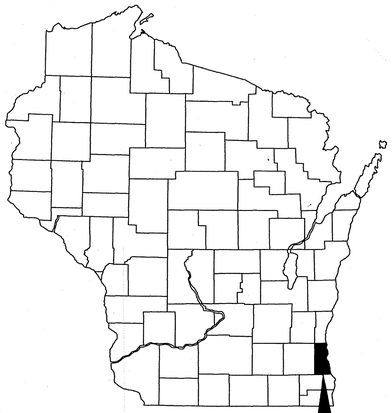
REMEDIAL ACTION PLAN
FOR
MILWAUKEE COUNTY LANDFILL
FRANKLIN, WISCONSIN

NOVEMBER 1998

RECORD DRAWINGS



LIST OF DRAWINGS

SHEET NO.	DESCRIPTION
	COVER SHEET
S-1	SITE SURVEY BASE MAP, 9-15-96
S-1A	PRECONSTRUCTION TOPO
1	EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION
2	SUBBASE GRADES
3	PROPOSED FINAL COVER GRADES
3A	TOP OF ROOTING SOIL/APPRD. FINAL COVER GRADES
3B	CLAY TEST LOCATIONS
3C	SUBBASE & TOP OF CLAY GRADES
3D	BOTTOM & TOP OF SAND GRADES
3E	ROOTING ZONE & TOPSOIL GRADES
3F	LANDFILL ROADWAYS & SW O'MALLEY AREA
3G	SE O'MALLEY MODIFICATIONS
4	SURFACE WATER MANAGEMENT PLAN
5	LANDFILL GAS MANAGEMENT PLAN
5A	GAS MANAGEMENT SYS COORDINATE GEOMETRY
5B	GAS MANAGEMENT PLAN
5C	GAS MANAGEMENT PLAN
5D	GAS MANAGEMENT PLAN
6	ACE SCAVENGER/O'MALLEY AREAS
7	EAST AREA
8	EAST AREA
9	LOCATIONS OF MONITORING WELLS & GAS PROBES
10	CROSS SECTIONS
11	CROSS SECTIONS
12	CROSS SECTIONS
13	WATER MAIN
14	FINAL COVER DETAILS
15	GAS MANAGEMENT DETAILS
16	GAS MANAGEMENT DETAILS
17	GAS MANAGEMENT DETAILS
18	SURFACE WATER MANAGEMENT DETAILS
19	SURFACE WATER MANAGEMENT DETAILS
20	LANDSCAPING PLAN FOR GAS WELLS
21	DESIGN GRADES FROM PLAN MODIFIED
22	SECTIONS, DETAILS, AND PROFILE

WISCONSIN
MARK A. BURGESS
E-32194
MILWAUKEE, WI
PROFESSIONAL ENGINEER

PREPARED BY:
CAMP DRESSER & MCKEE, INC.
312 E. WISCONSIN AVENUE, SUITE 500
MILWAUKEE, WI
(414) 291-5100

PREPARED FOR:
MILWAUKEE COUNTY PUBLIC WORKS DEPARTMENT
ENVIRONMENTAL SERVICES DIVISION
MILWAUKEE, WI
(414)278-5128

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WI 53233

RECOMMENED FOR APPROVAL BY _____ DATE _____
PROJECT APPROVAL BY _____ DIRECTOR-DEPARTMENT OF PUBLIC WORKS DATE _____
PROJECT MANAGER REVIEW BY: _____ DATE:

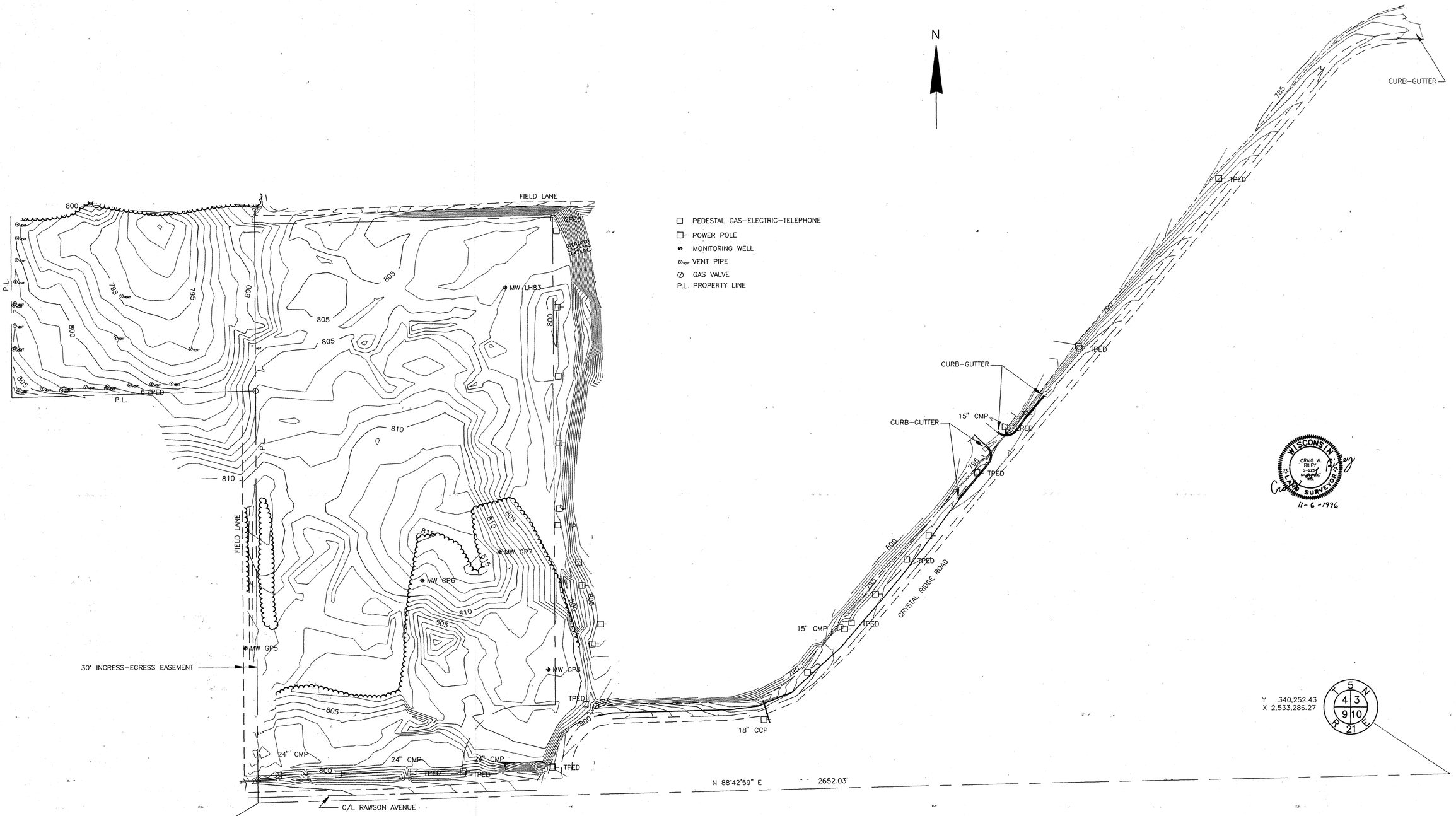
REVISIONS:
1	8/04/98	REVISED FOR THE RECORD

PROJECT NO. 2802-004

SHEET NO. ____ OF ____

FILE NO. 162-A-153

DU883



- □ PEDESTAL GAS–ELECTRIC–TELEPHONE
- □– POWER POLE
- ❁ MONITORING WELL
- ⊙VENT VENT PIPE
- ∅ GAS VALVE
- P.L. PROPERTY LINE

WISCONSIN CRAIG W. RILEY S-2262 LAND SURVEYOR
11-6-1996

ALL COORDINATES AND DISTANCES ARE IN GRID
AND CAN BE CONVERTED TO GROUND BY DIVIDING BY 0.99993145

NO.	DATE	REVISION	BY

MILWAUKEE COUNTY LANDFILL
76TH AND RAWSON

FRANLIN, WI.

design EMCS group
MILWAUKEE, WISCONSIN

SEPTEMBER 1996 SURVEY

SCALE: 1"=100' DATE: 9–15–1996

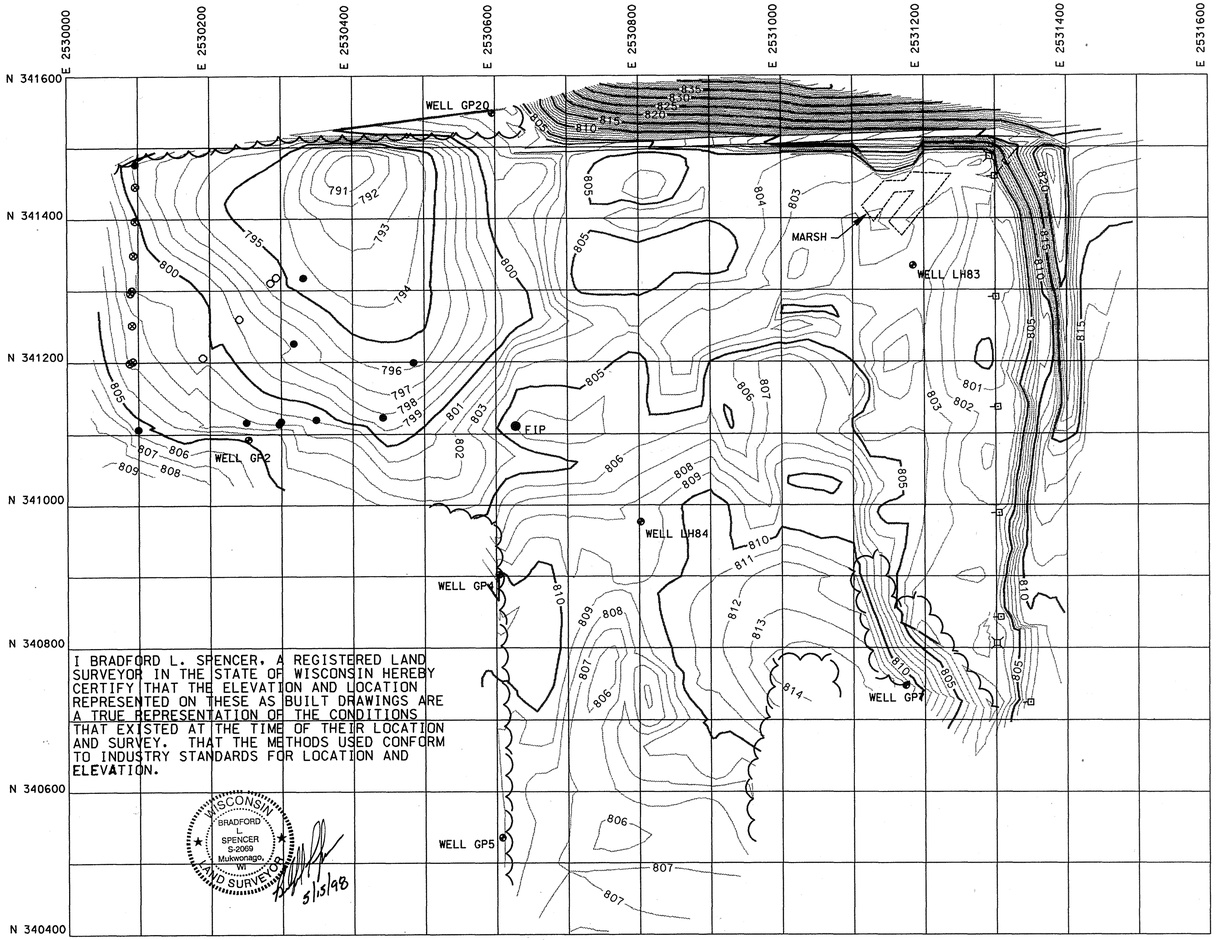
DSN: CWR	CHK: CWR
DFT:	APP:

PROJECT NO. 3391
DRAWING NO.
SHEET S–1

CHECKING
REVIEWER: DATE
INITIATION
DESIGNER:
CHECKER:
TECH.:
REVISIONS/CORRECTIONS
TECH. DATE

LAYERS ON: 4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,25,27,29,31,34,35,36,37,39,41,43,44,51,57,58,59,60

162-A-154
74884



I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN
BRADFORD L. SPENCER
S-2069
Mukwonago, WI
LAND SURVEYOR

5/5/98

PRE-CONSTRUCTION TOPO 1" = 100' 5/14/98

⊗ RISER
● VENT
⊗ WELL

DATE OF SURVEY: 4/8/97

7040BAS1.DGN 5/14/98

162-A-155
74885

E 2,530,000 E 2,530,500 E 2,531,000 E 2,531,500 E 2,532,000 E 2,532,500 E 2,533,000

N 343,500 N 343,000 N 342,500 N 342,000 N 341,500 N 341,000 N 340,500

EXISTING DRIVEWAY AND GRAVEL ACCESS ROAD TO FLARE AVAILABLE FOR SITE ACCESS.

EXISTING KO

EXISTING GAS HEADER

EXISTING BLOWER/FLARE STATION TO BE RELOCATED TO SOUTH OF O'MALLEY AREA.

SEPTIC TANK

S. 76TH STREET

EAST AREA

EXISTING GAS WELL (TYP.)

EXISTING GAS PROBE (TYP.)

EXISTING D-3

SKI HILL

BEGINNER SLOPE

EXISTING PASSIVE GAS VENT TRENCH TO REMAIN.

RUN PHONE LINE THRU PEDESTAL.

SKI CHALET

ACE SCAVENGER AREA

EXISTING D-1

O'MALLEY AREA

DORE AREA

CRYSTAL RIDGE DRIVE

SITE ACCESS WITHIN WDOT RIGHT-OF-WAY AVAILABLE OFF SHOULDER OF CRYSTAL RIDGE DRIVE.

LOOMIS ROAD

EXISTING PASSIVE GAS VENT TRENCH TO BE ABANDONED BY CONTRACTOR.

EXISTING GRAVEL DRIVE AVAILABLE FOR SITE ACCESS.

W. RAWSON AVENUE

GP-1 GP-2 GP-3 GP-4 GP-5 GP-6 GP-7 GP-8 GP-9 GP-10 GP-11 GP-12 GP-13 GP-14 GP-15 GP-16 GP-17 GP-18 GP-19 GP-20

G-1 G-2 G-3 G-4 G-5 G-6 G-7 G-8

N

1" = 200'

100 0 200

NOTES:

1. TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. ALL UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL CONTACT DIGGER'S HOTLINE PRIOR TO FIELD ACTIVITIES TO LOCATE UTILITIES.
6. PRIVATE UTILITIES MAY EXIST WHICH ARE NOT IN PUBLIC RECORDS. CONTRACTOR SHALL COORDINATE WITH SKI HILL OWNER TO FIELD LOCATE PRIVATE UTILITIES PRIOR TO FIELD ACTIVITIES. SKI HILL OWNERS NAME, PHONE NUMBER AND ADDRESS TO BE PROVIDED BY MILWAUKEE COUNTY.
7. TOPOGRAPHIC MAP SHOWN IS FROM 1993. A TOPOGRAPHIC MAP FOR THE ACE SCAVENGER AND O'MALLEY AREAS, PREPARED BY EMCS IN SEPTEMBER 1996, IS INCLUDED IN FRONT OF THIS DRAWING SET. CONTRACTOR SHALL PREPARE A SURVEY TO CONFIRM ACTUAL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.

LEGEND

- APPROXIMATE LIMIT OF WASTE
- EXISTING 6" DIA HDPE GAS HEADER
- KO CONDENSATE KNOCKOUT TANK
- ESTIMATED RADIUS OF INFLUENCE AT EXISTING ACTIVE GAS COLLECTION WELL
- G-1 D-1 EXISTING GAS WELL
- EXISTING PASSIVE TRENCH
- GP-1 EXISTING GAS PROBES
- PEDESTAL GAS-ELECTRIC-TELEPHONE
- POWER POLE
- G GAS LINE
- TEL UNDERGROUND TELEPHONE LINE
- ELEC ELECTRICAL LINE
- UE UNDERGROUND ELECTRICAL LINE
- SD SEPTIC SYSTEM LINE
- DW DRINKING WATER LINE
- SN SNOW MAKING WATER LINE
- SLN COUNTY SANITARY SEWER TO MMSD SYSTEM
- ADU ANDERSON / DORE PIT UNDERDRAINS
- MEL WEPCO # 2AL 15 kv UNDERGROUND SERVICE (POWER TO SEWER MONITORING INSTRUMENTS)

WISCONSIN MARK A. BURGESS E-30194 INDIANAPOLIS, IN PROFESSIONAL ENGINEER

12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

REVISIONS:
△ REVISED FOR THE RECORD 8/04/98

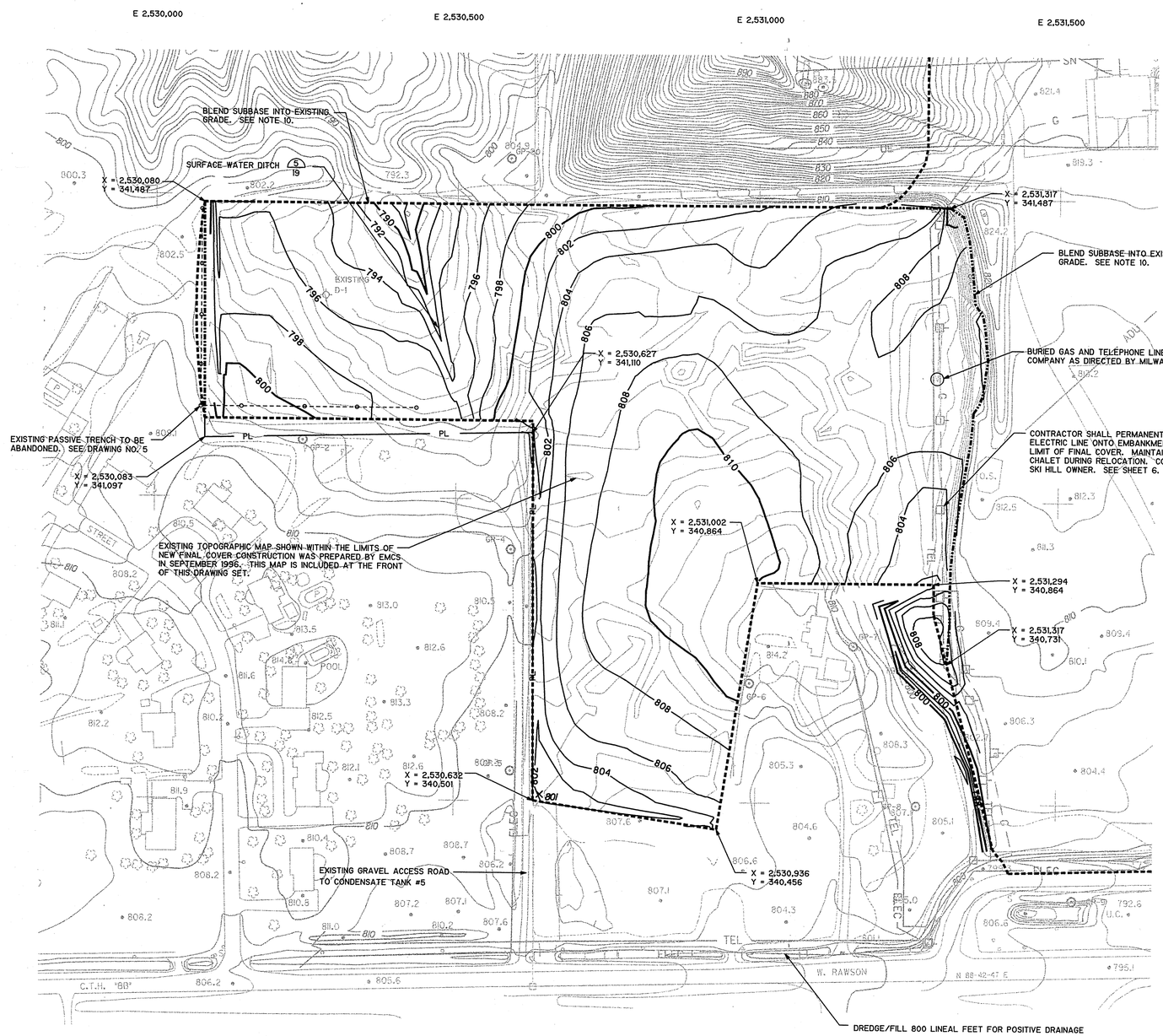
CHECKED BY: S. WINNEN
SCALE: 1" = 200'
DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. environmental engineers, scientists, planners, & management consultants CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION

PROJECT NO.
SHEET NO. 1
FILE NO.

24886 162-A-156



N

1" = 100'

50 0 100

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMIT OF NEW FINAL COVER WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. ALL SUBBASE GRADES SHALL BE 2± MINIMUM AND SHALL CORRESPOND WITH NEW FINAL COVER GRADES.
6. CONTRACTOR TO PREPARE SUBBASE GRADES TO BE 4.5 FEET BELOW FINAL GRADES SHOWN ON DRAWING NO. 6.
7. SUBBASE PREPARATION SHALL CONSIST OF CUT/FILL OPERATIONS. MATERIALS REMOVED FROM GAS HEADER TRENCH SHOULD BE USED AS FILL IN O' MALLEY AREA.
8. CONTRACTOR HAS OPTION TO STRIP AND STOCKPILE TOPSOIL FOR USE IN FINAL COVER. ALL TOPSOIL USED SHALL MEET SPECIFICATIONS FOR TOPSOIL. ALL STOCKPILES MUST STAY WITHIN THE LIMITS OF CONSTRUCTION.
9. PREPARED SUBBASE SHALL HAVE A MINIMUM OF SIX INCHES SOIL BETWEEN TOP OF IN-PLACE OR RECOMPACTED WASTE AND BOTTOM OF CLAY CAP LAYER OF FINAL COVER
10. EXISTING TOPOGRAPHIC MAP SHOWN OUTSIDE LIMITS OF NEW FINAL COVER IS FROM 1993. A TOPOGRAPHIC MAP WITHIN THE LIMITS OF NEW FINAL COVER CONSTRUCTION PREPARED BY EMCS IN SEPTEMBER 1996 IS INCLUDED IN FRONT OF THIS DRAWING SET. CONTRACTOR SHALL PREPARE A SURVEY TO CONFIRM ACTUAL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.

LEGEND

- D-1 — EXISTING GAS WELL
- GP-1 — EXISTING GAS PROBES
- SPOT ELEVATION
- EXISTING PASSIVE TRENCH
- APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION (MAY BE COINCIDENT WITH APPROXIMATE LIMIT OF WASTE)
- SUBBASE GRADE
- PL — PROPERTY LINE

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

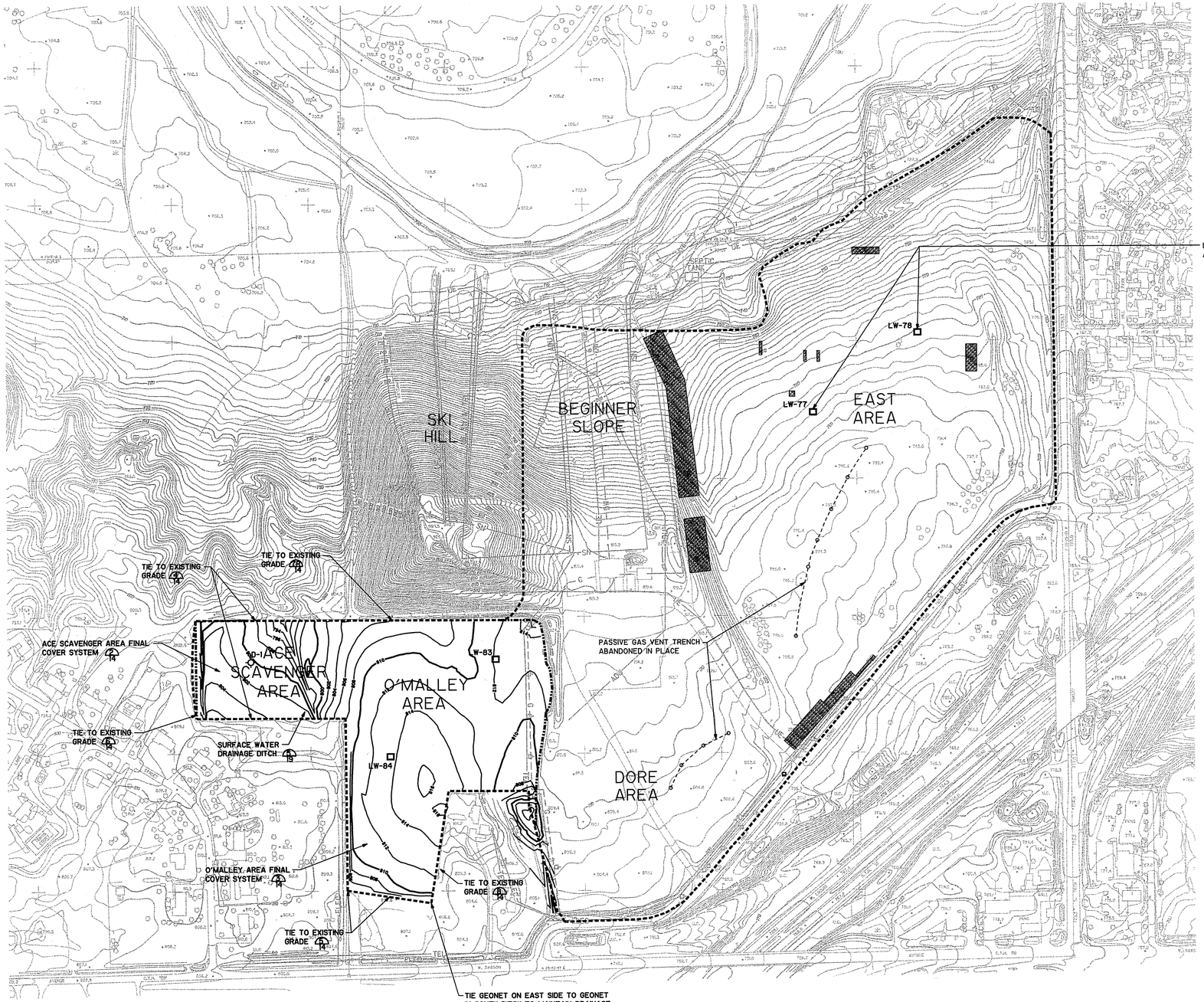
REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN
SCALE: 1" = 100'
DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners, & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: SUBBASE GRADES
PROJECT NO.
SHEET NO. 2
FILE NO.

74887 162-A-157



N

1" = 200'

100 0 200

NOTES:

1. EXISTING TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. EXISTING TOPOGRAPHIC MAP SHOWN OUTSIDE LIMITS OF NEW FINAL COVER IS FROM 1993. A TOPOGRAPHIC MAP WITHIN THE LIMITS OF NEW FINAL COVER CONSTRUCTION PREPARED BY EMCS IN SEPTEMBER 1996 IS INCLUDED IN FRONT OF THIS DRAWING SET. CONTRACTOR SHALL PREPARE A SURVEY TO CONFIRM ACTUAL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.
6. LW-77 AND LW-78 WERE ABANDONED IN ACCORDANCE WITH WDNR REQUIREMENTS.
7. WELL PIPE AND CASING ON GAS WELL D-1, AND LEACHATE HEAD WELLS LW-83 AND LW-84 EXTENDED TO A HEIGHT OF APPROXIMATELY 3 FEET ABOVE FINISHED GRADE.
8. PROTECTIVE METAL CASINGS INSTALLED FOR THE EXTENDED LEACHATE HEAD WELLS.

