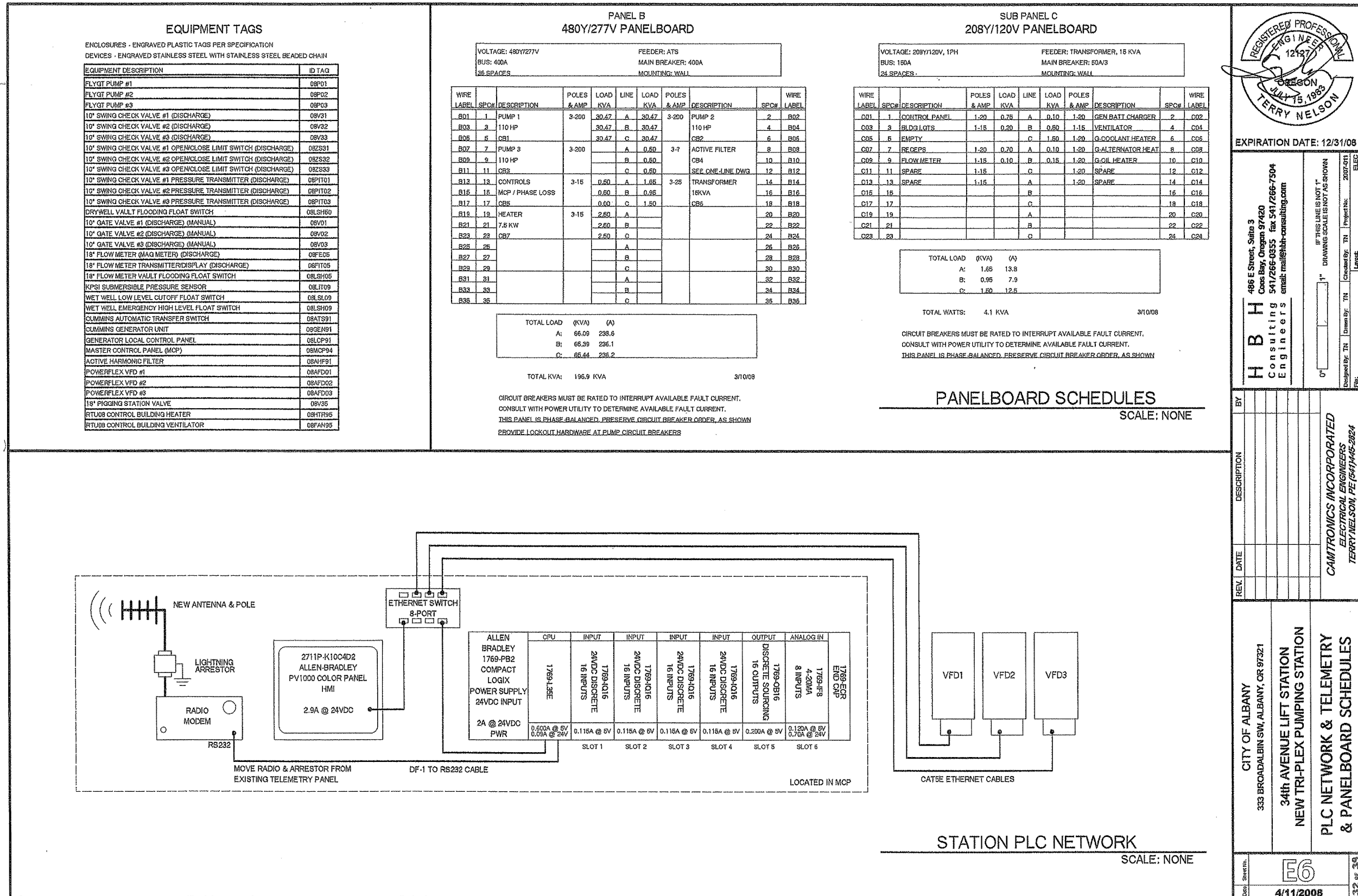
CITY OF ALBANY
 333 BROADALBIN SW, ALBANY, OR 97321

34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION

ONE-LINE POWER DIAGRAM

Sheet No. E5
 Date: 4/11/2008
 34 of 38

SS-06-05 ---- ASBUILT ---- SLB



REGISTERED PROFESSIONAL ENGINEER
TERRY NELSON
EXPIRATION DATE: 12/31/08

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email: mail@hbh-engineers.com

