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CITY of MOORE · OKLAHOMA · INCORPORATED 1893

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — SUDARSHAN DASHARATHY — 13552 — OKLAHOMA

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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RECORD DRAWINGS

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S.D.		S.D.	S.D.	5/10/10	NO SCALE	3 OF 52

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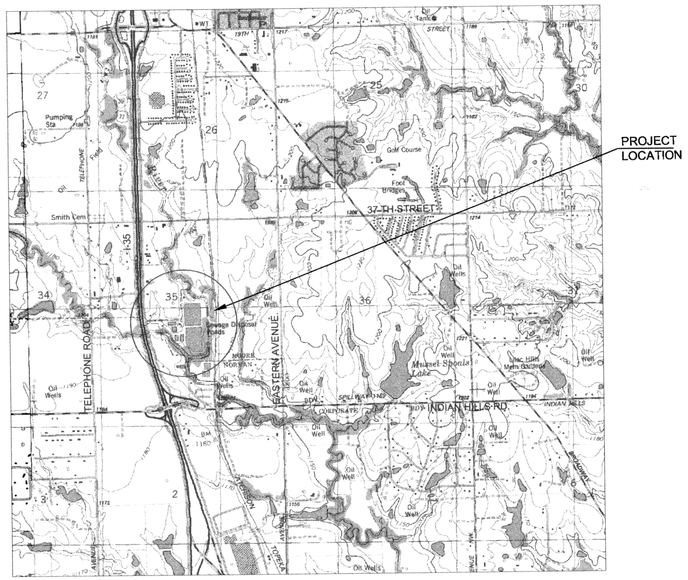
PLANS
FOR
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS
CITY OF MOORE/MOORE PUBLIC WORKS AUTHORITY
MOORE, OKLAHOMA


PROJECT LOCATION
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INDIAN HILLS RD
TELEPHONE ROAD
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CITY of MOORE · OKLAHOMA · INCORPORATED 1893

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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RECORD DRAWINGS

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ROBERT PISTOLE, VEOLIA WATER
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CITY OF MOORE CUSTOMER SERVICE DEPARTMENT
405-793-5032

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FINANCE DIRECTOR, CITY CLERK, CITY TREASURER
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FIRE DEPARTMENT INSPECTIONS 405-793-5108
JEFF LINDSAY, FIRE MARSHALL
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STORMWATER MGMT.
ELIZABETH JONES, COMMUNITY DEVELOPMENT DIRECTOR
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CLEVELAND COUNTY HEALTH DEPARTMENT

KC ELY
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ONG

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RAY RHOADES
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OG&E

JAMES THOMAS JR.
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DENNIS TROYER
PROJECT LEADER, NORMAN DISTRICT
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405-553-5188
405-650-4494 CELL
405-553-5190 FAX
Email: troyerdr@oge.com

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER
SATISH D. SHARATHY
11466
5-17-2010
OKLAHOMA

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/23/10	NO SCALE	4 OF 52

REVISIONS:	DATE:

