

**APPROVAL GRANTED**  
 9/2/10  
 CITY OF HARVARD  
 CITY ENGINEER

FOR GRADING ON CITY OWNED PROPERTY ONLY

Robert P. Krumpal III  
 document  
 2010.08.25  
 10:37:27  
 -04:00

25483-001  
 02-0000-00001

EXPIRATION DATE

NO.	DATE	REVISION
1	12/17/07	ISSUED FOR CONSTRUCTION
2		NO. 1
3		NO. 2
4		NO. 3
5		NO. 4
6		NO. 5
7		NO. 6
8		NO. 7
9		NO. 8
10		NO. 9
11		NO. 10
12		NO. 11
13		NO. 12
14		NO. 13
15		NO. 14
16		NO. 15
17		NO. 16
18		NO. 17
19		NO. 18
20		NO. 19
21		NO. 20
22		NO. 21
23		NO. 22
24		NO. 23
25		NO. 24
26		NO. 25
27		NO. 26
28		NO. 27
29		NO. 28
30		NO. 29
31		NO. 30
32		NO. 31
33		NO. 32
34		NO. 33
35		NO. 34
36		NO. 35
37		NO. 36
38		NO. 37
39		NO. 38
40		NO. 39
41		NO. 40
42		NO. 41
43		NO. 42
44		NO. 43
45		NO. 44
46		NO. 45
47		NO. 46
48		NO. 47
49		NO. 48
50		NO. 49
51		NO. 50
52		NO. 51
53		NO. 52
54		NO. 53
55		NO. 54
56		NO. 55
57		NO. 56
58		NO. 57
59		NO. 58
60		NO. 59
61		NO. 60
62		NO. 61
63		NO. 62
64		NO. 63
65		NO. 64
66		NO. 65
67		NO. 66
68		NO. 67
69		NO. 68
70		NO. 69
71		NO. 70
72		NO. 71
73		NO. 72
74		NO. 73
75		NO. 74
76		NO. 75
77		NO. 76
78		NO. 77
79		NO. 78
80		NO. 79
81		NO. 80
82		NO. 81
83		NO. 82
84		NO. 83
85		NO. 84
86		NO. 85
87		NO. 86
88		NO. 87
89		NO. 88
90		NO. 89
91		NO. 90
92		NO. 91
93		NO. 92
94		NO. 93
95		NO. 94
96		NO. 95
97		NO. 96
98		NO. 97
99		NO. 98
100		NO. 99
101		NO. 100

SCALE 1"=50'-0"  
 0 100 200 300 400 500

NOTES:  
 1. ALL DIMENSIONS SHOWN ARE IN DECIMAL FEET UNLESS OTHERWISE NOTED.  
 2. ALL DIMENSIONS SHOWN ARE IN DECIMAL FEET UNLESS OTHERWISE NOTED.

BECHTEL  
 FREEDOM, ILLINOIS  
 Robert P. Krumpal III  
 approving this document  
 2010.08.25  
 10:37:27  
 -04:00

RUSSELL CITY ENERGY CENTER  
 BECHTEL  
 FREEDOM, ILLINOIS

25483-001  
 02-0000-00001

EXPIRATION DATE



E-1756  
 1 OF 7

E 6,098,000

E 6,098,000

E 6,098,000

E 6,098,000

E 6,098,000

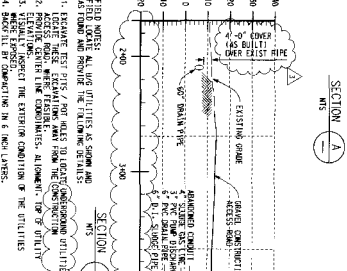
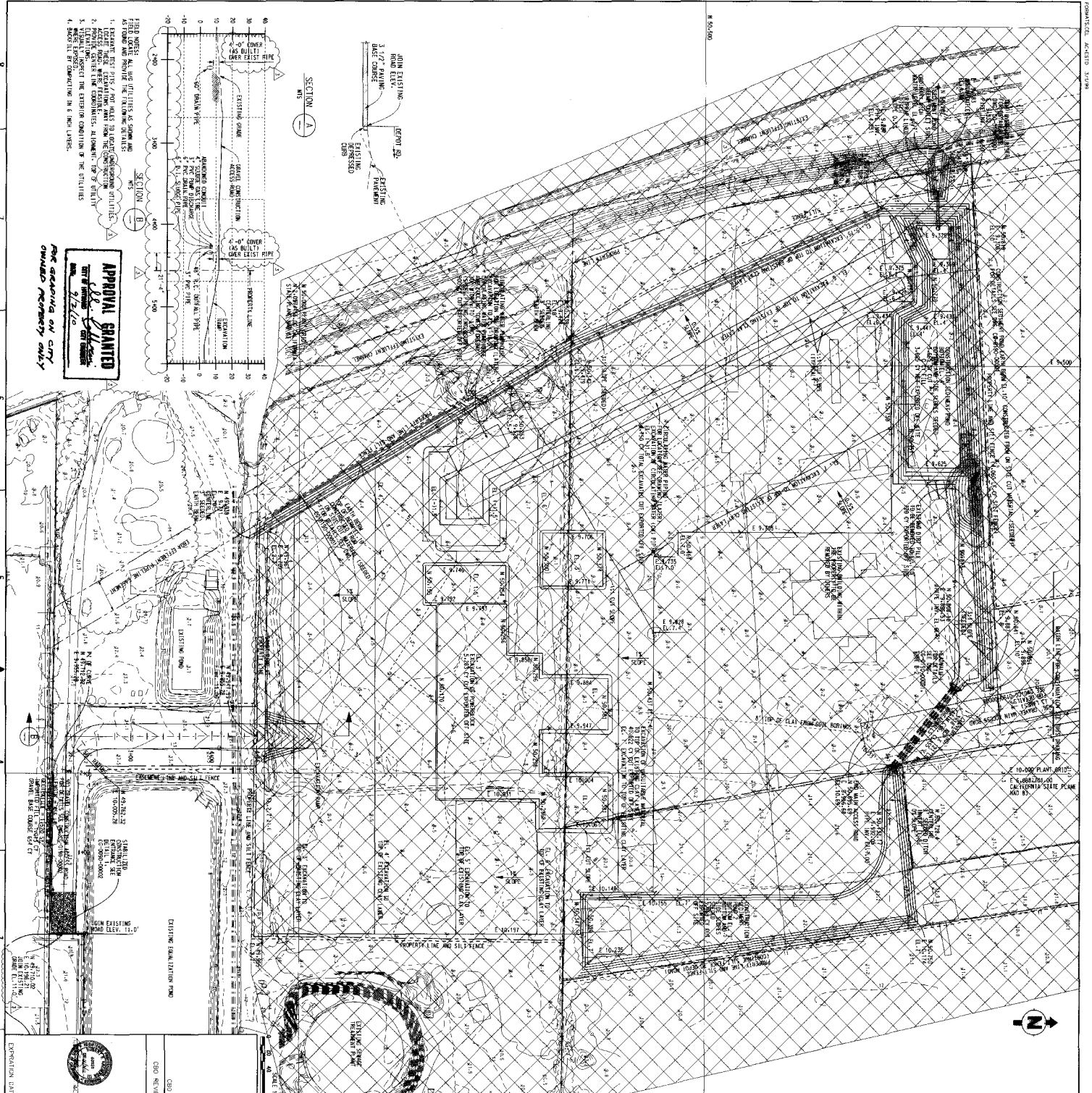
E 6,098,000

