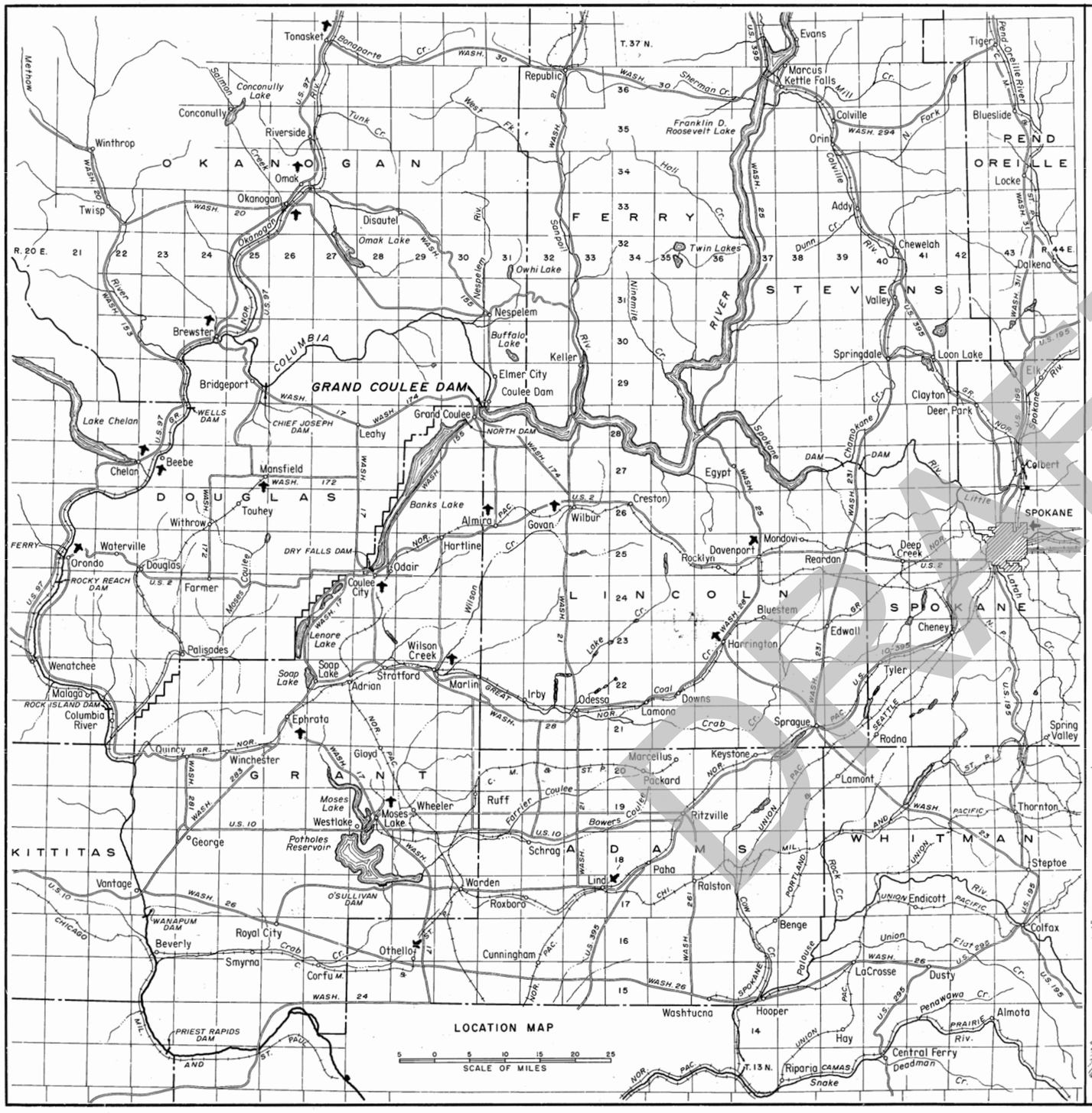

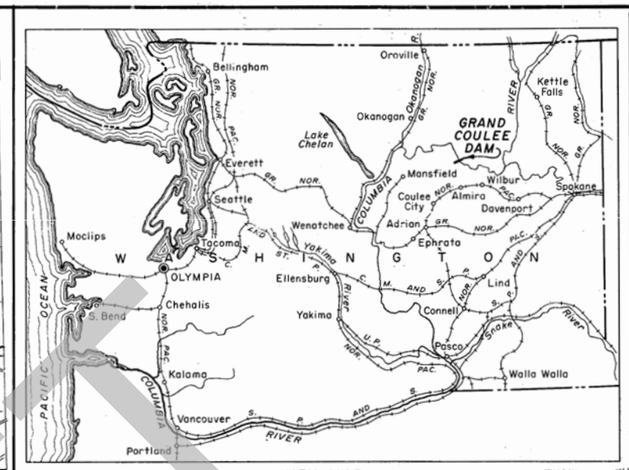

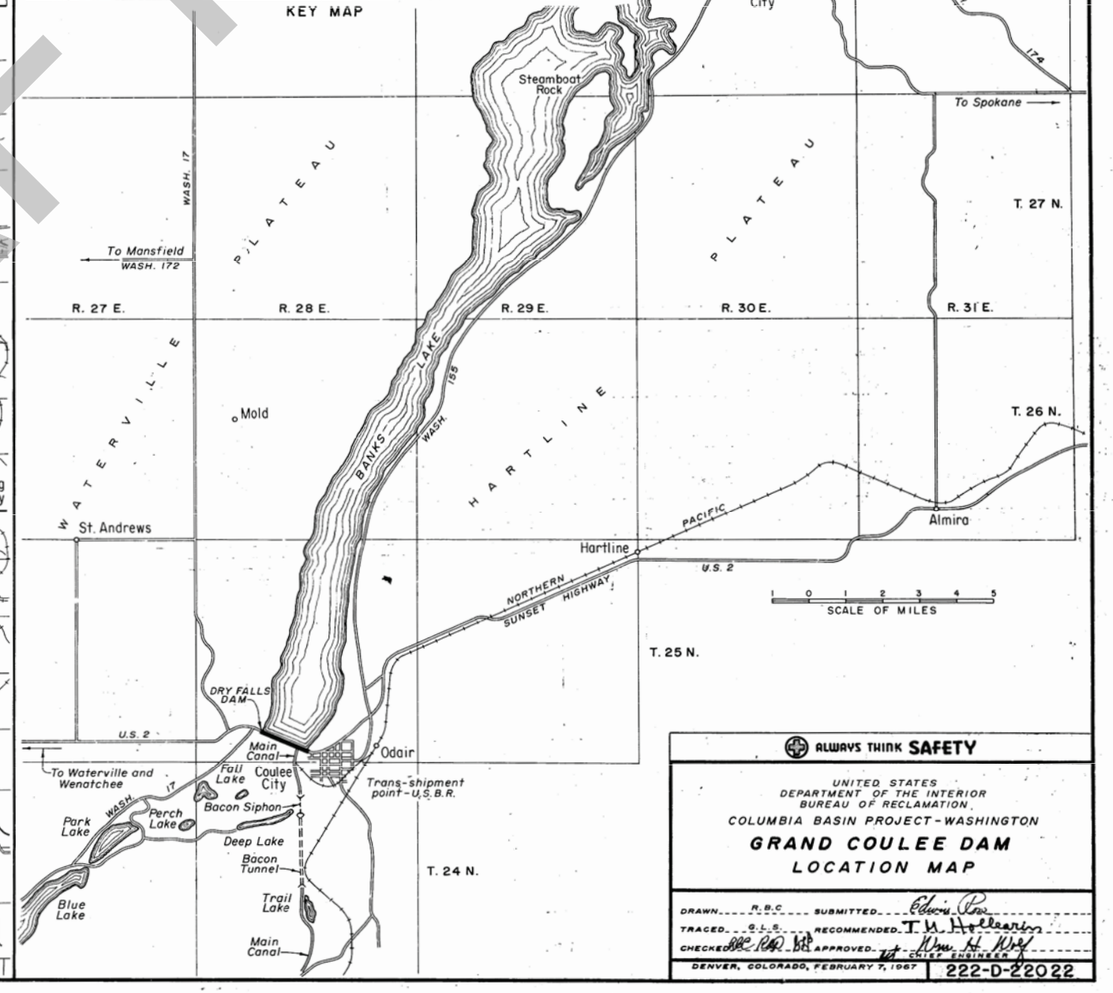

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
COLUMBIA BASIN PROJECT-WASHINGTON

GRAND COULEE DAM
LOCATION MAP

DRAWN R.S.C. SUBMITTED Edwin Roe
TRACED G.L.S. RECOMMENDED T. H. Hollearn
CHECKED RAP APPROVED Alan S. Wolf CHIEF ENGINEER
DENVER, COLORADO, FEBRUARY 7, 1967 222-D-22022