CONTACTS

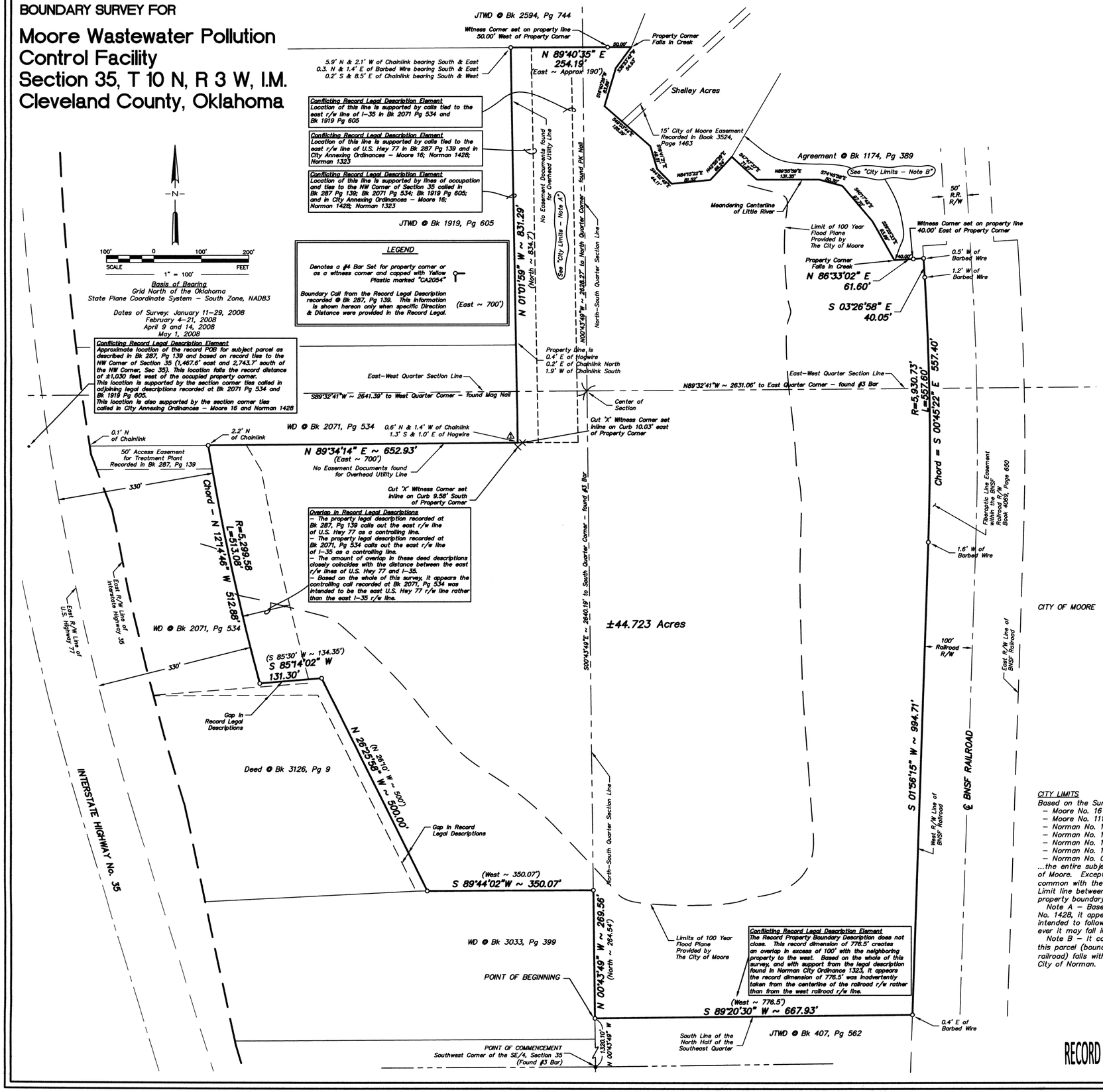
EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

O:\DRAWINGS\MOORE\WORK\General\G2_IndexSheet.dwg

BOUNDARY SURVEY FOR

Moore Wastewater Pollution Control Facility
Section 35, T 10 N, R 3 W, I.M.
Cleveland County, Oklahoma



Basis of Bearing
Grid North of the Oklahoma
State Plane Coordinate System – South Zone, NAD83

Dates of Survey: January 11–29, 2008
February 4–21, 2008
April 9 and 14, 2008
May 1, 2008

PROPERTY LEGAL DESCRIPTION

Record Legal Description – Described in Report of Commisioners recorded at Bk 287, Pg 139:

That part of Section 35, Township 10 North, Range 3 West of the Indian Meridian, described as follows: Beginning at a point 1467.6 feet east and 2743.7 feet south of the Northwest corner of said section, said point being on the East right–of–way line of U.S. Highway No. 77; thence East 1030 feet; thence North 834.7 feet; thence East approximately 190 feet to the centerline of a certain creek; thence in a meandering direction down along the centerline of said creek to a point where said creek turns South and intersects the West right–of–way line of the A.T. & S.F. Railroad; thence in a southerly direction along said West right–of–way to the South line of the North Half of the Southeast Quarter of said Section 35; thence West 776.5 feet; thence North 264.54 feet; thence West 350.07 feet; thence North 26°10' West a distance of 500 feet; thence South 85°30' West a distance of 464.35 feet to the East right–of–way line of U.S. Highway No. 77; thence northerly along said East right–of–way line to the point of beginning, save and except that part thereof situated along and adjacent to said U.S. Highway No. 77, 330 feet in depth, but including an easement for road and utility purposes over the North 50 feet of said excepted tract.

Surveyor's Legal Description:

A tract of land in Section 35, Township 10 North, Range 3 West of the Indian Meridian, Moore, Cleveland County, Oklahoma being more particularly described by metes and bounds as follows:

COMMENCING at the Southwest Corner of the Southeast Quarter of said Section 35;

THENCE N 00°43'49" W, along the west line of said Southeast Quarter, a distance of 1320.10 feet to the POINT OF BEGINNING;

THENCE continuing N 00°43'49" W, along the west line of said Southeast Quarter, a distance of 269.56 feet;

THENCE S 89°44'02" W, a distance of 350.07 feet;

THENCE N 26°25'58" W, a distance of 500.00 feet;

THENCE S 85°14'02" W, a distance of 131.30 feet to the beginning of a non–tangent curve to the right;