E 6,098,000

E 6,098,000

E 6,098,000

E 6,098,000



**APPROVAL GRANTED**  
 DATE: 08/25/10  
 BY: [Signature]

FOR SEALS ONLY  
 OWNED PROPERTY ONLY

- FIELD NOTES: ALL USE OF UTILITY OF SOILS AND AS SHOWN AND FINISH THE FOLLOWING DETAILS:
1. EXCAVATE FIRST FLOOR / NOT ALLOW TO GO TO EXISTING UTILITIES.
  2. EXCAVATE FIRST FLOOR / NOT ALLOW TO GO TO EXISTING UTILITIES.
  3. EXCAVATE FIRST FLOOR / NOT ALLOW TO GO TO EXISTING UTILITIES.
  4. EXCAVATE FIRST FLOOR / NOT ALLOW TO GO TO EXISTING UTILITIES.

EXPIRATION DATE: 2/28/11

DESIGN NO.: 25483

PROJECT NO.: 00-C-090-00001

DATE: 08/25/10

DESIGNER: BECHTEL, SAN FRANCISCO, CA

PROJECT: RUSSELL CITY ENERGY CENTER (PHASE 1) (GRADING PERMIT DRAWING 2 OF 7)

APPROVED BY: Robert P. Kunneman III

DATE: 08/25/10

PROJECT: RUSSELL CITY ENERGY CENTER (PHASE 1) (GRADING PERMIT DRAWING 2 OF 7)

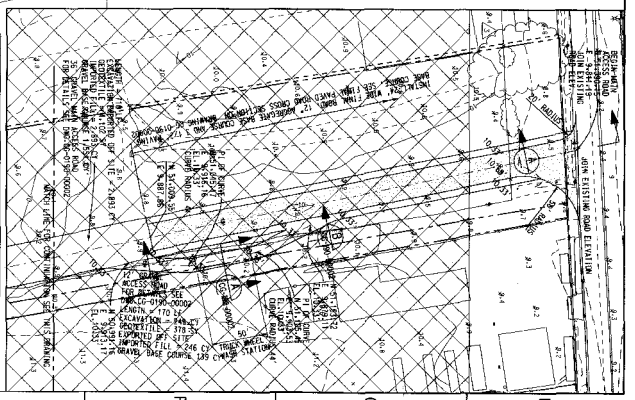
**NOTES**

1. SEE EXISTING SITE PLAN FOR EXISTING UTILITIES, FOUNDATION, AND STRUCTURE.
2. ALL EXCAVATIONS ARE TO BE MADE TO THE FINISH GRADE SHOWN ON THIS PLAN.
3. ALL EXCAVATIONS ARE TO BE MADE TO THE FINISH GRADE SHOWN ON THIS PLAN.
4. ALL EXCAVATIONS ARE TO BE MADE TO THE FINISH GRADE SHOWN ON THIS PLAN.