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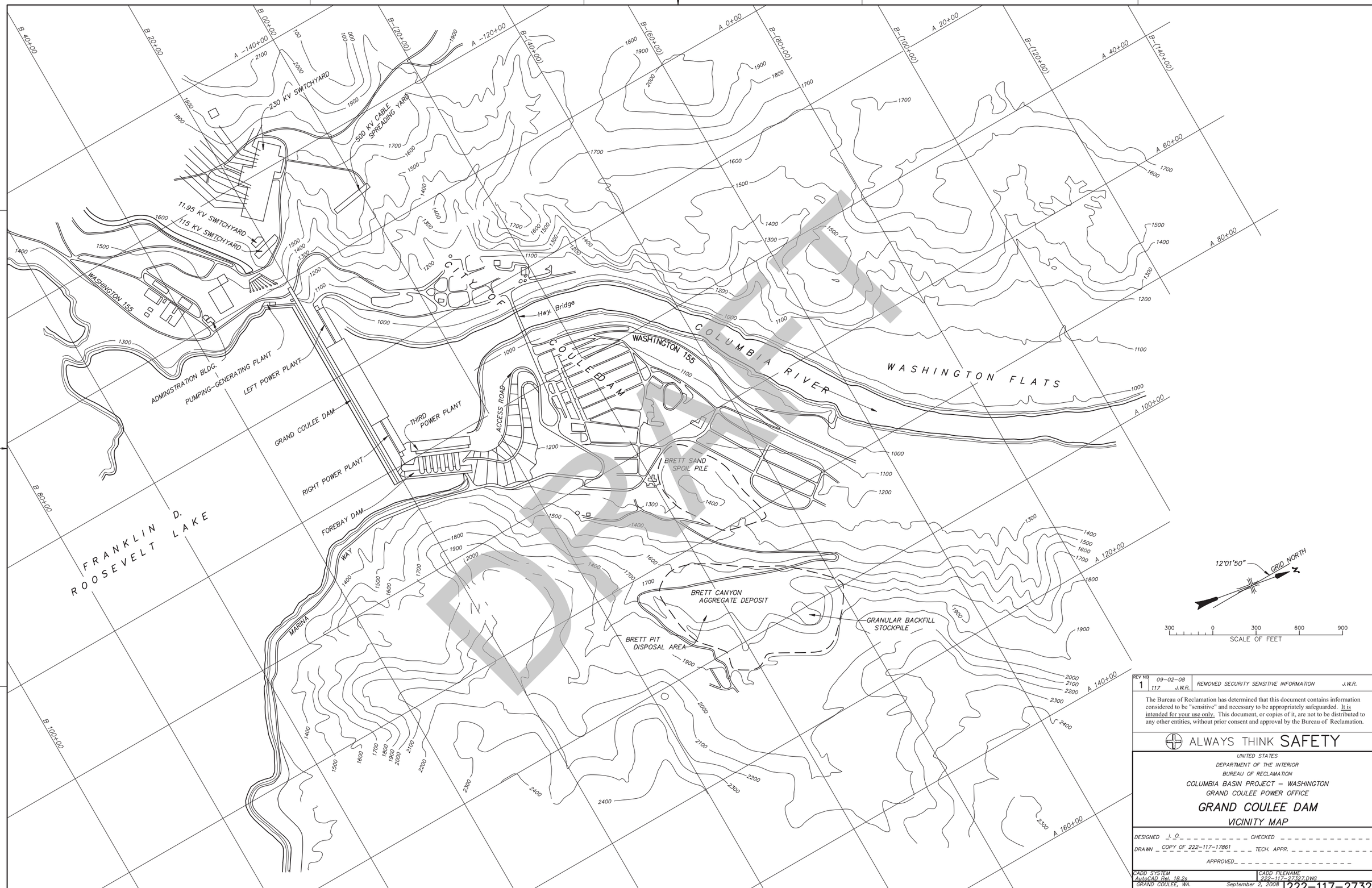

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REV NO			
1	09-02-08 117 J.W.R.	REMOVED SECURITY SENSITIVE INFORMATION	J.W.R.