THENCE 513.08 feet along the arc of said non–tangent curve to the right, through a central angle of 05° 32' 50", having a radius of 5,299.58 feet, the long chord of which bears North 12° 14' 46" West, 512.88 feet, to the point of non–tangency;

THENCE N 89°34'14" E, a distance of 652.93 feet;

THENCE N 01°01'59" W, a distance of 831.29 feet;

THENCE N 89°40'35" E, a distance of 254.19 feet to the centerline of Little River;

THENCE meandering in a southeasterly direction along the centerline of Little River the following Twelve (12) courses:

THENCE S 36°23'42" W, a distance of 54.93 feet;
THENCE S 16°40'26" W, a distance of 83.89 feet;
THENCE S 49°03'44" E, a distance of 128.29 feet;
THENCE S 16°41'21" E, a distance of 49.51 feet;
THENCE S 44°52'48" E, a distance of 44.11 feet;
THENCE N 84°15'22" E, a distance of 81.52 feet;
THENCE N 42°55'29" E, a distance of 66.24 feet;
THENCE S 47°47'37" E, a distance of 71.27 feet;
THENCE N 89°55'59" E, a distance of 131.35 feet;
THENCE S 74°45'58" E, a distance of 50.30 feet;
THENCE S 40°17'42" E, a distance of 97.70 feet;
THENCE S 29°25'33" E, a distance of 93.99 feet;

THENCE N 86°33'02" E, a distance of 61.60 feet to a point on the west Right–of–Way line of the BNSF Railroad;

THENCE S 03°26'58" E, along the west line of said BNSF Railroad Right–of–Way, a distance of 40.05 feet to the beginning of a tangent curve to the right;

THENCE 557.60 feet along the arc of said tangent curve to the right and along the west line of said BNSF Railroad Right–of–Way, through a central angle of 05° 23' 13", having a radius of 5,930.73 feet, the long chord of which bears South 00° 45' 22" East, 557.40 feet, to the point of tangency;

THENCE S 01°56'15" W, along the west line of said BNSF Railroad Right–of–Way, a distance of 994.71 feet to a point on the south line of the North Half of said Southeast Quarter;

THENCE S 89°20'30" W, along the south line of the North Half of said Southeast Quarter, a distance of 667.93 to the POINT OF BEGINNING and containing 44.723 acres, more or less.

Legal description prepared by Seven K. Lemke, P.L.S., No. 1349.

This survey meets or exceeds the requirements set forth by the "Oklahoma Minimum Standards for the Practice of Land Surveying" as adopted by the Oklahoma State Board of Registration for Professional Engineers and Land Surveyors.

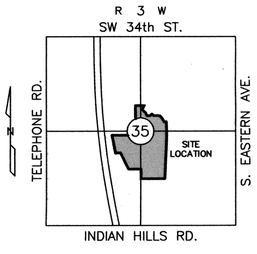
CITY LIMITS

Based on the Surveyor's interpretation of City Ordinances:
– Moore No. 16
– Moore No. 111
– Norman No. 1323
– Norman No. 1324
– Norman No. 1361
– Norman No. 1428
– Norman No. O–7576–41

...the entire subject property lies within the Corporate Limits of the City of Moore. Except for that portion of the property boundary that is common with the west r/w line of the BNSF Railroad, the Corporate City Limit line between the City of Moore and the City of Norman follows the property boundary with the following provisions:

Note A – Based on Moore Ordinance No. 16 and Norman Ordinance No. 1428, it appears to the Surveyor that the Corporate Limit Line is intended to follow the property boundary of the subject property where ever it may fall in this area.

Note B – It could not be determined conclusively by the Surveyor if this parcel (bounded on three sides by creek and on the east by the railroad) falls within the corporate limits of the City of Moore or the City of Norman.



LOCATION MAP

Steven K. Lemke, P.L.S. No. 1349

Dated: 8-13-09

RECORD DRAWINGS

Unless the surveyor's signature is not highlighted, the plan is a copy and should be assumed to contain unauthorized alterations. The information contained on this document shall not apply to any

LEMKE LAND SURVEYING, Inc.
3228 BART CONNER DRIVE, NORMAN, OK 73072
PH.(405)366-8541 FAX(405)366-8542
CA # 2054 EXP.DATE 06/30/10
http://www.lemke-ls.com

Mark	Description	Date	Appr.
1	Set witnesses to property corner. New FEMA boundary from City of Moore.	8/7/08	SKL
		11/19/08	SKL

Project: PLAT OF SURVEY
MOORE WASTEWATER POLLUTION CONTROL FACILITY
Project Location: PART OF SECTION 35, T–10–N, R–3–W, I.M.
MOORE, CLEVELAND COUNTY, OKLAHOMA
Client: EAGLE CONSULTANTS, INC.