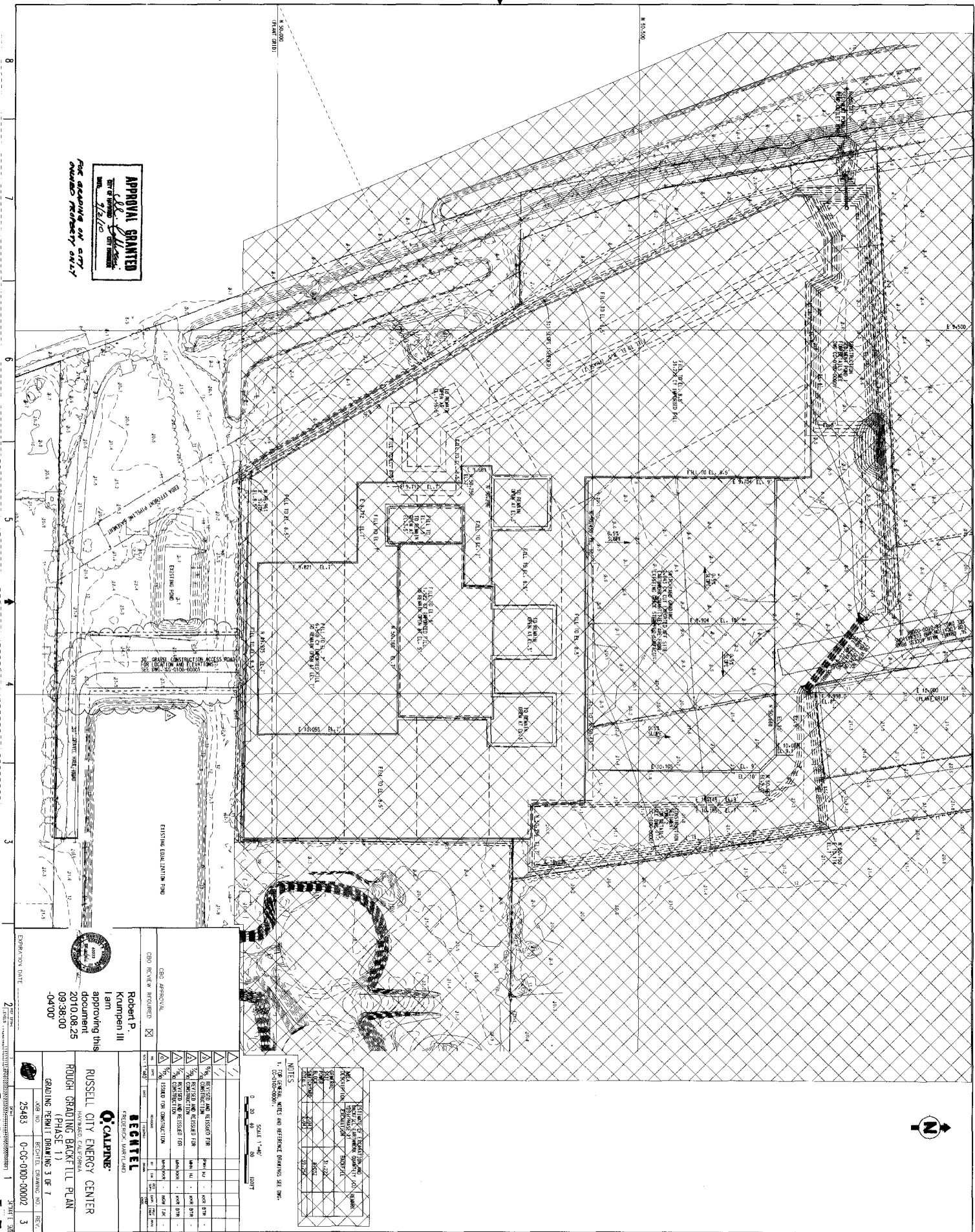
**REFERENCE DRAWINGS**

- 02-000-0000 SITE PLAN
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 1)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 2)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 3)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 4)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 5)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 6)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 7)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 8)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 9)
- 02-000-0000 EXCAVATION PERMIT PLAN (PHASE 10)

ITEM NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
2	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
3	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
4	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
5	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
6	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
7	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
8	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
9	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]
10	ISSUED FOR CONSTRUCTION	08/25/10	[Signature]



COMMERCIAL, 03/25/10



**APPROVAL GRANTED**  
 1/18/10  
 CITY ENGINEER  
 2/12/10

FOR GRADING ON CITY  
 GRADING PERMITS ONLY

8  
7  
6  
5  
4  
3  
2  
1

**BECHTEL**  
 BECHTEL POWER CORPORATION  
 25483  
 0-CG-000-00002

**RUSSELL CITY ENERGY CENTER**  
 HAYWARD, CALIFORNIA  
 ROUGH GRADING BACKFILL PLAN  
 (PHASE 1)  
 GRADING PERMIT DRAWING 3 OF 7

**Robert P. Krumpp III**  
 I am approving this document  
 2010.08.25  
 09:38:00  
 -04'00"

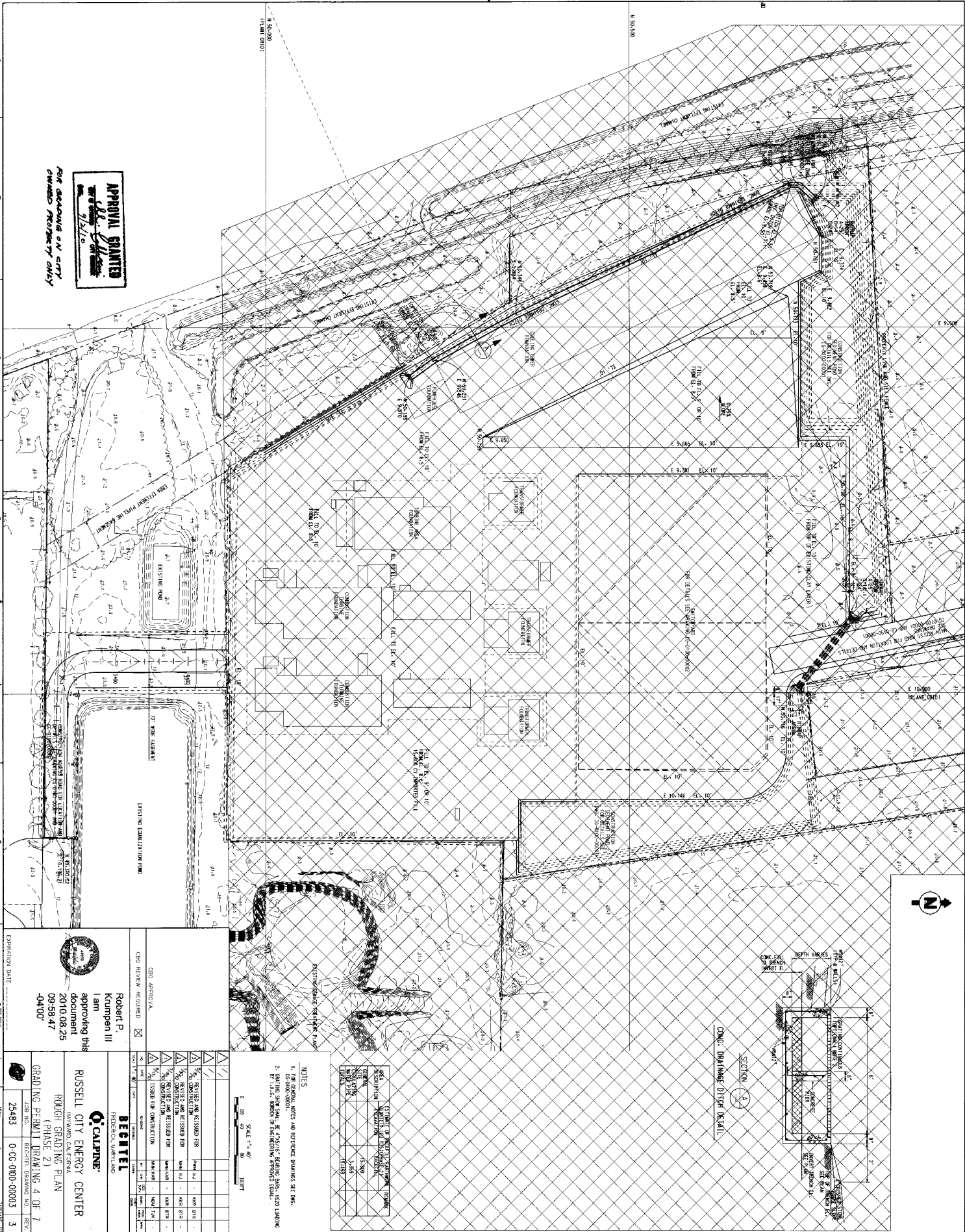
**CEC APPROVAL**  
 CEC REVIEW REQUIRED   
 Robert P. Krumpp III  
 I am approving this document  
 2010.08.25  
 09:38:00  
 -04'00"