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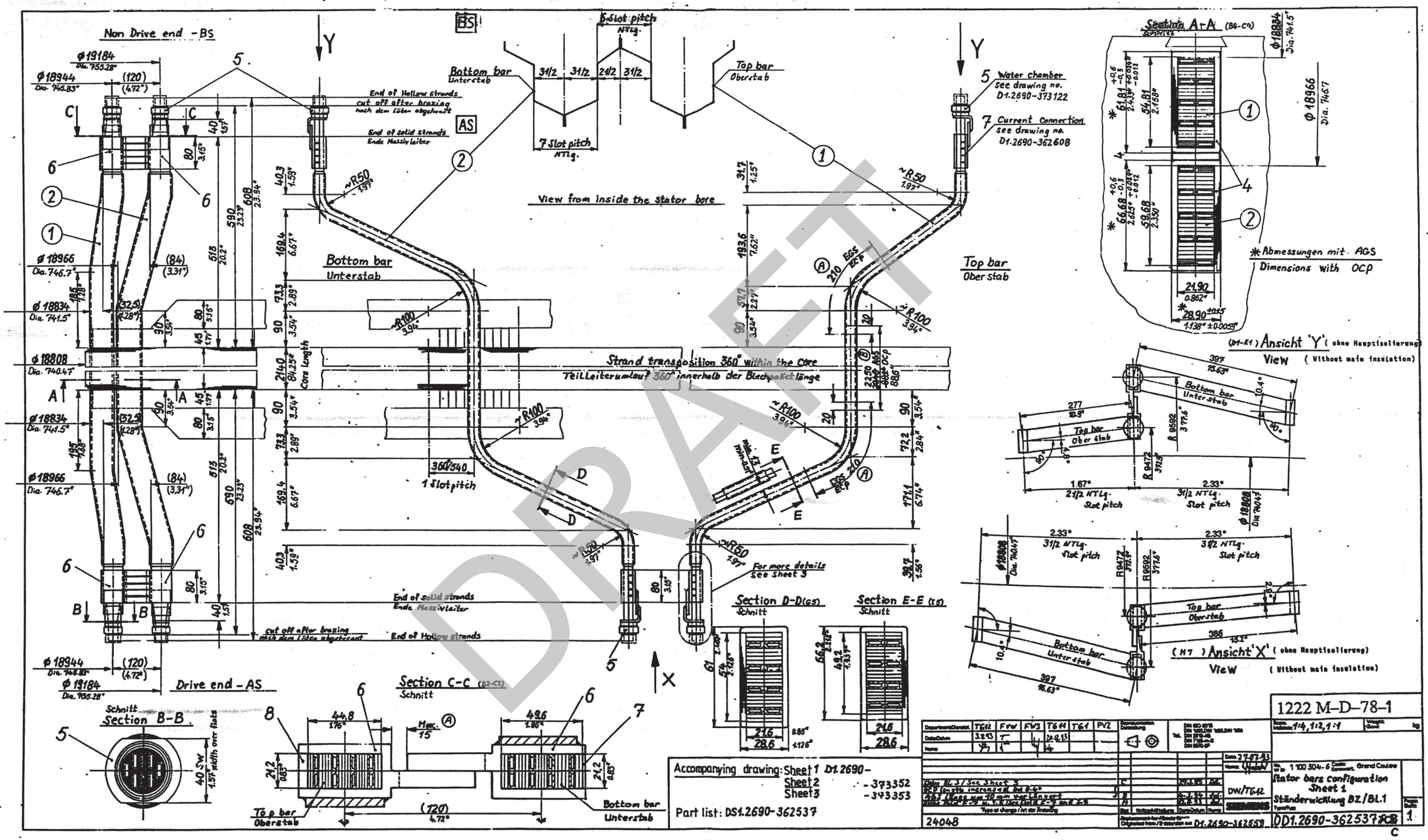
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
COLUMBIA BASIN PROJECT – WASHINGTON
GRAND COULEE POWER OFFICE