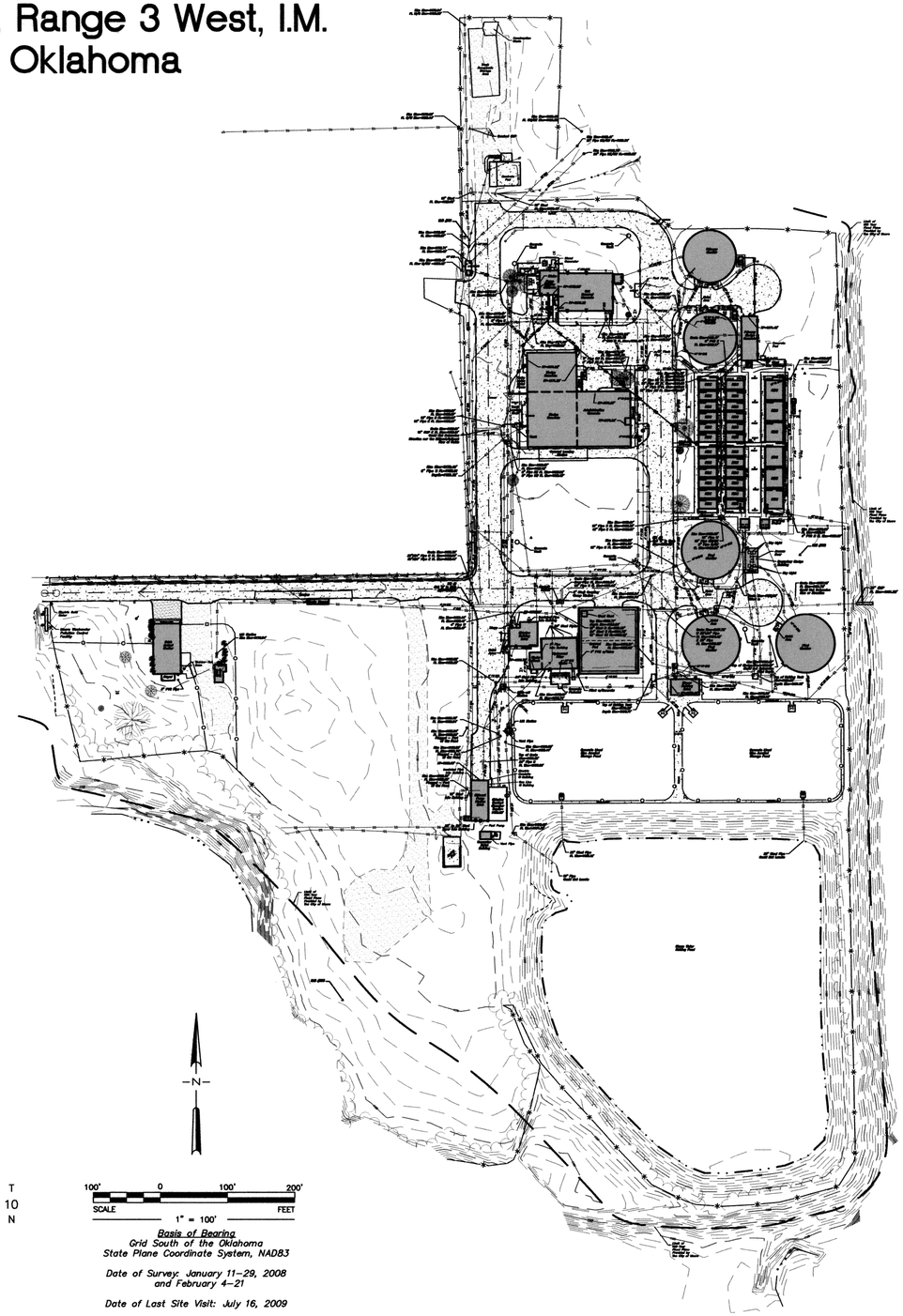
Surveyed By:	JF/KB/TG
Drawn By:	TSY
Approved By:	SKL
Date:	2/27/08
Scale:	1"=100'
Project No:	07109

Sheet Number

Sheet 5 OF 52

TOPOGRAPHIC SURVEY FOR

Moore Wastewater Pollution Control Facility - Section 35, Township 10 North, Range 3 West, I.M. Cleveland County, Oklahoma



R 3 W
SW 34th St.
Telephone Rd.
Eastern Ave.
T 10 N
35
Site Location
Indian Hills Rd.