EXPIRY DATE: 2/28/11

**NOTES**  
 1. REVISIONS AND REVISION DRAWINGS SEE INC.

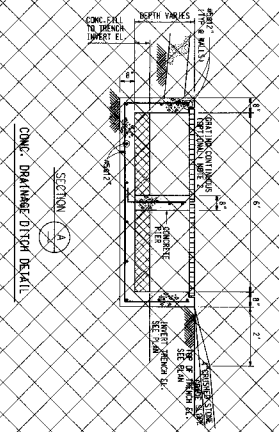
NO.	DATE	DESCRIPTION
1	08/25/10	ISSUED FOR CONSTRUCTION

SCALE: 1"=40'  
 0 20 40 80 120 FEET



**APPROVAL GRANTED**  
 RCEC  
 Russell City Energy Company, LLC

FOR DECISION ON CITY OWNED PROPERTY ONLY



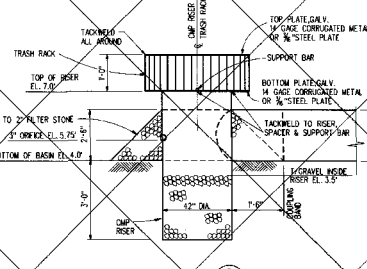
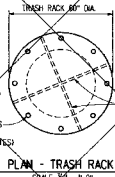
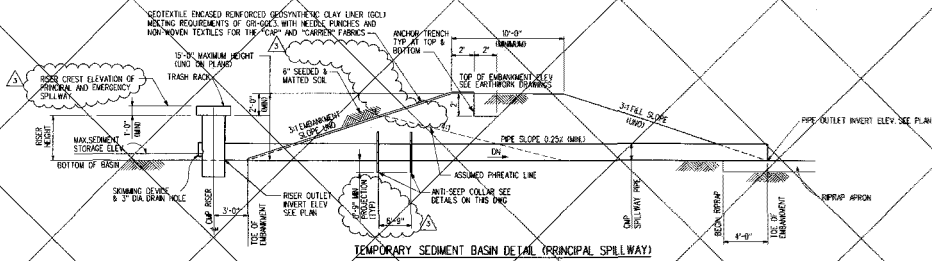
ESTIMATE OF MATERIAL QUANTITIES (SQM)

NO.	DESCRIPTION	UNIT	QTY
1	CONCRETE	CU YD	55.00
2	STEEL	TON	2.00
3	PIPE	LN	25.00

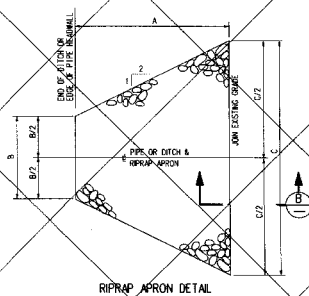
**NOTES**  
 1. FOR GENERAL NOTES AND REFERENCES, REFER TO SHEET E-1956-00001.  
 2. SHALL BE CONFORMANT WITH THE REQUIREMENTS OF THE ILLINOIS GRADING PERMIT DRAWING 4 OF 7.  
 3. SHALL BE CONFORMANT WITH THE REQUIREMENTS OF THE ILLINOIS GRADING PERMIT DRAWING 4 OF 7.

 <b>BECHTEL</b> FEDERAL ENERGY TECHNOLOGY CENTER 1700 CALLE DEL ARCO BERKELEY, CA 94704		 <b>RUSSELL CITY ENERGY CENTER</b> RUSSELL CITY ENERGY CENTER (PHASE 2) ROUGH GRADING PLAN	
EXPIRATION DATE: 2/28/2012 2/28/2012	CNO REVIEW REQUIRED: <input checked="" type="checkbox"/>	CNO APPROVAL: Robert P. Krumpen III I am approving this document 2010.08.25 09:58:47 -0400	SHEET NO.: 4 OF 7 DRAWING NO.: 25483 PROJECT NO.: 0-CC-010-00003 DATE: 3

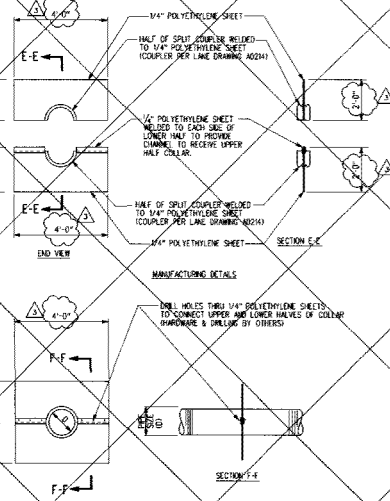
Copyright © 2010 Bechtel Power Corporation (Bechtel). This document, prepared under Contract 29483 between Bechtel and Russell City Energy Center, LLC (RECED-LLC), contains information confidential to Bechtel or Russell City Energy Center. No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of Bechtel Power Corporation.