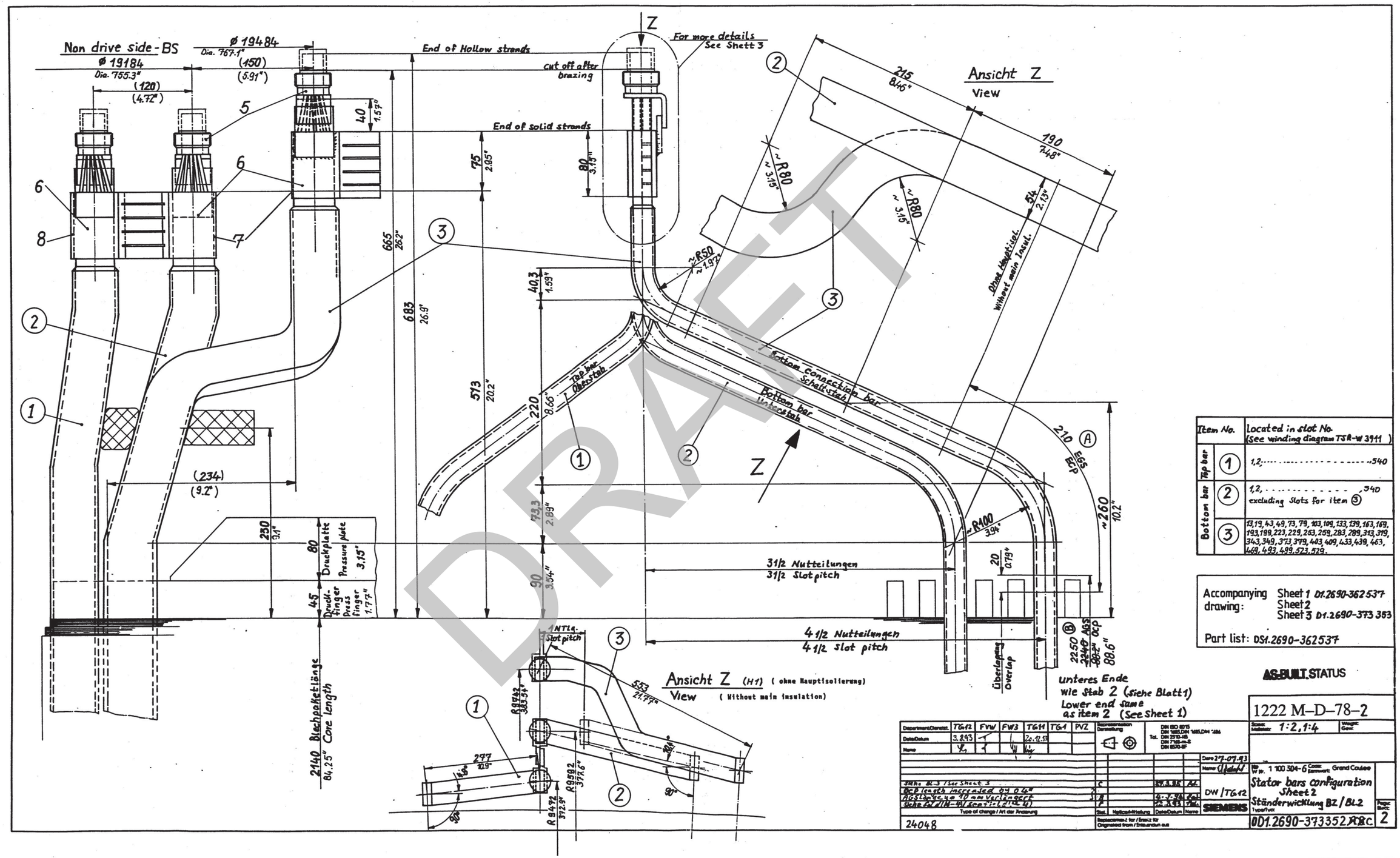
GRAND COULEE DAM
VICINITY MAP

DESIGNED J. O. CHECKED
DRAWN COPY OF 222-117-17861 TECH. APPR.
APPROVED

CADD SYSTEM AutoCAD Rel. 18.2s
CADD FILENAME 222-117-27327.DWG
GRAND COULEE, WA. September 2, 2008 222-117-27327