LOCATION MAP

100' 0 100' 200'
SCALE
1" = 100'
FEET

Basis of Bearing
Grid South of the Oklahoma State Plane Coordinate System, NAD83

Date of Survey: January 11-29, 2008 and February 4-21

Date of Last Site Visit: July 16, 2009

SURVEY CONTROL

PNT #	NORTHING	EASTING	ELEV	DESC.
LLS #101	715803.280	2121866.090	1172.53	#4 Bar
LLS #102	715335.720	2122357.970	1168.93	#4 Bar
LLS #103	714673.402	2121677.483	1167.29	#4 Bar
LLS #127	714600.727	2121049.799	1164.82	#4 Bar

The Horizontal and Vertical Control are based on the City of Norman control monumentation system.
The Horizontal Control is NAD 83, Oklahoma State Plane, South Zone.
The Vertical Control is NAVD 88.

TOPOGRAPHIC LEGEND

- AIR CONDITIONER UNIT
- FIRE HYDRANT
- FLAG POLE
- GAS METER
- GAS VALVE
- GAS VENT
- GROUND TRANSFORMER
- GUARD POST
- LIGHT POLE
- STORM DRAIN MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- TELEPHONE MANHOLE
- MONITORING WELL
- PAY PHONE
- TRANSFORMER POLE
- POWER POLE
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SANITARY SEWER CLEANOUT
- COMMERCIAL SIGN
- SIGN
- SPRINKLER HEAD
- SPRINKLER VALVE
- TELEPHONE RISER
- TRAFFIC/ELECTRIC PULL BOX
- WATER METER
- WATER VALVE BOX
- UST FUEL FILL PORT
- VACUUM
- AIR VENT
- ELECTRIC MOTOR
- SHUTOFF VALVE/GATE VALVE
- PUMP

- BARBED WIRE FENCE
- CHAINLINK FENCE
- PIPERAIL FENCE
- STOCKADE FENCE
- SECURITY FENCE
- ELECTRIC FENCE
- HOG WIRE FENCE
- ELECTRIC UNDERGROUND LINE
- OVERHEAD ELECTRIC LINE
- GAS LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- OVERHEAD TELEPHONE LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE TV LINE
- WATER LINE
- GROUND SURFACE CONTOUR
- CURB AND GUTTER
- SURFACE DRAINAGE FLOWLINE
- TC=1121.63 TOP OF CURB SPOT ELEVATION
- G=1121.13 GUTTER SPOT ELEVATION
- X 1123.5 SPOT ELEVATION
- CONCRETE
- ASPHALT
- GRAVEL

NOTE:
FOR LEGIBLE TEXT, SEE TOPOGRAPHIC PLOTS @ 1"=50'.

OKLAHOMA PROFESSIONAL ENGINEER STEVEN K. LEMKE L.S. 1349 REGISTERED LAND SURVEYOR

Unless the surveyor's signature is not underscored, the plan is a copy and should be assumed to contain unauthorized alterations. The information contained on this document shall not apply to any

Steven K. Lemke, P.L.S. No. 1349

Dated: 8-13-09

RECORD DRAWINGS

BEFORE YOU DIG. CALL OKIE 1-800-522-6543

UTILITY WARNING:
The underground utilities shown have been located from record documents or field locations by the operator. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although the surveyor does certify that they are located as accurately as possible from the information available. The surveyor has not physically located the underground utilities.

Utility elevations and sizes may have been measured under adverse field conditions. Upon exposing the utility, elevations and line sizes should be verified by the contractor prior to construction. Contractor should verify critical elevations using the benchmark provided by the surveyor or engineer. Any discrepancies should be immediately brought to the engineer's and surveyor's attention.

Call OKIE locate number is 08021511490898.

LEMKE LAND SURVEYING, Inc.
3226 BART CONNER DRIVE, NORMAN, OK. 73072
PH.(405)366-8541 FAX(405)366-8540
CA # 3264 EXP.DATE 06/30/10
http://www.lemke-lls.com

Mark	Description	Date	Appr.