LEGEND

- APPROXIMATE LIMIT OF WASTE
- APPROXIMATE LIMIT OF NEW FINAL COVER CONSTRUCTION
- PROPOSED FINAL GRADE
- AREA ON EXISTING EAST AREA CAP TO BE FILLED FOR POSITIVE DRAINAGE AND REVEGETATED.
- LEACHATE HEAD WELL
- LEACHATE HEAD/GAS WELL

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

Mark A. Burgess 12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

REVISIONS:
12/09/96 REVISED FOR THE RECORD
8/04/98

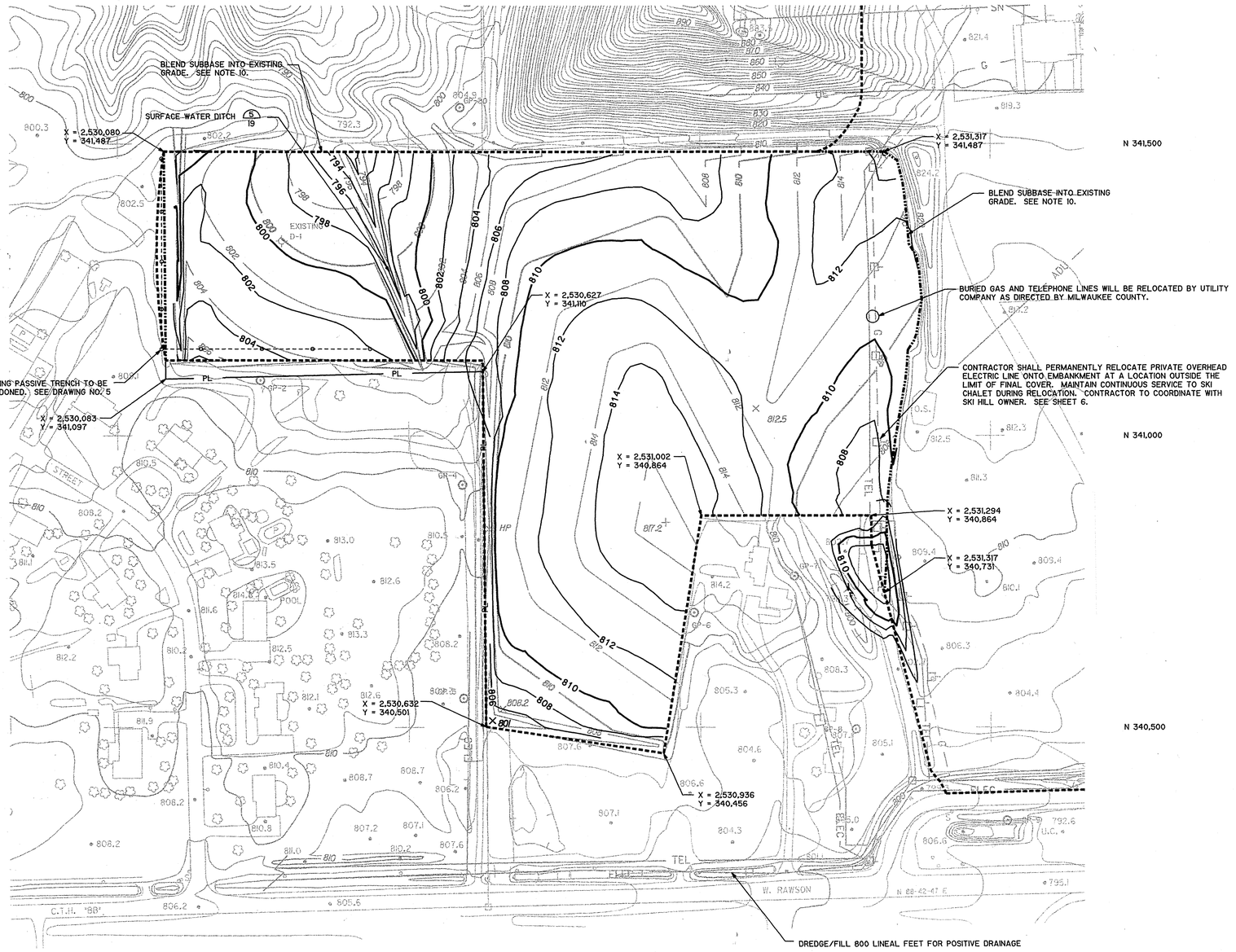
CAMP DRESSER & McKEE INC. environmental engineers, scientists, planners, & management consultants CDM

SCALE: 1" = 200'
DATE: NOVEMBER 1996
CHECKED BY: S. WINNEN

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: FINAL COVER GRADES

PROJECT NO.
SHEET NO. 3
FILE NO.

74888. 162-A-158



N

1" = 100'

50 0 100

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMIT OF NEW FINAL COVER WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.

LEGEND

- D-1 — EXISTING GAS WELL
- GP-1 — EXISTING GAS PROBES
- × — SPOT ELEVATION
- ⊖-------⊖ — EXISTING PASSIVE TRENCH
- ▬ ▬ ▬ — APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION (MAY BE COINCIDENT WITH APPROXIMATE LIMIT OF WASTE)
- 814 — TOP OF AS-BUILT ROOTING SOIL GRADE
- PL — PROPERTY LINE
- 810 — APPROVED FINAL GRADE (TOP OF TOPSOIL)

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

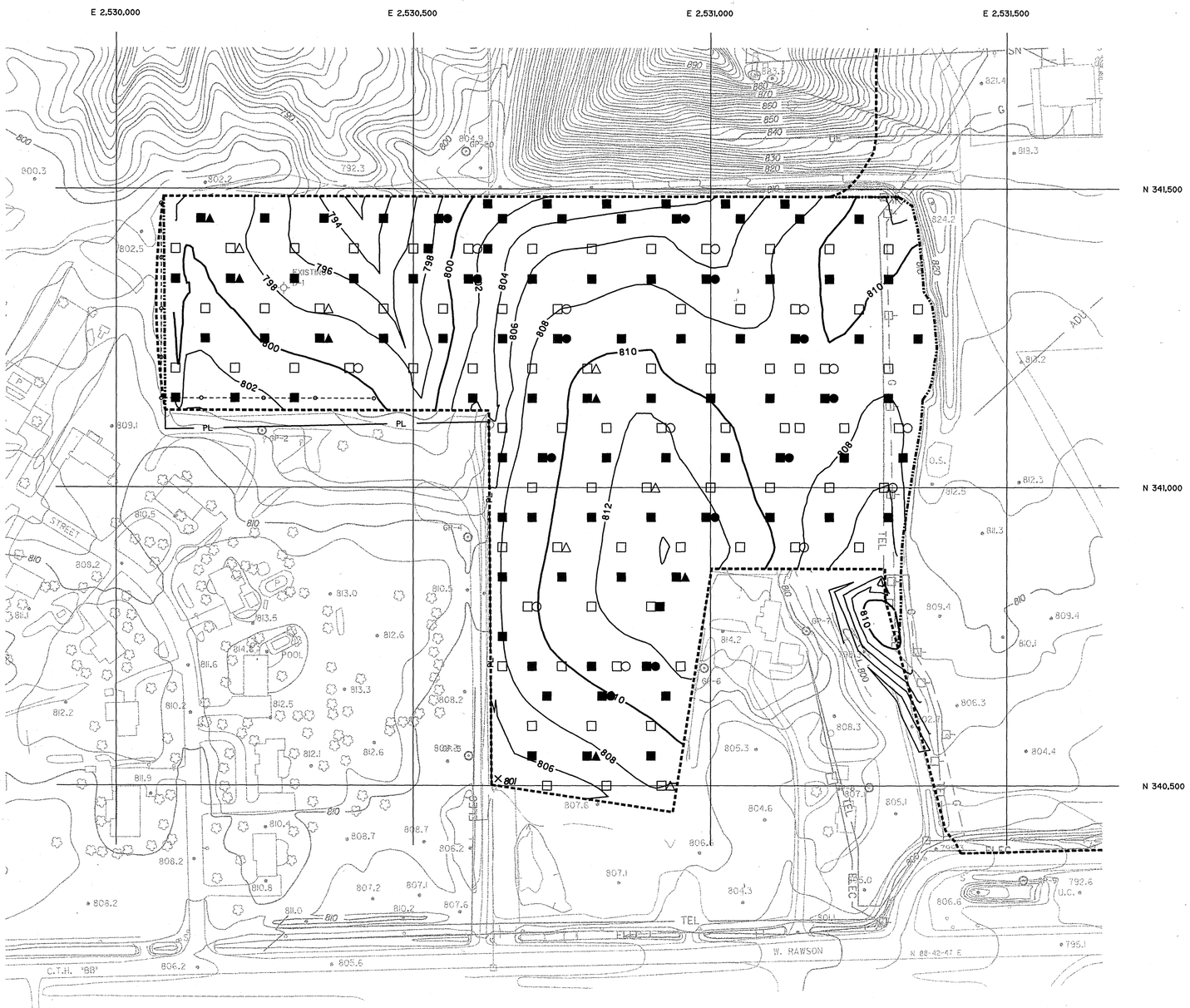
REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners, & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: TOP OF ROOTING SOIL/APRD. FINAL GRADES

SCALE: 1" = 100'
DATE: NOVEMBER 1996
CHECKED BY: S. WINNEN
PROJECT NO.
SHEET NO. 3A
FILE NO.

74889 162-A-159



N

1" = 100'

50 0 100

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMIT OF NEW FINAL COVER WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
4. CLAY TEST RESULTS ARE INCLUDED IN THE DOCUMETATION REPORT WHICH ACCOMPANIES THIS DRAWING SET.

LEGEND

- EXISTING GAS WELL
- EXISTING GAS PROBES
- SPOT ELEVATION
- EXISTING PASSIVE TRENCH
- APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION (MAY BE COINCIDENT WITH APPROXIMATE LIMIT OF WASTE)
- 814 — TOP OF CLAY GRADE
- PL — PROPERTY LINE
- HYDRAULIC CONDUCTIVITY TEST / ATTERBURG LIMITS / GRADATION BOTTOM 1 FOOT CLAY
- HYDRAULIC CONDUCTIVITY TEST / ATTERBURG LIMITS / GRADATION TOP 1 FOOT CLAY
- ATTERBURG LIMITS / GRADATION BOTTOM 1 FOOT CLAY
- ATTERBURG LIMITS / GRADATION TOP 1 FOOT CLAY
- NUCLEAR FIELD DENSITY TEST BOTTOM 1 FOOT CLAY
- NUCLEAR FIELD DENSITY TEST TOP 1 FOOT CLAY

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

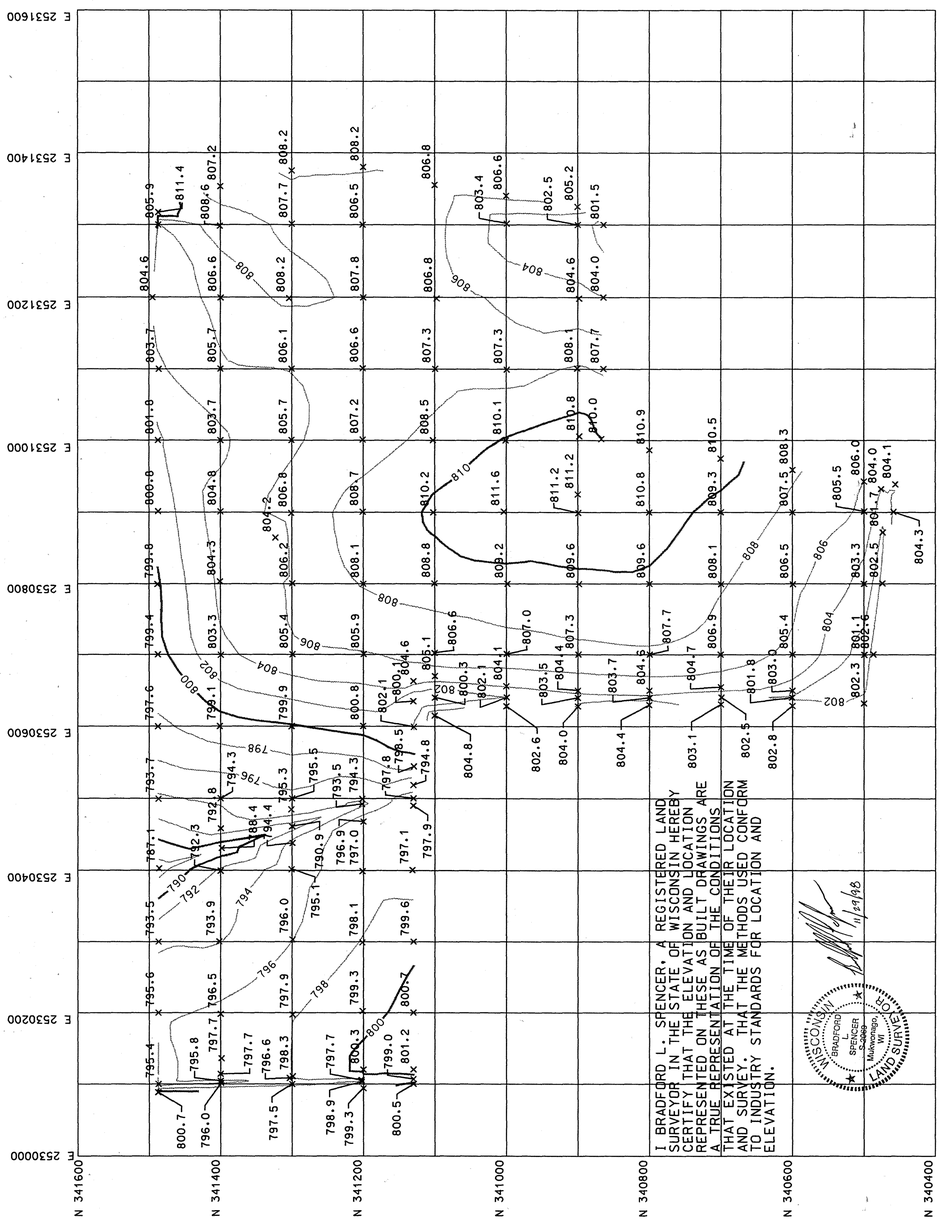
MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
MILWAUKEE, WISCONSIN 53233
COURTHOUSE ANNEX — 907 NORTH 10TH STREET

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN
SCALE: 1" = 100'
DATE: NOVEMBER 1996
CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: CLAY TEST LOCATIONS
PROJECT NO.
SHEET NO. 38
FILE NO.

74890 162-A-160



DATE OF SURVEY:
5/12/97 TO 8/13/97

7040BAS1.DGN 11/16/98

11/16/98

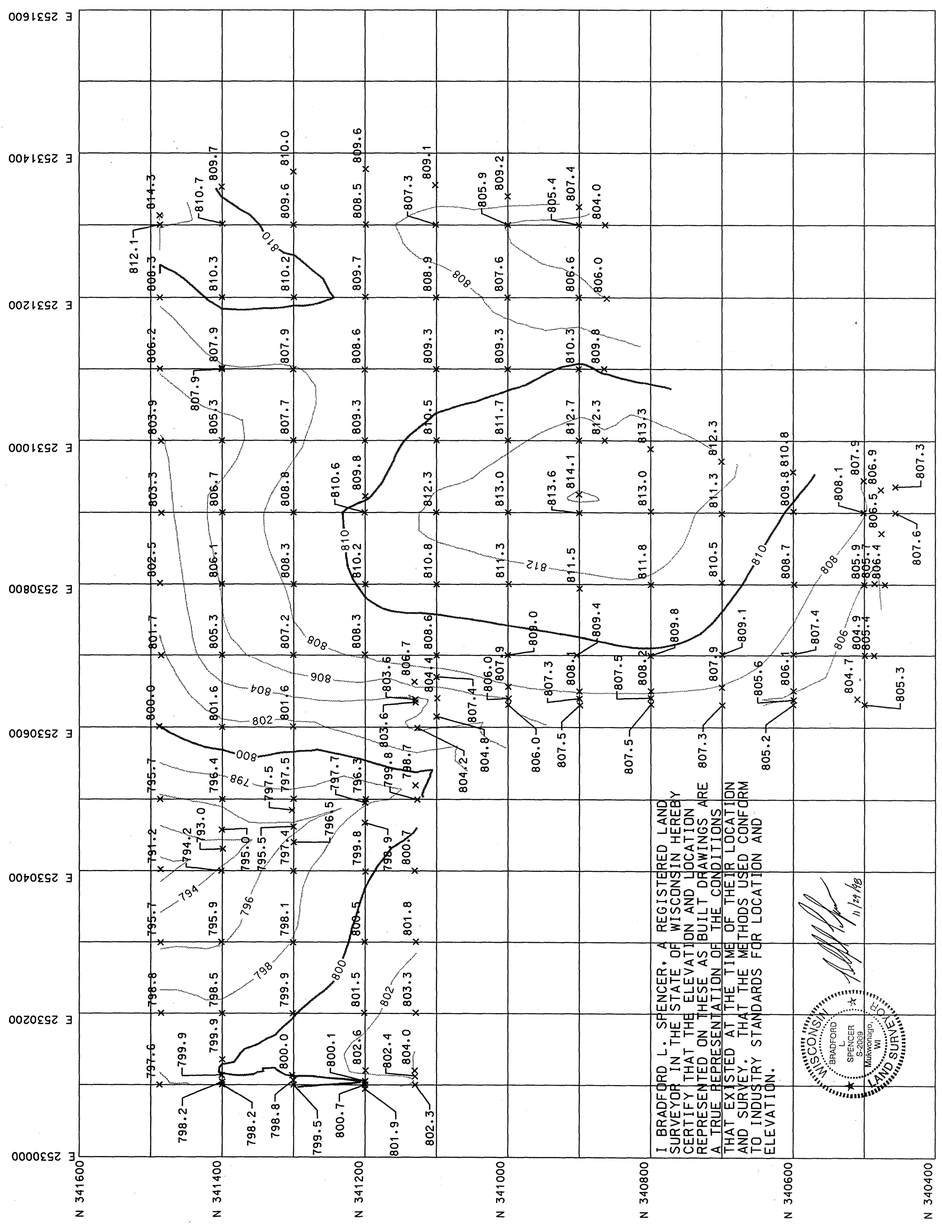
1" = 100'

TOP OF SUBGRADE

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY, THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

BRADFORD L. SPENCER S-2069 Mukwonago, WI LAND SURVEYOR

11/14/98



DATE OF SURVEY:
6/13/97 TO 9/8/97

7040BAS1.DGN 11/16/98

11/16/98

1" = 100'

TOP OF CLAY

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY, THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

BRADFORD L. SPENCER S-2069 Mukwonago, WI LAND SURVEYOR

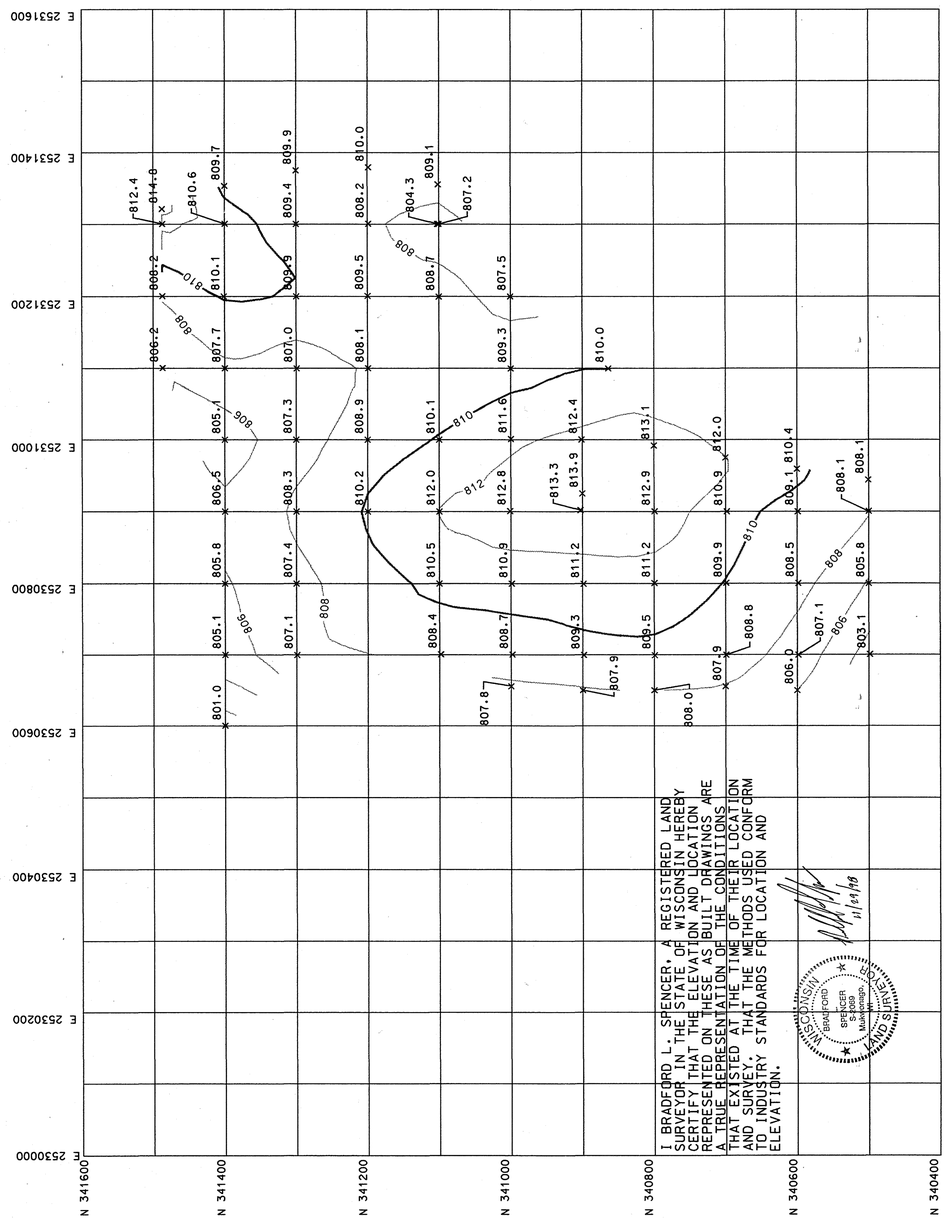
11/14/98

RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS,
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119

SUBBASE & TOP OF CLAY GRADES

3C

162-A-161
74891



DATE OF SURVEY:
7/23/97 TO 8/27/97

7040BAS1.DGN 11/16/98

11/16/98

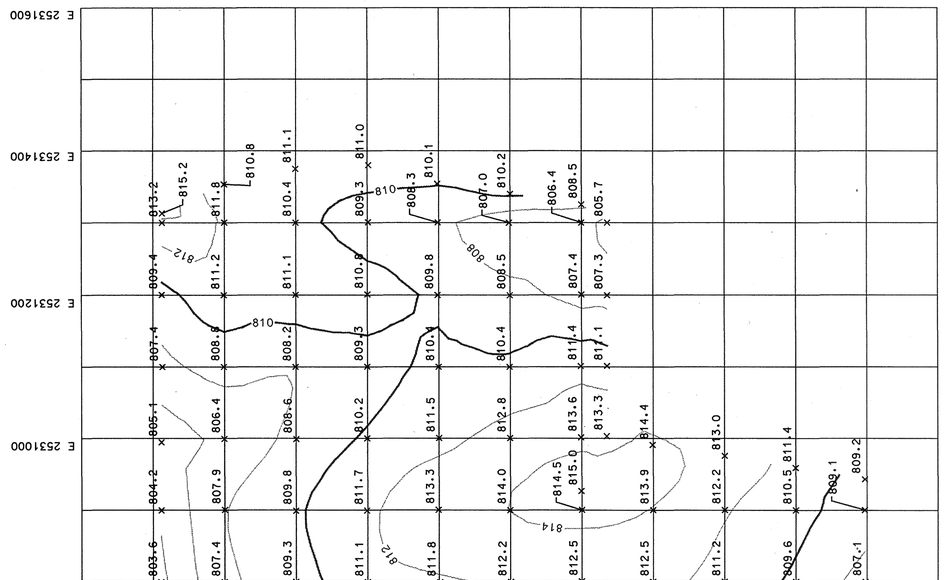
1" = 100'

BOTTOM OF SAND

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY, THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L SPENCER S-1999 MUKWONAGO WI LAND SURVEYOR

11/16/98



DATE OF SURVEY:
6/23/97 TO 10/17/97

7040BAS1.DGN 11/16/98

11/16/98

1" = 100'

TOP OF SAND

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY, THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L SPENCER S-1999 MUKWONAGO WI LAND SURVEYOR

11/16/98

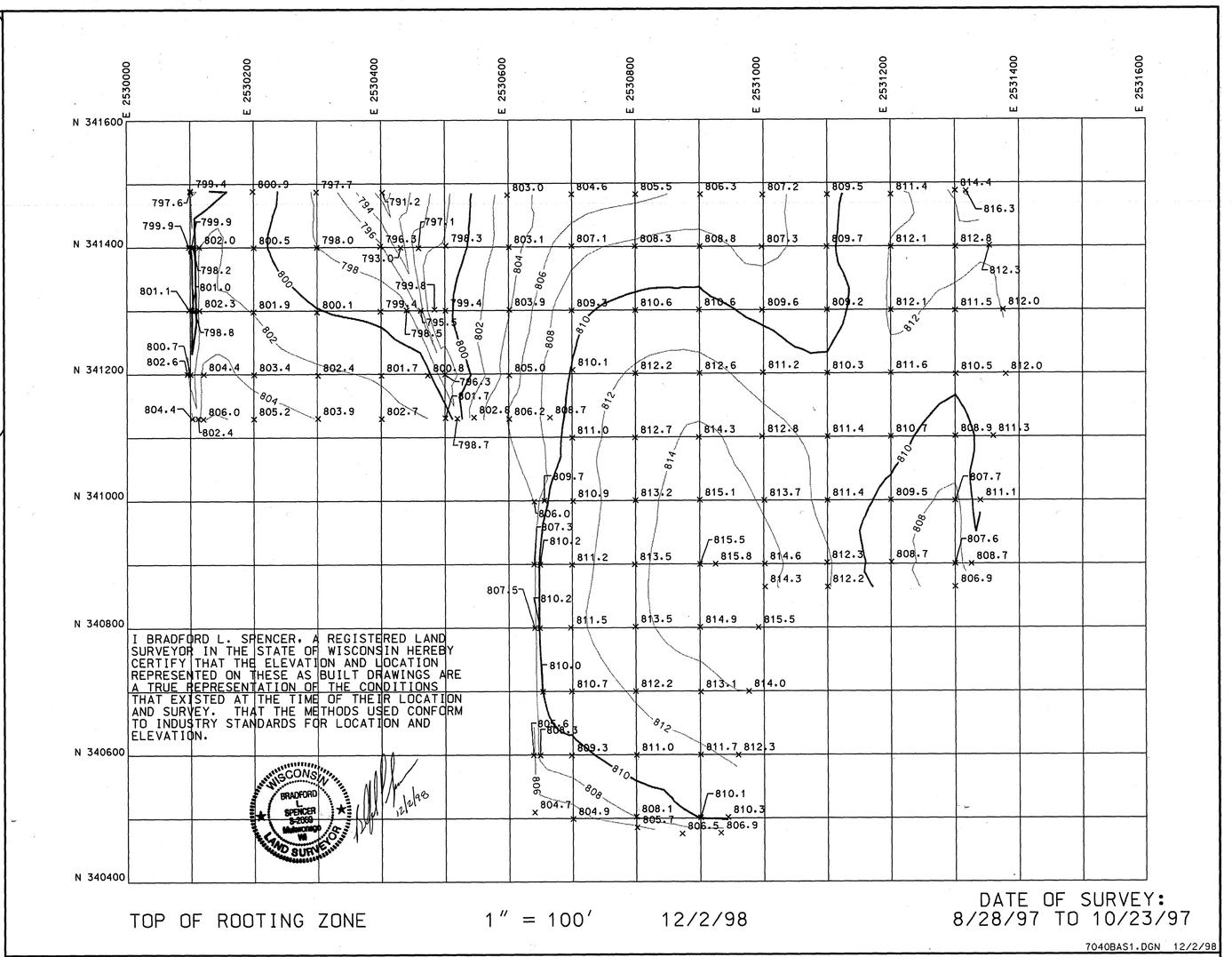
RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS,
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119

BOTTOM & TOP OF SAND GRADES

3D

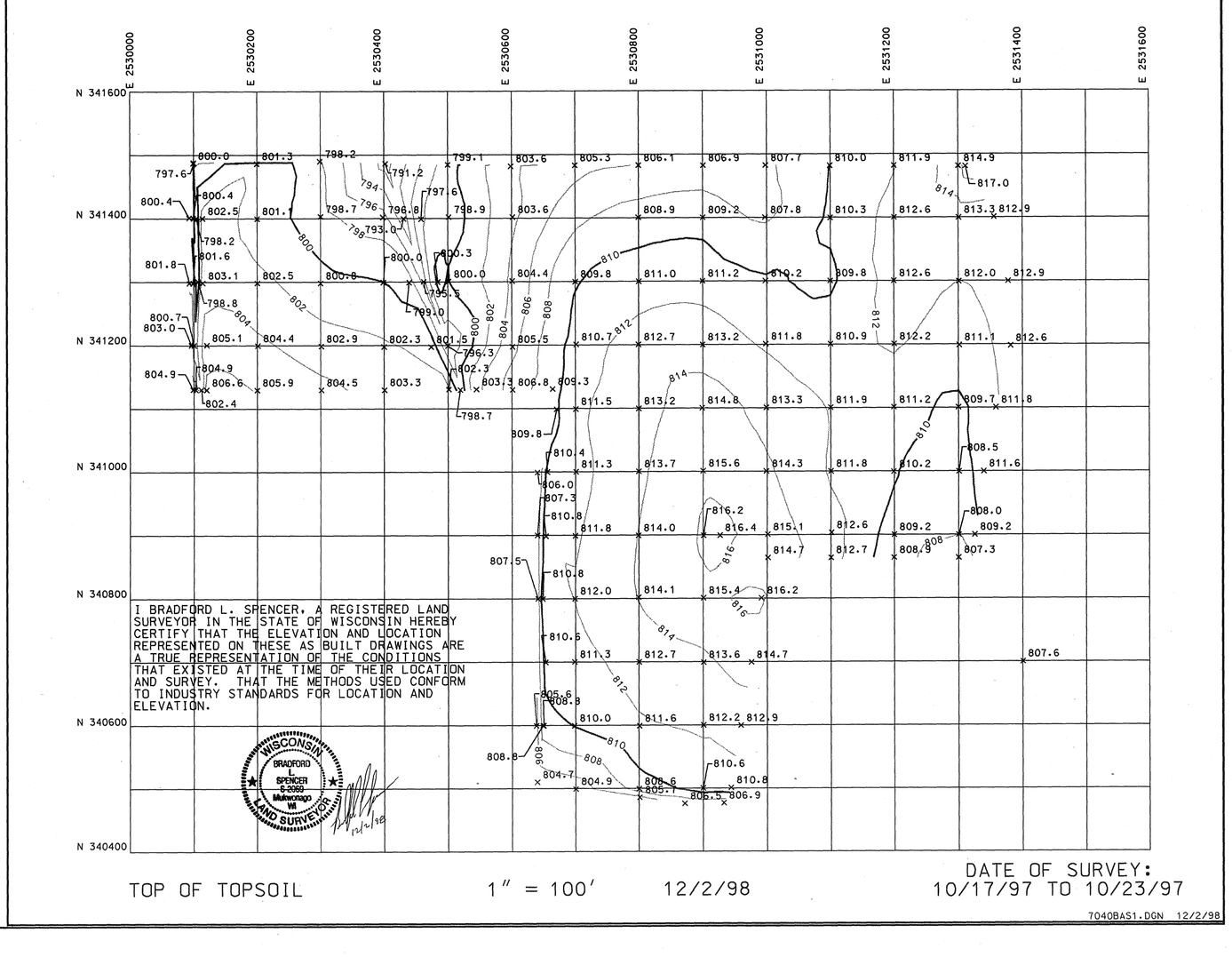
162-A-162
74892

RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119



TOP OF ROOTING ZONE 1" = 100' 12/2/98 DATE OF SURVEY: 8/28/97 TO 10/23/97

7040BAS1.DGN 12/2/98



TOP OF TOPSOIL 1" = 100' 12/2/98 DATE OF SURVEY: 10/17/97 TO 10/23/97

7040BAS1.DGN 12/2/98

ROOTING ZONE & TOPSOIL GRADES 3E

12-2-98-163
7040

Number	Northing	Easting	Elevation	Description
6081	341090.71	2532380.67	795.44	BOC1
6086	341016.08	2532317.94	795.64	BOC1
6090	341006.35	2532305.15	795.68	BOC1
6095	341009.83	2532276.53	796.13	BOC1
6097	340978.89	2532249.01	795.58	BOC2
6103	340964.00	2532257.49	795.87	BOC2
6104	340939.85	2532255.31	795.34	BOC2
6113	340861.43	2532188.25	795.77	BOC2
6115	340858.47	2532185.37	795.15	EP1
6116	340838.65	2532171.48	795.57	EP1
6117	340813.64	2532153.37	795.84	EP1
6118	340697.99	2532068.78	796.72	EP1
6119	340758.98	2532119.23	796.47	EP1
6120	340759.85	2532118.17	796.49	EP1
6121	340888.52	2532224.35	795.28	EP1
6122	340889.63	2532229.28	795.37	EP1
6123	340893.96	2532233.09	795.35	EP1
6124	340893.97	2532234.16	795.33	EP1
6125	340961.98	2532231.76	795.52	EP1
6126	340973.72	2532301.72	795.55	EP1
6127	340973.04	2532302.97	795.60	EP1
6128	340974.77	2532307.77	795.63	EP1
6129	340980.30	2532311.46	795.62	EP1
6130	340984.22	2532310.66	795.55	EP1
6131	341057.11	2532372.44	796.00	EP1
6132	341063.78	2532372.45	795.89	EP1
6133	341106.04	2532409.10	795.89	EP1
6134	341105.06	2532410.50	796.00	EP1
6135	341181.72	2532487.16	795.93	EP1
6136	341215.36	2532530.53	795.37	EP1
6137	341214.66	2532531.67	795.32	EP1
6138	341244.39	2532556.89	794.52	EP1
6139	341259.24	2532539.64	794.06	EP1
6140	341301.06	2532573.28	793.33	EP1
6141	341302.37	2532575.92	793.34	EP1
6142	341302.01	2532576.60	793.34	EP1
6143	341305.24	2532579.09	793.27	EP1
6144	341306.19	2532578.17	793.25	EP1
6145	341312.25	2532582.86	793.17	EP1
6146	341311.01	2532584.41	793.21	EP1
6147	341313.69	2532586.77	793.17	EP1
6148	341314.52	2532585.99	793.12	EP1
6149	341336.86	2532602.95	792.43	EP1
6150	341288.26	2532558.35	793.44	EP1
6151	341212.94	2532487.56	794.52	EP1
6153	341000.98	2532294.62	795.52	EP2
6154	340962.60	2532262.68	795.51	EP2

GRAVEL ROAD

GRAVEL ROAD

GAS LINE

FLARE STATION

POWER POLE (TYP.)