DATE AND TIME PLOTTED NOVEMBER 27, 2012 11:43
PLOTTED BY MDOYLE


Non Drive end - BS
Drive end - AS
BS
AS
Bottom bar
Unterstab
Top bar
Oberstab
5 Slot pitch
NTLg.
7 Slot pitch
NTLg.
31/2 31/2 2 1/2 31/2
End of Hollow strands
cut off after brazing
nach dem Löten abgeschnitt
End of solid strands
Ende Massivleiter
5 Water chamber
see drawing no.
D1.2690-373122
7 Current Connection
see drawing no.
D1.2690-362608
View from inside the stator bore
Strand transposition 360° within the core
Teilleiterumlauf 360° innerhalb der Blechpaketlänge
Core length
1 Slot pitch
360/540
For more details
See Sheet 3
Section A-A (B4-C4)
Abmessungen mit AGS
Dimensions with OCP
(D1-K1) Ansicht 'Y' (ohne Hauptisolierung)
View (Without main insulation)
(H7) Ansicht 'X' (ohne Hauptisolierung)
View (Without main insulation)
Section B-B
Section C-C (B2-C2)
Section D-D (G5)
Section E-E (E5)
Schnitt
Top bar
Oberstab
Bottom bar
Unterstab
Accompanying drawing: Sheet 1 D1.2690-
Sheet 2 -373352
Sheet 3 -373353
Part list: DS1.2690-362537
1222 M-D-78-1
Stator bars configuration
Sheet 1
Ständerwicklung BZ/BL.1
DD1.2690-362537
24048
DRAFT


Non drive side - BS
ø 19184
Dia. 755.3"
(120)
(4.72")
ø 19484
Dia. 767.1"
(150)
(5.91")
End of Hollow strands
cut off after brazing
End of solid strands
For more details See Shett 3
Z
Ansicht Z
View
215
8.46"
190
7.48"
~R80
~3.15"
54
2.13"
Draht Hauptisol.
without main Insul.
~R50
~1.97"
40
1.57"
75
2.95"
80
3.15"
665
26.2"
683
26.9"
513
20.2"
40.3
1.59"
220
8.66"
Top bar
Oberstab
Bottom connection bar
Schaltstab
Bottom bar
Unterstab
210
ECP
~260
10.2"
~R100
3.94"
20
0.79"
73.3
2.89"
90
3.54"
31/2 Nutteilungen
31/2 Slot pitch
41/2 Nutteilungen
41/2 slot pitch
Überlappung
Overlap
unteres Ende
wie Stab 2 (siehe Blatt1)
Lower end same
as item 2 (See Sheet 1)
(234)
(9.2")
230
9.1"
80
Druckplatte
Pressure plate
3.15"
45
Druck-finger
Press finger
1.77"
2140 Blechpaketlänge
84.25" Core Length
1 NT14 Slot pitch
Ansicht Z (H1) (ohne Hauptisolierung)
View (Without main insulation)
553
21.77"
297
11.9"
R 84.32
R 95.32
37.4.6"
90°
Item No.
Located in slot No.
(See winding diagram TSR-W 3911)
Top bar
1
1,2,.....540
Bottom bar
2
1,2,.....540
excluding Slots for item 3
3
13,19,43,49,73,79,103,109,133,139,163,169,193,199,223,229,253,259,283,289,313,319,343,349,373,379,403,409,433,439,463,469,493,499,523,529.
Accompanying drawing:
Sheet 1 D1.2690-362537
Sheet 2
Sheet 3 D1.2690-373353
Part list: DS1.2690-362537
AS-BUILT STATUS
1222 M-D-78-2
Scale: 1:2,1:4
Stator bars configuration
Sheet 2
Ständerwicklung BZ/BL2
0D1.2690-373352
DW/TG12
SIEMENS
24048
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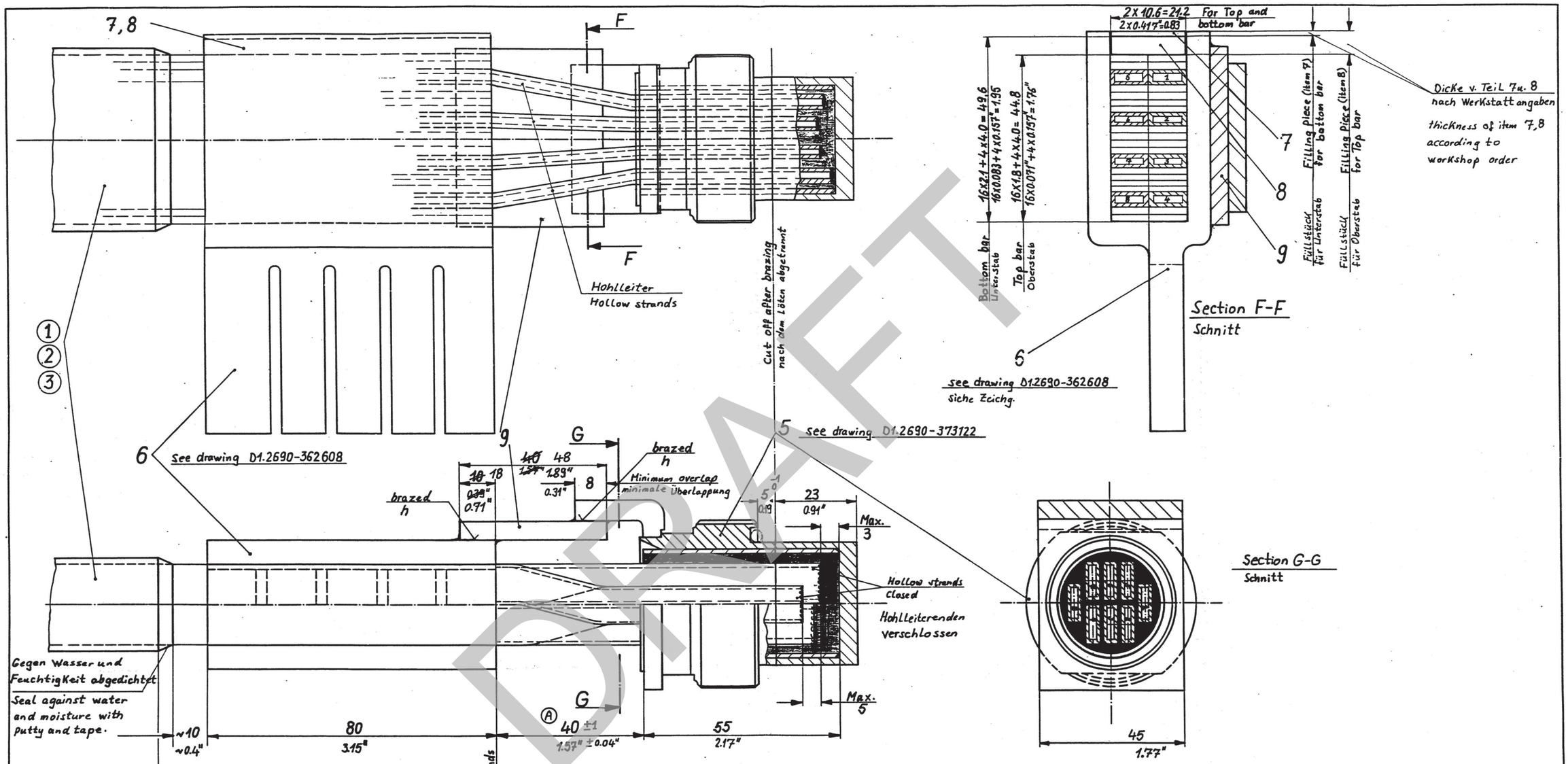