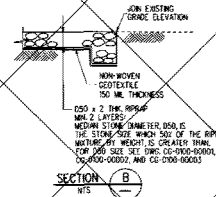
SEDIMENTATION BASIN TEMPORARY OVERFLOW RISER



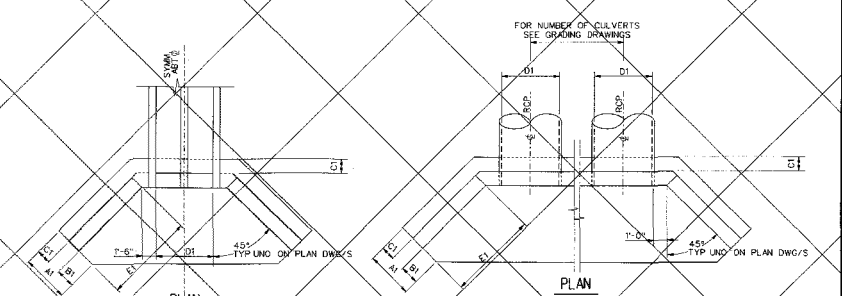
SEE ROUGH GRADING DRAWING FOR DIMENSIONS  
0 CC 090-00001, 0 CC 090-00002 & 0 CC 090-00003



TWO-PIECE CMP ANTI-SEEP COLLAR

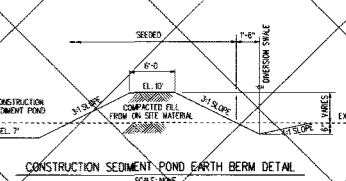


SECTION B

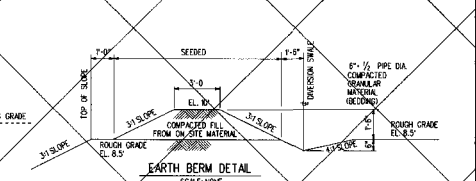


ELEVATION HEADWALL TYPE B-1 and ELEVATION HEADWALL TYPE B-2

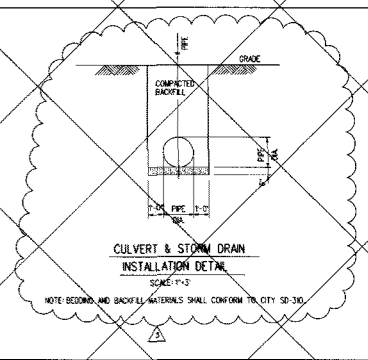
PIPE DIAMETER (OPENING)	DIMENSIONS					
	A1	B	C	E1	F1	G1
18" INCHES	1'-6"	6"	6"	4'-6"	2'-0"	3'-0"
72" WIDE INLET	4'-9"	2'-5"	1'-3"	11'-15"	3'-3"	7'-3"
72" WIDE OUTLET	4'-9"	2'-3"	1'-3"	2'-9"	3'-3"	5'-0"



CONSTRUCTION SEDIMENT POND EARTH BERM DETAIL



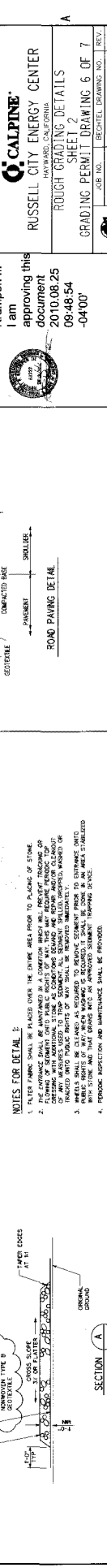
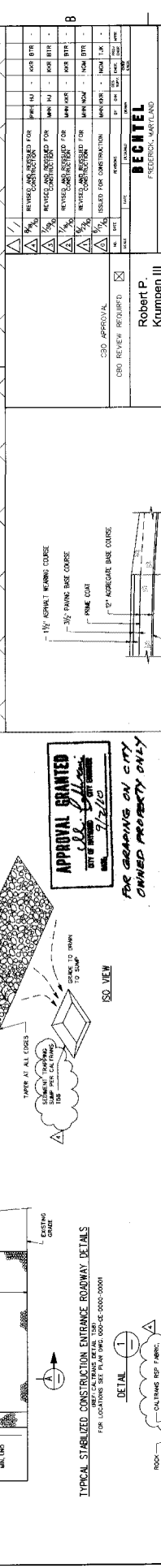
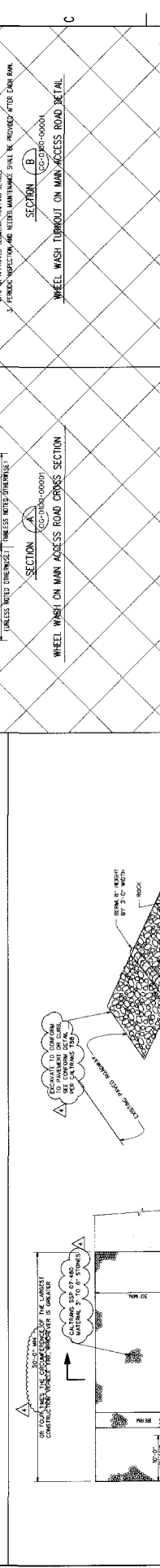
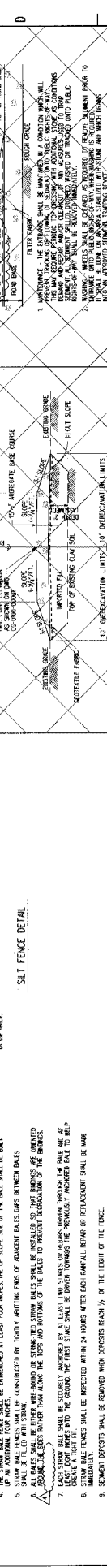
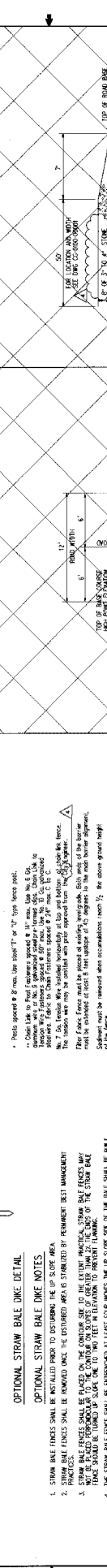
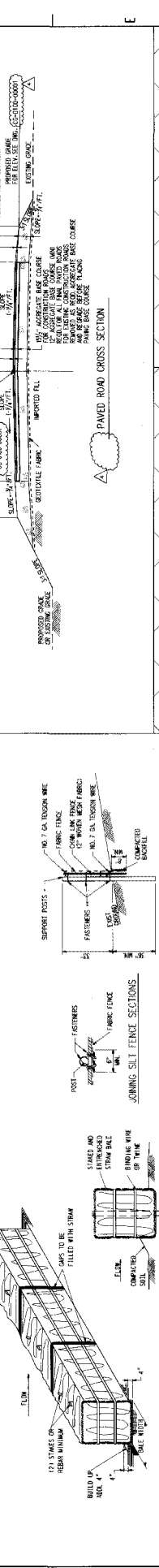
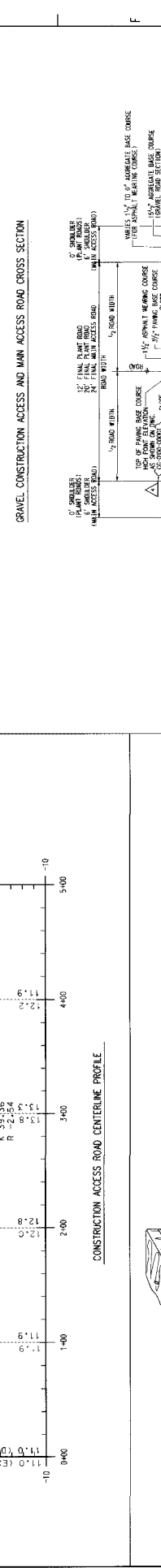
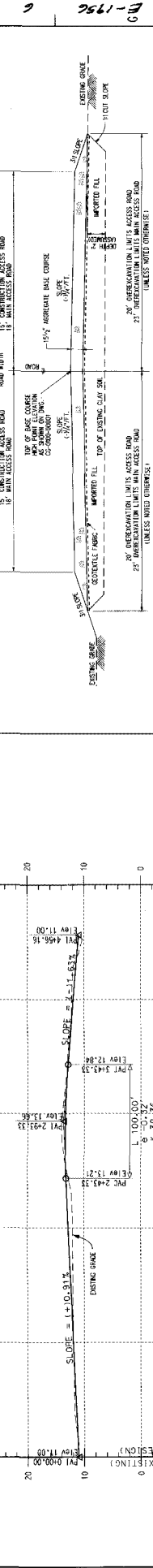
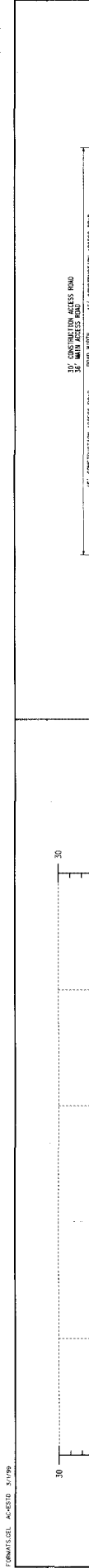
EARTH BERM DETAIL