DITCH CENTERLINE

UNDERGROUND GAS LINE

24" CMP CULVERT

N

1" = 100'

11/3/98

30" CURB AND GUTTER (TYP.)

EDGE OF PAVEMENT

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L SPENCER S-2059 Manitowoc WI LAND SURVEYOR

11/10/98

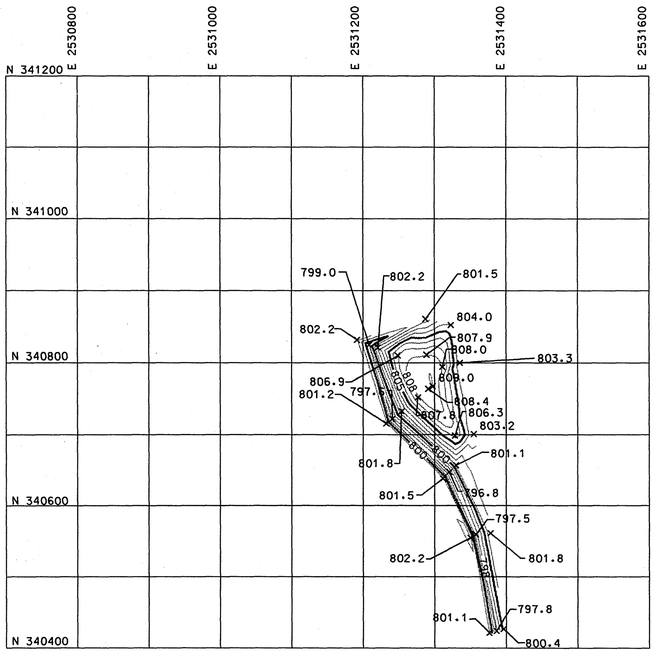
N

1" = 50'

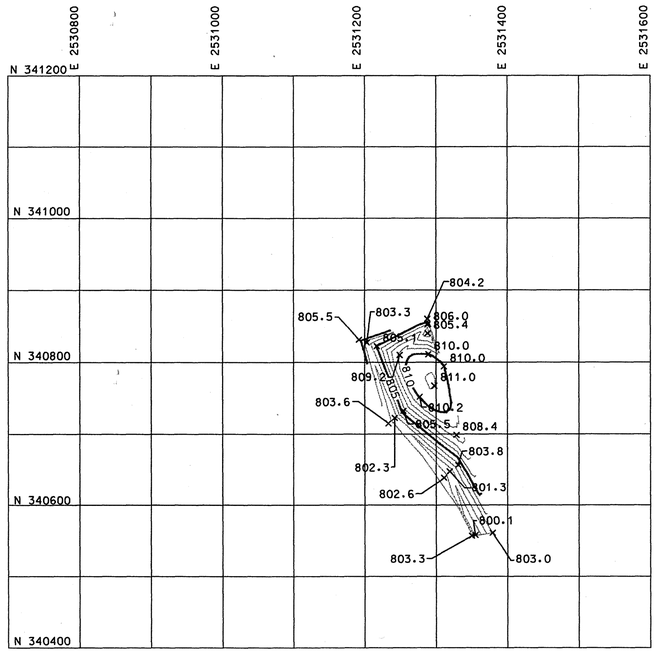
7040ROAD.DGN 11/3/98

162-A-164

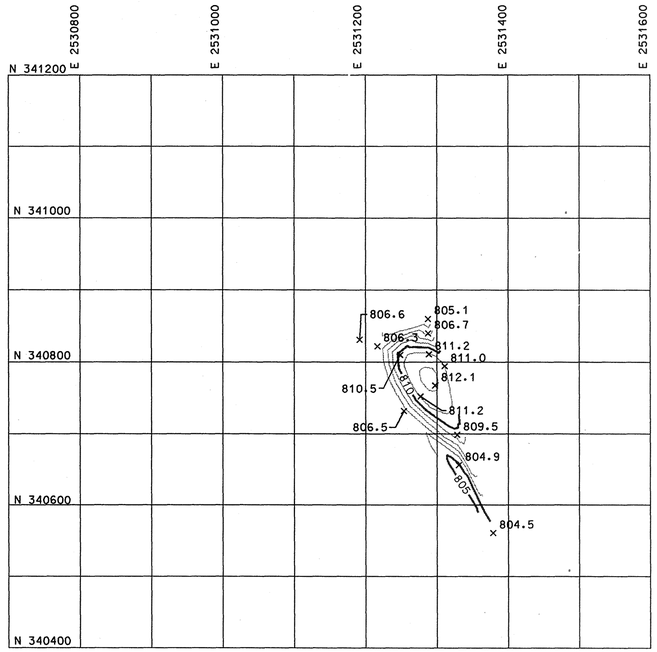
74894



TOP OF SUBGRADE

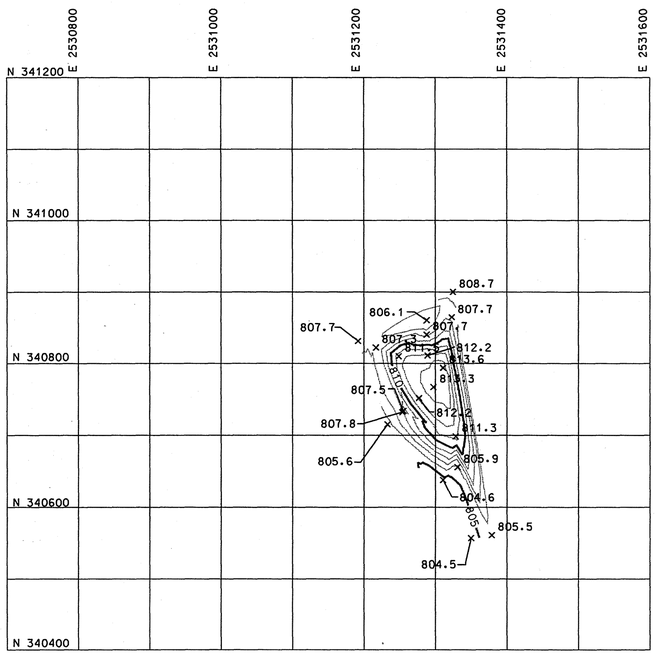


TOP OF CLAY



TOP OF SAND

1" = 100'



TOP OF ROOTING ZONE

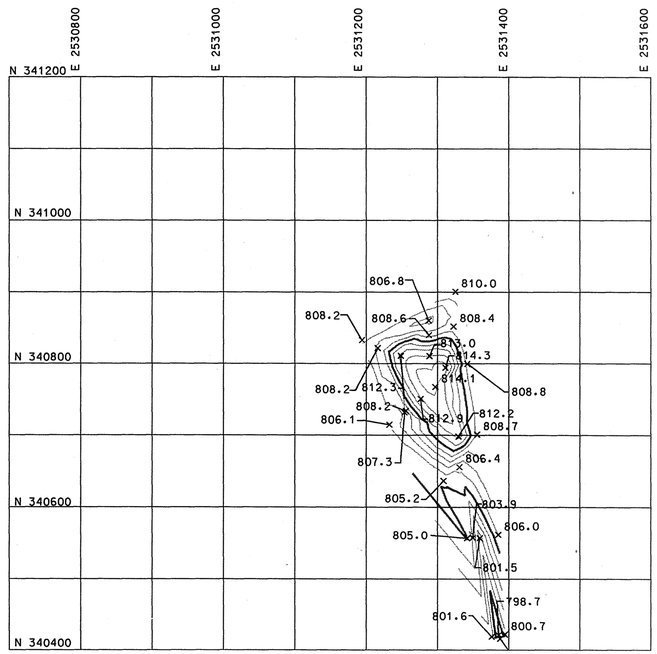
5/14/98

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L. SPENCER S-2069 Mukwonago, WI LAND SURVEYOR

5/15/98

DATE OF SURVEY 11/14/97 TO 12/14/97

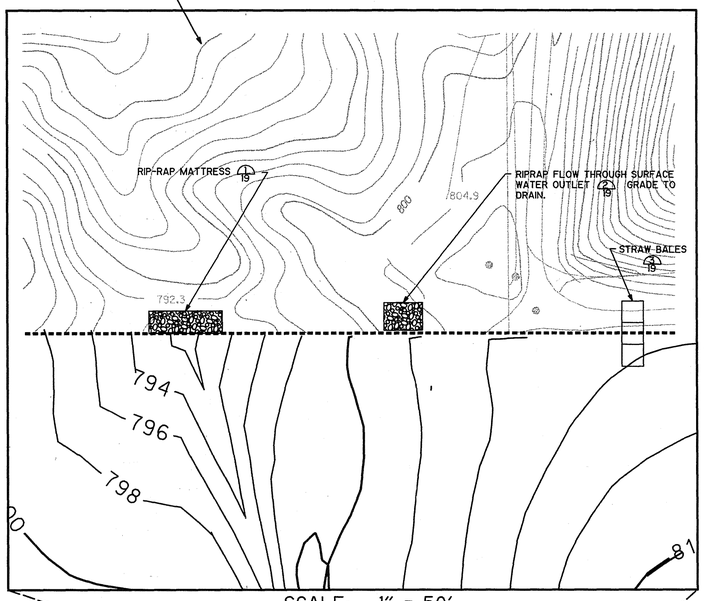


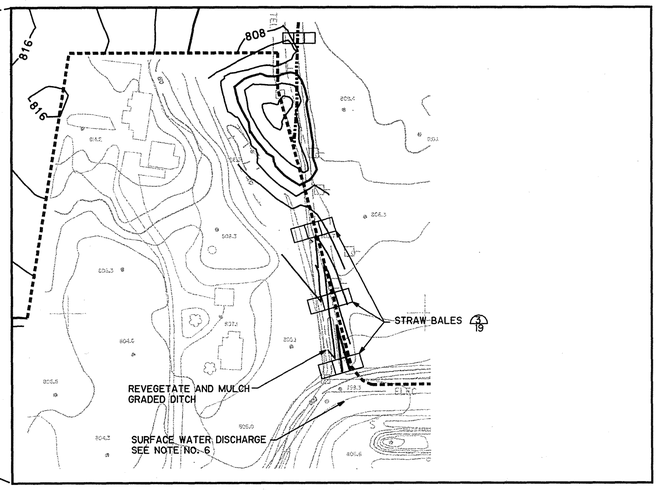
TOP OF TOPSOIL

7040DTCH.DGN 5/14/97

162-A-165
74895

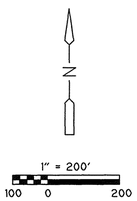
SEE SHEETS 23 AND 24 FOR REVISED DESIGN AS INCLUDED IN PLAN MODIFICATION REQUEST SUBMITTED TO WDNR ON OCTOBER 28, 1997





SCALE: 1" = 100'

REVISED - SEE SHEETS 23 AND 24 FOR REVISED DESIGN AS INCLUDED IN PLAN MODIFICATION REQUEST SUBMITTED TO WDNR ON OCTOBER 28, 1997



NOTES:

1. EXISTING TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. TEMPORARY SILT FENCE AND STRAW BALES SHALL BE PLACED FOR CONSTRUCTION AND LEFT IN PLACE UNTIL ADEQUATE VEGETATIVE COVER IS ESTABLISHED. CONTRACTOR SHALL REMOVE SILT FENCE AFTER VEGETATION IS ESTABLISHED.
6. ALL STATE AND LOCAL EROSION CONTROL AND SURFACE WATER MANAGEMENT PERMITS SHALL BE OBTAINED BY CONTRACTOR PRIOR TO CONSTRUCTION.
7. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED BY CONTRACTOR, IF NECESSARY, FOLLOWING EACH RUNOFF EVENT.

LEGEND

- APPROXIMATE LIMIT OF WASTE
- APPROXIMATE LIMIT OF NEW FINAL COVER CONSTRUCTION
- 812 FINAL GRADE OF LANDFILL COVER
- STRAW BALES PLACED ACROSS SURFACE WATER CHANNEL 19
- RIPRAP

WISCONSIN MARK A. BURGESS E-30104 INDIANAPOLIS IN PROFESSIONAL ENGINEER

Mark A Burgess 12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

REVISIONS:
△ REVISED FOR THE RECORD 8/04/98

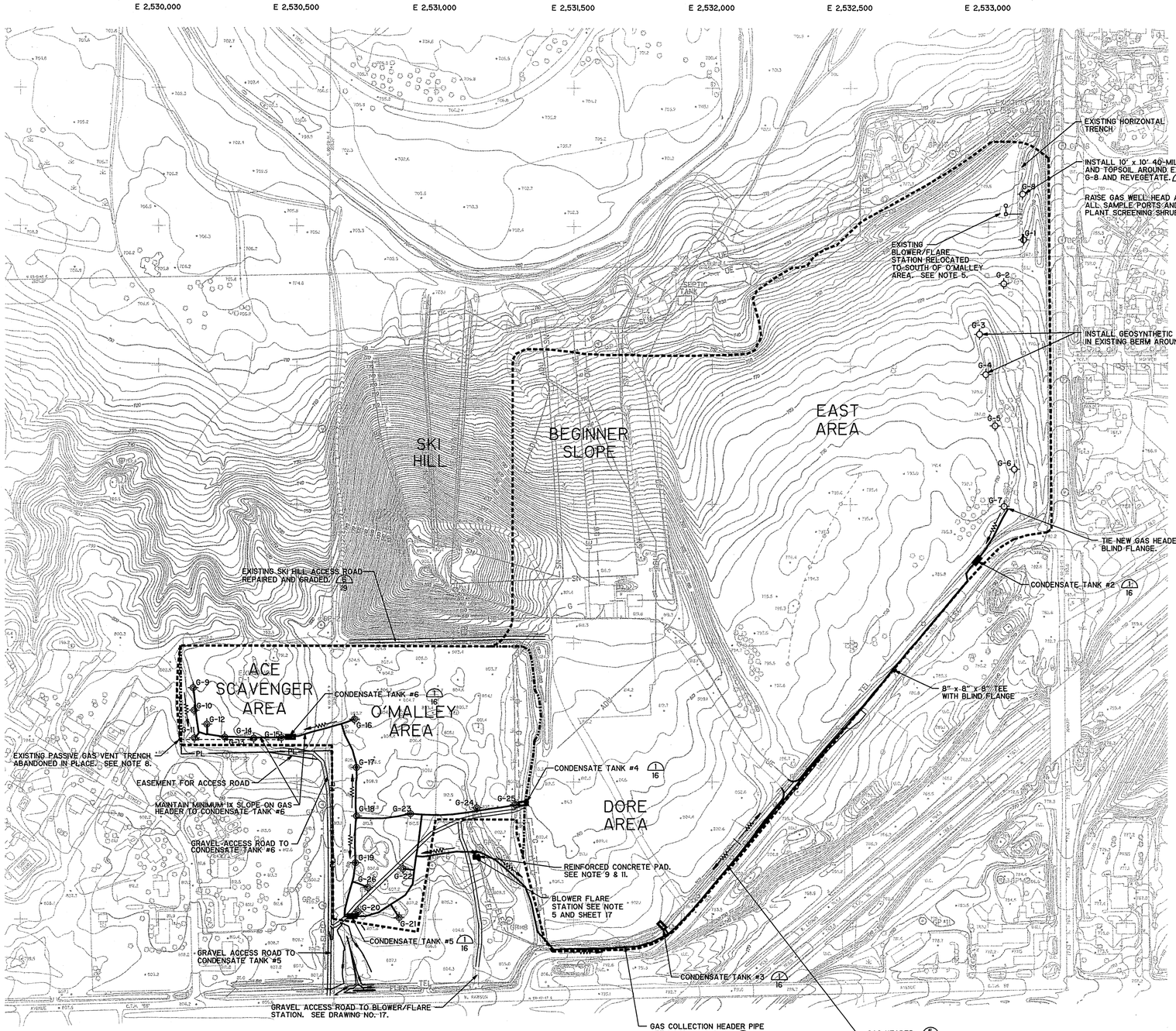
CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners, & management consultants — CDM

SCALE: 1" = 200'
DATE: NOVEMBER 1996
CHECKED BY: S. WINNEN

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: SURFACE WATER MANAGEMENT PLAN

SHEET NO. 4
PROJECT NO.
FILE NO.

74896 162-A-166



1. EXISTING TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. THE EXISTING UTILITY BLOWER/FLARE STATION MOVED TO NEW LOCATION SOUTH OF O'MALLEY AREA. EXISTING CONCRETE PAD REMOVED. TELEPHONE SERVICE ABANDONED IN-PLACE BY CONTRACTOR. ELECTRIC SERVICE ABANDONED BY UTILITY COMPANY. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY. VERTICAL HEADER PIPE REMOVED AND CAPPED FIVE FEET BELOW SURFACE BY CONTRACTOR.
6. GAS HEADER PIPE INSTALLED WITHIN WDOT RIGHT-OF-WAY ALONG CRYSTAL RIDGE DRIVE AND CONNECTED TO EXISTING HEADER NEAR G-7.
7. ALL GAS HEADER PIPE INSTALLED AT MINIMUM 1% SLOPE.
8. EXISTING PASSIVE GAS VENT TRENCH IN ACE SCAVENGER AREA ABANDONED BY CONTRACTOR BY REMOVING RISER PIPE AND ABANDONING HORIZONTAL PIPE IN PLACE UNDER PREPARED SUBGRADE.
9. REINFORCED CONCRETE PAD 10" THICK AND 24' x 16' FOR FLARE SKID INSTALLATION. GRAVEL SUBBASE AND 12' WIDE ACCESS ROAD AROUND FLARE. AREA GRADED TO PROVIDE SURFACE WATER RUN-OFF AWAY FROM FLARE SKID.
10. EXTENDED GRAVEL ROAD ON TOP OF NEW FINAL COVER TO CONDENSATE STORAGE TANKS 4, 5 AND 6.
11. 6' HIGH FENCE WITH LOCKABLE GATE AROUND CONCRETE PAD FOR BLOWER/FLARE SKID IN ACCORDANCE WITH SPECIFICATION SECTION 02830.

LEGEND

- EXISTING 6" DIA SDR 17 HDPE GAS HEADER
- EXISTING PASSIVE TRENCH
- GP-1 — EXISTING GAS MONITORING PROBE
- G-1 / D-1 — EXISTING GAS EXTRACTION WELL
- CONDENSATE FLOW DIRECTION
- CONDENSATE STORAGE TANK & LOADOUT STATION
- G-35 — PROPOSED ACTIVE GAS EXTRACTION WELL 1 15
- PROPOSED BURIED BUTTERFLY VALVE
- 8" — PROPOSED SDR 17 HDPE GAS HEADER AND SIZE
- APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION
- PL — PROPERTY LINE

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
1 REVISED FOR THE RECORD 6/04/98

CHECKED BY: S. WINNEN

SCALE: 1" = 200'
DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: LANDFILL GAS MANAGEMENT PLAN

PROJECT NO.
SHEET NO. 5
FILE NO.

74897 162-A-167

Number	Northing	Easting	Elevation	Description
3003	340721.60	2531139.29	815.75	FLARESTA1
3004	340724.47	2531163.04	815.68	FLARESTA1
3005	340740.29	2531160.95	815.68	FLARESTA1
3006	340737.44	2531137.27	815.66	FLARESTA1
3025	340740.90	2531172.34	808.75	12INSEAM
3026	340745.83	2531157.98	809.89	12INSEAM VALVE
3030	340746.41	2531153.49	809.86	RISER
3035	340746.69	2531139.68	809.53	12INSEAM VALVE
3100	341666.08	2532873.36	778.43	25+32
3102	341627.06	2532842.04	778.99	24+82
3103	341589.62	2532809.88	779.71	24+32
3104	341512.36	2532746.94	780.53	23+32
3105	341475.55	2532713.29	781.06	22+82
3106	341436.62	2532682.19	781.56	22+32
3107	341551.05	2532777.95	780.14	23+82
3108	341358.10	2532617.46	782.66	21+32
3109	341243.82	2532521.57	784.20	19+82
3110	341406.59	2532654.79	782.13	21+75T
3111	341397.35	2532647.93	782.32	21+82
3112	341281.75	2532553.30	783.72	19+82
3113	341321.33	2532584.46	783.29	21+68
3114	341074.19	2532374.03	786.24	17+42
3115	340997.52	2532310.65	787.22	16+42
3116	340921.13	2532246.95	788.30	15+43
3117	340885.04	2532214.64	788.86	14+94
3118	340846.72	2532182.91	789.41	14+43
3119	341111.76	2532406.44	785.91	17+91
3120	341206.01	2532489.56	784.51	19+17
3121	340859.13	2532279.07	787.62	15+92
3122	340807.69	2532152.18	789.92	13+93
3123	340768.72	2532120.97	790.38	13+45
3124	341035.21	2532342.90	786.80	16+92
3125	340754.83	2532110.16	790.50	13+27 HIGHPOINT
3126	340729.67	2532089.53	790.34	12+94
3127	340691.05	2532057.56	789.76	12+44
3128	340613.99	2531993.66	788.80	11+44
3129	340575.45	2531961.51	788.13	10+94
3130	340652.85	2532025.31	789.32	11+94
3131	340536.99	2531929.24	787.76	10+44
3132	340507.11	2531901.81	787.32	10+03
3133	340469.93	2531864.71	786.92	9+52
3134	340449.67	2531841.79	786.49	9+22
3135	340440.79	2531823.79	786.77	9+02
3136	340418.91	2531779.20	787.40	8+55
3137	340404.85	2531731.55	787.88	8+06
3138	340401.34	2531681.87	788.67	7+57
3139	340398.87	2531632.00	789.34	7+07
3140	340397.12	2531582.26	790.12	6+58
3141	340396.49	2531532.34	790.61	6+08
3142	340395.36	2531482.52	791.36	5+58
3201	341335.17	2530125.50	800.23	G 9
3202	341254.51	2530129.27	802.98	G 10
3203	341155.13	2530130.40	804.46	G 11
3204	341204.78	2530175.43	802.56	G 12
3205	341158.10	2530239.88	802.95	G 13
3206	341154.62	2530344.93	800.74	G 14
3207	341154.45	2530444.89	801.62	G 15
3208	341225.87	2530709.23	812.59	G 16
3209	341050.45	2530717.67	809.78	G 17
3210	340875.77	2530716.56	811.55	G 18
3212	340705.26	2530714.49	812.48	G 19 EL
3213	340616.84	2530756.97	811.28	G 26
3214	340528.96	2530722.58	806.97	G 20
3215	340506.69	2530870.28	808.70	G 21
3216	340685.93	2530883.31	814.37	G 22
3217	340882.93	2530912.20	814.18	G 23
3218	340905.93	2531149.97	810.97	G 24
3219	340918.38	2531288.92	809.32	G 25
3563	340895.30	2531153.06	805.42	SEAM
3565	340904.91	2531215.17	803.80	SEAM
3566	340908.11	2531238.89	803.06	SEAM
3601	341334.53	2530126.99	797.88	R9(HIGH POINT)
3602	341284.95	2530132.29	797.38	SEAM
3603	341254.62	2530134.93	797.11	T
3605	341254.48	2530131.00	797.83	SEAM
3607	341233.16	2530136.91	796.84	SEAM
3608	341183.85	2530144.36	796.42	SEAM
3609	341181.23	2530144.77	796.39	SEAM
3610	341177.39	2530145.54	796.36	45 BEND
3612	341175.79	2530147.77	796.46	T
3614	341168.29	2530142.66	796.63	SEAM
3615	341155.77	2530132.30	796.76	SEAM
3617	341167.05	2530176.41	795.81	T
3619	341197.06	2530176.62	796.20	SEAM
3620	341200.53	2530176.60	796.27	SEAM
3621	341160.92	2530227.37	795.28	SEAM
3622	341159.96	2530239.88	795.27	VERT T
3623	341158.71	2530291.05	794.67	SEAM
3625	341156.52	2530344.87	794.17	VERT T
3626	341157.00	2530396.00	793.58	SEAM
3627	341156.82	2530441.99	793.14	SEAM
3637	341209.06	2530666.04	804.41	REDUCER
3639	341223.77	2530708.72	805.37	SEAM
3643	340880.87	2530964.37	810.31	HIGHPOINT
3644	340879.26	2531014.49	809.15	SEAM
3645	340882.49	2531064.50	807.56	SEAM
3646	340888.98	2531114.01	806.36	SEAM
3647	340895.08	2531151.64	805.48	HORZ T
3648	340896.22	2531151.50	805.47	SEAM
3649	340904.11	2531149.78	805.72	R24
3650	340897.63	2531165.62	805.20	SEAM
3652	340818.18	2530710.99	803.61	M23 SEAM
3653	340768.42	2530710.43	802.85	M24 SEAM
3654	340718.64	2530711.94	802.14	M25 SEAM
3655	340705.88	2530712.52	801.85	R19 VERT T
3656	340655.11	2530705.80	800.97	M26 SEAM
3657	340641.08	2530702.47	800.81	M27 SEAM
3658	340637.12	2530701.38	800.77	T6 HORZ T
3659	340636.81	2530702.46	800.77	SEAM