DRAFT

Accompanying drawing: Sheet 1 D1.2690-362537
Sheet 2 -373352
Sheet 3

Part list: DS1.2690-362537

Department/Bereich	TDG2	FYW	FW3	TG1A	TG1	PYZ
Date/Datum	3.3.93					
Name						

Teil 3 Hinzufügen B added	C		27.3.95	Fel.
Remark in field A6 modified				
see sheet 1 und 2 / siehe Bl. 1 und 2	B		6.3.94	Fel.
siehe Feld C-7 / see field C-7	A		22.08.93	Fel.
Type of change / Art der Änderung	Stat	Name	Date/Datum	Name

24048

Replacement for / Ersatz für
Replaced from / Entstanden aus

Date: 26-07-93
Name: Wolaski

DN/TG12

SIEMENS

AS-BUILT STATUS

1222 M–D–78–3

Scale: / Maßstab: 2:1
Weight: / Gew: kg

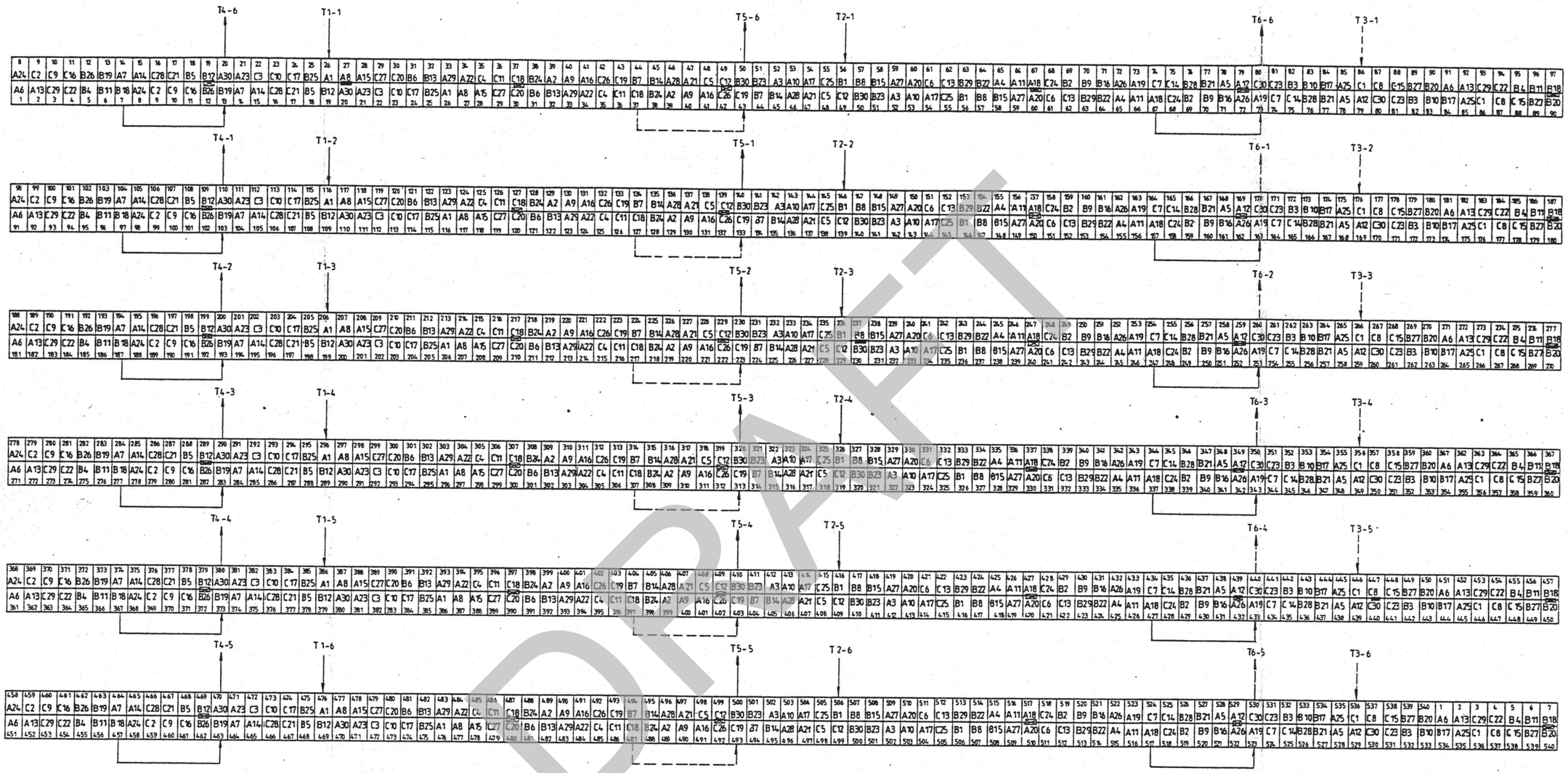
No. / V-Nr. 1 100 304-6 Loom: / Kommert: Grand Coulee

Stator bars configuration
Sheet 3
Ständerwicklung Bz / Bl.3

Type/Typ: 0D1.2690-373353AB C

Page: / Blatt: 3

05-16-97



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Accompanying drawing : D1.2640-362615 Sheet 2
Dazugehörige Zeichnung Blatt 2

REFERENCE DRAWINGS

- Stator winding diagram TSR - W 3911

Descriptment/Benennt.	TDG 2	TDG1				PVZ
Date/Datum	7.4.92	3.12.91				
Name						

Repräsentation Darstellung

DIN ISO 8015
DIN 3665,DIN 3686
Tol. DIN 2310-IB
DIN 7168-m-S
DIN 8570-BF

Date: 16.6.92
Name: L.L.L

DW/ TDG2

SIEMENS

Type of change / Art der Änderung | Stat. | Ersatz-Mitteilung | Date/Datum | Name