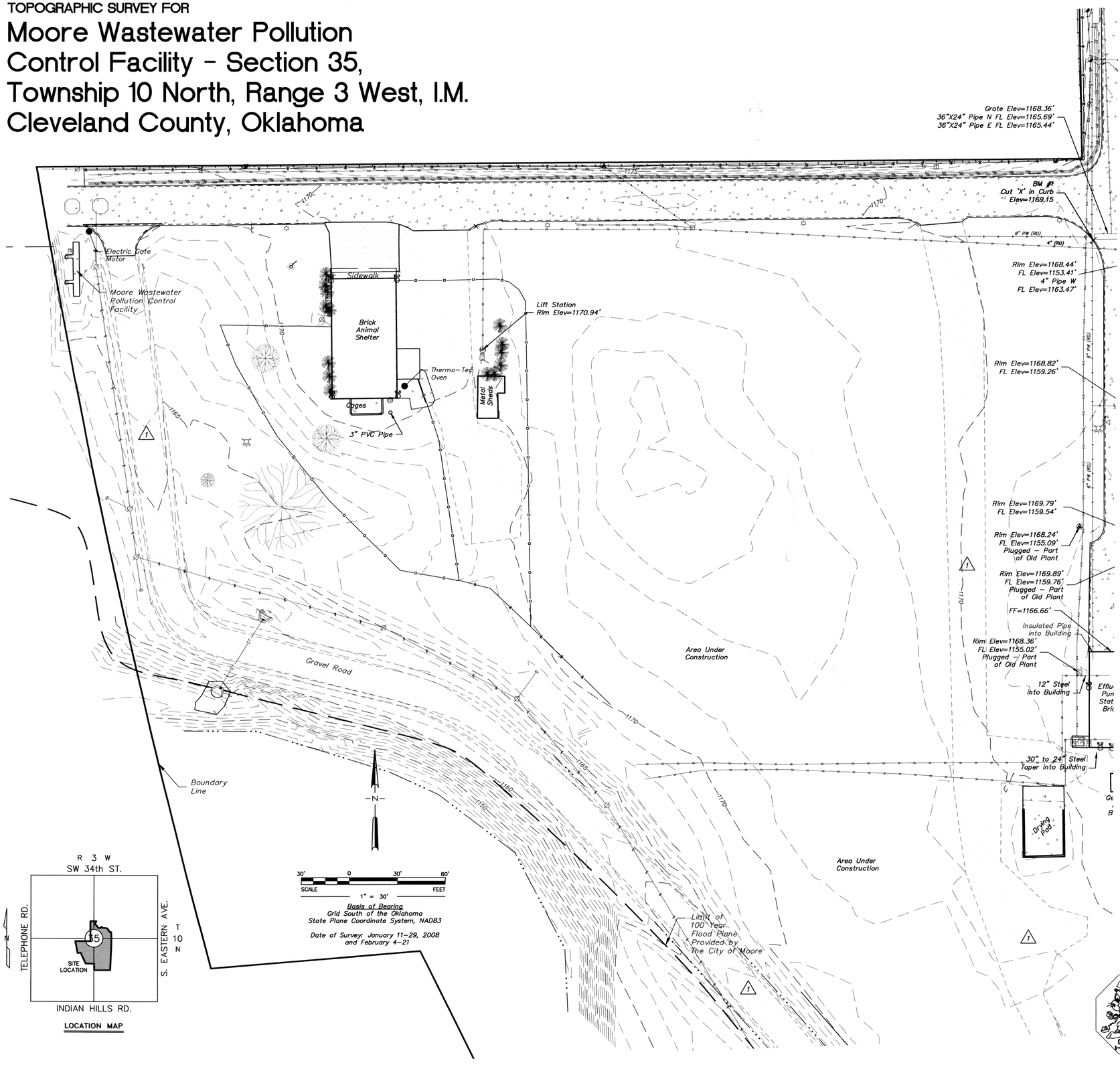
Surveyed By: JF/KB/TG
Drawn By: TSY
Approved By: SKL
Date: 2/27/08
Scale: 1"=100'
Project No: 07109

Project: TOPOGRAPHIC SURVEY
Project Location: PART OF SECTION 35, T-10-N, R-3-W, I.M. CLEVELAND COUNTY, OKLAHOMA
Client: EAGLE CONSULTANTS, INC.

Sheet Number
Sheet 6 OF 52

TOPOGRAPHIC SURVEY FOR

Moore Wastewater Pollution Control Facility - Section 35, Township 10 North, Range 3 West, I.M. Cleveland County, Oklahoma



SURVEY CONTROL

PNT #	NORTHING	EASTING	ELEV	DESC.
LLS #101	715803.280	2121866.090	1172.53	#4 Bar
LLS #102	715335.720	2122357.970	1168.93	#4 Bar
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The Horizontal and Vertical Control are based on the City of Norman control monumentation system.
The Horizontal Control Is NAD 83, Oklahoma State Plane, South Zone.
The Vertical Control Is NAVD 88.