Number	Northing	Easting	Elevation	Description
3660	340632.13	2530718.48	802.09	A26 SEAM
3661	340617.51	2530755.50	805.56	R26 RISSOR
3662	340588.04	2530687.23	799.93	M28 SEAM
3663	340539.50	2530675.25	799.19	M29 SEAM
3665	340869.00	2530718.78	804.48	SEAM
3666	340866.80	2530768.41	806.10	SEAM
3667	340867.39	2530812.15	806.94	SEAM
3668	340874.10	2530861.71	807.98	SEAM
3670	341204.24	2530650.36	803.77	M15 SEAM
3671	341190.26	2530602.42	800.72	SEAM
3672	341177.61	2530554.16	797.35	SEAM
3673	341162.46	2530506.75	794.11	SEAM
3703	341160.87	2530227.35	795.39	seam
3705	340884.39	2530911.25	808.93	R23
3706	340881.50	2530952.34	809.98	T7
3707	340831.08	2530946.26	807.90	M30
3708	340781.57	2530940.19	805.85	M31
3709	340731.40	2530931.81	804.11	T8
3710	340730.47	2530931.52	804.07	SEAM
3711	340679.85	2530924.67	803.19	T9
3712	340685.07	2530894.12	806.91	R22
3713	340629.12	2530919.18	802.43	M32
3714	340589.20	2530892.65	801.72	M33
3715	340519.74	2530862.08	801.61	A21
3716	340506.43	2530869.16	802.07	R21
3717	340567.60	2530850.97	800.75	M34
3718	340554.39	2530839.84	800.66	T10
3719	340526.24	2530797.11	799.66	M35
3720	340511.78	2530750.60	798.77	M36
3721	340511.23	2530720.18	798.21	T11
3722	340527.96	2530722.25	800.63	R20
3723	340510.74	2530699.22	794.65	CT5 TANK
3725	340510.25	2530673.95	798.21	SEAM
3726	340510.33	2530673.06	798.25	Y2
3727	341224.29	2530708.17	805.78	R16
3728	341210.09	2530670.58	804.32	B16
3730	341208.73	2530666.12	804.24	A16
3731	341207.36	2530661.42	804.13	T4
3735	341156.62	2530444.96	793.16	R15
3738	341156.59	2530447.93	793.14	SEAMBEND
3744	341159.12	2530451.57	793.00	SEAMONBEND
3747	341159.40	2530465.00	792.70	CT6 HEADER
3757	340511.54	2530695.97	797.01	CT5 HEADER
3764	340916.61	2531294.72	801.02	R25
3766	340917.89	2531294.72	800.63	SEAM
3768	340918.61	2531297.45	800.53	CT4 HEADER
3771	340917.20	2531298.78	797.88	CT4 TANK
3775	340920.11	2531303.05	800.36	ENDCAP
3778	340728.80	2530954.72	802.99	SEAM
3779	340730.47	2530969.83	803.71	SEAM
3780	340732.49	2530979.73	804.01	SEAM REDUCER
3781	340732.48	2530979.89	804.19	SEAM REDUCER
3782	340740.11	2531028.91	805.72	12INSEAM
3783	340747.49	2531077.88	807.03	12INSEAM
3784	340746.57	2531127.44	808.72	12INSEAM
3788	340463.09	2531833.14	786.17	SEAM
3793	340468.15	2531830.03	786.20	CT3 HEADER
3795	340467.83	2531832.31	784.28	CT3 TANK
3797	340393.25	2531428.57	792.57	SEAM
3800	340394.01	2531427.06	792.57	SEAM AT BEND
3801	340434.11	2531391.80	794.63	SEAM 8IN
3802	340434.27	2531391.59	794.81	SEAM 12IN
3804	340455.08	2531371.18	795.41	SEAM 12IN ON BE
3807	340504.84	2531359.37	796.46	SEAM 12IN
3808	340553.24	2531349.16	797.50	SEAM 12IN
3809	340572.99	2531343.64	798.05	SEAM 12IN
3810	340619.20	2531325.99	798.94	SEAM 12IN
3811	340653.55	2531290.68	799.92	SEAM 12IN
3812	340686.85	2531254.04	800.91	SEAM 12IN
3813	340718.23	2531216.27	804.21	SEAM 12IN
4079	341985.87	2533071.19	779.99	TIE INTO EXISTING SYSTEM
4080	341954.20	2533052.82	780.04	HIGHPOINT
4081	341918.34	2533034.95	779.43	6INSEAM
4082	341882.54	2533017.13	778.82	SEAM REDUCER
4083	341881.63	2533016.67	778.90	8INSEAM REDUCER
4084	341839.59	2532989.78	778.09	8INSEAM
4089	341795.32	2532955.82	776.60	CT2 HEADER
4092	341784.96	2532945.78	776.62	8INSEAM
4093	341772.36	2532933.92	777.10	8INSEAM

Number	Northing	Easting	Elevation	Description
4101	341724.62	2532924.30	777.95	SEAM ELBO
4103	341688.67	2532893.31	778.50	SEAM
4105	341750.46	2532919.56	777.21	8INSEAM BEND
4200	342942.48	2533124.83	752.70	TOP8INPIPE
4201	342954.92	2533124.09	752.05	SEAM
4202	342957.79	2533124.02	751.89	SEAM
4203	342959.84	2533123.96	751.89	SEAM
4204	342959.83	2533123.98	751.89	SEAM
4205	342961.01	2533123.93	751.89	8X4TEE
4206	342961.00	2533123.48	751.84	4INSEAM
4207	342961.01	2533123.03	751.88	4INSEAM
4208	342960.91	2533120.79	752.01	4INSEAMELBO
4209	342962.09	2533123.88	751.85	8INSEAM
4210	342964.26	2533123.83	751.80	8INSEAM
4211	342974.44	2533123.88	751.25	TOP8INPIPE
4213	341157.10	2530679.17	805.15	M17
4214	341112.66	2530701.73	805.61	M18
4215	341064.66	2530714.82	806.15	M19
4216	341050.43	2530716.08	806.28	R17
4217	341014.47	2530716.88	806.68	HP1
4218	340998.93	2530714.27	806.46	M20
4219	340949.02	2530713.64	805.67	M21
4220	340918.74	2530713.00	805.23	M22
4221	340875.35	2530714.22	804.51	R18
4222	340869.54	2530714.47	804.41	TS
5410	341157.99	2530466.33	790.51	CT6TANK

LEGEND
M - MAIN SEAM
R - RISER
RZ - ROOTING ZONE
TS - TOPSOIL
CT6 - CONDENSATE TANK
B - SEAM ON LEG TO RISER
Y - " Y" BEND
HP - HIGH POINT
GRVL - GRAVEL
FG - FINISH GRADE

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L. SPENCER S-2069 Mukwonago, WI LAND SURVEYOR

11/12/98

RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS,
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119

GAS MANAGEMENT SYSTEM COORDINATE GEOMETRY

7040GA4R.DGN 11/16/98

162-A-168
74898

E 2530200 E 2530400 E 2530600 E 2530800 E 2531000 E 2531200 E 2531400

N 341200 N 341000 N 340800 N 340600 N 340500

3201 3601 3602 3202 3603 3605 3607 3204 3620 3619 3608 3609 3610 3203 3615 3614 3612 3617 3622 3623 3625 3626 3206 3627 3207 3205 3624 3703 3738 3744 3747 5410 3673 3672 3735 3728 3731 3671 3670 3730 3637 3727 3208 4213 4214 4215 4216 3209 4217 4218 4219 4220 3210 4221 4222 3665 3666 3667 3668 3217 3705 3706 3643 3644 3645 3646 3647 3648 3218 3649 3650 3563 3566 3219 3766 3768 3775 3771 3764 3565 3707 3652 3653 3655 3654 3212 3656 3657 3659 3658 3660 3661 3213 3662 3663 3726 3725 3214 3722 3723 3721 3720 3757 3708 3709 3710 3779 3782 3784 3783 3030 3035 3026 3025 3781 3778 3780 3216 3712 3711 3713 3717 3718 3714 3715 3719 3215 3716 3006 3003 3005 3004 3813 3812 3811 3810 3809 3808 3807 3804 3800 3802 3801 3142 3141 3797

N

1" = 50'

11/16/98

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L. SPENCER S-2069 Mukwonago, WI LAND SURVEYOR

11/09/98

7040GAS1.DGN 11/16/98

RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS,
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119

GAS MANAGEMENT PLAN

5B

162-A-169.

74899

E 2531600 E 2531800 E 2532000 E 2532200 E 2532400 E 2532600 E 2532800 E 2533000

N 341200 N 341000 N 340800 N 340600 N 340500

3108 3113 3112 3109 3120 3119 3114 3124 3115 3121 3116 3117 3118 3122 3123 3125 3126 3127 3130 3128 3129 3131 3132 3133 3134 3135 3793 3795 3788 3136 3137 3138 3139 3140 3141

N

1" = 50'

11/16/98

I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN BRADFORD L. SPENCER S-2069 Mukwonago, WI LAND SURVEYOR

11/21/98

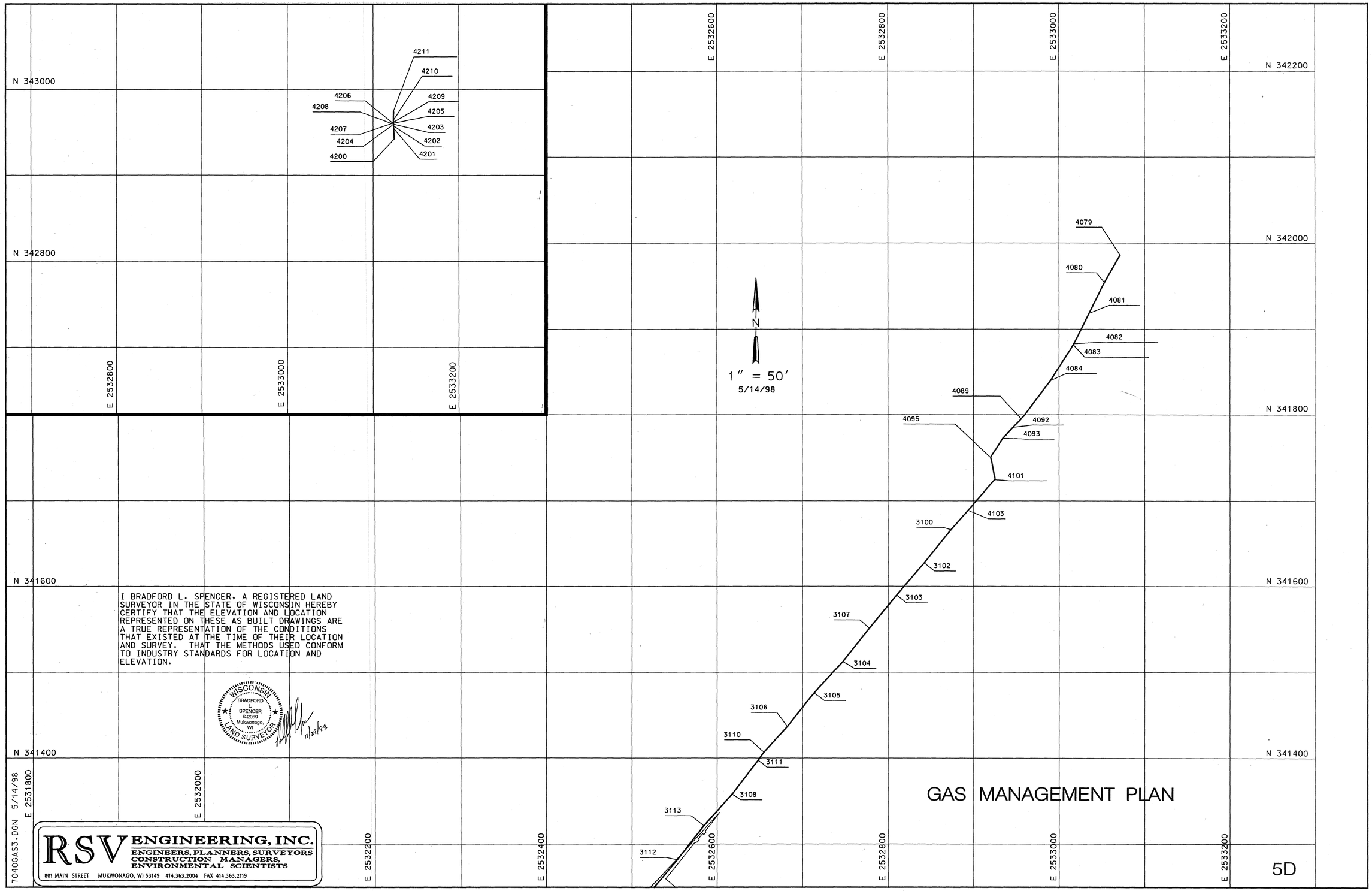
GAS MANAGEMENT PLAN

7040GA2R.DGN 11/16/98

5C

RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS.
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119

162-A-170
74900



I BRADFORD L. SPENCER, A REGISTERED LAND SURVEYOR IN THE STATE OF WISCONSIN HEREBY CERTIFY THAT THE ELEVATION AND LOCATION REPRESENTED ON THESE AS BUILT DRAWINGS ARE A TRUE REPRESENTATION OF THE CONDITIONS THAT EXISTED AT THE TIME OF THEIR LOCATION AND SURVEY. THAT THE METHODS USED CONFORM TO INDUSTRY STANDARDS FOR LOCATION AND ELEVATION.

WISCONSIN
BRADFORD L. SPENCER S-2069 Mukwonago, WI
LAND SURVEYOR

11/25/98

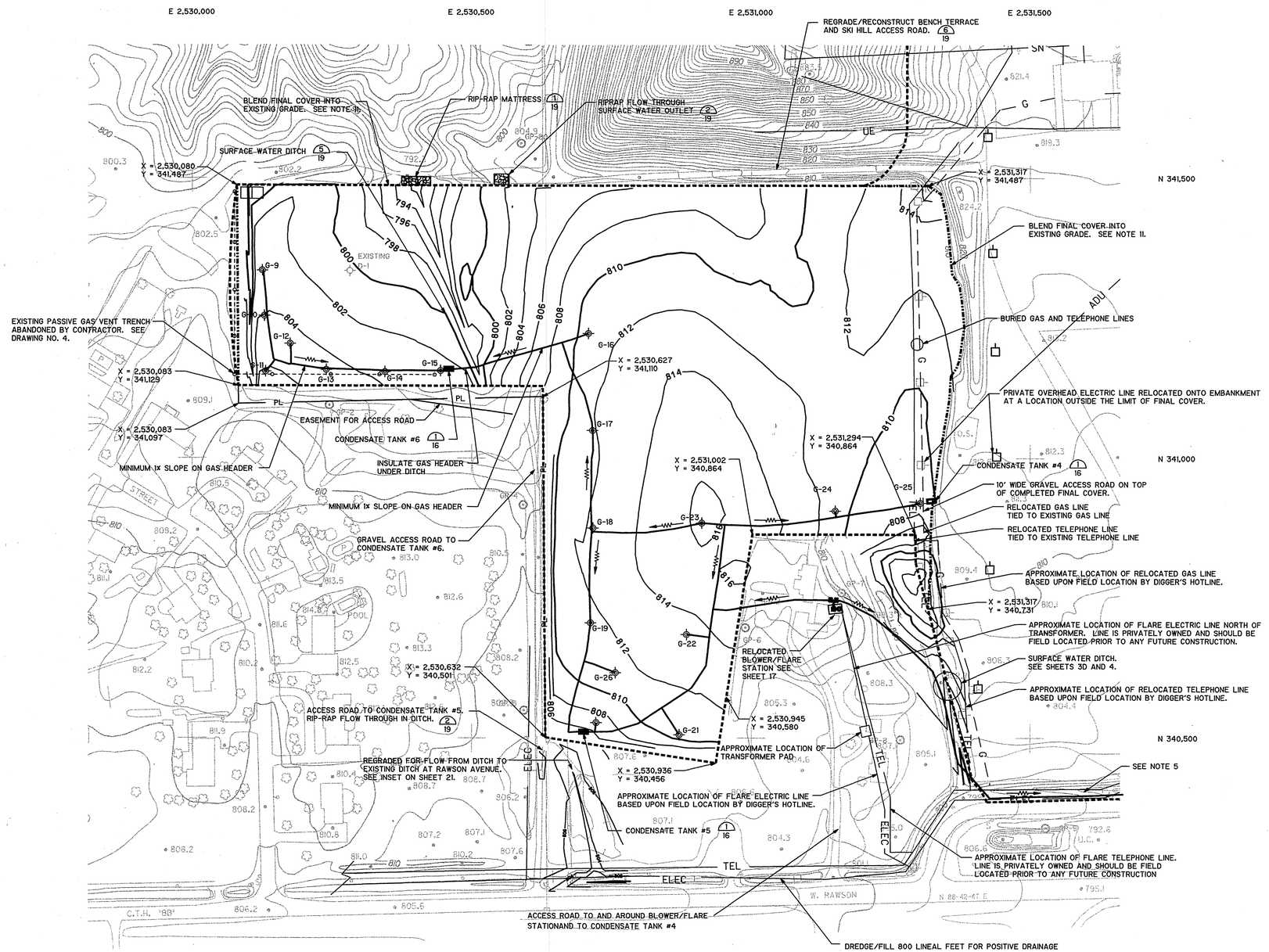
GAS MANAGEMENT PLAN

RSV ENGINEERING, INC.
ENGINEERS, PLANNERS, SURVEYORS
CONSTRUCTION MANAGERS,
ENVIRONMENTAL SCIENTISTS
801 MAIN STREET MUKWONAGO, WI 53149 414.363.2004 FAX 414.363.2119

7040GAS3.DGN 5/14/98

5D

162-A-171
74901



N

1" = 100'

50 0 100

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMIT OF NEW FINAL COVER WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. THE GAS HEADER PIPE WILL BE INSTALLED ALONG THE SOUTH SIDE OF THE LANDFILL TO EXISTING EAST AREA EXTRACTION SYSTEM TO CONNECT TO NEW BLOWER/FLARE LOCATION. SEE DRAWING NOS. 9 AND 10.
6. ALL FINAL COVER GRADES SHALL BE 2% MINIMUM.
7. CONTRACTOR TO PREPARE SUBBASE GRADES TO BE 4.5 FEET BELOW FINAL GRADES SHOWN.
8. SUBBASE PREPARATION SHALL CONSIST OF CUT/FILL OPERATIONS. MATERIALS REMOVED FROM GAS HEADER TRENCH SHALL BE USED AS FILL IN O' MALLEY AREA.
9. CONTRACTOR HAS OPTION TO STRIP AND STOCKPILE TOPSOIL FOR USE IN FINAL COVER. ALL TOPSOIL USED SHALL MEET SPECIFICATIONS FOR TOPSOIL. ALL STOCKPILES MUST STAY WITHIN THE LIMITS OF CONSTRUCTION.
10. PREPARED SUBBASE SHALL HAVE A MINIMUM OF SIX INCHES SOIL BETWEEN TOP OF IN-PLACE OR RECOMPACTED WASTE AND BOTTOM OF CLAY CAP LAYER OF FINAL COVER
11. EXISTING TOPOGRAPHIC MAP SHOWN OUTSIDE LIMITS OF NEW FINAL COVER IS FROM 1993. A TOPOGRAPHIC MAP WITHIN THE LIMITS OF NEW FINAL COVER CONSTRUCTION PREPARED BY EMCS IN SEPTEMBER 1996 IS INCLUDED IN FRONT OF THIS DRAWING SET. CONTRACTOR SHALL PREPARE A SURVEY TO CONFIRM ACTUAL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.

LEGEND

- CONDENSATE FLOW DIRECTION
- CONDENSATE KNOCKOUT TANK
- D-1 EXISTING GAS WELL
- G-24 PROPOSED GAS WELL
- VALVE 4/14
- X HP HIGH POINT
- PROPOSED HDPE GAS HEADER
- EXISTING PASSIVE TRENCH
- APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION (MAY BE COINCIDENT WITH APPROXIMATE LIMIT OF WASTE)
- GP-1 EXISTING GAS PROBES
- 814 FINAL GRADE OF LANDFILL COVER
- PL PROPERTY LINE

NOTES: 1. FOR ACTUAL LOCATIONS OF GAS MANAGEMENT SYSTEM, INCLUDING ALL APPURTENANCES, SEE SHEETS 10A THROUGH 10D.
2. FOR "AS-BUILT" LOCATIONS OF ROADWAYS THROUGH THE LANDFILL, SEE SHEET 21.
3. SEE SHEET 2C FOR FINAL COVER GRADES.

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN
SCALE: 1" = 100'
DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners, & management consultants — CDM

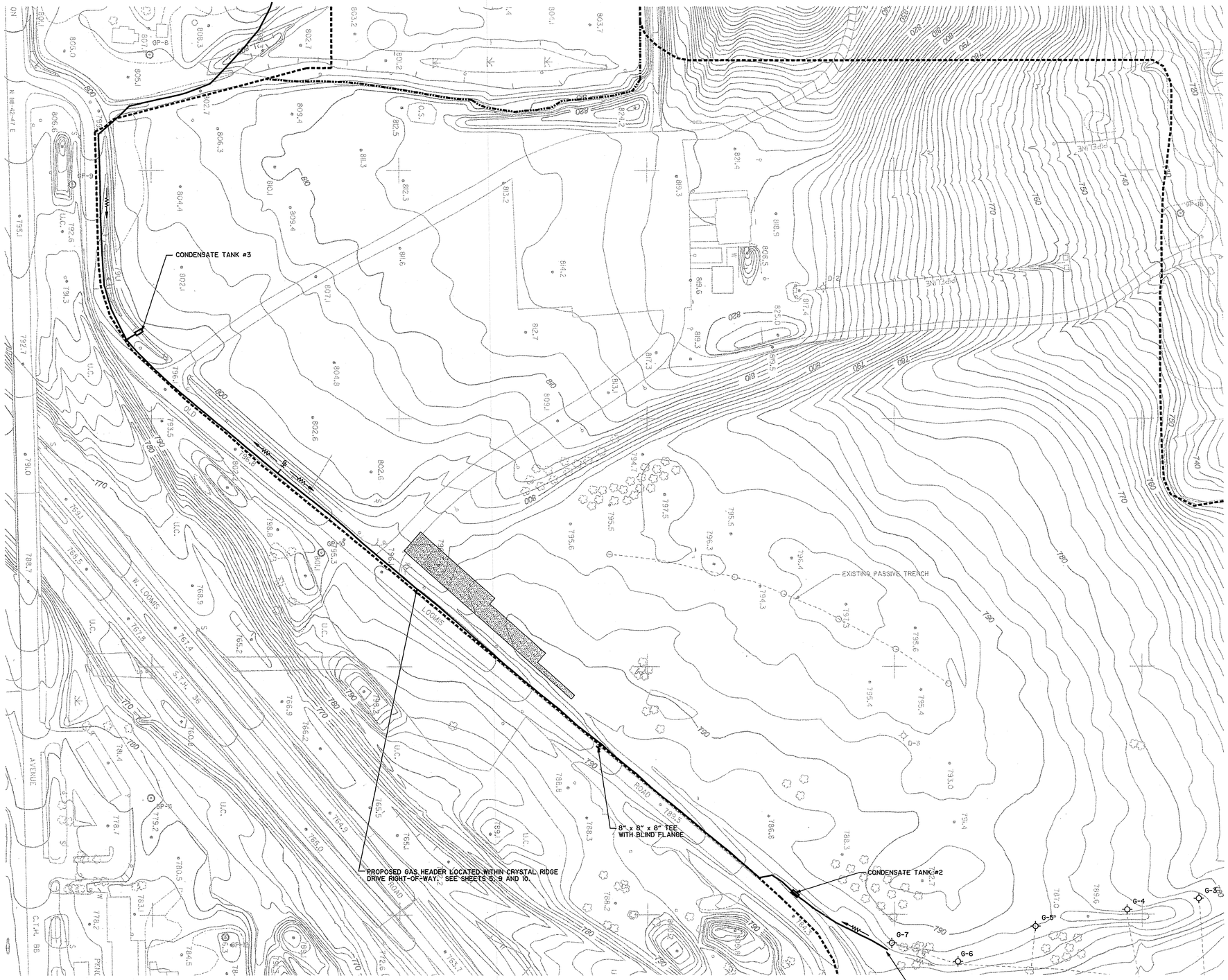
PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: ACE SCAVENGER/O'MALLEY AREAS

SHEET NO. 6 | PROJECT NO. | FILE NO.

74902 162-A-172

N 340,500 N 341,000 N 341,500 N 342,000 N 342,500

E 2,531,500 E 2,532,000 E 2,532,500 E 2,533,000



N

1" = 100'

50 0 100

1. EXISTING TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.

LEGEND

- EXISTING 6" DIA HDPE GAS HEADER
- CONDENSATE FLOW DIRECTION
- CONDENSATE KNOCKOUT TANK
- G-1 / D-1 EXISTING GAS WELL
- PROPOSED HDPE GAS HEADER
- EXISTING PASSIVE GAS VENTING TRENCH
- LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION
- GP-1 EXISTING GAS PROBES
- AREA ON EXISTING CAP FILLED FOR POSITIVE DRAINAGE AND REVEGETATED

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

Mark A. Burgess 12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

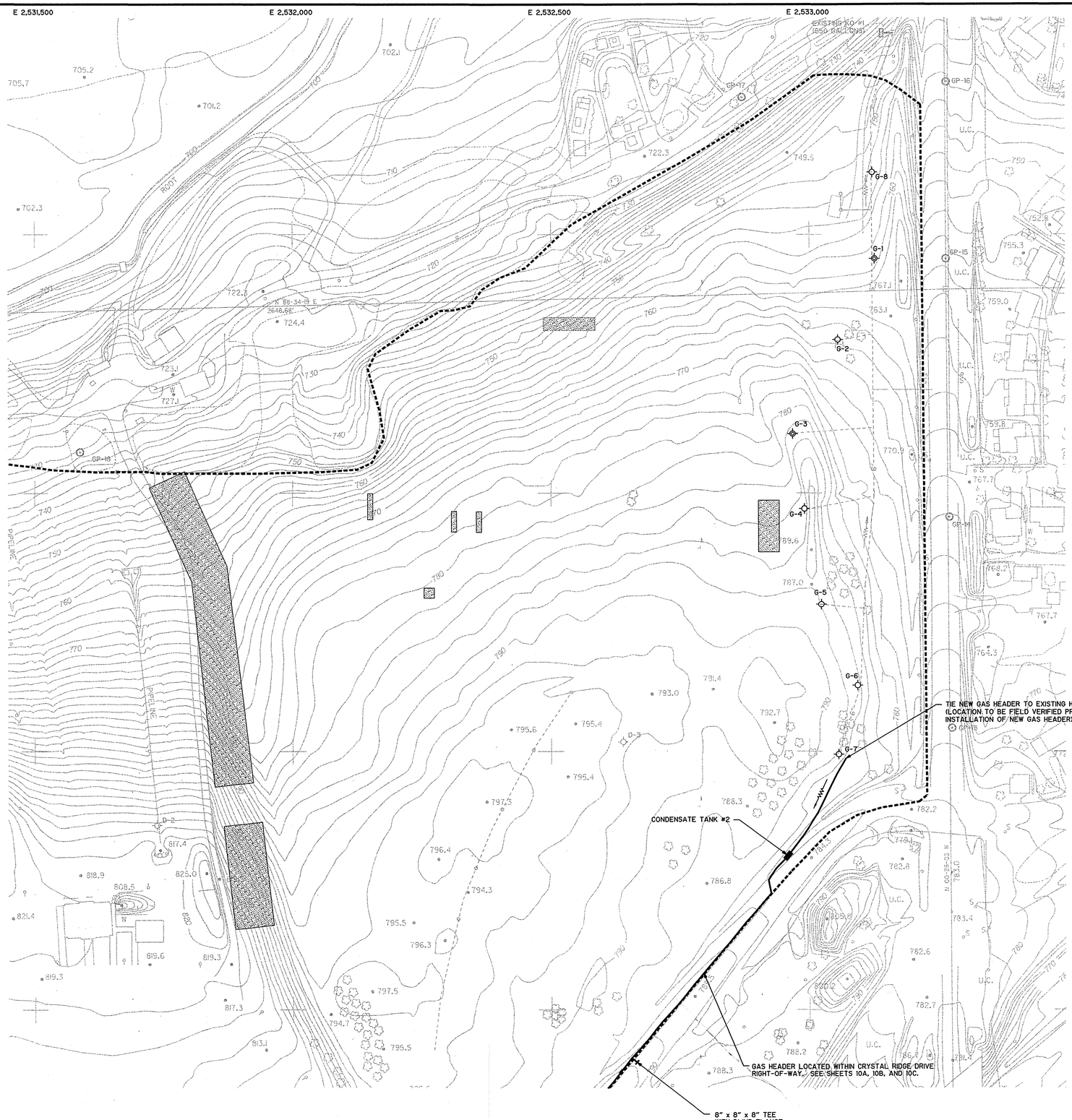
REVISIONS:
4 REVISED FOR THE RECORD 8/04/98

CAMP DRESSER & McKEE INC. CDM
engineers, scientists, planners, & economic consultants

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: EAST AREA

PROJECT NO.
SCALE: 1" = 100'
DRAWN BY:
CHECKED BY: S. WINNEN
DATE: NOVEMBER 1996
SHEET NO. 7
FILE NO.