IF THIS LINE IS NOT F... DRAWING SCALE IS NOT AS SHOWN

Designed By: TN Drawn By: TN Checked By: TN Project No.: 2007-011
ELEC

BY	DATE	DESCRIPTION

CAMTRONICS INCORPORATED
ELECTRICAL ENGINEERS
TERRY NELSON, PE 0641446-2024

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321

34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION

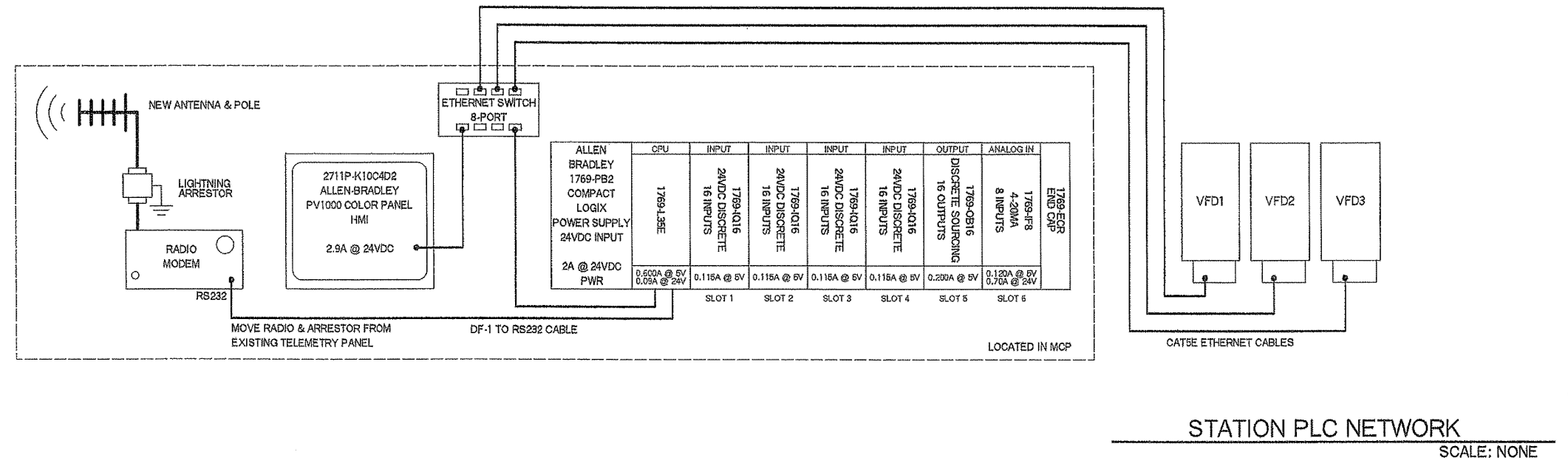
PLC NETWORK & TELEMETRY
& PANELBOARD SCHEDULES

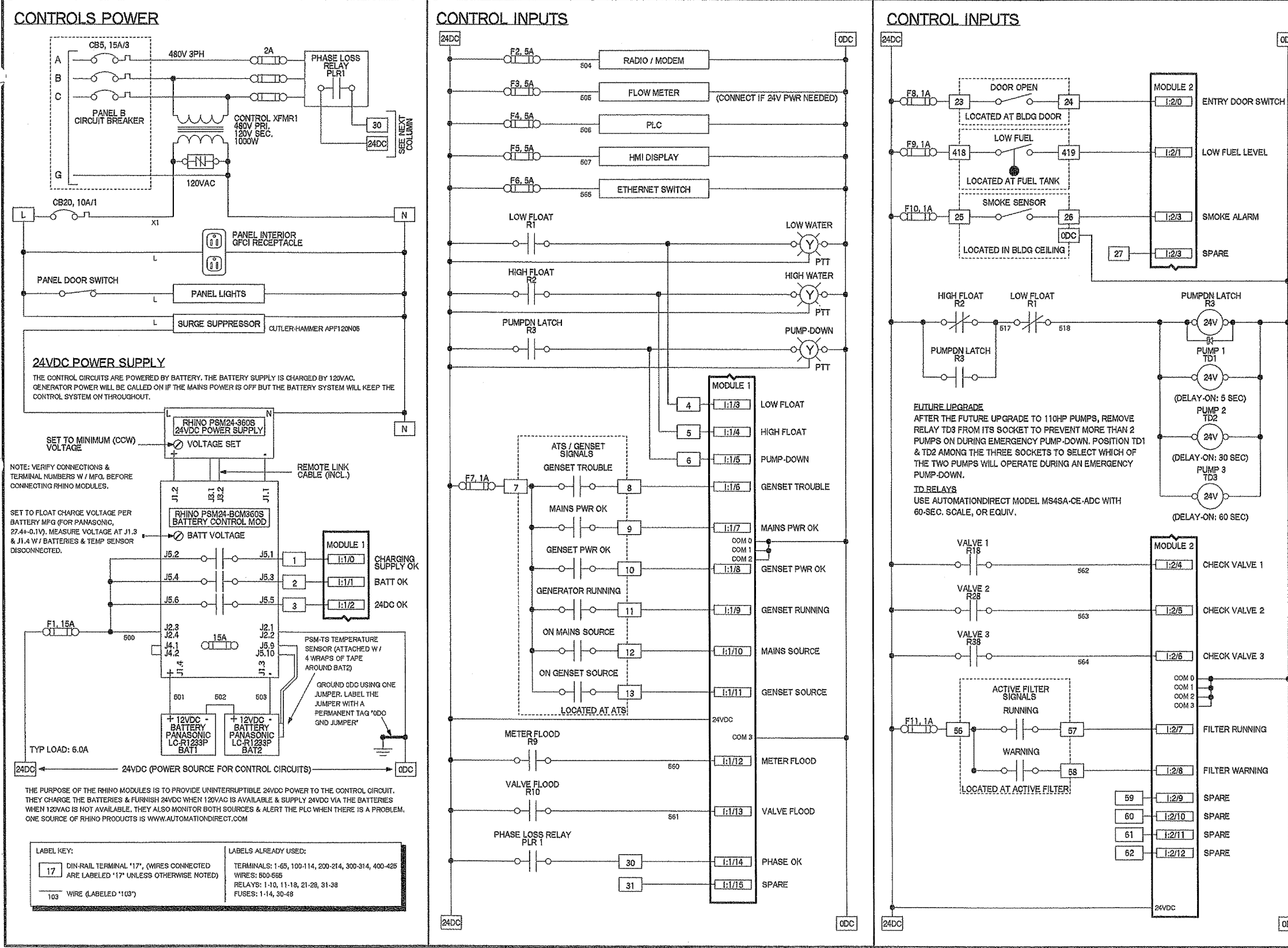
E6

4/11/2008

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SS-06-05 ---- ASBUILT ---- SLB