CULVERT & STORM DRAIN INSTALLATION DETAIL

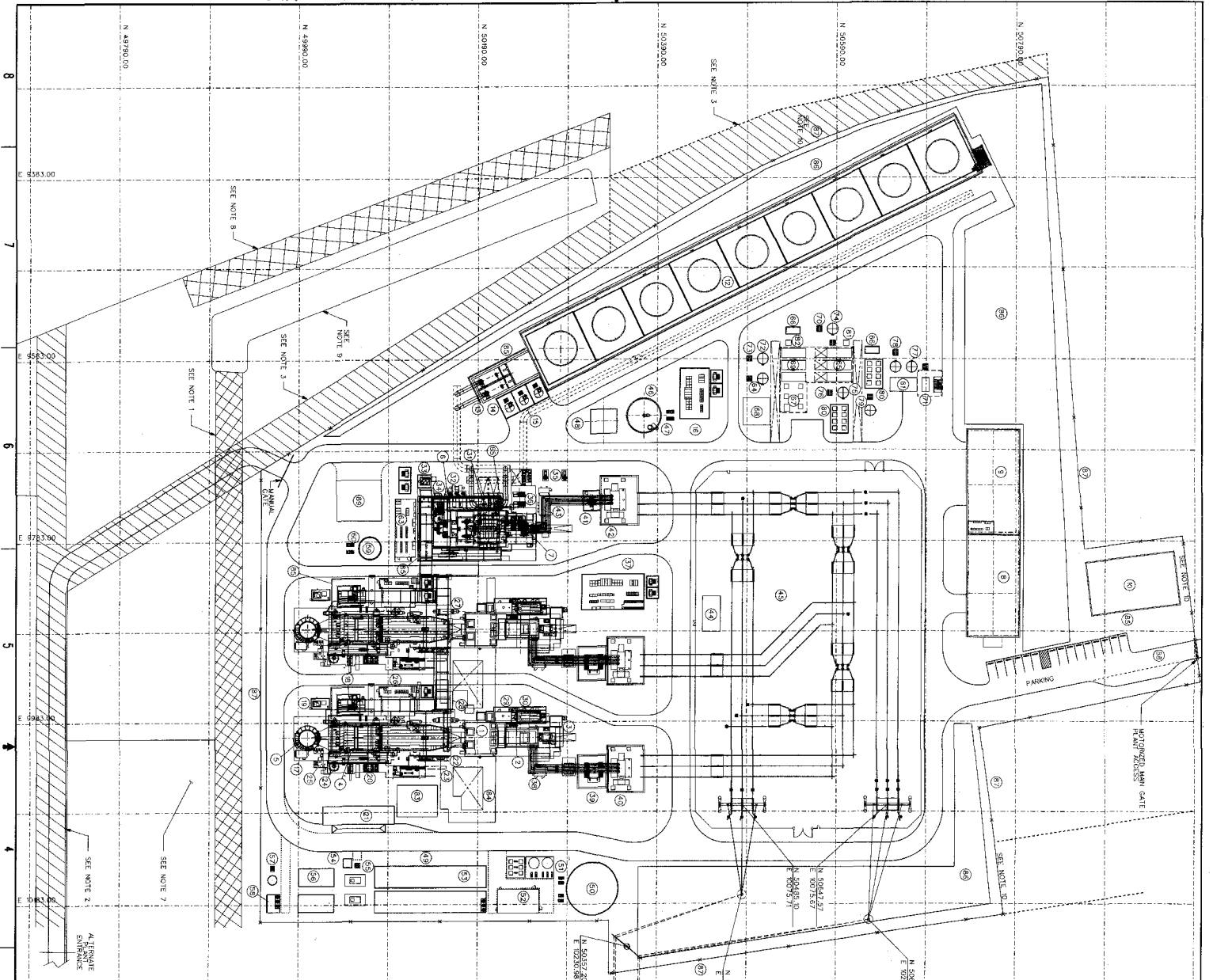
NOTE: BEDDING AND SHOULL MATERIALS SHALL CONFORM TO CITY SD-26.