74903 162-A-173



N

1" = 100'

50 0 100

1. EXISTING TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.

LEGEND

- EXISTING 6" DIA HDPE GAS HEADER
- CONDENSATE FLOW DIRECTION
- CONDENSATE KNOCKOUT TANK
- G-1 / D-1 — EXISTING GAS WELL
- PROPOSED HDPE GAS HEADER
- EXISTING PASSIVE TRENCH
- APPROXIMATE LIMIT OF WASTE
- GP-1 — EXISTING GAS PROBES
- AREA ON EXISTING CAP FILLED FOR POSITIVE DRAINAGE AND REVEGETATED

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S.WINNEN

SCALE: 1" = 100'

DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

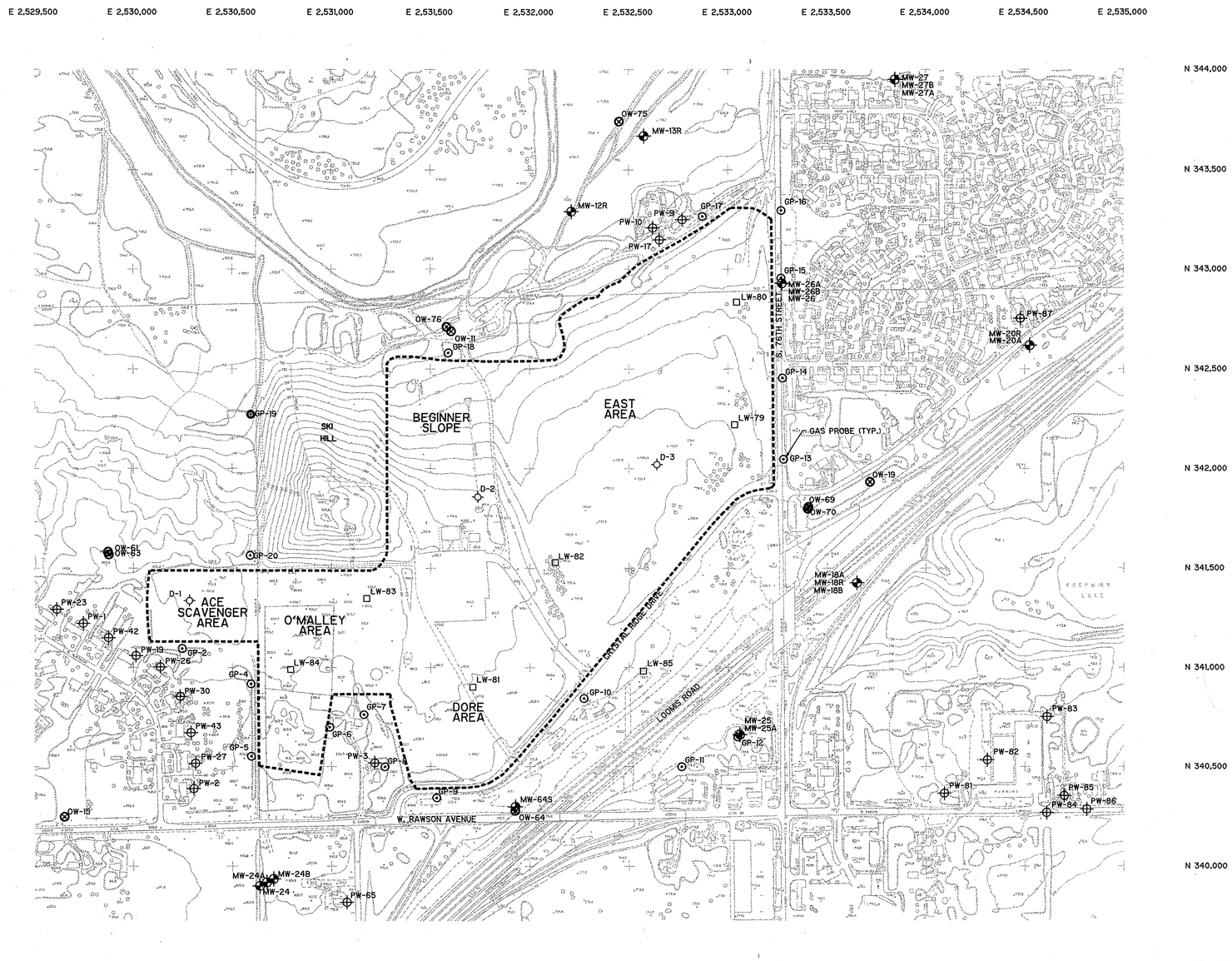
SHEET DESCRIPTION: EAST AREA

PROJECT NO.

SHEET NO. 8

FILE NO.

74904 162-A-174



N

1" = 300'

150 0 300

NOTES:

1. TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.

LEGEND

- - - - - -	APPROXIMATE LIMIT OF WASTE
D-1	EXISTING GAS WELL
GP-1	EXISTING GAS PROBES
MW-18B	GROUNDWATER MONITORING WELL
LW-81	LEACHATE WELL
PW-82	PRIVATE DRINKING WATER WELL
OW-19	OLD WELL

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

Mark A. Burgess
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

REVISIONS:
△ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN

SCALE: 1" = 300'

DATE: NOVEMBER 1998

CAMP DRESSER & McKEE INC.
CDM
environmental engineers, scientists, planners, & management consultants

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

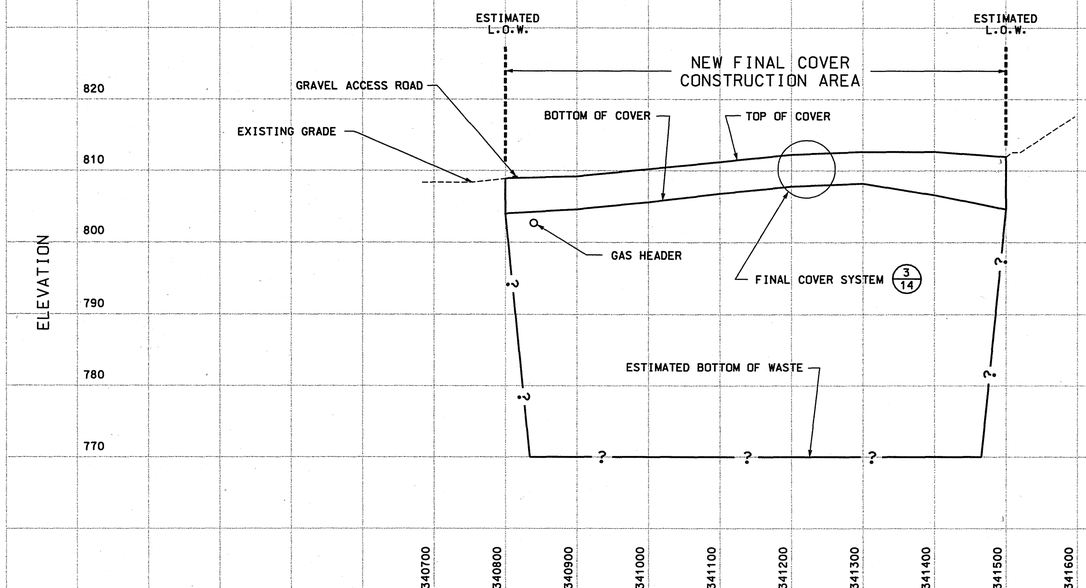
SHEET DESCRIPTION: LOCATIONS OF MONITORING WELLS & GAS PROBES

PROJECT NO.

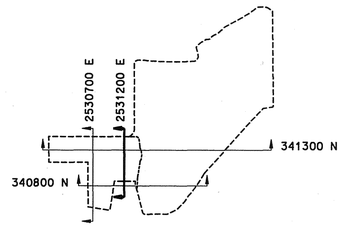
SHEET NO. 9

FILE NO.

74905 162-A-175



CROSS SECTION 2531200 E



CROSS SECTION LOCATION KEY

NOTES:

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMITS OF NEW FINAL COVER PREPARED BY AERO-METRIC ENGINEERING INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993. TOPOGRAPHIC MAP WITHIN LIMITS OF NEW FINAL COVER PREPARED BY EMCS DESIGN GROUP, SEPTEMBER 15, 1996.
2. ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA" PREPARED BY RMT, INC. AUGUST 1991.
5. APPROXIMATE BOTTOM OF WASTE GRADES ARE BASED ON BORING LOG DATA FROM LEACHATE HEAD WELLS, GAS PRESSURE PROBES, DUAL GAS EXTRACTION, AND EXISTING GAS EXTRACTION WELLS.

LEGEND

———	PROPOSED FINAL COVER
- - - - -	EXISTING GRADE (1993 SURVEY)
—?—	ESTIMATED BOTTOM OF WASTE
- - - - -	APPROXIMATE LIMIT OF WASTE (L.O.W.)
———	EXISTING GRADE (1996 SURVEY)

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

Mark A. Burgess

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

REVISIONS: REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN

SCALE:

DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

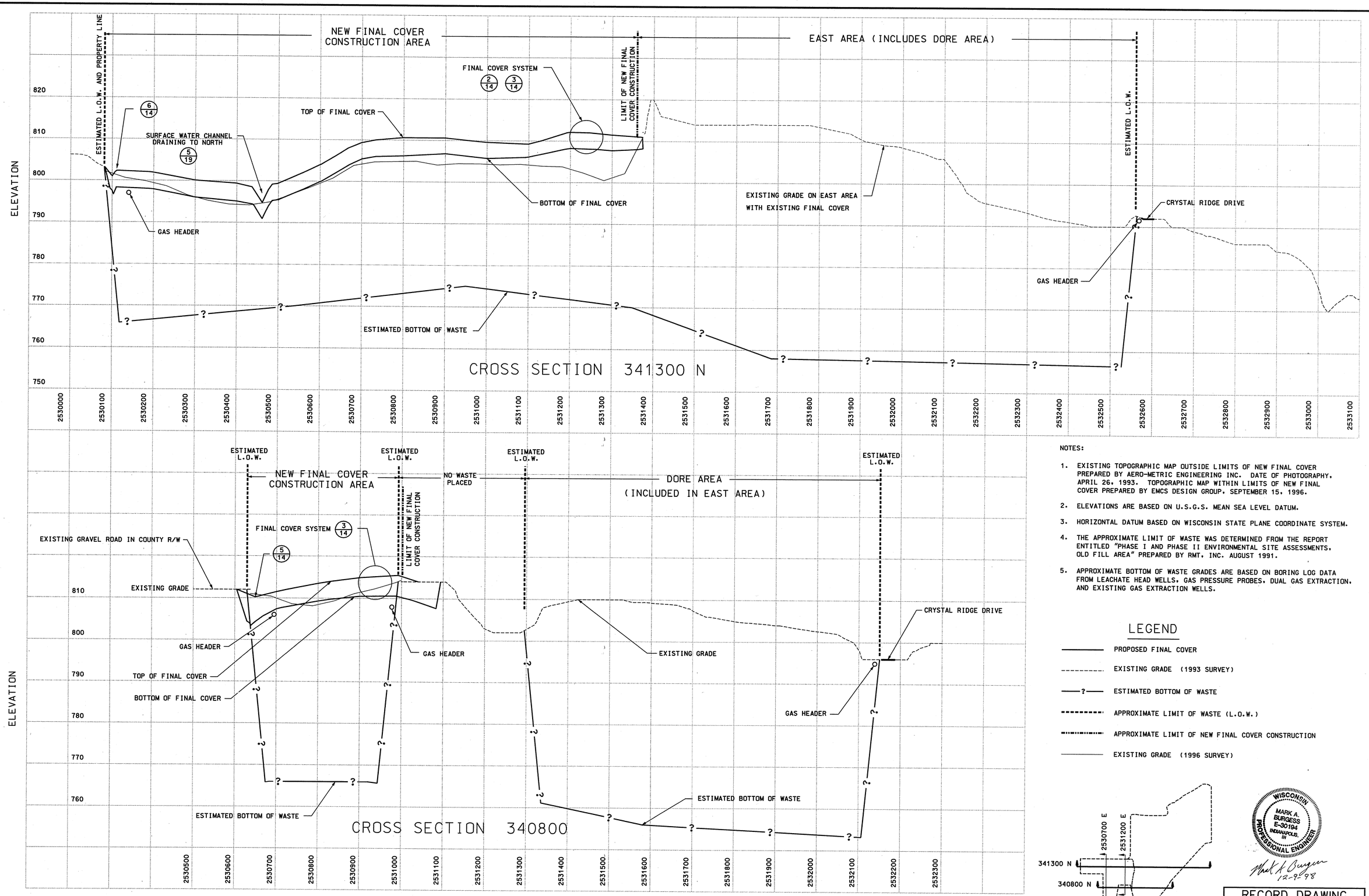
SHEET DESCRIPTION: SECTION 2531200 EAST

PROJECT NO.

SHEET NO. 10

FILE NO.

74906 162-A-176

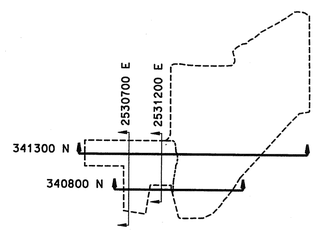


NOTES:

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMITS OF NEW FINAL COVER PREPARED BY AERO-METRIC ENGINEERING INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993. TOPOGRAPHIC MAP WITHIN LIMITS OF NEW FINAL COVER PREPARED BY EMCS DESIGN GROUP, SEPTEMBER 15, 1996.
2. ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA" PREPARED BY RMT, INC. AUGUST 1991.
5. APPROXIMATE BOTTOM OF WASTE GRADES ARE BASED ON BORING LOG DATA FROM LEACHATE HEAD WELLS, GAS PRESSURE PROBES, DUAL GAS EXTRACTION, AND EXISTING GAS EXTRACTION WELLS.

LEGEND

- PROPOSED FINAL COVER
- EXISTING GRADE (1993 SURVEY)
- ESTIMATED BOTTOM OF WASTE
- APPROXIMATE LIMIT OF WASTE (L.O.W.)
- APPROXIMATE LIMIT OF NEW FINAL COVER CONSTRUCTION
- EXISTING GRADE (1996 SURVEY)



CROSS SECTION LOCATION KEY

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

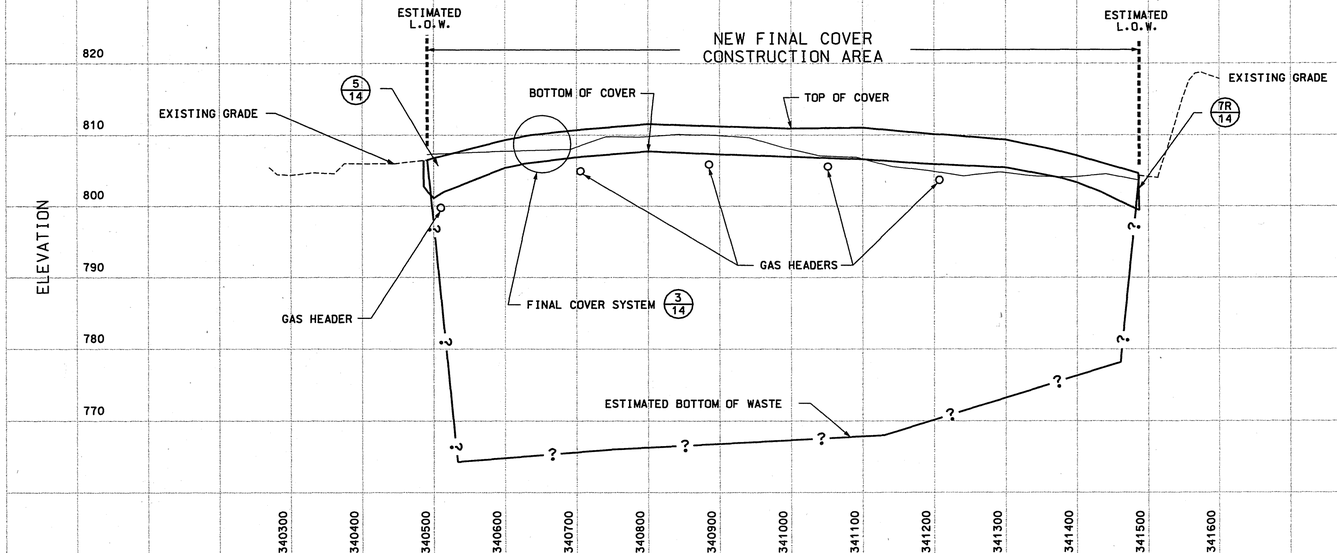
CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX
MILWAUKEE, WISCONSIN 53233
907 NORTH 10TH STREET

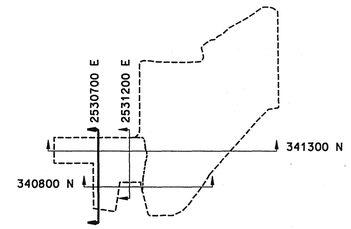
REVISIONS:
1 REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN
SCALE:
DATE: NOVEMBER 1996
CAMP DRESSER & McKEE INC. environmental engineers, scientists, planners & management consultants CDM
PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: SECTIONS 341300 NORTH & 340800 NORTH
PROJECT NO.
SHEET NO. 11
FILE NO.

74907 162-A-177



CROSS SECTION 2530700 E



CROSS SECTION LOCATION KEY

NOTES:

1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMITS OF NEW FINAL COVER PREPARED BY AERO-METRIC ENGINEERING INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993. TOPOGRAPHIC MAP WITHIN LIMITS OF NEW FINAL COVER PREPARED BY EMCS DESIGN GROUP, SEPTEMBER 15, 1996.
2. ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA" PREPARED BY RMT, INC. AUGUST 1991.
5. APPROXIMATE BOTTOM OF WASTE GRADES ARE BASED ON BORING LOG DATA FROM LEACHATE HEAD WELLS, GAS PRESSURE PROBES, DUAL GAS EXTRACTION, AND EXISTING GAS EXTRACTION WELLS.

LEGEND

- PROPOSED FINAL COVER
- EXISTING GRADE (1993 SURVEY)
- ESTIMATED BOTTOM OF WASTE
- APPROXIMATE LIMIT OF WASTE (L.O.W.)
- EXISTING GRADE (1996 SURVEY)

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
1 REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN

SCALE:

DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — CDM — environmental engineers, scientists, planners & management consultants

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

SHEET DESCRIPTION: SECTION 2530700 EAST

PROJECT NO.

SHEET NO. 12

FILE NO.

74908 162-A-178

ESTIMATE OF QUANTITIES

6" WATERMAIN (GRAN. BKFL.)	516 L.F.
6" HYDRANT LEAD	5 L.F.
4" WATERMAIN (GRAN. BKFL.)	446 L.F.
2" TYPE "K" COPPER LATERAL	98 L.F.
12" X 6" TAPPING SLEEVE AND VALVE	1 EA.
CURB STOP AND SERVICE BOX	1 EA.
6" GATE VALVE AND BOX	1 EA.
4" GATE VALVE AND BOX	2 EA.

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE
MILW. AREA 259-1181

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER & WATER CONSTRUCTION IN WISCONSIN, FIFTH EDITION DATED: MARCH 1, 1988, w/ ADDENDUM NO. 1, AND THE WISCONSIN ADMINISTRATIVE CODE, LATEST EDITION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

CONTRACTOR SHALL PROVIDE EROSION CONTROL FACILITIES IN ACCORDANCE WITH THE FRANKLIN EROSION CONTROL ORDINANCE AND THE WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK.

PROJECT MANAGER: JEFFREY F. KENKEL P.E.

MILWAUKEE CO. LANDFILL

MILWAUKEE COUNTY, WISCONSIN

WATERMAIN RECORD DRAWING

JEFFREY F. KENKEL E-21345 WEST BEND, WIS. WISCONSIN PROFESSIONAL ENGINEER

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE DESIGN PROFESSIONAL CANNOT ASSURE ITS ACCURACY, AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

BY: [signature] DATE: 11-12-98

REVISIONS	
DATE	BY
7-31-98	LDG
9-23-98	RECORD
11-11-98	RECORD

National Survey & Engineering
SITEBALANCE
Telephone 414-781-1000
Facsimile 414-781-8466
16745 W. Bluemound Road
Suite 200
Brookfield, WI 53005-5938
www.nase.com

NSE PROJECT NO.: 3980139

DATE: 7-24-98 | SCALE: 1" = 40' | SHEET 1 OF 1

GENERAL NOTES

1. TOPOGRAPHIC MAP PREPARED BY AERO-METRIC ENGINEERING INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. PROPOSED WATERMAIN SHALL BE INSTALLED IN EXISTING 18" R.C.P. CARRIER PIPE CROSSING UNDER S. 76TH STREET.
3. CONTRACTOR SHALL PLACE A 12" CONCRETE BULKHEAD ON BOTH ENDS OF EXISTING 18" CARRIER PIPE IN ACCORDANCE WITH "THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN". FILE NO. 49. FILL VOID BETWEEN WATER MAIN AND CARRIER PIPE WITH ELASTOCILL FILLER MATERIAL.
4. CONTRACTOR SHALL PROVIDE RESTRAINED JOINT PIPE UPSTREAM AND DOWNSTREAM OF FITTINGS. RESTRAINED JOINT FITTINGS SHALL BE IN ACCORDANCE WITH AWWA MANUAL M41.
5. 48 HOURS PRIOR TO ANY WORK CONNECTING TO EXISTING WATER MAIN CONTRACTOR SHALL CONTACT VILLAGE OF GREENDALE, TOM LUDWIG (414) 423-2100.
6. VILLAGE OF GREENDALE SHALL OPERATE ALL VALVES IN EXISTING WATERMAIN SYSTEM.
7. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PLUMBING AND OTHER PERMITS PRIOR TO COMMENCING CONSTRUCTION.
8. PROVIDE CORROSION PROTECTION IN ACCORDANCE WITH CITY OF MILWAUKEE REQUIREMENTS. WRAP DUCTILE IRON WATER MAIN, FITTINGS VALVES WITH DOUBLE LAYER OF POLYETHEYLENE FILM.
9. THE WATERMAIN SHALL HAVE A MINIMUM COVER OF SIX FEET.
10. HYDRANT, VALVE AND WATER METER SPECIFICATIONS SHALL BE OBTAINED FROM JOHN CAMPION, UTILITY SUPERINTENDENT, VILLAGE OF GREENDALE (414) 423-2135.
11. BEDDING MATERIAL SHALL BE 3/8" CRUSHED STONE CHIPS. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN ENVIRONMENTALLY ACCEPTABLE LOCATION.
12. ALL BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL. BACKFILL SHALL BE PLACED IN 12" LIFTS AND EACH LIFT THOROUGHLY COMPACTED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF TRENCH SETTLEMENT FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF WATERMAIN.
13. RESTORATION (CHAPTER 2.7.0 - STANDARD SPECIFICATIONS)

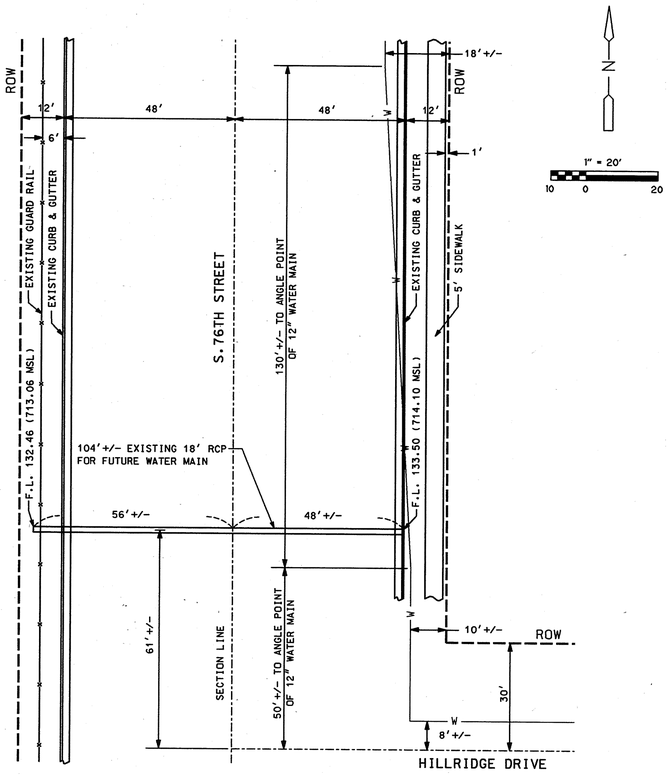
<u>S. 76TH STREET</u> - TYPE "A" LAWN REPLACEMENT FOR GRASSED AREAS. REPLACE GUARD RAIL, CURB AND GUTTER, SIDEWALK AND CONCRETE DRIVEWAY IN KIND AS NECESSARY.

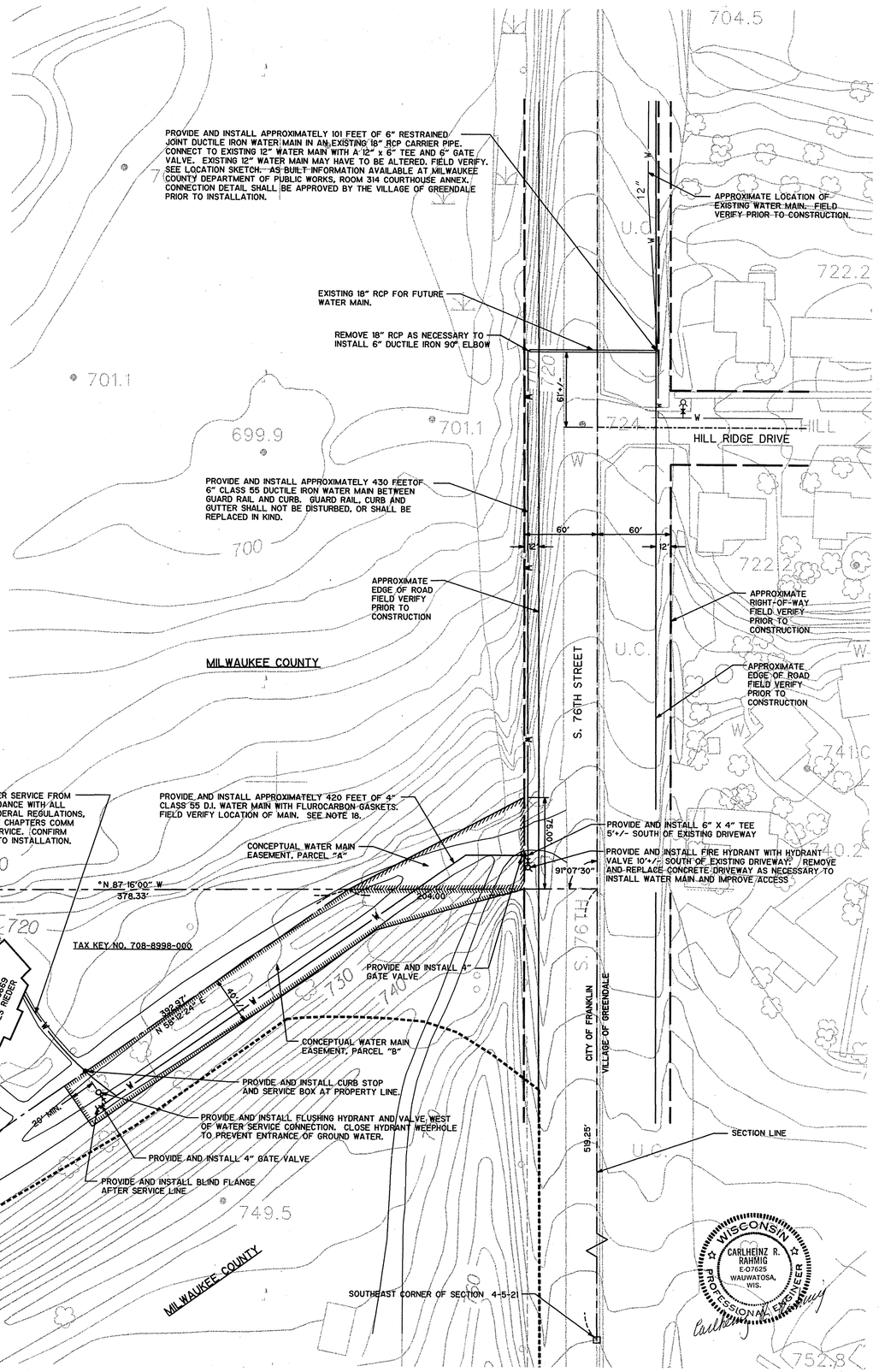
<u>MILWAUKEE COUNTY EASEMENT</u> - TYPE "A" LAWN REPLACEMENT FOR GRASSED AREAS. AND TYPE "E" PAVEMENT REPLACEMENT FOR DRIVEWAY AREAS.

<u>PRIVATE PROPERTY</u> - SURFACE RESTORATION TO BE COORDINATED WITH JAMES RIEDER, HOMEOWNER AT 6669 S. 76TH STREET.