REGISTERED PROFESSIONAL ENGINEER
12127
OREGON
JULY 15, 1983
TERRY NELSON

EXPIRATION DATE: 12/31/08

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email: hnh@hnh-engineers.com

DESIGNED BY: TNL
DRAWN BY: TNL
CHECKED BY: TNL
PROJECT NO.: 2007-011
DATE: 4/11/2008

CAMTRONICS INCORPORATED
ELECTRICAL ENGINEERS
TERRY NELSON, PE (541)445-2024

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
CONTROL SCHEMATIC 1

DATE: 4/11/2008
33 of 34

SS-06-05 --- ASBUILT ---SLB

I/O ASSIGNMENTS

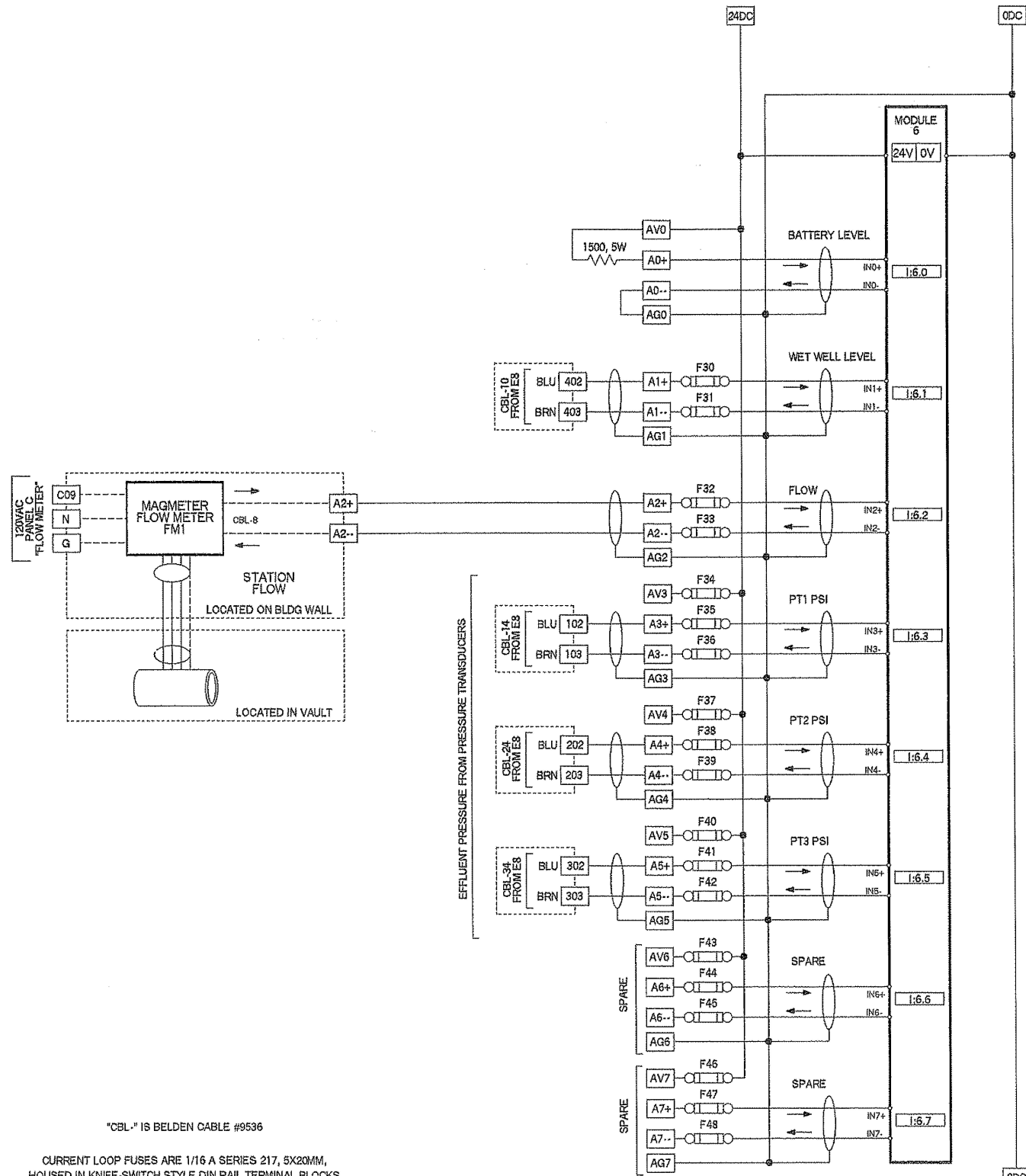
I/O MODULE #1
1746-IA16

(16) 120VAC DISCRETE INPUTS

LED#	ADDRESS	TERM#	DESCRIPTION	LINE#
0	I:1/00	IN0	CNTRL POWER	1
1	I:1/01	IN1	DUSK SENSOR	3
2	I:1/02	IN2	GENERATOR RUNNING	5
3	I:1/03	IN3	GENERATOR TROUBLE	6
4	I:1/04	IN4	GENERATOR IS SOURCE	7
5	I:1/05	IN5	SPARE	8
6	I:1/06			10
7	I:1/07			11
8	I:1/08			13
9	I:1/09			15
10	I:1/10			16
11	I:1/11	IN11	STEP SCREEN SPARE	17
12	I:1/12	IN12	PRESS RUNNING	18
13	I:1/13	IN13	PRESS TROUBLE	19
14	I:1/14	IN14	PRESS SPARE	20
15	I:1/15	IN15	SPARE	21
		AC COM		N
		AC COM		N