TOPOGRAPHIC LEGEND

AIR CONDITIONER UNIT	BARBED WIRE FENCE
FIRE HYDRANT	CHAINLINK FENCE
FLAG POLE	PIPERAIL FENCE
GAS METER	STOCKADE FENCE
GAS VALVE	SECURITY FENCE
GAS VENT	ELECTRIC FENCE
GROUND TRANSFORMER	HOG WIRE FENCE
GUARD POST	ELECTRIC UNDERGROUND LINE
LIGHT POLE	OVERHEAD ELECTRIC LINE
STORM DRAIN MANHOLE	GAS LINE
ELECTRIC MANHOLE	SANITARY SEWER LINE
SANITARY SEWER MANHOLE	STORM DRAIN LINE
TELEPHONE MANHOLE	OVERHEAD TELEPHONE LINE
MONITORING WELL	UNDERGROUND TELEPHONE LINE
PAY PHONE	UNDERGROUND CABLE TV LINE
TRANSFORMER POLE	WATER LINE
POWER POLE	GROUND SURFACE CONTOUR
PROPERTY CORNER FOUND	CURB AND GUTTER
PROPERTY CORNER SET	SURFACE DRAINAGE FLOWLINE
SANITARY SEWER CLEANOUT	TOP OF CURB SPOT ELEVATION
COMMERCIAL SIGN	GUTTER SPOT ELEVATION
SIGN	SPOT ELEVATION
SPRINKLER HEAD	CONCRETE
SPRINKLER VALVE	ASPHALT
TELEPHONE RISER	GRAVEL
TRAFFIC/ELECTRIC PULL BOX	
WATER METER	
WATER VALVE BOX	
UST FUEL FILL PORT	
VACUUM	
AIR VENT	
ELECTRIC MOTOR	
SHUTOFF VALVE/GATE VALVE	
PUMP	

RECORD DRAWINGS

LICENSED PROFESSIONAL LAND SURVEYOR SHAWN SMITH 1663 OKLAHOMA

surveyor's signature is not covered, the plan is a copy should be assumed to contain unauthorized alterations. The information contained on this document shall not apply to any

SHAWN SMITH, P.L.S. NO. 1663

DATED: 6-16-10

UTILITY WARNING:
The underground utilities shown have been located from record documents or field locations by the operator. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although the surveyor does certify that they are located as accurately as possible from the information available. The surveyor has not physically located the underground utilities.

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Call OKIE locate number is 08021511490898.

BEFORE YOU DIG. CALL OKIE 1-800-522-6543

LEMKE LAND SURVEYING, Inc.
3226 BART CONNER DRIVE, NORMAN, OK. 73072
PH.(405)366-8841 FAX(405)366-8540
CA # 2541 Exp. 6/30/2010
http://www.lemke-ls.com

Mark	Description	Date	Appr.
1	As-Built Topographic Survey, 6/15/10		

Project: PLAT OF SURVEY
Project Location: PART OF SECTION 35, T-10-N, R-3-W, I.M. CLEVELAND COUNTY, OKLAHOMA
Client: EAGLE CONSULTANTS

Surveyed By:	JF/KB/TG
Drawn By:	TSY
Approved By:	SKL
Date:	2/27/08
Scale:	1"=40'
Project No:	07109

Sheet Number 1

Sheet 7 OF 52

G:\Projects\07109\LLS-DATA\Trial\plat #2\Pr-Addv01.dwg Jun 16, 2010 - 10:25am

10" Pipe
Could Not Locate

Limit of
100 Year
Flood Plane
Provided by
The City of Moore

LLS #103

Area Under
Construction

Gravel Road

Rim Elev=1168.14'

Rim Elev=1167.59'

Gravel Road

Boundary
Line

Limit of
100 Year
Flood Plane
Provided by
The City of Moore

Gravel Road

1170
1165
1160
1155
1150

WV
SGV
GAS
GOLF

30' 0 30' 60'
SCALE FEET
1" = 30'

Basis of Bearing
Grid South of the Oklahoma
State Plane Coordinate System, NAD83

Date of Survey: January 11-29, 2008
and February 4-21

LICENSED PROFESSIONAL LAND SURVEYOR
SHAWN SMITH
1663
OKLAHOMA

The surveyor's signature is not
affixed, the plan is a copy
that should be assumed to contain
unauthorized alterations. The
certification contained on this
copy shall not apply to any

SHAWN SMITH, P.L.S. NO. 1663

DATED: 6-16-10

RECORD DRAWINGS

LEMKE LAND SURVEYING, Inc.
3228 BART CONNER DRIVE, NORMAN, OK 73072
PH.(405)366-5541 FAX(405)366-5540
CA # 2954 EXP.DATE 6/30/2010
http://www.lemke-ls.com

Mark	Description	Date	Appr.
1	As-Built Topographic Survey 6/15/10		

Surveyed By:	JF/KB/TG
Drawn By:	TSY
Approved By:	SKL
Date:	2/27/08
Scale:	1"=100'
Project No:	07109