P:\3980139\ORRECO40.DWG Wed Nov 11 15:55:37 1998 Plotted by: JLS
74909
162-A-179

LOCATION SKETCH OF EXISTING 18" RCP





LEGEND

- CENTERLINE
- RIGHT-OF-WAY
- EDGE OF ROAD
- SECTION LINE
- W — WATER MAIN OR SERVICE
- APPROXIMATE LIMIT OF WASTE
- FLUSHING HYDRANT
- FIRE HYDRANT
- W — EXISTING WATER MAIN

N
1" = 50'
25 0 50

1. TOPOGRAPHIC MAP PREPARED BY AERO-METRIC ENGINEERING INC. DATE OF PHOTOGRAPHY: APRIL 26, 1993.
2. ELEVATIONS ARE BASED ON U.S.G.S MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. EXISTING WATER MAIN TO BE TAPPED IS OWNED BY VILLAGE OF GREENDALE.
6. PROPOSED WATER MAIN SHALL BE INSTALLED IN EXISTING 18" RCP CARRIER PIPE CROSSING UNDER S. 76TH STREET.
7. LIMITS OF ROAD AND RIGHT OF WAY SHOWN ARE APPROXIMATE. S. 76TH STREET CONSTRUCTION DOCUMENTATION DRAWINGS ARE AVAILABLE FOR REVIEW AT ENGINEERS OFFICE.
8. MILWAUKEE COUNTY WILL OBTAIN STATE AND LOCAL PLAN APPROVALS FOR WATER MAIN INSTALLATION PRIOR TO CONSTRUCTION.
9. WATER MAIN SHALL BE INSTALLED IN ACCORDANCE WITH CONDITIONS OF APPROVALS AND THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN WISCONSIN", FIFTH EDITION, DATED MARCH 1, 1988, AND ADDENDUM NO. 1 DATED JANUARY 2, 1992.
10. PVC PIPE SHALL NOT BE USED.
11. CONTRACTOR SHALL SUBMIT A PLAN/PROFILE INSTALLATION DRAWING AND DETAILS WITH REQUIRED SUBMITTALS. CONTRACTOR SHALL OBTAIN SURVEY CERTIFIED BY A LAND SURVEYOR REGISTERED IN THE STATE OF WISCONSIN PRIOR TO INSTALLATION OF THE WATER MAIN AND SHALL INSTALL WATER MAIN ACCORDINGLY. SEE NOTE 21.
12. CONTRACTOR SHALL PLACE A 12" CONCRETE BULKHEAD ON BOTH ENDS OF EXISTING 18" CARRIER PIPE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", FILE NO. 49. FILL VOID BETWEEN WATER MAIN AND CARRIER PIPE WITH ELASTOCILL FILLER MATERIAL.
13. 48 HOURS PRIOR TO ANY WORK CONNECTING TO EXISTING WATER MAIN, CONTRACTOR SHALL CONTACT VILLAGE OF GREENDALE, NICK PAULOS (414) 423-2100.
14. VILLAGE OF GREENDALE SHALL OPERATE ALL VALVES IN EXISTING WATER MAIN SYSTEM.
15. CONTACTOR SHALL INCLUDE ALL FITTINGS REQUIRED TO LAY PIPE AND APPURTENANCES TO LINE AND GRADE REQUIRED.
16. CONTRACTOR SHALL PROVIDE RESTRAINED JOINT PIPE UPSTREAM AND DOWNSTREAM OF FITTINGS. RESTRAINED JOINTS AT FITTINGS SHALL BE DESIGNED IN ACCORDANCE WITH AWWA MANUAL M41.
17. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PLUMBING AND OTHER PERMITS PRIOR TO COMMENCING CONSTRUCTION. A COPY OF EACH PERMIT SHALL BE DELIVERED TO MILWAUKEE COUNTY.
18. CONCEPTUAL EASEMENT LOCATIONS (PARCELS A & B) ARE SHOWN ON THIS DRAWING. AFTER INSTALLATION OF THE 4" WATER MAIN, THE CONTRACTOR SHALL DELIVER TO LLOYD MLEJNEK, MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS, ROOM 314, COURTHOUSE ANNEX, LEGAL DESCRIPTIONS AND PARCEL DRAWINGS PREPARED BY A REGISTERED LAND SURVEYOR FOR EACH PROPOSED EASEMENT.
19. CONTRACTOR SHALL FOLLOW THE "WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK". EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
20. PROVIDE CORROSION PROTECTION IN ACCORDANCE WITH CITY OF MILWAUKEE REQUIREMENTS. WRAP DUCTILE IRON WATER MAIN, FITTINGS, VALVES WITH DOUBLE LAYER OF POLYETHYLENE FILM.
21. THE WATER MAIN SHALL HAVE A MINIMUM DEPTH OF COVER OF SIX FEET AT ALL LOCATIONS.
22. THE PRIVATE WATER SERVICE SHALL BE 2-INCH COPPER PIPE MEETING ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS INCLUDING WISCONSIN PLUMBING CODE CHAPTERS COMM 80-86.
23. HYDRANT, VALVE AND WATER METER SPECIFICATIONS SHALL BE OBTAINED FROM JOHN CAMPION, UTILITY SUPERINTENDENT, VILLAGE OF GREENDALE (414) 423-2135.
24. AFTER ACCEPTANCE OF THE WATER MAIN, THE CONTRACTOR SHALL PREPARE AN "AS-BUILT" MARKUP OF THE PLAN/PROFILE INSTALLATION DRAWING. THE "AS-BUILT" MARKUP SHALL BE DELIVERED TO MILWAUKEE COUNTY.
25. THE 4" DUCTILE IRON WATER MAIN SHALL BE INSTALLED ENTIRELY ON MILWAUKEE COUNTY LANDS.
26. THE PROPERTY LINES SHOWN FOR TAX KEY NO. 708-8998-000 ARE APPROXIMATE AND SHOULD BE VERIFIED BY A WISCONSIN REGISTERED LAND SURVEYOR.
27. THE ATTACHED MILWAUKEE COUNTY LANDFILL EXISTING SITE CONDITIONS DRAWING DATED NOVEMBER, 1996 SHOWS A GENERAL LOCATION OF UNDERGROUND ELECTRIC AND TELEPHONE SERVICE IN THE WATER MAIN PROJECT AREA. THE CONTRACTOR SHALL CONTACT DIGGER'S HOTLINE TO FIELD LOCATE ALL UNDERGROUND UTILITIES IN THE WATER MAIN INSTALLATION AREA PRIOR TO ESTABLISHING THE FINAL WATER MAIN AND WATER SERVICE LOCATIONS. THE CONTRACTOR SHALL PROTECT UTILITIES DURING INSTALLATION.
28. PRIOR TO CONSTRUCTION THE CONTRACTOR, ACCOMPANIED BY A MILWAUKEE COUNTY REPRESENTATIVE, SHALL TAKE COLOR PHOTOGRAPHS OF THE AREA ALONG THE WATER MAIN AND WATER SERVICE ALIGNMENT. ONE COPY OF THE PHOTOGRAPHS SHALL BE DELIVERED TO MILWAUKEE COUNTY PRIOR TO COMPLETING INSTALLATION OF THE NEW FACILITIES.
29. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN ENVIRONMENTALLY ACCEPTABLE LOCATION.
30. BEDDING MATERIAL SHALL BE 3/8" CRUSHED STONE CHIPS.
31. ALL BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL. BACKFILL SHALL BE PLACED IN 12" LIFTS AND EACH LIFT THOROUGHLY COMPACTED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF TRENCH SETTLEMENT FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE WATER MAIN.
32. RESTORATION (CHAPTER 2.7.0 - STANDARD SPECIFICATIONS)

    S. 76TH STREET - TYPE "A" LAWN REPLACEMENT FOR GRASSED AREAS. REPLACE GUARD RAIL, CURB AND GUTTER, SIDEWALK AND CONCRETE DRIVEWAY IN KIND AS NECESSARY.

    MILWAUKEE COUNTY EASEMENT - TYPE "A" LAWN REPLACEMENT FOR GRASSED AREAS AND TYPE "E" PAVEMENT REPLACEMENT FOR DRIVEWAY AREAS.

    PRIVATE PROPERTY - SURFACE RESTORATION TO BE COORDINATED WITH JAMES RIEDER, HOMEOWNER AT 6669 S. 76TH STREET.

(SEE RECORD DRAWING)

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
12/09/96 — 10/17/97
07/21/97 — 03/26/98
09/29/97

CHECKED BY: S. WINNEN

SCALE: 1" = 50'

DATE: NOVEMBER 1996

CAMP DRESSER & MCKEE INC. — environmental engineers, scientists, planners, & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

SHEET DESCRIPTION: PROPOSED WATER MAIN

PROJECT NO.

SHEET NO. 13

FILE NO.

74910 162-A-180

APPROXIMATE LOCATION OF EXISTING WATER MAIN. FIELD VERIFY PRIOR TO CONSTRUCTION.

TAP INTO EXISTING 12" WATER MAIN TO BE FIELD VERIFIED WITH AS BUILT INFORMATION AVAILABLE AT MILWAUKEE COUNTY DEPT OF PUBLIC WORKS, RM 314, COURTHOUSE ANNEX. PROVIDE GATE VALVE AT TAP.

6" DUCTILE IRON 90° ELBOW

BORING & JACKING REQUIRED AT ROAD

HILL RIDGE DRIVE

APPROXIMATELY 120' - 6" RESTRAINED CLASS 55 DUCTILE IRON WATER MAIN INSIDE APPROVED STEEL CASING PIPE. FIELD VERIFY.

6" CLASS 55 DUCTILE IRON WATER MAIN TO BE INSTALLED BETWEEN GUARD RAILS AND CURB. GUARD RAILS, CURB AND GUTTER SHALL NOT BE DISTURBED, OR SHALL BE REPLACED IN KIND.

60' 60' 12' SECTION LINE

APPROXIMATE RIGHT-OF-WAY FIELD VERIFY PRIOR TO CONSTRUCTION

APPROXIMATE EDGE OF ROAD FIELD VERIFY PRIOR TO CONSTRUCTION

APPROXIMATE EDGE OF ROAD FIELD VERIFY PRIOR TO CONSTRUCTION

6" X 4" TEE

4" GATE VALVE

FIRE HYDRANT TO BE INSTALLED BETWEEN GUARD RAIL AND CURB

PROVIDE AND INSTALL PRIVATE WATER SERVICE FROM PROPERTY LINE TO HOUSE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING WISCONSIN PLUMBING CODE CHAPTERS COMM 80-86.

APPROXIMATELY 420 FEET OF 4" CLASS 56 DI. WATER MAIN TO BE INSTALLED IN EASEMENT. FIELD VERIFY. SEE NOTE 18.

ABANDON WATER SUPPLY WELL FOR HOUSE ONLY, IN ACCORDANCE WITH NR 812 AND ANY OTHER APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS. CONFIRM LOCATION OF WELL WITH MILWAUKEE COUNTY PRIOR TO ABANDONMENT.

PROVIDE AND INSTALL WATER METER FOR HOUSE SERVICE LINE. FIELD VERIFY LOCATION OF WATER METER WITH HOMEOWNER AND MILWAUKEE COUNTY PRIOR TO CONSTRUCTION.

INSTALL FLUSHING HYDRANT WEST OF WATER SERVICE CONNECTION.

PROVIDE GATE VALVE

APPROXIMATE LOCATION OF PROPOSED SERVICE LINE. CONTRACTOR TO CONFIRM LOCATION PRIOR TO INSTALLATION.

PROVIDE BLIND FLANGE AFTER SERVICE LINE

S. 76TH

1" = 50'
25 0 50

1. TOPOGRAPHIC MAP PREPARED BY AERO-METRIC ENGINEERING INC. DATE OF PHOTOGRAPHY: APRIL 26, 1993.
2. ELEVATIONS ARE BASED ON U.S.G.S MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. EXISTING WATER MAIN TO BE TAPPED IS OWNED BY VILLAGE OF GREENDALE
6. PROPOSED WATER MAIN SHALL BE BORED AND JACKED UNDER EXISTING S. 76TH STREET.
7. LIMITS OF ROAD AND RIGHT OF WAY SHOWN ARE APPROXIMATE S. 76TH STREET CONSTRUCTION DOCUMENTATION DRAWINGS ARE AVAILABLE FOR REVIEW AT ENGINEERS OFFICE.
8. MILWAUKEE COUNTY WILL OBTAIN STATE AND LOCAL APPROVALS FOR WATER MAIN TAP AND WATER MAIN INSTALLATION PRIOR TO CONSTRUCTION.
9. WATER MAIN SHALL BE INSTALLED IN ACCORDANCE WITH CONDITIONS OF APPROVALS AND THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN WISCONSIN", FIFTH EDITION.
10. PVC PIPE SHALL NOT BE USED.
11. CONTRACTOR SHALL SUBMIT INSTALLATION DRAWING WITH REQUIRED SUBMITTALS. CONTRACTOR SHALL OBTAIN SURVEY CERTIFIED BY A LAND SURVEYOR REGISTERED IN THE STATE OF WISCONSIN PRIOR TO INSTALLATION OF THE WATER MAIN, AND SHALL LAY WATER MAIN ACCORDINGLY. SEE NOTE 21.
12. CONTRACTOR SHALL PLACE A 12" CONCRETE BULKHEAD ON BOTH ENDS OF CASING PIPE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN".
13. 48 HOURS PRIOR TO ANY WORK CONNECTING TO EXISTING WATER MAIN, CONTRACTOR SHALL CONTACT VILLAGE OF GREENDALE, NICK PAULOS (414) 423-2100.
14. VILLAGE OF GREENDALE SHALL OPERATE ALL VALVES IN EXISTING WATER MAIN SYSTEM.
15. CONTRACTOR SHALL INCLUDE ALL FITTINGS REQUIRED TO LAY PIPE AND APPURTENANCES TO LINE AND GRADE REQUIRED.
16. CONTRACTOR SHALL PROVIDE RESTRAINED JOINT PIPE UPSTREAM AND DOWNSTREAM OF FITTINGS. RESTRAINED JOINTS AT FITTINGS SHALL BE DESIGNED IN ACCORDANCE WITH AWWA MANUAL M41.
17. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS PRIOR TO COMMENCING CONSTRUCTION.
18. EASEMENT COORDINATES WILL BE AVAILABLE PRIOR TO CONSTRUCTION. CONTRACTOR TO STAKE EASEMENT LOCATION AND LOCATE WATER MAIN WITHIN EASEMENT.
19. CONTRACTOR SHALL FOLLOW THE "WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK". EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
20. PROVIDE CORROSION PROTECTION IN ACCORDANCE WITH CITY OF MILWAUKEE REQUIREMENTS. (Double wrap Poly ethylene Film).
21. THE WATER MAIN SHALL HAVE A MINIMUM DEPTH OF COVER OF SIX FEET AT ALL LOCATIONS.
22. THE PRIVATE WATER SERVICE CONNECTION SHALL BE 2-INCH COPPER PIPE MEETING ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS INCLUDING WISCONSIN PLUMBING CODE CHAPTERS COMM 80-86.

LEGEND

- RIGHT-OF-WAY
- EDGE OF ROAD
- SECTION LINE
- W WATER MAIN OR SERVICE
- APPROXIMATE LIMIT OF WASTE
- FLUSHING HYDRANT
- FIRE HYDRANT
- W EXISTING WATER MAIN

WISCONSIN PATRICK MARCHESE E-12000 MILWAUKEE, WIS. PROFESSIONAL ENGINEER 10/21/97

Replaced by revised drawing dated 3/26/98. CMB/kmw

(SEE RECORD DRAWING) 162-A-1181 74911

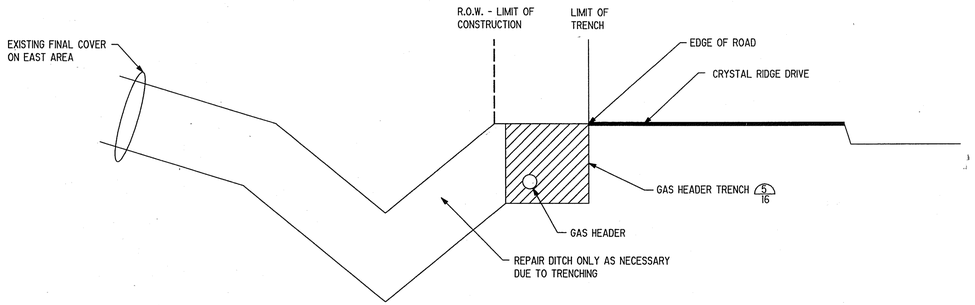
MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX 907 NORTH 10TH STREET MILWAUKEE, WISCONSIN 53233

REVISIONS:
12/09/96
10/17/97
07/21/97
09/29/97

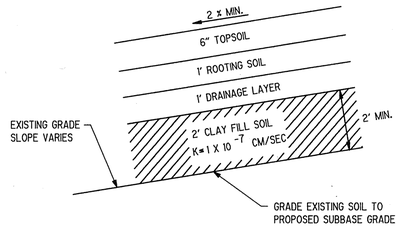
CAMP DRESSER & MCKEE INC. environmental engineers, scientists, planners & management consultants CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: PROPOSED WATER MAIN

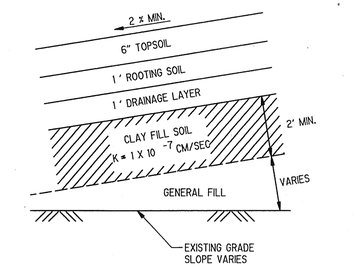
SHEET NO. 13A OF 1 PROJECT NO.
FILE NO.
DATE: NOVEMBER 1996
SCALE: 1" = 50'
CHECKED BY: S. WINNEN



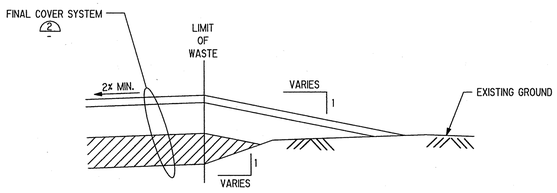
GAS HEADER IN CRYSTAL RIDGE DRIVE R.O.W. 1/5
NTS



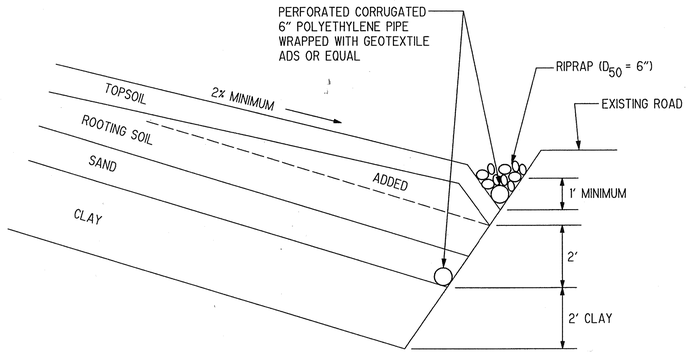
ACE SCAVENGER AREA FINAL COVER TYPICAL CROSS SECTION 2/3
NTS



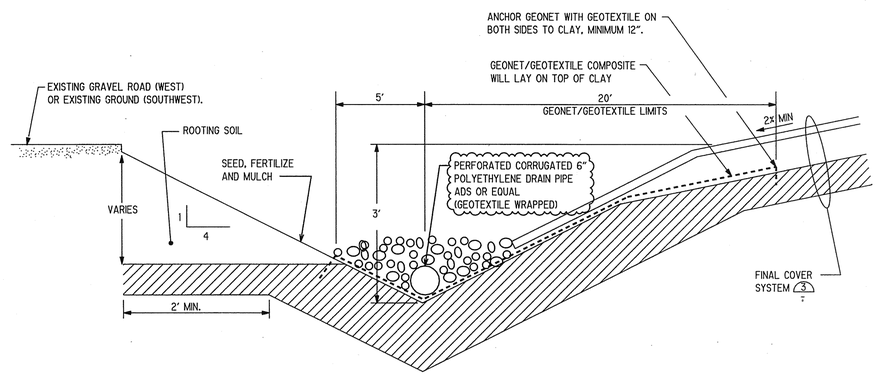
O'MALLEY AREA FINAL COVER TYPICAL CROSS SECTION 3/3
NTS



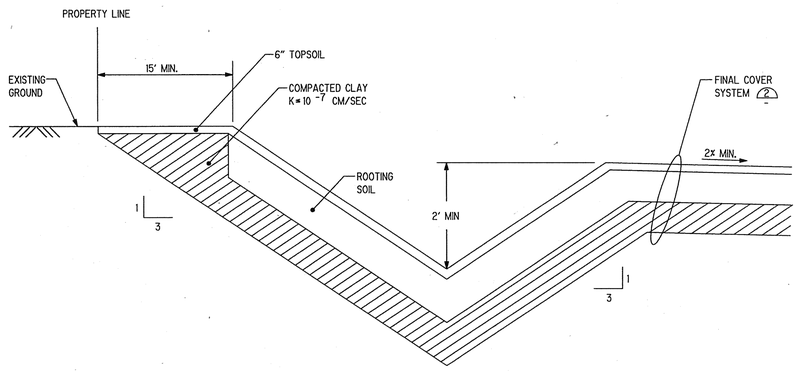
TIE OFF TO EXISTING GROUND ON NORTH AND SOUTH SIDES OF ACE SCAVENGER AREA 4/3
NTS



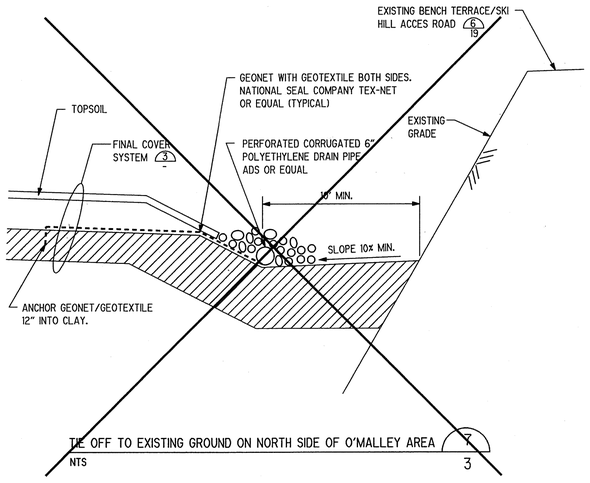
NORTH O'MALLEY TIE IN 7R/3



TIE INTO EXISTING GROUND ON WEST AND SOUTHWEST SIDES SIDE OF O'MALLEY AREA 5/3
NTS

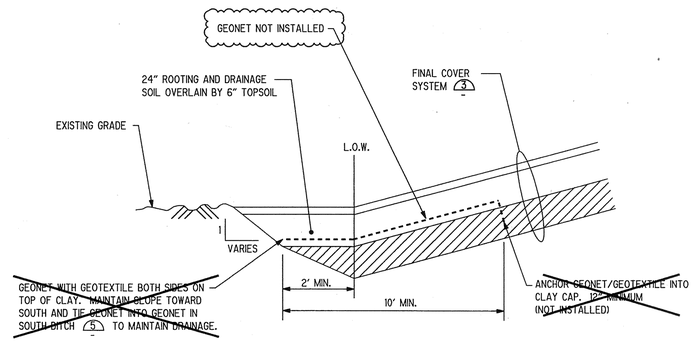


TIE IN TO EXISTING AT WEST EDGE OF ACE SCAVENGER AREA 6/3
NTS



TIE OFF TO EXISTING GROUND ON NORTH SIDE OF O'MALLEY AREA 7/3
NTS

REVISED-SEE DETAIL 7R-3 ABOVE.



TIE INTO EXISTING GROUND AT SOUTHEAST SIDE OF O'MALLEY AREA 8/3
NTS

WISCONSIN MARK A. BURGESS E-30194 INDIANAPOLIS, IN PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX
907 NORTH 10TH STREET
MILWAUKEE, WISCONSIN 53233

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

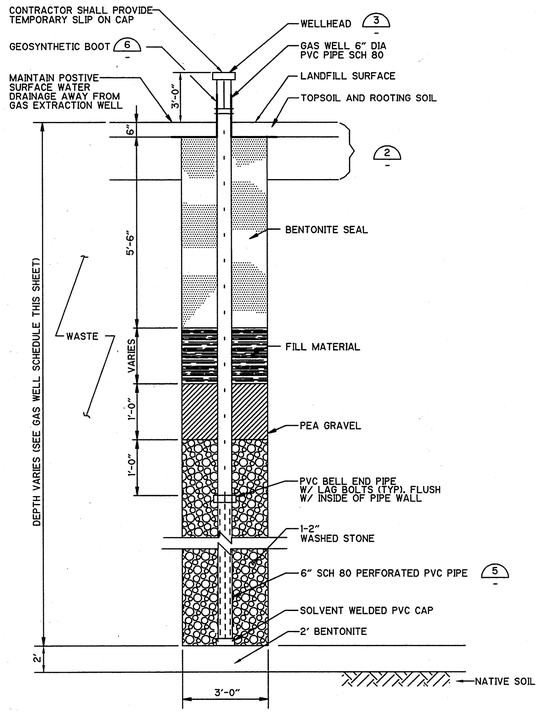
CHECKED BY: S. WINNEN
SCALE:
DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC.
environmental engineers, scientists, planners & management consultants
CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: FINAL COVER DETAILS

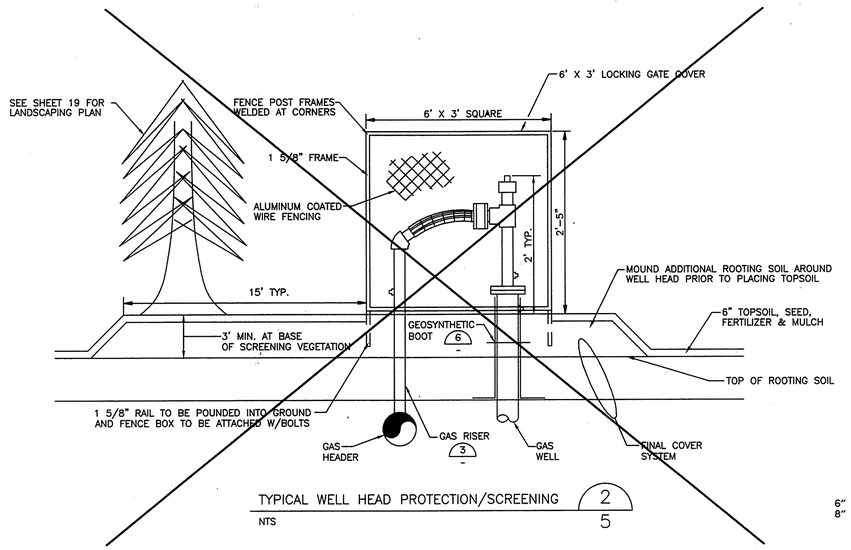
PROJECT NO.
SHEET NO. 14
FILE NO.

74912 162-A-182



GAS EXTRACTION WELL DETAIL 1/4

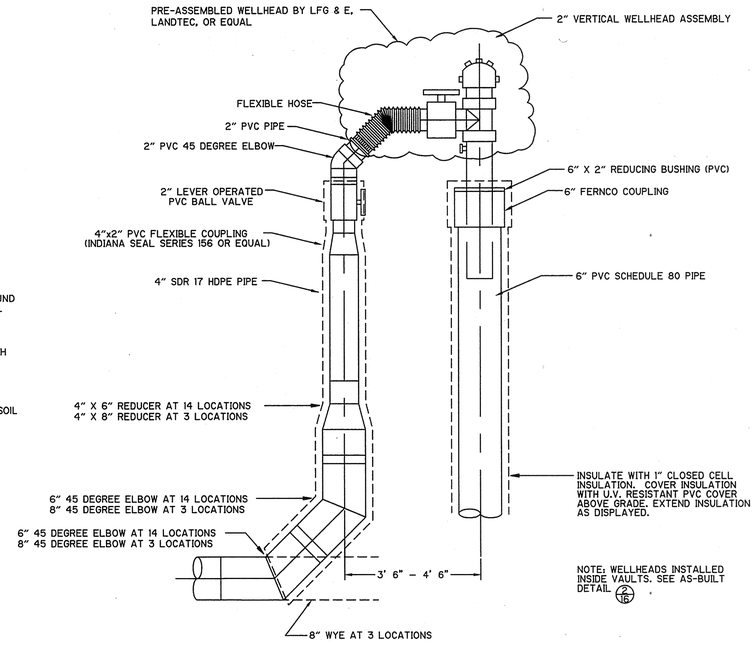
NTS



TYPICAL WELL HEAD PROTECTION/SCREENING 2/5

NTS

VOID – ALL WELL HEADS INSTALLED UNDERGROUND



WELL HEAD DETAIL 3/–

NTS

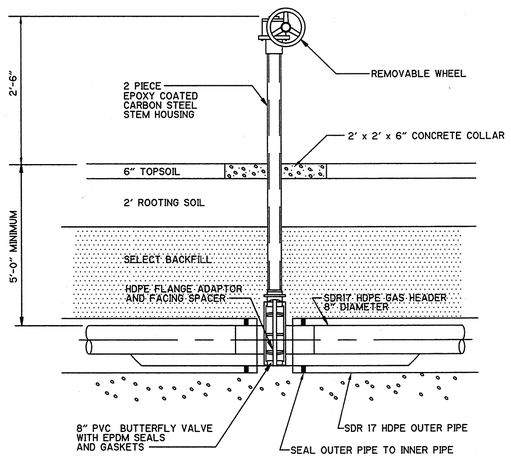
GAS WELL SCHEDULE

WELL NO.	X	Y	APPROX. FINISHED GRADE (MSL)	EST. BASE GRADE (MSL)	EST. WELL DEPTH (FT.)	EST. SOLID PIPE LENGTH (FT.)
G-1	2,533,127	342,954	–	–	–	–
G-2	2,533,056	342,795	–	–	–	–
G-3	2,532,968	342,614	–	–	–	–
G-4	2,532,990	342,470	–	–	–	–
G-5	2,533,024	342,284	–	–	–	–
G-6	2,533,094	342,128	–	–	–	–
G-7	2,533,057	341,994	–	–	–	–
G-8	2,533,123	343,119	–	–	–	–
G-9	2,530,126	341,335	803	766	37	15
G-10	2,530,125	341,245	804.5	766	38.5	15
G-11	2,530,130	341,155	806	766	40	20
G-12	2,530,175	341,205	804.5	769	35.5	15
G-13	2,530,240	341,158	804	766	38	20
G-14	2,530,345	341,155	803	772	31	15
G-15	2,530,450	341,155	803	776	27	15
G-16	2,530,715	341,217	811	773	38	20
G-17	2,530,718	341,050	812	768	44	20
G-18	2,530,718	340,879	813.5	767	45.5	20
G-19	2,530,715	340,705	812	766	46	20
G-20	2,530,720	340,534	809	766	43	20
G-21	2,530,871	340,506	810.5	766	44.5	20
G-22	2,530,884	340,685	813.5	766	47.5	25
G-23	2,530,920	340,881	816.5	766	50.5	25
G-24	2,531,150	340,906	812	765	47	25
G-25	2,531,299	340,919	807	765	42	20

NOTES:

1. ESTIMATED BASE GRADE IS APPROXIMATE. CONTRACTOR SHALL CONTINUOUSLY EXAMINE DRILL CUTTINGS TO DETERMINE WHEN BOTTOM OF WASTE IS REACHED.
2. WELLS G-1 THROUGH G-8 ARE EXISTING.