TO BE COMPLETED
FOR AS-BUILTS

MCP ANALOG INPUTS



*CBL-# IS BELDEN CABLE #9536
CURRENT LOOP FUSES ARE 1/16 A SERIES 217, 5X20MM,
HOUSED IN KNIFE-SWITCH STYLE DIN RAIL TERMINAL BLOCKS



EXPIRATION DATE: 12/31/08

H B H
486 E Street, Suite 3
Coos Bay, Oregon 97420
Consulting 541/266-0355 fax 541/266-7504
Engineers email: mail@hbh-consulting.com

IF THIS LINE IS NOT "1"
DRAWING SCALE IS NOT AS SHOWN

Designed By: TN
Checked By: TN
Drawn By: TN
Project No: 2007-071
ELEC

REV.	DATE	DESCRIPTION	BY

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
I/O ASSIGNMENTS
ANALOG CIRCUITS

CAMTRONICS INCORPORATED
ELECTRICAL ENGINEERS
TERRY NELSON, PE (641)445-2924

Sheet No. **E9**
Date: 4/11/2008
3 of 39

SS-06-05 --- ASBUILT---SLB

VFD DRIVE 1 CONFIGURATION

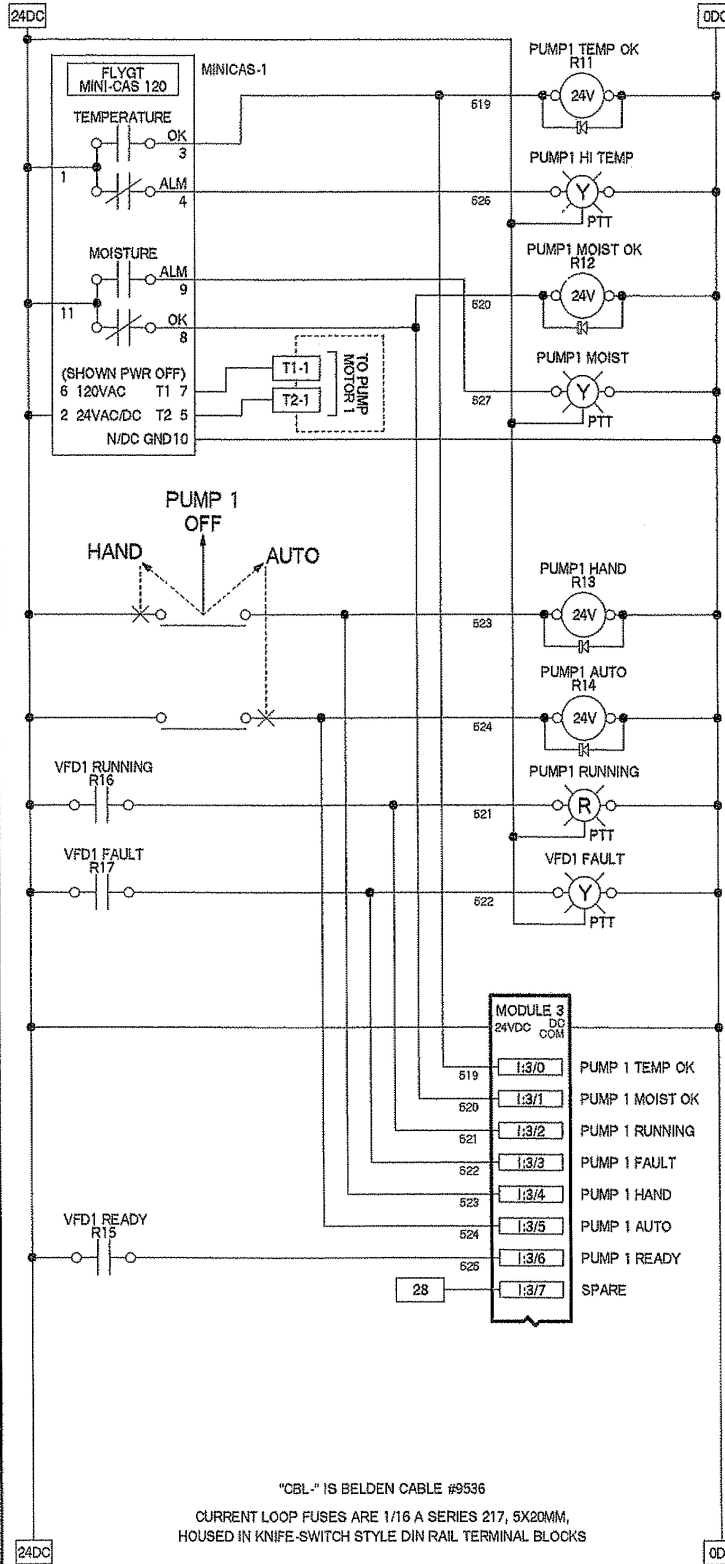
CONTRACTOR SHALL CONFIGURE EACH VFD TO:

- 1) RUN UNDER PLC CONTROL & SPEED WHEN THE H-O-A SWITCH IS IN AUTO
- 2) RUN AT POTENTIOMETER SPEED WHEN THE H-O-A SWITCH IS IN HAND
- 3) RUN AT FULL SPEED WHEN THE H-O-A SWITCH IS IN AUTO & TD1 IS ENERGIZED, THIS FUNCTION SHALL TAKE PRECEDENCE OVER (1) PLC CONTROL OR (2) HAND CONTROL.
- 4) AUTOMATICALLY CLEAR FAULTS AFTER A 15 MINUTE DELAY BUT REQUIRE A VFD POWER CYCLE IF MORE THAN 3 FAULTS HAVE OCCURRED IN THE PRIOR 24 HOURS.