<p>CBD APPROVAL</p> <p>CBD REVIEW REQUIRED <input checked="" type="checkbox"/></p> <p><b>APPROVAL GRANTED</b></p> <p><i>City of Hayward</i></p> <p><b>DATE: 7/1/10</b></p> <p><b>FOR GRADING ON CITY OWNED PROPERTY ONLY</b></p> <p>EXPIRATION DATE</p>	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>REVISED AND REQUESTED FOR CONSTRUCTION</td> <td>MWH</td> <td>KR</td> <td>KR</td> <td>BTR</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>REVISED AND REQUESTED FOR CONSTRUCTION</td> <td>MWH</td> <td>KR</td> <td>KR</td> <td>BTR</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>REVISED AND REQUESTED FOR CONSTRUCTION</td> <td>MWH</td> <td>KR</td> <td>KR</td> <td>BTR</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>ISSUED FOR CONSTRUCTION</td> <td>MWH</td> <td>KR</td> <td>NGM</td> <td>LJK</td> </tr> </table> <p><b>BECTEL</b></p> <p>FREDERICK, MARYLAND</p> <p><b>CALPINE</b></p> <p><b>RUSSELL CITY ENERGY CENTER</b></p> <p>HAYWARD, CALIFORNIA</p> <p>ROUGH GRADING DETAILS</p> <p>SHEET 1</p> <p>GRADING PERMIT DRAWING 5 OF 7</p> <table border="1"> <tr> <td>JOB NO.</td> <td>25483</td> <td>BECTEL DRAWING NO.</td> <td>REV.</td> </tr> <tr> <td></td> <td></td> <td>0-CG-0190-00001</td> <td>3</td> </tr> </table>	<input checked="" type="checkbox"/>	REVISED AND REQUESTED FOR CONSTRUCTION	MWH	KR	KR	BTR	<input checked="" type="checkbox"/>	REVISED AND REQUESTED FOR CONSTRUCTION	MWH	KR	KR	BTR	<input checked="" type="checkbox"/>	REVISED AND REQUESTED FOR CONSTRUCTION	MWH	KR	KR	BTR	<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION	MWH	KR	NGM	LJK	JOB NO.	25483	BECTEL DRAWING NO.	REV.			0-CG-0190-00001	3
<input checked="" type="checkbox"/>	REVISED AND REQUESTED FOR CONSTRUCTION	MWH	KR	KR	BTR																												
<input checked="" type="checkbox"/>	REVISED AND REQUESTED FOR CONSTRUCTION	MWH	KR	KR	BTR																												
<input checked="" type="checkbox"/>	REVISED AND REQUESTED FOR CONSTRUCTION	MWH	KR	KR	BTR																												
<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION	MWH	KR	NGM	LJK																												
JOB NO.	25483	BECTEL DRAWING NO.	REV.																														
		0-CG-0190-00001	3																														



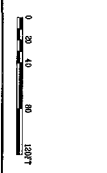
REVISIONS	NO.	DATE	DESCRIPTION
1	1	08/25/20	ISSUED FOR CONSTRUCTION
2	2	08/25/20	ISSUED FOR CONSTRUCTION
3	3	08/25/20	ISSUED FOR CONSTRUCTION
4	4	08/25/20	ISSUED FOR CONSTRUCTION

DATE: 2020.08.25  
 TIME: 09:48:54  
 SHEET: 2 OF 7  
 DRAWING: GRADING PERMIT DRAWING 6 OF 7  
 PROJECT: 25483 0-CG-0190-0002  
 EXPIRATION DATE: 12/31/2021