SEE "AS-BUILT" GAS WELL SCHEDULE

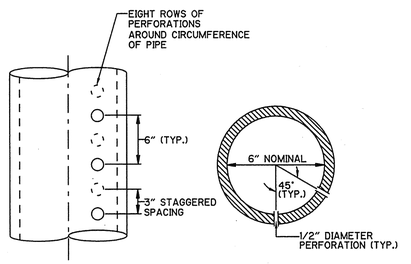


GAS HEADER VALVE 4/6

NTS

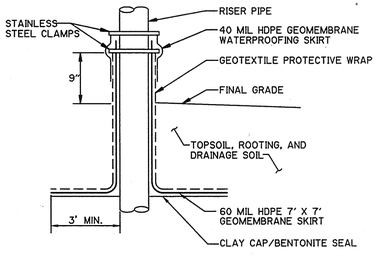
"AS-BUILT" GAS WELL SCHEDULE

WELL NO.	X	Y	FINISHED GRADE (MSL)	BASE GRADE (MSL)	WELL DEPTH (FT.)	SOLID PIPE LENGTH (FT.)
G-1	2,533,127	342,954	–	–	–	–
G-2	2,533,056	342,795	–	–	–	–
G-3	2,532,968	342,614	–	–	–	–
G-4	2,532,990	342,470	–	–	–	–
G-5	2,533,024	342,284	–	–	–	–
G-6	2,533,094	342,128	–	–	–	–
G-7	2,533,057	341,994	–	–	–	–
G-8	2,533,123	343,119	–	–	–	–
G-9	2,530,125	341,335	800.23	771.5	28.7	12.0
G-10	2,530,129	341,255	802.98	772.5	30.5	10.0
G-11	2,530,130	341,155	804.46	771.5	33.0	15.0
G-12	2,530,175	341,205	802.56	772.0	30.6	15.0
G-13	2,530,240	341,158	802.95	764.5	38.5	16.0
G-14	2,530,345	341,155	800.74	764.0	36.7	15.0
G-15	2,530,445	341,154	801.62	765.5	36.1	15.0
G-16	2,530,709	341,226	812.59	767.5	45.1	15.0
G-17	2,530,718	341,050	809.78	776.5	33.3	10.0
G-18	2,530,717	340,876	811.55	767.0	44.6	20.0
G-19	2,530,714	340,705	812.48	777.0	35.5	18.0
G-20	2,530,723	340,529	806.97	781.0	26.0	10.0
G-21	2,530,870	340,507	808.70	785.0	23.7	10.0
G-22	2,530,883	340,686	814.37	769.0	45.4	20.0
G-23	2,530,912	340,883	814.18	767.5	46.7	20.0
G-24	2,531,150	340,906	810.97	767.0	44.0	20.0
G-25	2,531,289	340,918	809.32	772.5	36.8	15.0
G-26	2,530,757	340,617	811.28	776.0	35.3	13.0



PVC PERFORATED PIPE 5/–

NTS



1. GEOSYNTHETIC BOOT TO BE INSTALLED ON ALL NEW AND EXISTING ACTIVE GAS EXTRACTION WELLS.

GEOSYNTHETIC BOOT 6/–

NTS

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
12/09/96 REVISED FOR THE RECORD
8/04/98

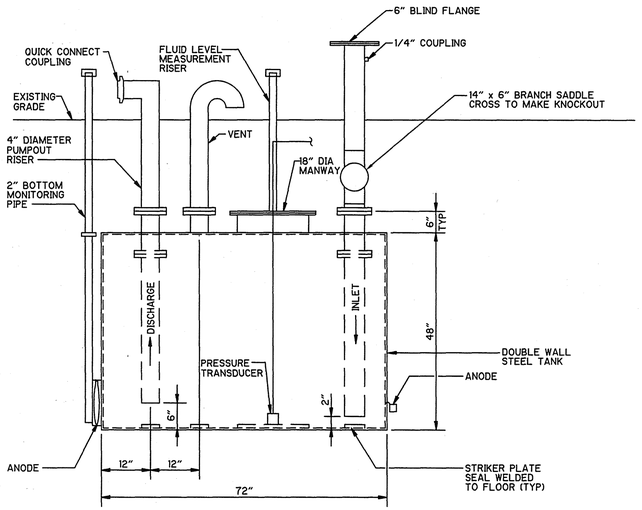
DRAWN BY:
CHECKED BY: S. WINNEN
SCALE:
DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: GAS MANAGEMENT DETAILS

PROJECT NO.
SHEET NO. 15
FILE NO.

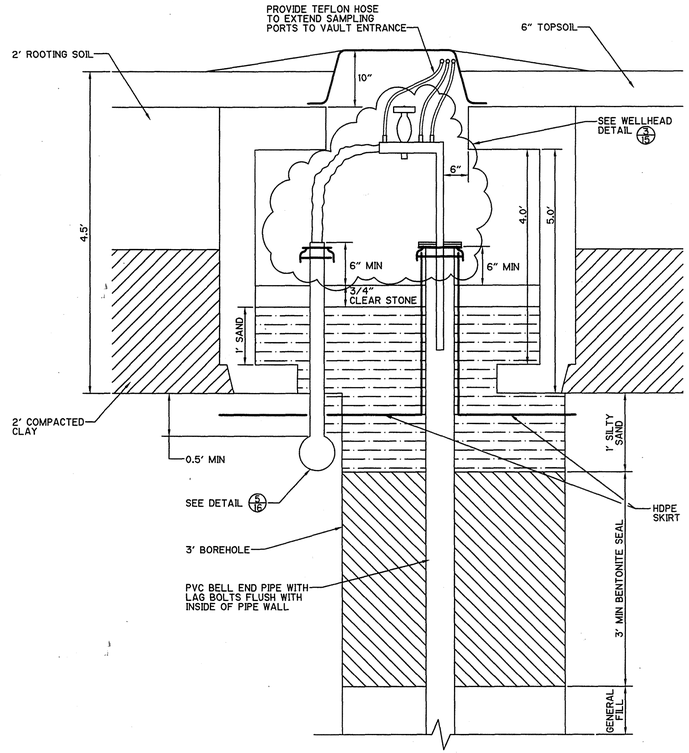
74913 162-A-183



NOTES:

1. TANK BUILT IN ACCORDANCE WITH STI-P3 SPECS
2. TANK CAPACITY = 550 GALLON NOM
3. EXTERIOR BLASTED THEN COATED WITH CORROCOTE II
4. INTERIOR TO BE COATED WITH TNEMEC #64
5. MAXIMUM OPERATING TEMPERATURE = 100° F
6. ALL RISER PIPES TO BE SECURED WITH PADLOCK OR BLIND FLANGE

SECTION 2-2'



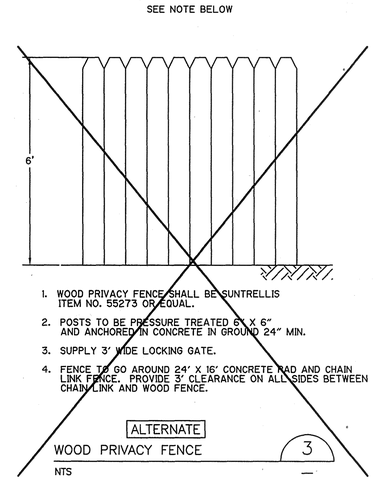
1. WELL HEAD TO BE INSULATED IN VAULT.

ALTERNATE

WELL HEAD IN VAULT DETAIL 2/16

NTS

AS-BUILT



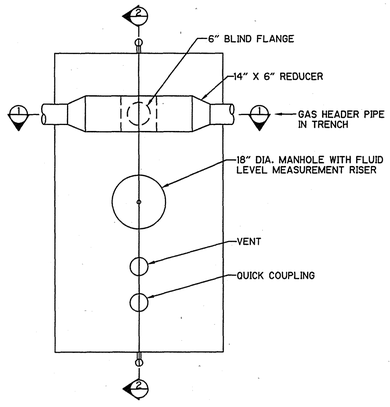
1. WOOD PRIVACY FENCE SHALL BE SUNTRELLIS ITEM NO. 55273 OR EQUAL.
2. POSTS TO BE PRESSURE TREATED 6" X 6" AND ANCHORED IN CONCRETE IN GROUND 24" MIN.
3. SUPPLY 3' WIDE LOCKING GATE.
4. FENCE TO GO AROUND 24' X 16' CONCRETE PAD AND CHAIN LINK FENCE. PROVIDE 3' CLEARANCE ON ALL SIDES BETWEEN CHAIN LINK AND WOOD FENCE.

ALTERNATE

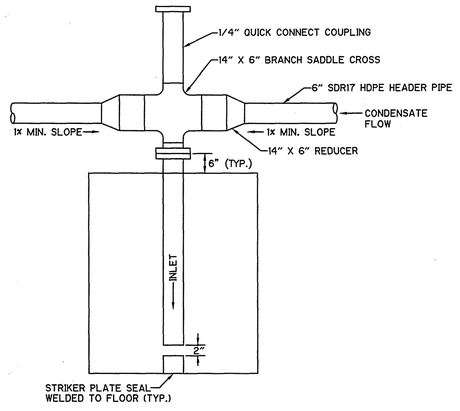
WOOD PRIVACY FENCE 3/—

NTS

WIRE BOUND PICKET STOCKADE MAT BY AMERICANA PALING INCORPORATED WITH CHAIN-LINK FENCE IN PLACE OF WOOD PRIVACY FENCE.



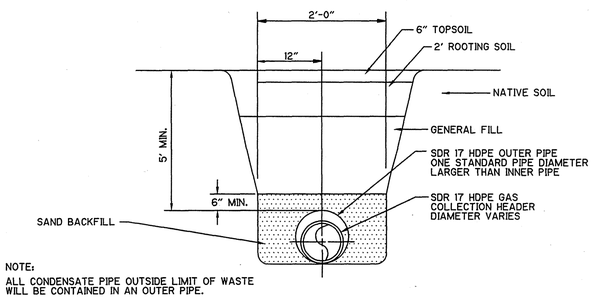
PLAN VIEW



SECTION 1-1'

CONDENSATE STORAGE TANK 1/5

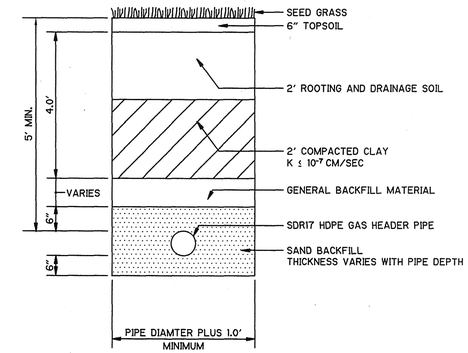
NTS TYPICAL OF 5



NOTE:
ALL CONDENSATE PIPE OUTSIDE LIMIT OF WASTE WILL BE CONTAINED IN AN OUTER PIPE.

TRENCH FOR HEADER PIPES OUTSIDE LIMIT OF WASTE 4/5

NTS



TYPICAL GAS HEADER TRENCH (SINGLE PIPE TRENCH INSIDE LIMIT OF WASTE) 5/5

NTS

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

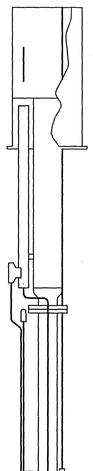
DRAWN BY:
CHECKED BY: S. WINNEN
SCALE:
DATE: NOVEMBER 1996

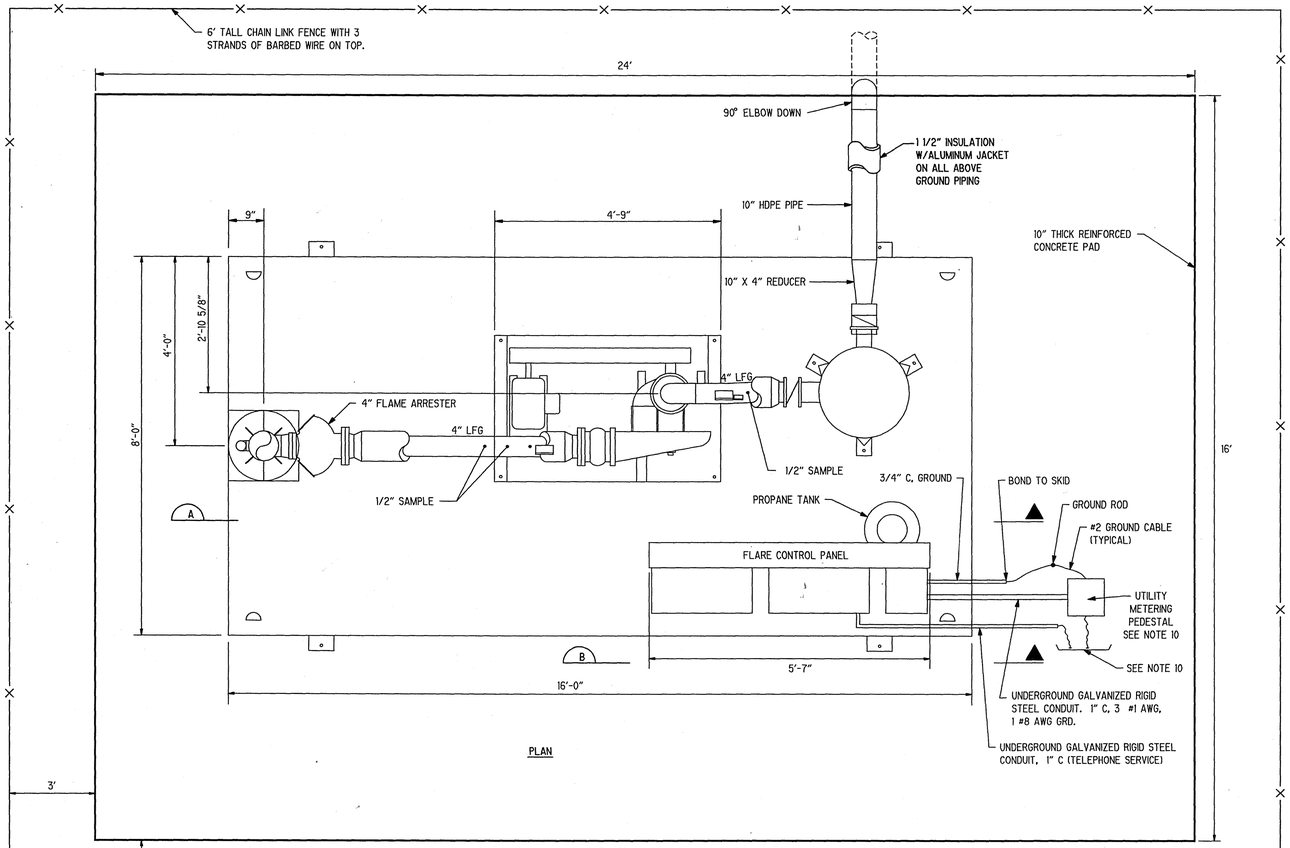
CAMP DRESSER & McKEE INC. — CDM

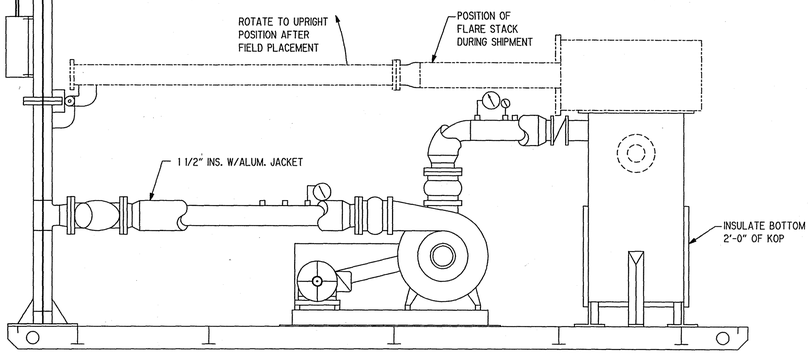
PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: GAS MANAGEMENT DETAILS

PROJECT NO.
SHEET NO. 16
FILE NO.

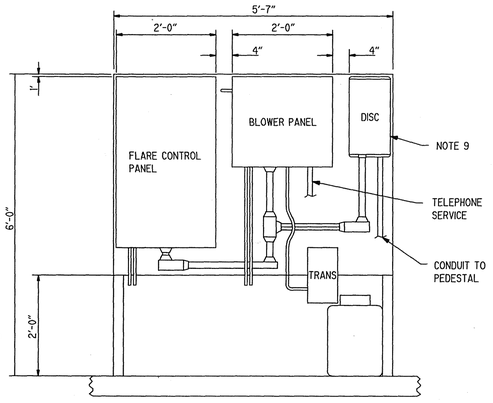
74914 162-A-184







SECTION A
NTS

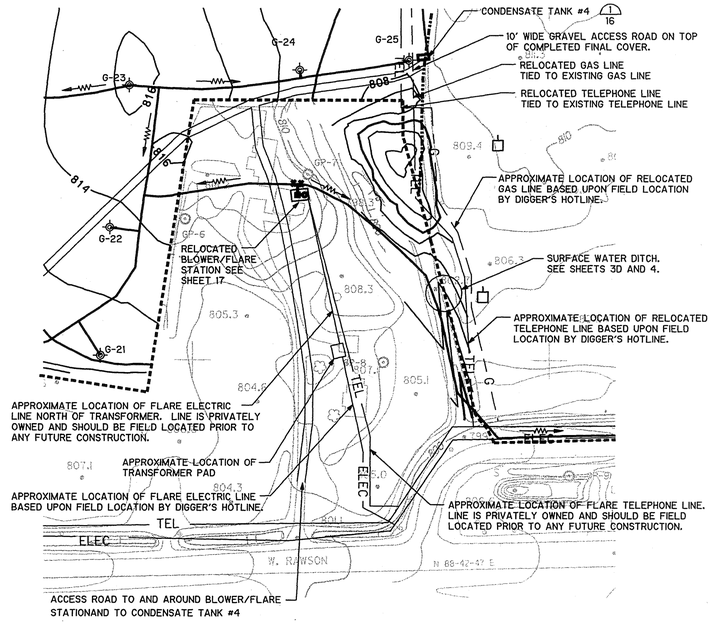


SECTION B
NTS

NOTES:

1. BLOWER/SKID DRAWINGS PROVIDED FROM MANUFACTURER SHOP DRAWINGS FOR CONTRACTOR INFORMATION ONLY. MANUFACTURER INFORMATION IS AVAILABLE FROM LFG SPECIALTIES, CLEVELAND, OH.
2. ALL WORK INVOLVING BLOWER, FLARE, OR SKID SHALL BE SUPERVISED BY MANUFACTURER'S REPRESENTATIVE. CONTRACTOR SHALL COORDINATE AND PAY FOR SERVICES OF MANUFACTURER. MANUFACTURER SHALL PROVIDE 2-YEAR EXTENSION OF BLOWER/FLARE SKID WORKMANSHIP AND MATERIAL WARRANTY.

BLOWER/SKID GENERAL ARRANGEMENT 1
NTS



FLARE SKID RELOCATION AREA

LEGEND

- PROPOSED GAS WELL
- GP-9 — GAS PROBE
- CONDENSATE TANK
- VALVE
- CONDENSATE FLOW DIRECTION
- ELECTRIC POLE
- UTILITY PEDESTAL
- ELEC — ELECTRIC LINE
- TEL — TELEPHONE LINE

NOTES

1. SUPPLY ALL NECESSARY MATERIAL FOR INSTALLATION OF 100 AMP, 480 VOLT, 3 PHASE SERVICE WITH MAIN DISCONNECT FOR SKID MOUNTED BLOWER ASSEMBLY.
2. SUPPLY AND INSTALL DIRECT BURIAL ELECTRIC CABLE FROM SERVICE TO BLOWER SKID.
3. WIRE MISCELLANEOUS EQUIPMENT FOR SKID UNIT COMPONENTS (ALL MOTOR STARTER AND DISCONNECT SWITCHES, AND CONTROL PANELS FOR BLOWER SKID).
4. SUPPLY AND INSTALL BURIED PHONE LINE FROM SERVICE TO BLOWER SKID.
5. COORDINATE WITH SKID MANUFACTURER (LFG SPECIALTIES, CLEVELAND, OH) TO MAKE CONNECTIONS AND PROVIDE START-UP SERVICES.
6. INSTALL REINFORCED CONCRETE PAD 10" THICK, 16' x 24', WITH BOLT HOLES FOR SKID ATTACHMENT. PROVIDE GRAVEL SUBBASE AND GRAVEL ROAD AROUND BLOWER/FLARE SKID.
7. CONTRACTOR SHALL CONFIRM AND COORDINATE CONNECTION TO PHONE AND ELECTRIC WITH UTILITY COMPANY. MILWAUKEE COUNTY WILL MAKE BILLING ARRANGEMENTS WITH THE UTILITIES PRIOR TO START OF CONSTRUCTION.
8. BUILDINGS SHOWN ON THIS TOPOGRAPHIC MAP HAVE BEEN CLEARED.
9. CONFIRM DISCONNECT OR CIRCUIT BREAKER IS RATED 460V, 3 POLE, 22,000 AMPERE RMS SYMMETRICAL. IF NOT, REPLACE WITH RATED EQUIPMENT.
10. TELEPHONE AND ELECTRICAL UNDERGROUND CABLES PROVIDED AND INSTALLED BY CONTRACTOR PER WISCONSIN ELECTRIC AND WISCONSIN BELL STANDARDS.

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
MILWAUKEE, WISCONSIN 53233
907 NORTH 10TH STREET
COURTHOUSE ANNEX

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN

SCALE:

DATE: NOVEMBER, 1996

CAMP DRESSER & McKEE INC. environmental engineers, scientists, planners & management consultants CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

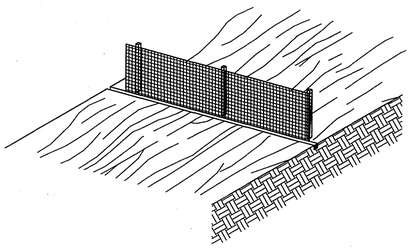
SHEET DESCRIPTION: GAS MANAGEMENT DETAILS

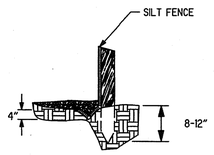
PROJECT NO.

SHEET NO. 17

FILE NO.

24915

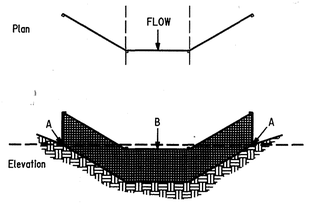




SECTION THRU FENCE

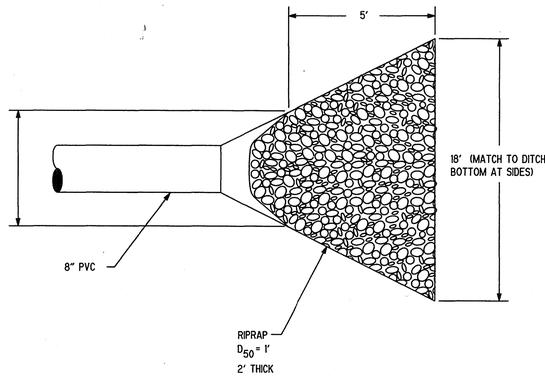
1. EXCAVATE A TRENCH A MINIMUM OF 4" WIDE & 4" DEEP TO BURY AND ANCHOR THE SILT FENCE.
2. SPREAD SILT FENCE ON DOWNSLOPE SIDE OF TRENCH AND SET THE STAKES.
3. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
4. PULL STRING OR WIRE AT TOP OF FENCE TIGHT AND SECURE.
5. WHEN VEGETATION IS ESTABLISHED REMOVE FENCE AND FILL STAKE HOLES WITH TOPSOIL.

TEMPORARY SILT FENCE SECTION — 1/4
NTS

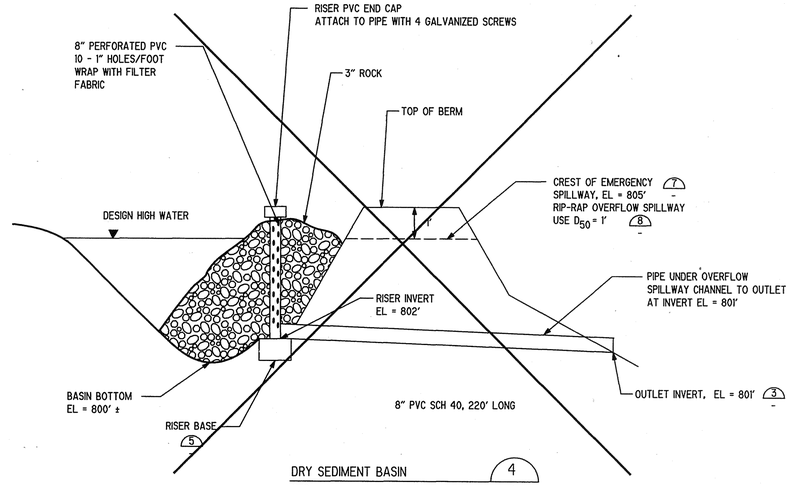


Points A should be higher than point B

SILT FENCE LAYOUT — 2/4
NTS

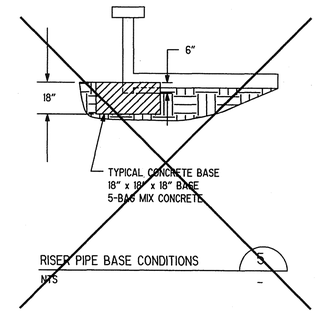


RIP-RAP APRON DETAIL — 3/-
NTS



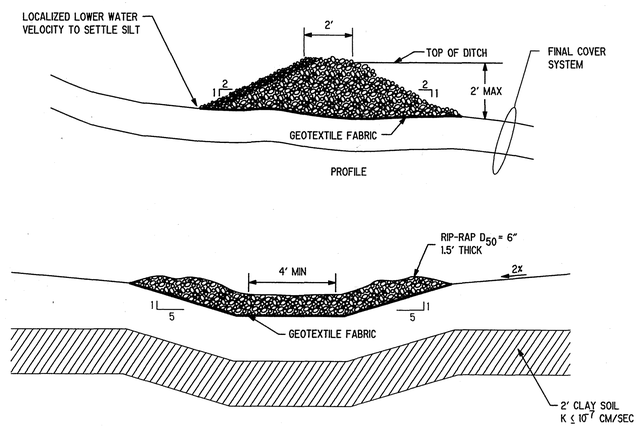
DRY SEDIMENT BASIN — 4/4
NTS

VOID



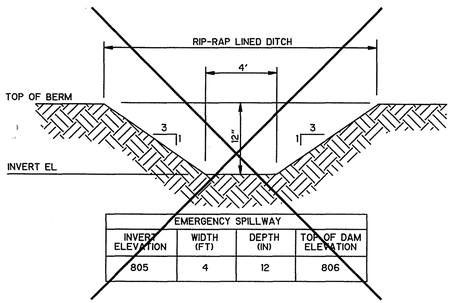
RISER PIPE BASE CONDITIONS — 5/-
NTS

VOID



CROSS SECTION

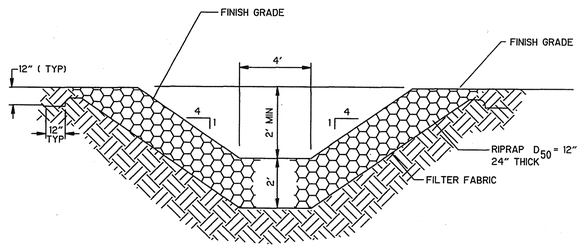
RIP-RAP CHECK DAM — 6/4
NTS



EMERGENCY SPILLWAY			
INVERT ELEVATION	WIDTH (FT)	DEPTH (IN)	TOP OF DAM ELEVATION
805	4	12	806

EMERGENCY SPILLWAY — 7/-
NTS

VOID



RIP-RAP PROTECTION FOR INLET — 8/4
NTS

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

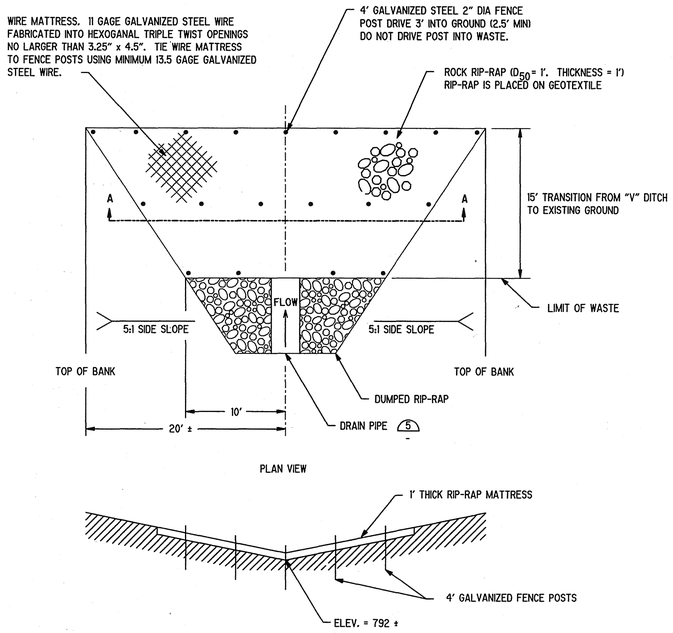
MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 901 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN
SCALE:
DATE: NOVEMBER 1996
CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners, & management consultants — CDM

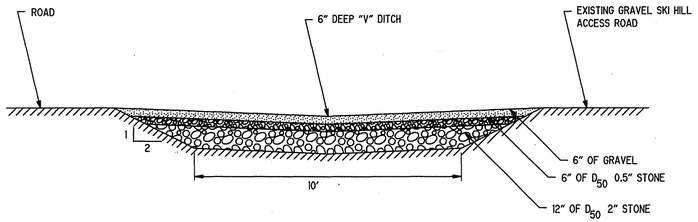
PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: SURFACE WATER MANAGEMENT DETAILS
PROJECT NO.
SHEET NO. 18
FILE NO.