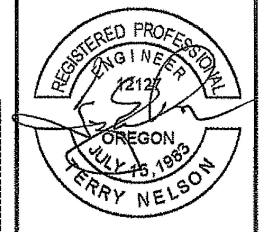
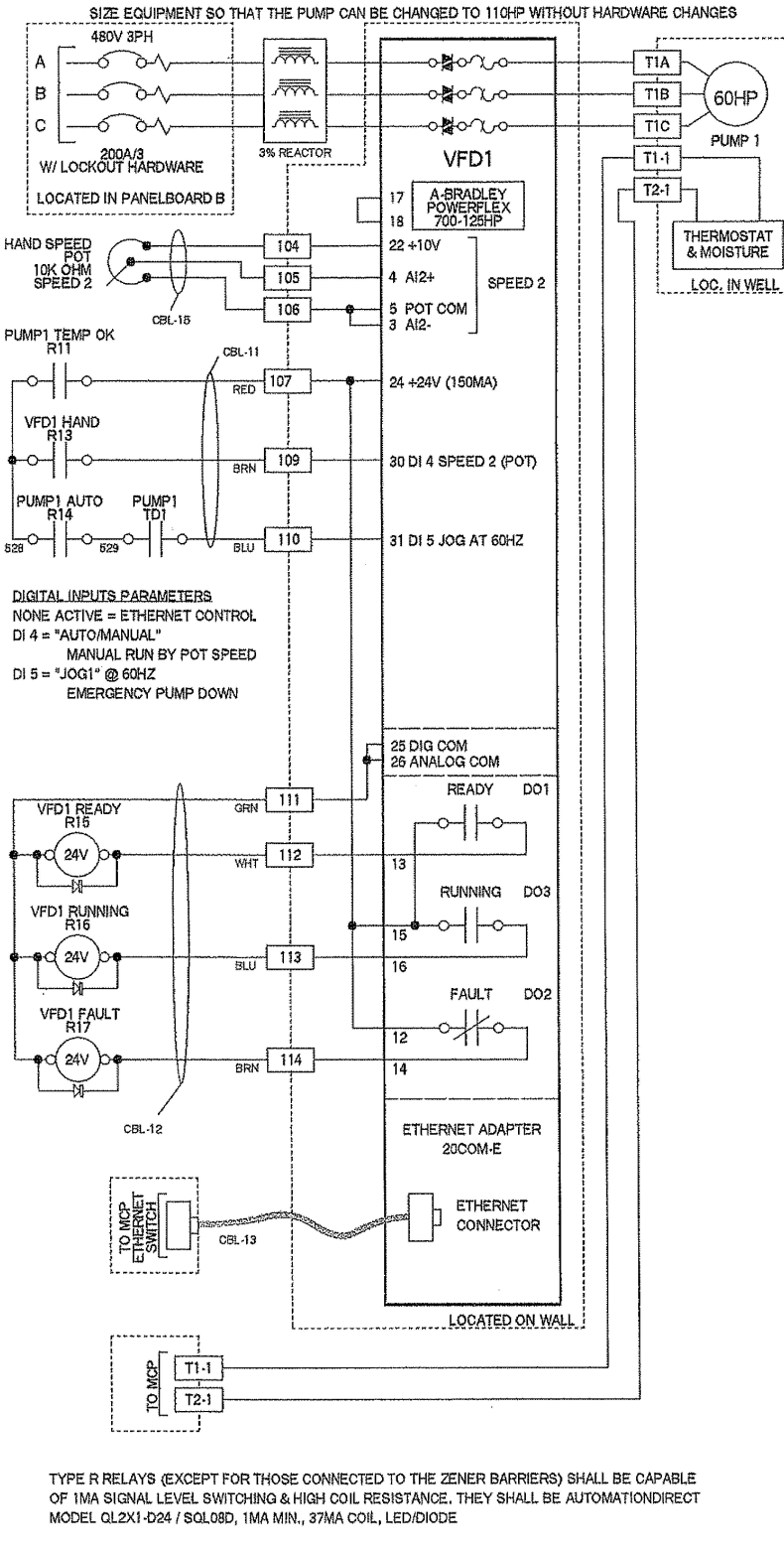
MINI-CAS

SET SWITCH FOR AUTO RETURN FROM FAULT. PLC SHALL REMEMBER TEMP & MOISTURE ALARMS FOR OPERATOR REVIEW.

VFD DRIVE 1 STATUS SIGNALS



VFD DRIVE 1



EXPIRATION DATE: 12/31/08

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CAMTRONICS INCORPORATED
 ELECTRICAL ENGINEERS
 TERRY NELSON, PE (541)445-2824

CITY OF ALBANY
 333 BROADALBIN SW, ALBANY, OR 97321
 34th AVENUE LIFT STATION
 NEW TRI-PLEX PUMPING STATION
VFD 1 CONTROL