Replacement for / Ersetzt für
Ongeldig vanaf / Ersetzendes aus

1222 M–D–78–14

Scale/ Maßstab: | Weight/ Gew.: kg

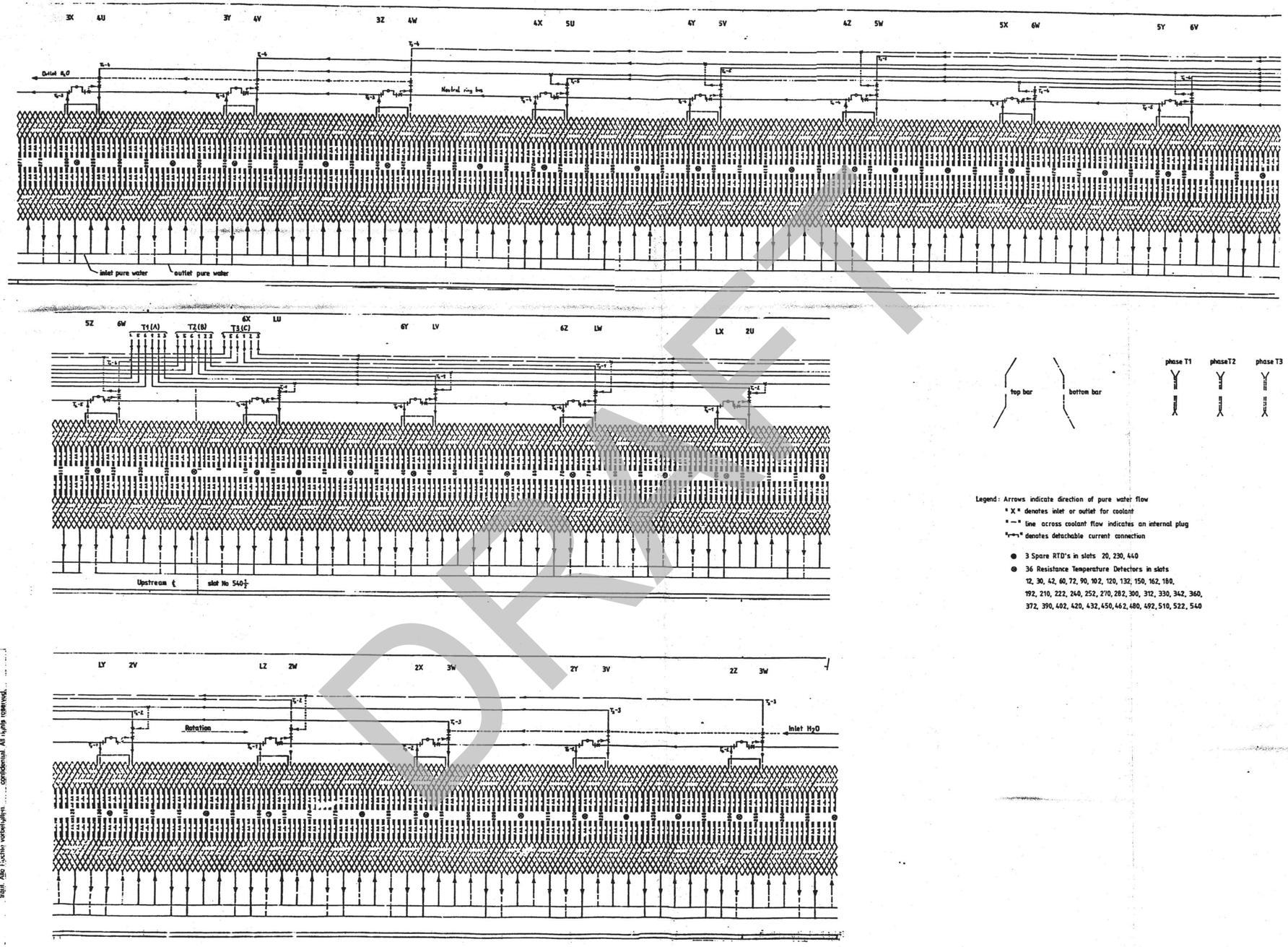
No. W.Nr. 1 100 304 | Code/ Kennwort: Grand Coulee

ARMATURE WINDING
VOLTAGE PROFILE

Type/Typ:

D1.2640-362551

Page/ Blatt: 1



Sequence of phases for clock-wise rotation when viewed from above (non drive end):

$U(T1) = \hat{U} \cos(\omega t)$
$U(T2) = \hat{U} \cos(\omega t - 120°)$
$U(T3) = \hat{U} \cos(\omega t - 240°)$

Legend: Arrows indicate direction of pure water flow
"X" denotes inlet or outlet for coolant
"—" line across coolant flow indicates an internal plug
"—" denotes detachable current connection

● 3 Spare RTD's in slots 20, 230, 440

● 36 Resistance Temperature Detectors in slots
12, 30, 42, 60, 72, 90, 102, 120, 132, 150, 162, 180,
192, 210, 222, 240, 252, 270, 282, 300, 312, 330, 342, 360,
372, 390, 402, 420, 432, 450, 462, 480, 492, 510, 522, 540

WICKLUNGSBILD
STATOR WINDING DIAGRAM

1 100 304-306
1DH 9153-6WS42-2
GRAND COULEE POWER PLANT

2-STAB-WELLENWICKLUNG
DOUBLE-LAYER WAVE WINDING

3 STRÄNGE / PHASES — SCHALTUNG / CONNECTION Y — 6 PARALLELE ZWEIGE / PARALLEL PATHS
84 POLE / POLES — 540 NUTEN / SLOTS
2 1/7 NUTEN PRO POL UND STRANG / SLOTS PER POLE AND PHASE
SEHNUNG / CHORDING 0.8890 MEHRFACH
SCHRITT / PITCH 6/7 NUTTEILUNGEN / SLOT PITCHES

● 3 Spare RTD's in slots 20, 230, 440
● 36 Res. ... Temperature Detectors in slots
12, 30, 42, 60, 72, 90, 102, 120, 132, 150, 162, 180,
192, 210, 222, 240, 252, 270, 282, 300, 312, 330, 342, 360,
372, 390, 402, 420, 432, 450, 462, 480, 492, 510, 522, 540
WICHT NR. 7DH 9153 20-00-99

	DATE	NAME
GEZ.	22.5.91	
GEPRÜFT		
NORM.		
ERSETZT		

ISR-W 3911
SIEMENS AKTIENGESELLSCHAFT
BYRAMWERK

2-Stab-Wellenwicklung

DOUBLE-LAYER WAVE WINDING

3 Stränge / PHASES
Schaltung / CONNECTION Y
6 Parallele Zweige / PARALLEL PATHS
84 Pole / POLES
540 Nuten / SLOTS
2 1/7 Nuten pro Pol u. Strang / SLOTS PER POLE AND PHASE
Sehnung / CHORDING 0,8890 mehrfach
Schritt / PITCH 6/7 Nutteilungen / SLOT PITCHES

AS-BUILT STATUS

1222 M-D-78-99

Siemens AG

1 100 304-306 GRAND COULEE
Wicklungsbild
STATOR WINDING DIAGRAM
1DH 9153-6WS42-2
DD1.2670-413 677

0 20 40 60 80 100 mm

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