74916 162-A-186



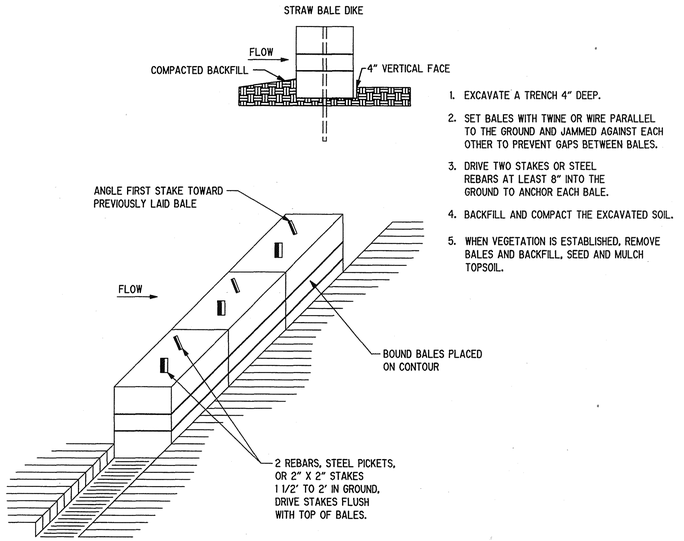
ROCK RIP-RAP MATTRESS ON NORTH SIDE OF ACE SCAVENGER AREA — 1/4

NTS



SURFACE WATER OUTLET ACROSS ACCESS ROAD — 2/4

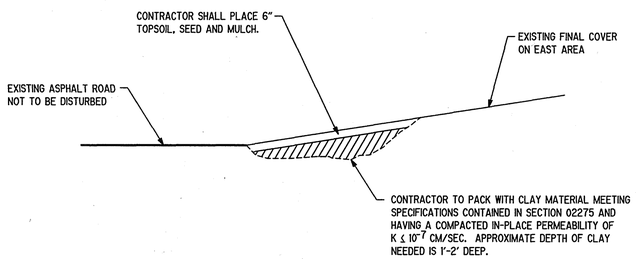
NTS



1. EXCAVATE A TRENCH 4" DEEP.
2. SET BALES WITH TWINE OR WIRE PARALLEL TO THE GROUND AND JAMMED AGAINST EACH OTHER TO PREVENT GAPS BETWEEN BALES.
3. DRIVE TWO STAKES OR STEEL REBARS AT LEAST 8" INTO THE GROUND TO ANCHOR EACH BALE.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.
5. WHEN VEGETATION IS ESTABLISHED, REMOVE BALES AND BACKFILL, SEED AND MULCH TOPSOIL.

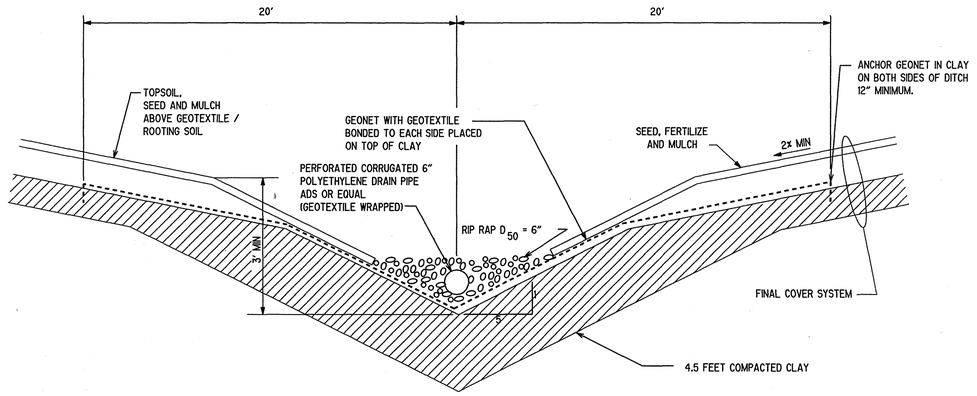
STRAW BALE DIKE — 3/4

NTS



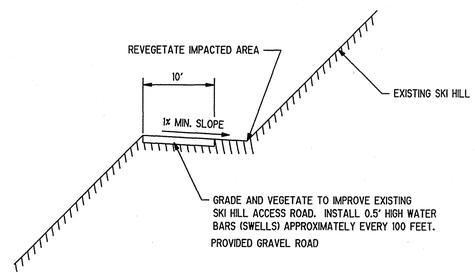
REPAIR OF DITCH ON EAST AREA NEXT TO BEGINNER HILL SKI EMBANKMENT — 4/3

NTS



SURFACE WATER DITCH WITH PIPE AND RIP-RAP — 5/3

NTS



BENCH TERRACE / SKI HILL ACCESS ROAD — 6/4

NTS

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER
12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

CHECKED BY: S. WINNEN

SCALE:

DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

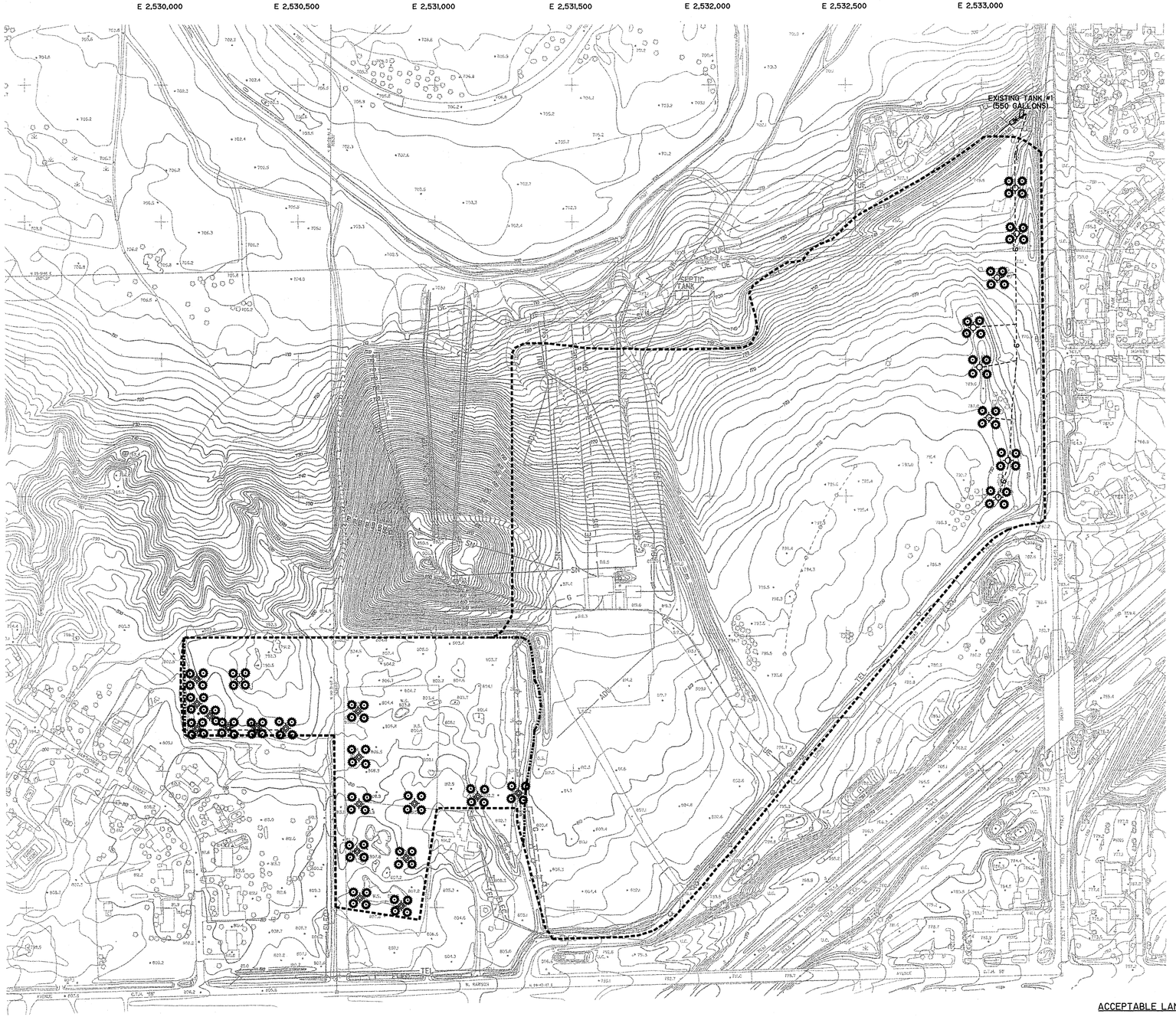
SHEET DESCRIPTION: SURFACE WATER MANAGEMENT DETAILS

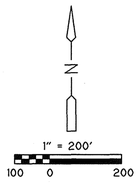
PROJECT NO.

SHEET NO. 19

FILE NO.

74917 162-A-187





NOTES:

1. TOPOGRAPHIC MAP SHOWN WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. SCREENING PLANTS SHALL BE PLACED IN BERMED EARTH AROUND FENCE CAGES. (P 15)

LEGEND

- EXISTING 6" DIA SDR 17 HDPE GAS HEADER
- EXISTING PASSIVE TRENCH
- D-1 EXISTING GAS EXTRACTION WELL
- G-35 PROPOSED ACTIVE GAS EXTRACTION WELL
- LANDSCAPING TREE/BUSH
- APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION

ACCEPTABLE LANDSCAPING PLANTS

COMMON NAME	BOTANICAL NAME
CANAERT RED CEDAR	JUNIPERUS VIR. CANAERTI
IOWA JUNIPER	JUNIPERUS VIR. IOWA
NANNY BERRY VIBURNUM	VIBURNUM LENTAGO
WAYFARING TREE VIBURNUM	VIBURNUM LANTANA
SIBERIAN PEA SHRUB	CARAGANA ARBORESCENS

NOTES:

1.) MULCH ALL PLANTINGS WITH 3" DECOMPOSED WOOD CHIPS.

2.) SALVAGE ALL EVERGREENS IMPACTED BY CONSTRUCTION AS DIRECTED BY ENGINEER FOR PLANTING ON THE SKI HILL WHERE THERE IS SUFFICIENT PLANTING SOIL DEPTH.

WISCONSIN MARK A. BURGESS E-30194 MILWAUKEE, WI PROFESSIONAL ENGINEER

Mark A Burgess 12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:

CHECKED BY: S. WINNEN

SCALE: 1" = 200'

DATE: NOVEMBER 1996

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL

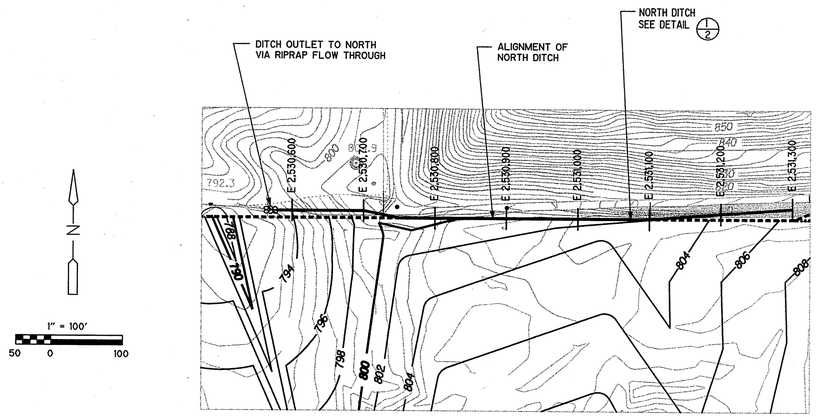
SHEET DESCRIPTION: LANDSCAPING PLAN FOR GAS WELLS

PROJECT NO.

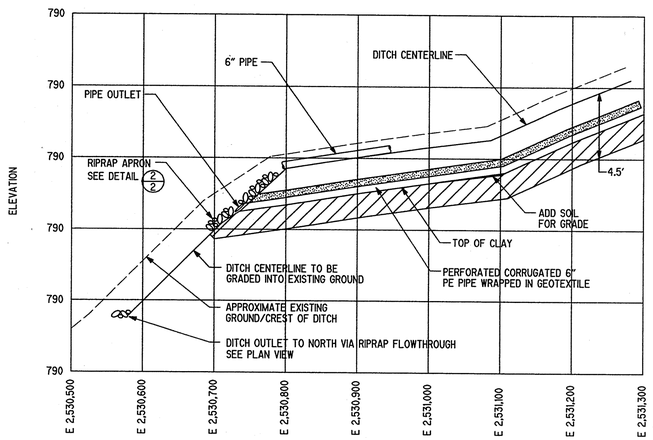
SHEET NO. 20

FILE NO.

74918 162-A-188



PLAN VIEW OF NORTH DITCH



PROFILE OF NORTH DITCH

HORIZ: 1"=100'
VERT: 1"=5'

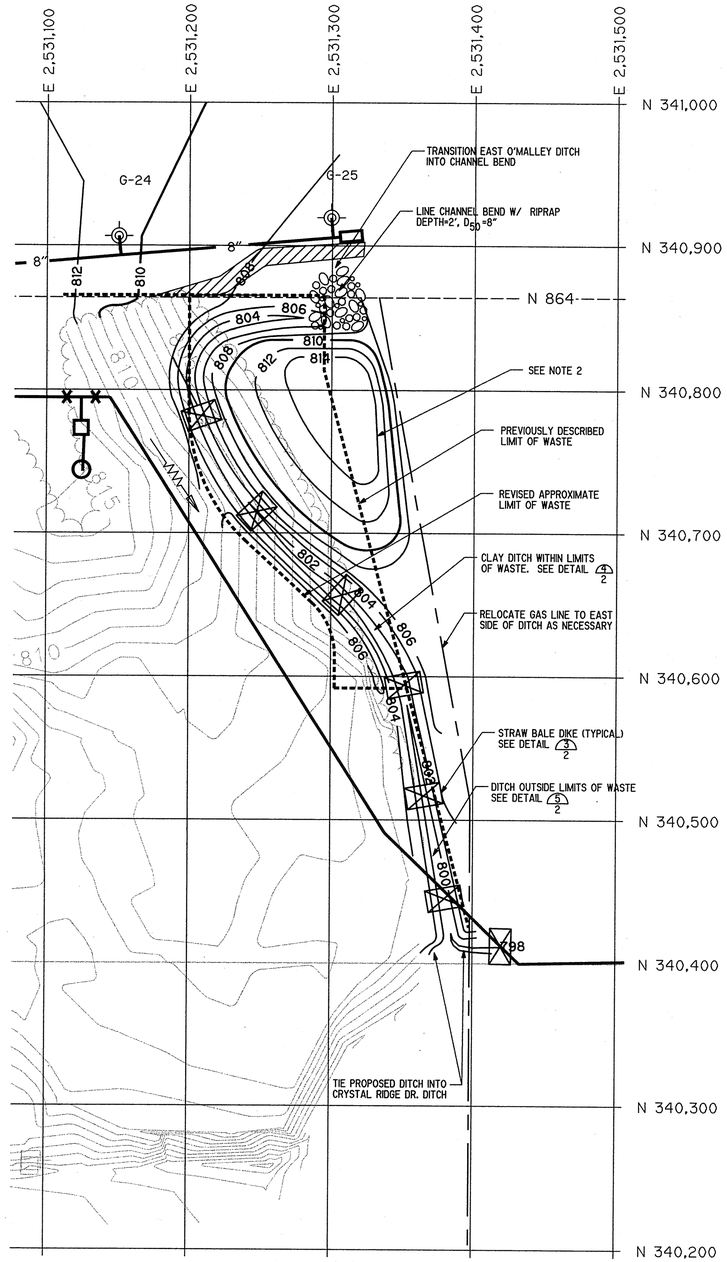
1. EXISTING TOPOGRAPHIC MAP OUTSIDE LIMIT OF NEW FINAL COVER WAS PREPARED BY AERO-METRIC ENGINEERING, INC. DATE OF PHOTOGRAPHY, APRIL 26, 1993.
2. ELEVATIONS SHOWN ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
3. HORIZONTAL DATUM BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM.
4. THE APPROXIMATE LIMIT OF WASTE WAS DETERMINED FROM MILWAUKEE COUNTY RECORDS AND THE REPORT ENTITLED "PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS, OLD FILL AREA", PREPARED BY RMT, INC. AUGUST, 1991.
5. EXISTING TOPOGRAPHIC MAP SHOWN OUTSIDE LIMITS OF NEW FINAL COVER IS FROM 1993. TOPOGRAPHIC MAP WITHIN THE LIMITS OF NEW FINAL COVER CONSTRUCTION WAS PREPARED BY EMCS IN SEPTEMBER 1996.

LEGEND

- GP-1 — EXISTING GAS PROBES
- × — SPOT ELEVATION
- ⊖-------⊖ — EXISTING PASSIVE TRENCH
- ▪▪▪▪▪▪▪▪ — APPROXIMATE LIMIT OF WASTE
- ——— — ALIGNMENT OF NORTH DITCH
- — 8/4 — SUBBASE GRADE
- — PL — PROPERTY LINE

GENERAL NOTE:

THIS SHEET HAS BEEN INCLUDED FOR INFORMATIONAL PURPOSES. THESE REVISED DESIGN GRADES FOR THE AREA SOUTH OF O'MALLEY WERE SUBMITTED TO WDNR IN OCTOBER 1997 AS A PLAN MODIFICATION REQUEST THAT WAS SUBSEQUENTLY APPROVED. THE AS-BUILT CONTOURS ARE INCLUDED ON THE PRECEEDING SHEETS OF THIS DRAWING SET.



LEGEND

- CONDENSATE FLOW DIRECTION
- CONDENSATE KNOCKOUT TANK
- D-1 — EXISTING GAS WELL
- G-24 — PROPOSED GAS WELL
- VALVE 4/14
- × HP — HIGH POINT
- PROPOSED HDPE GAS HEADER
- ⊖-------⊖ — EXISTING PASSIVE TRENCH
- ▪▪▪▪▪▪▪▪ — APPROXIMATE LIMIT OF WASTE
- LIMIT OF NEW FINAL COVER CONSTRUCTION (MAY BE COINCIDENT WITH APPROXIMATE LIMIT OF WASTE)
- GP-1 — EXISTING GAS PROBES
- — 8/4 — FINAL GRADE OF LANDFILL COVER
- — PL — PROPERTY LINE
- GRAVEL ACCESS ROAD TO BE IMPROVED/INSTALLED

1. PLACE 6" CORRUGATED PERFORATED PIPE & RIPRAP IN DITCH FROM EAST 2,531,300 (NORTH END OF DITCH) TO NORTH 340,500
2. BERM EXCAVATED WASTE AS SHOWN. MINIMUM HEIGHT OF BERM SHALL BE ELEVATION 810.5'. IF ADDITIONAL VOLUME IS NEEDED, THE TOP OF MOUND MAT BE RAISED WITH A SLOPE OF 2:1 AT EAST SIDE, AND 2.5:1 AT NORTH SIDE.
3. FINAL COVER SYSTEM SHALL BE EXTENDED FROM NORTH 340,864 SOUTH TO NORTH 340,580. IT SHALL BE EXTENDED TO THE TREE LINE TO THE WEST AND THE DORE AREA TO THE EAST.
4. RELOCATE NATURAL GAS AND PHONE LINES AS NECESSARY AT EAST LIMITS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING RELOCATION OF UTILITIES. UTILITY RELOCATION SHALL BE PAID FOR DIRECTLY BY OWNER.

WISCONSIN
MARK A. BURGESS
E-30194
INDIANAPOLIS, IN
PROFESSIONAL ENGINEER

12-9-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL SERVICES DIVISION
COURTHOUSE ANNEX — 907 NORTH 10TH STREET — MILWAUKEE, WISCONSIN 53233

REVISIONS:
1 REVISED FOR THE RECORD 8/04/98

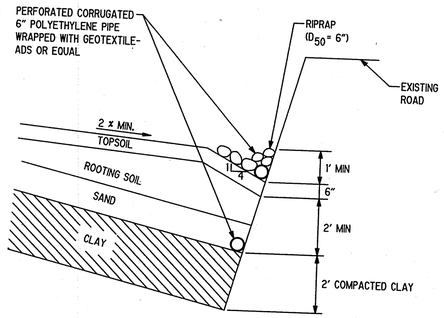
DRAWN BY: WINNEN / MARTEL
CHECKED BY: M. BURGESS
SCALE:
DATE: OCTOBER 1997

CAMP DRESSER & McKEE INC. — environmental engineers, scientists, planners & management consultants — CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: DESIGN GRADES FROM PLAN MODIFIED
PROJECT NO. 2802-004
SHEET NO. 21
FILE NO.

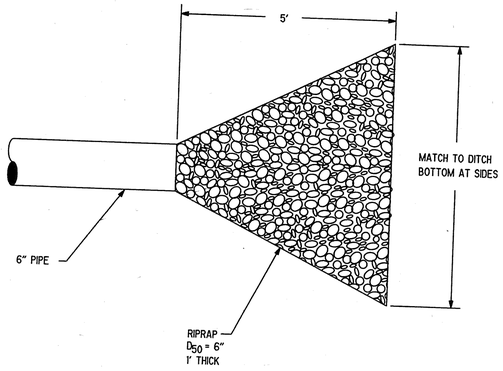
74919

162-A-189

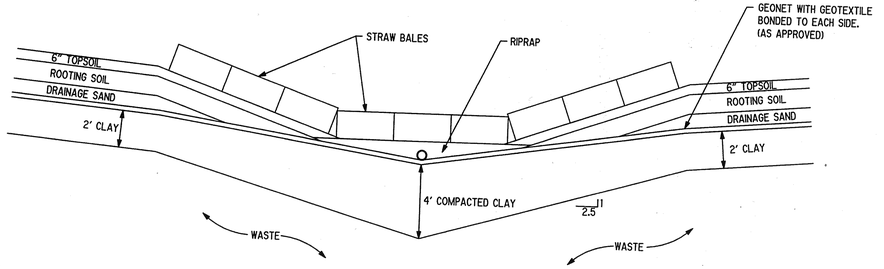


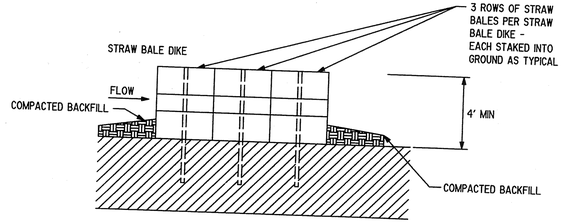
NOTE: THIS DETAIL SHALL BE USED IN PLACE OF DETAIL 7 ON SHEET 14 OF THE ORIGINAL PLAN SET.

NORTH DITCH 1/1
NTS



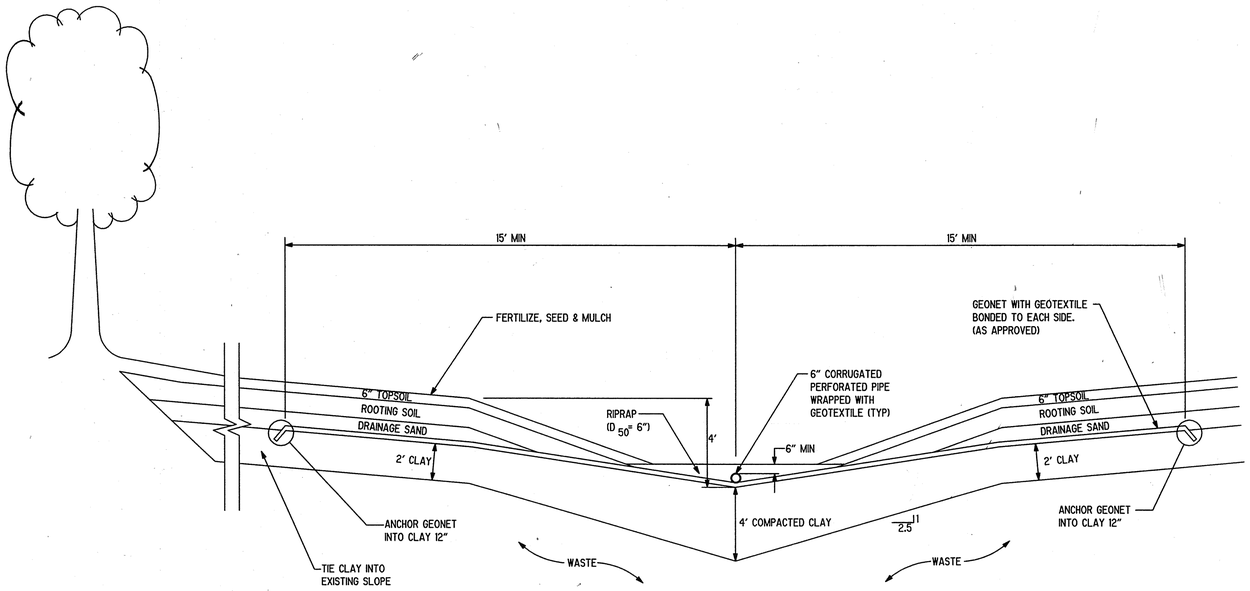
RIPRAP APRON DETAIL 2/1
NTS





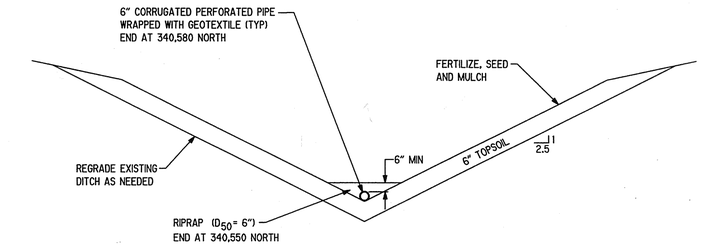
1. MOUND SOIL 4" DEEP.
2. SET BALES WITH TWINE OR WIRE PARALLEL TO THE GROUND AND JAMMED AGAINST EACH OTHER TO PREVENT GAPS BETWEEN BALES.
3. DRIVE TWO STAKES OR STEEL REBARS AT LEAST 8" INTO THE GROUND TO ANCHOR EACH BALE.
4. BACKFILL AND COMPACT IN FRONT AND BEHIND TO HOLD BALES IN PLACE

STRAW BALE DIKE 3/1
NTS



NOTE: FROM 340,780 NORTH TO 340,580 NORTH THE DRAINAGE LAYER ON THE WEST SIDE OF DITCH SHALL BE REPLACED WITH ROOTING ZONE MATERIAL.

TYPICAL SECTION CLAY LINED DITCH (LOOKING NORTH) 4/1
NTS



TYPICAL SECTION OF DITCH SOUTH OF STA. 340,580 NORTH (LOOKING NORTH) 5/1
NTS

WISCONSIN MARK A. BURGESS E-30194 INDIANAPOLIS, IN PROFESSIONAL ENGINEER
12-2-98

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

CAMP DRESSER & McKEE INC. Date 8-98

MILWAUKEE COUNTY DEPARTMENT OF PUBLIC WORKS
ARCHITECTURE AND ENGINEERING DIVISION
COURTHOUSE ANNEX
907 NORTH 10TH STREET
MILWAUKEE, WISCONSIN 53233

REVISIONS:
⚠ REVISED FOR THE RECORD 8/04/98

DRAWN BY: WINNEN / MARTEL
CHECKED BY: M. BURGESS
SCALE:
DATE: OCTOBER 1997

CAMP DRESSER & McKEE INC.
environmental engineers, scientists, planners, & management consultants
CDM

PROJECT TITLE: MILWAUKEE COUNTY LANDFILL
SHEET DESCRIPTION: SECTIONS, DETAILS & PROFILE

PROJECT NO. 2802-004

SHEET NO. 22

FILE NO.

74920 162-A-190