Sheet No. **E10**
 Date: 4/11/2008
 3 of 3

SS-06-05 --- ASBUILT ---SLB

VFD DRIVE 3 CONFIGURATION

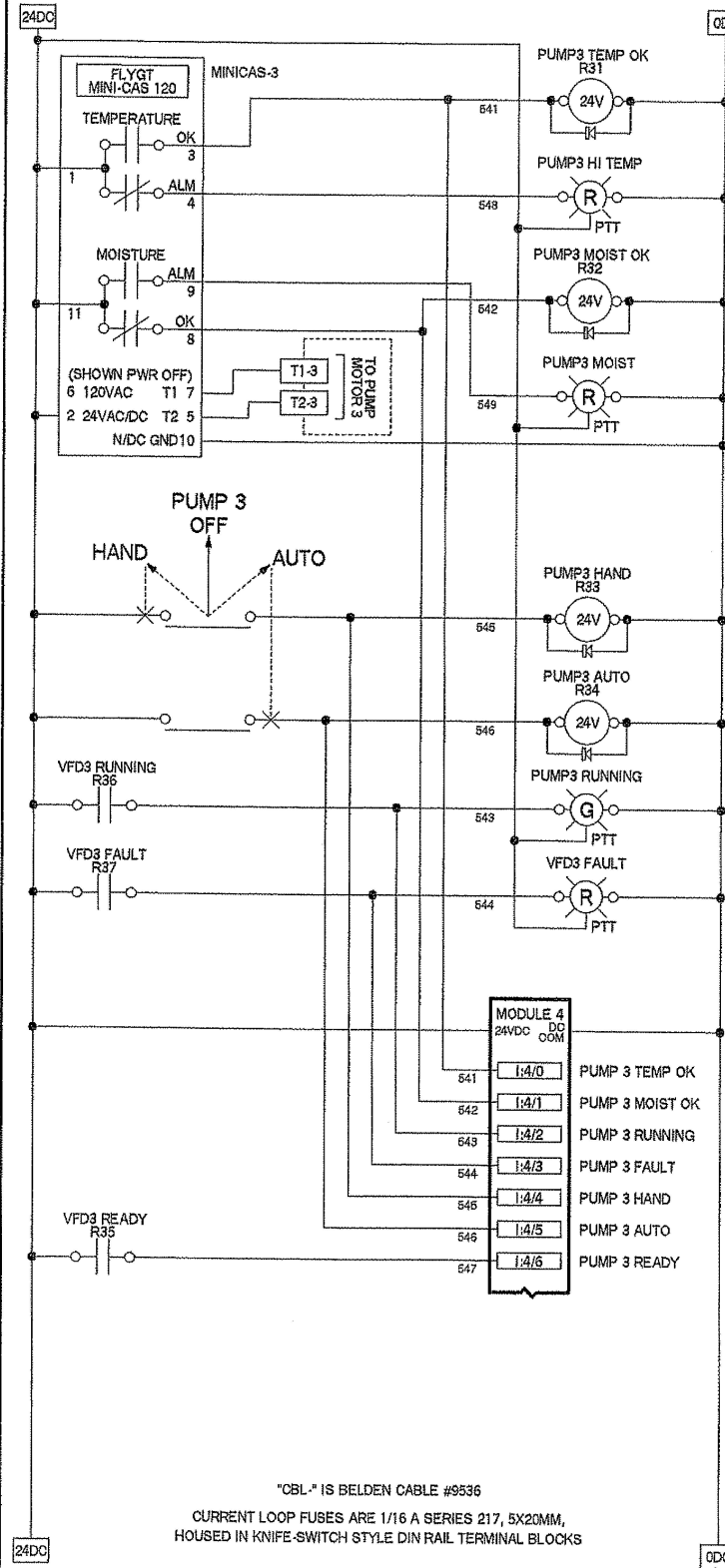
CONTRACTOR SHALL CONFIGURE EACH VFD TO:

- 1) RUN UNDER PLC CONTROL & SPEED WHEN THE H-O-A SWITCH IS IN AUTO
- 2) RUN AT POTENTIOMETER SPEED WHEN THE H-O-A SWITCH IS IN HAND
- 3) RUN AT FULL SPEED WHEN THE H-O-A SWITCH IS IN AUTO & TD3 IS ENERGIZED. THIS FUNCTION SHALL TAKE PRECEDENCE OVER (1) PLC CONTROL OR (2) HAND CONTROL.
- 4) AUTOMATICALLY CLEAR FAULTS AFTER A 15 MINUTE DELAY BUT REQUIRE A VFD POWER CYCLE IF MORE THAN 3 FAULTS HAVE OCCURRED IN THE PRIOR 24 HOURS.