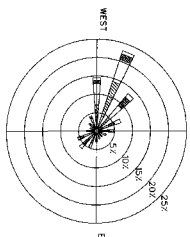


**APPROVAL GRANTED**  
 488 - 01 - 01  
 DATE OF APPROVAL: 7/21/10  
 CITY OF RIVERSIDE  
 PUBLIC WORKS DEPARTMENT

**FOR READINGS ON CITY OWNED PROPERTY ONLY**



- |    |   |
|----|---|
| 34 | CLOSED COOLING WATER HEAT EXCHANGERS          |
| 37 | ELECTRICAL SWITCHGEAR BUILDING                |
| 38 | CTG GENERATOR BURNER                          |
| 39 | UNIT AUXILIARY TRANSFORMER                    |
| 40 | CTG STEP UP TRANSFORMER                       |
| 41 | STIG EXHAUSTION TRANSFORMER                   |
| 42 | STIG STEP-UP TRANSFORMER                      |
| 43 | ISOPHASE BUS DUCT                             |
| 44 | SWITCHYARD CONTROL HOUSE                      |
| 45 | SERVICE / FIRE WATER STORAGE TANK             |
| 46 | SERVICE / FIRE WATER STORAGE TANK             |
| 47 | FIRE PUMP SHED ENCLOSURE                      |
| 48 | FIRE PUMP SHED ENCLOSURE                      |
| 49 | RECYCLED WATER STORAGE TANK (TILE 22 WATER)   |
| 50 | RECYCLED WATER STORAGE TANK (TILE 22 WATER)   |
| 51 | COOLING TOWER MAKE-UP & FILTER BACKLOG PUMPS  |
| 52 | WATER TREATMENT LAB / RAW ELECTRICAL BUILDING |
| 53 | OPEN EFFLUENT DITCH                           |
| 54 | OPEN EFFLUENT DITCH                           |
| 55 | FILTER AIR BLOWER SHED                        |
| 56 | CLAMBER                                       |
| 57 | SLUDGE TANK AND PUMPS                         |
| 58 | RAW WET WELL W/ INFLUENT PUMPS                |
| 59 | DEAER WATER STORAGE TANK                      |
| 60 | DEAER WATER STORAGE TANK                      |
| 61 | CRYSTALLIZER AND ACCESSORIES                  |
| 62 | NOT USED                                      |
| 63 | WATER TREATMENT ELECTRICAL BUILDING           |
| 64 | MIXED BED FEED TANK AND PUMPS                 |
| 65 | REVERSE OSMOSIS (RO) UNITS                    |
| 66 | SLUMP PUMPS                                   |
| 67 | VERBODER SIEVE ENHANCED PROCESS (VEP) AREA    |
| 68 | CONTROL AND ELECTRICAL MODULE                 |
| 69 | LABORATORY / UP LIFT PUMPS                    |
| 70 | UP FEED PUMPS                                 |
| 71 | FILTER PRESSSES                               |
| 72 | COOLING TOWER BLOW DOWN TANK                  |
| 73 | UP FEED PUMPS                                 |
| 74 | RO FEED TANK AND PUMPS                        |
| 75 | RO REACT TANK                                 |
| 76 | VEP FEED PUMPS                                |
| 77 | FILTER FEED TANK AND PUMPS                    |
| 78 | DISTILLATE TANK AND PUMPS                     |
| 79 | CRYSTALLIZER FEED TANK AND PUMPS              |
| 80 | CHEMICAL CONTAINMENT AREA                     |
| 81 | RO CP SYSTEM                                  |
| 82 | UP CP SYSTEM                                  |
| 83 | AIR COMPRESSORS, RECEIVERS, AND DRYERS        |
| 84 | GRADE AREA / MAINTENANCE                      |
| 85 | ACOUSTIC BARRIER WALLS                        |
| 86 | STORM WATER DETENTION AREA                    |
| 87 | FENCE LINE                                    |
| 88 | TRUCK AND CAR INSPECTION AREA                 |
| 89 | MIXED BED MEDIA UNITS                         |



- NOTES**
- APPROXIMATE LOCATION OF 4th EFFLUENT LINE
  - RIGHT-OF-WAY BOUNDARY, NORTH, EAST, WEST, SOUTH, FROM ENTERING WET WELL TO SLUDGE BINS (S/W/WEL).
  - APPROXIMATE LOCATION FOR BOP/BEBA EFFLUENT
  - ALL EXHAUST AIR APPROPRIATELY BASED ON PROJECT MAPS, SERIAL PHOTOS AND FIELD WORK.
  - NOT USED
  - ESTIMATED LOCATION OF EXISTING EQUALIZATION BASIN
  - EXISTING STORM CHANNEL TO REMAIN AN OPEN EFFLUENT DITCH
  - UNLESS INDICATED OTHERWISE THE FENCE LINE IS THE 1/4" STATE PLANE COORDINATES SHOWN ARE BASED ON CALIFORNIA MARS ZONE 1.
- SYMBOLS**
- PROPERTY LINE
  - FENCE
- ITEM DESCRIPTION**
- CONSTRUCTION TURBINE (CT)
  - CONSTRUCTION TURBINE GENERATION (CTG)
  - CONSTRUCTION TURBINE AIR INLET SYSTEM
  - HEAT RECOVERER STEAM GENERATION (HRS)
  - HEAT STACK
  - STEAM TURBINE (ST)
  - STEAM TURBINE GENERATOR (STG)
  - ADMINISTRATION / CONTROL BUILDING
  - MANUFACTURING WAREHOUSE BUILDING
  - F.C. METERS & COMPRESSORS ENCLOSURE
  - NOT USED
  - COOLING TOWER
  - CHLORINATING WATER PUMPS
  - CHLORINATING WATER PIPES
  - COOLING TOWER CHEMICAL FEED AREA
  - COOLING TOWER ELECTRICAL BUILDING
  - CONDENSATE EMULSIONS ADJUSTING SYSTEM (COND)
  - BULLER STEAMWATER PUMPS
  - AMMONIA INJECTION SHED
  - AMMONIA STORAGE TANK, PUMPS & VAPORIZER
  - FUEL GAS BURNER SHED
  - FUEL GAS DETECTOR WATER
  - HESS BLOWDOWN TANK
  - HESS BLOWDOWN DRAIN AND PUMPS
  - HESS POWER DISTRIBUTION CENTER (HPO)
  - KETTLE BOILER
  - STEAM & WATER ANALYSIS PANEL
  - CONSTRUCTION TURBINE ACCESSORY MODULE
  - CONSTRUCTION TURBINE ELECTRICAL MODULE
  - CONDENSER
  - CONDENSATE PUMPS
  - 31G AREA CHEMICAL FEED SHED
  - 31G LUBE OIL SHED
  - CLOSED COOLING WATER PUMPS
- REVISIONS:**  
 NO. DATE BY  
 1 10/10/09  
 2 11/10/09  
 3 12/10/09  
 4 01/10/10  
 5 02/10/10  
 6 03/10/10  
 7 04/10/10  
 8 05/10/10  
 9 06/10/10  
 10 07/10/10  
 11 08/10/10  
 12 09/10/10  
 13 10/10/10  
 14 11/10/10  
 15 12/10/10  
 16 01/10/11  
 17 02/10/11  
 18 03/10/11  
 19 04/10/11  
 20 05/10/11  
 21 06/10/11  
 22 07/10/11  
 23 08/10/11  
 24 09/10/11  
 25 10/10/11  
 26 11/10/11  
 27 12/10/11  
 28 01/10/12  
 29 02/10/12  
 30 03/10/12  
 31 04/10/12  
 32 05/10/12  
 33 06/10/12  
 34 07/10/12  
 35 08/10/12

**CAD APPROVAL**  
 CBO REVIEW REQUIRED

**BECHTEL**  
 FREDERICK WATLAND  
 RUSSELL CITY ENERGY CENTER  
 HYAWARD, CALIFORNIA

**PLANT PLAN**  
 GRADING PERMIT DRAWINGS 7 OF 7  
 SHEET NO. 25483-001  
 BECHTEL DRAWING NO. 1  
 PI-000-0001  
 A

EXPIRATION DATE: \_\_\_\_\_