MINI-CAS

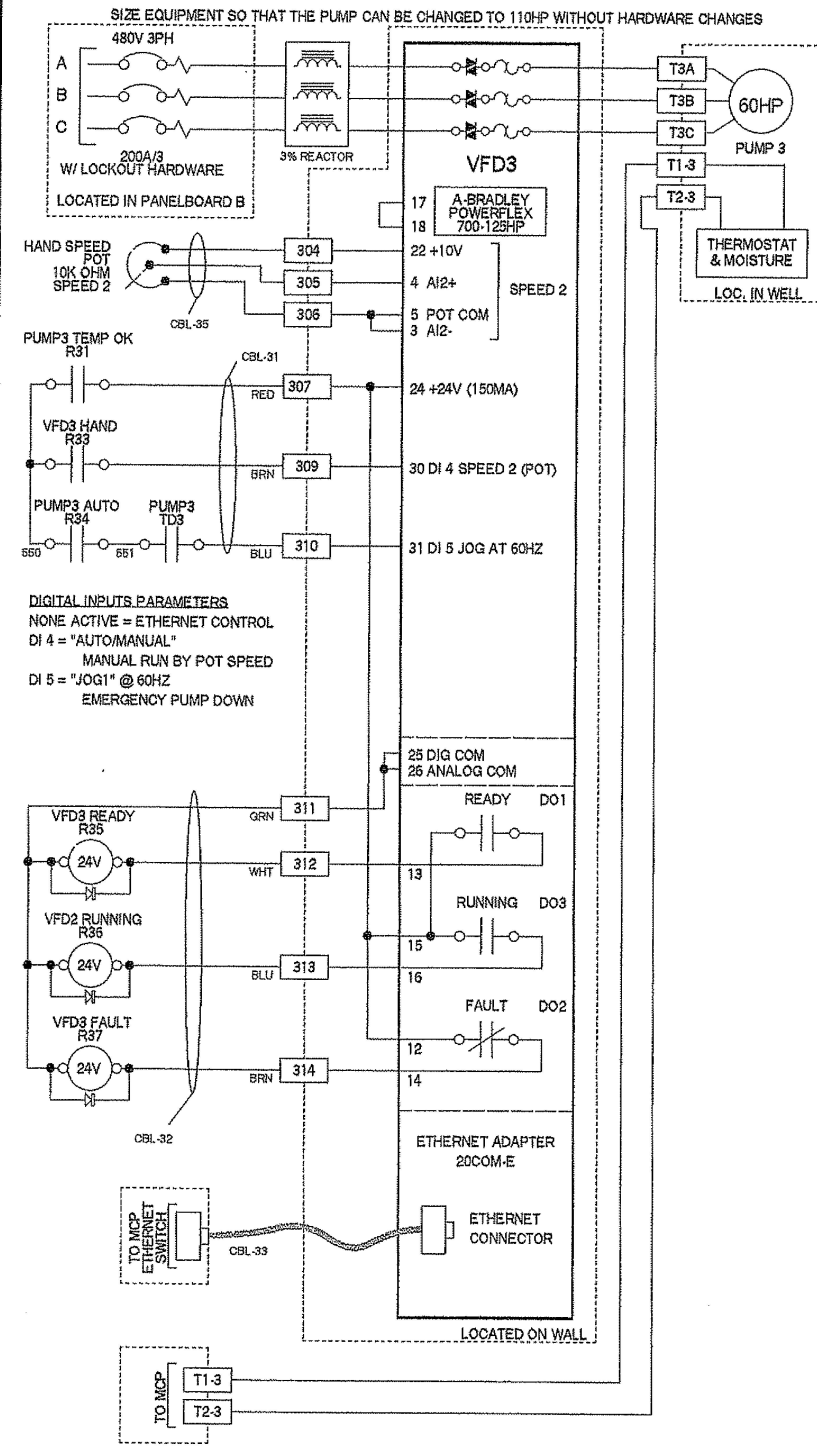
SET SWITCH FOR AUTO RETURN FROM FAULT. PLC SHALL REMEMBER TEMP & MOISTURE ALARMS FOR OPERATOR REVIEW.

VFD DRIVE 3 STATUS SIGNALS



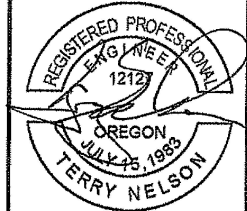
CBL- IS BELDEN CABLE #9536
CURRENT LOOP FUSES ARE 1/16 A SERIES 217, 5X20MM,
HOUSED IN KNIFE-SWITCH STYLE DIN RAIL TERMINAL BLOCKS

VFD DRIVE 3



SIZE EQUIPMENT SO THAT THE PUMP CAN BE CHANGED TO 110HP WITHOUT HARDWARE CHANGES
LOCATED IN PANELBOARD B
LOCATED ON WALL

DIGITAL INPUTS PARAMETERS
NONE ACTIVE = ETHERNET CONTROL
DI 4 = "AUTO/MANUAL"
MANUAL RUN BY POT SPEED
DI 5 = "JOG1" @ 60HZ
EMERGENCY PUMP DOWN



EXPIRATION DATE: 12/31/08

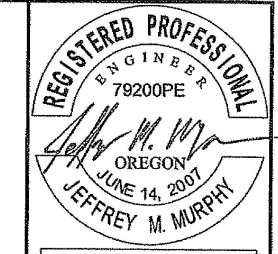
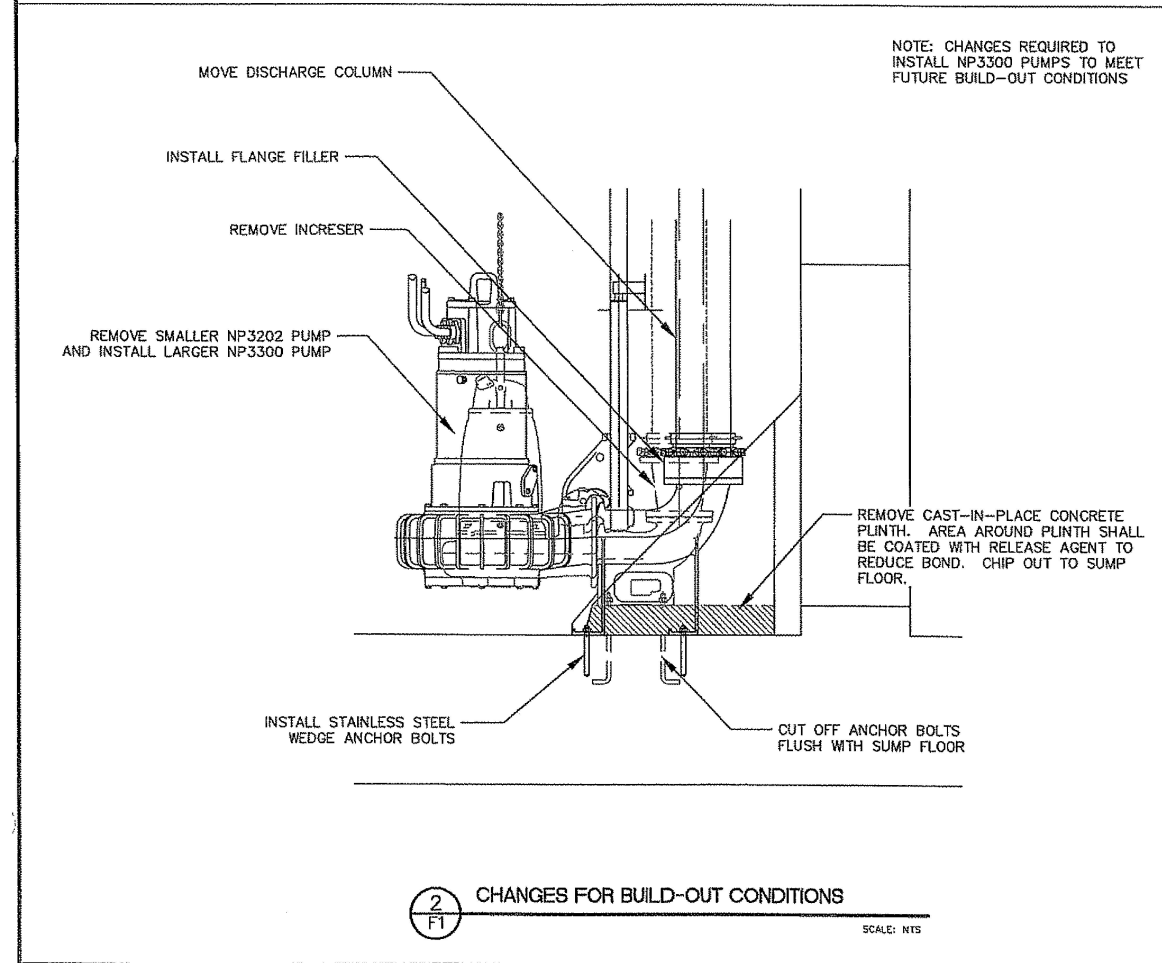
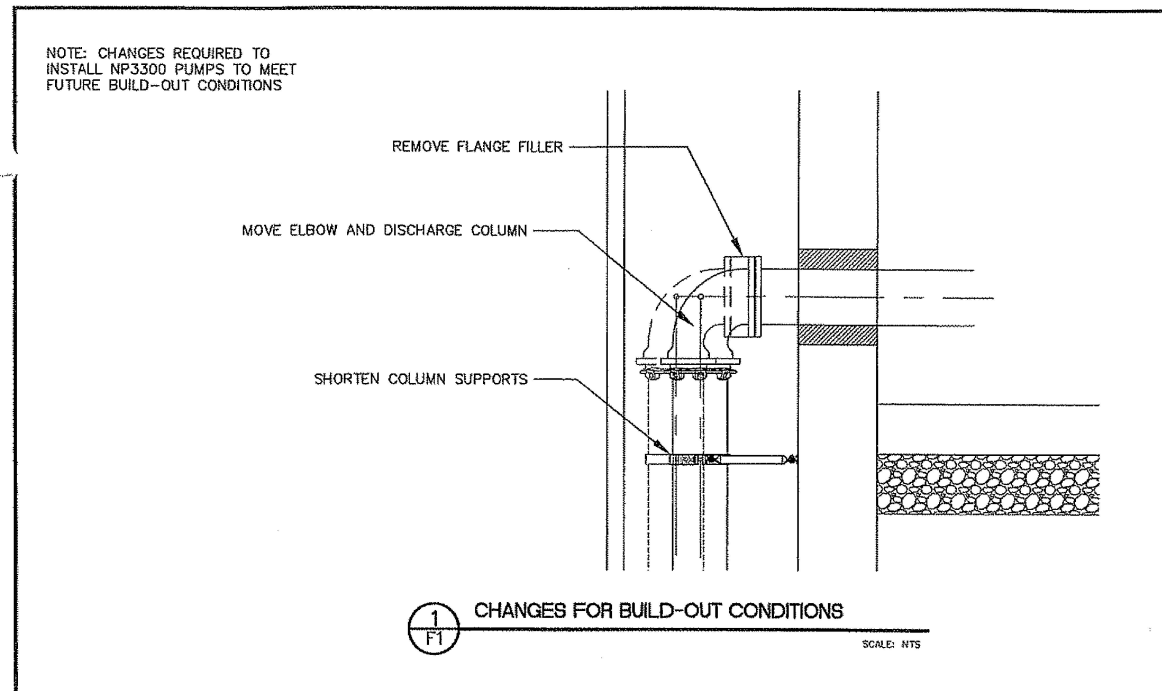
H B H
Consulting Engineers
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Coos Bay, Oregon 97420
541/266-0355 fax 541/266-7504
email: hbn@hbh-engineers.com

REV.	DATE	DESCRIPTION	BY

CITY OF ALBANY
333 BROADALBIN SW, ALBANY, OR 97321
34th AVENUE LIFT STATION
NEW TRI-PLEX PUMPING STATION
VFD 3 CONTROL

Sheet No. **E12**
4/11/2008
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SS-06-05 --- ASBUILT ---SLB



EXPIRATION DATE: 12/31/08

H B H
 Consulting Engineers
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 Coos Bay, Oregon 97420
 541/266-0355 fax 541/266-7504
 email: mail@hbh-engineers.com

IF THIS LINE IS NOT 1" DRAWING SCALE IS NOT AS SHOWN
 0" 1" 2" 3" 4" 5" 6" 7" 8" 9" 10"
 Designed By: JMM Drawn By: JMM Checked By: JGF Project No: 2007-010
 File: C:\PROJECTS\DWG\ Layout: F7

REV.	DATE	DESCRIPTION	BY

CITY OF ALBANY
 383 BROADALBIN SW, ALBANY, OR 97321

34th AVE LIFT STATION
 NEW TRI-PLEX PUMPING STATION

FUTURE LIFT STATION DETAILS FOR
 INSTALLATION OF BUILD-OUT PUMPS

SS-06-05 --- ASBUILT---SLB

Sheet No. **F1**
 Date: 4/4/08
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