PLAT OF SURVEY

PART OF SECTION 35, T-10-N, R-3-W, I.M.
CLEVELAND COUNTY, OKLAHOMA

Project:
Project Location:
Client: EAGLE CONSULTANTS

Sheet Number 2

Sheet 8 OF 52

Q:\Projects\07109\LLS-DATA\Final\site #2\TP-AsBuilt.dwg Jun 16, 2010 - 10:25am

Could Not Determine Direction nor the Effluent/Influent Flow of Fluids

Vault

Covered Loading Station

Rim Elev=1170.49'
6" Pipe S FL=1165.61
Depth=1159.32'

Rim Elev=1169.67'
FL Elev=1153.12'
8" Pipe NE FL Elev=1165.62'
8" Pipe SW FL Elev=1162.57'

Rim Elev=1169.61'
12" Pipe S FL Elev=1162.36'
12" Pipe E FL Elev=1162.51'

Rim Elev=1169.88'
FL Elev=1154.55'
12" Pipe N FL Elev=1161.97'

Concrete Vault

Concrete Vault

Grate Elev=1168.36'
36"X24" Pipe N FL Elev=1165.69'
36"X24" Pipe E FL Elev=1165.44'

BM #1
Cut 'X' in Curb
Elev=1169.15

BM #2
Cut 'X' in Curb
Elev=1169.03

Grate Elev=1168.29'
Drop Pipe FL Elev=1166.04'
12" Pipe S FL Elev=1161.95'

Shutoff Switch

6" Steel Coupling
Dump Station

Rim Elev=1168.24'
FL Elev=1154.74'

Rim Elev=1168.44'
FL Elev=1153.41'
4" Pipe W
FL Elev=1163.47'

FF=1173.29'

Insulated Pipe into Building

Steps

Chlorine Building Brick

24" Steel Pipes

Wood Shed
Top Rim=1169.71'
Depth Elev=1153.93'
12" Steel N FL=1161.57'
24" Steel S FL=1164.70'
12" Steel SE FL=1165.13'

Covered Pad

Rim Elev=1170.31'
FL Elev=1155.08'

4" PVC w/Valve

2" Pipe into Building

Hydrosand Filter

Hoist Arms

Cinder Block

FF=1169.79'

24" Stairs

Rim Elev=1168.82'
FL Elev=1159.26'

24" Steel Pipe into Building

Concrete Pedestal

Filled w/Concrete

Shut-off Station

Rim Elev=1172.67'
FL Elev=1160.74'

Top of Holding Tank
Elev=1170.26'
Depth Elev=1160.71'

Blower Building Brick
FF=1170.44'

Rim Elev=1170.35'
FL Elev=1160.50"

Top of Holding Tank
Elev=1169.90'
Depth Elev=1161.18'

Rim Elev=1170.20'
FL Elev=1155.16'

Rim Elev=1169.79'
FL Elev=1159.54'

Lift Station

Rim Elev=1168.24'
FL Elev=1155.09'
Plugged – Part of Old Plant

Vent Pipe

Rim Elev=1169.89'
FL Elev=1159.76'
Plugged – Part of Old Plant

Rim Elev=1169.98'
FL Elev=1159.44'

Top of Grate
Elev=1166.39'
24" Pipe S
FL Elev=1163.59'

FF=1166.66'

Insulated Pipe into Building

Electric Conduits @ Building

Gas Line @ Building

Rim Elev=1168.36'
FL Elev=1155.02'
Plugged – Part of Old Plant

12" Steel into Building

Effluent Pump Station Brick

Chlorine Contact Chamber Depth= 1156.85'

30" to 24" Steel Taper into Building

Fuel Pump

Generator Metal Building

Vent Pipe

Drying Pad

Rim Elev=1169.90'
FL Elev=1154.35'

36" Steel Pipe
FL Elev=1159.12'

10" Pipe
Could Not Locate

Concrete Lined Disc Aerated Storage Pond

Concrete Lined Disc Aerated Storage Pond

Sidewalk

RBC

Rim Elev=1169.86'
12" Pipe W
10" Pipe NW/NE
6" Pipe N/SE
FL Elev=1162.86'

Final Clarifier

Sky Light

Access Door

Secondary Sludge Building

Steps

LLS #102

Sky Light

Rim Elev=1170.09'
FL Elev=1158.14
4" PVC N FL Elev=1166.07'

Limit of 100 Year Flood Plane Provided by The City of Moore

Grate Elev=1167.13'
FL Elev=1164.78'
Could Not Determine Size or Direction

36" CMP
FL Elev=1161.83'

Hoist Arm

Vent Pipe

Grate Elev=1168.20'
Silted In

Grate Elev=1167.75'
W 36"x24" Pipe
FL Elev=1164.46'
E 36" Pipe
FL Elev=1163.83'

Final Clarifier

Concrete Vault

Rim Elev=1169.57'
Top of Sludge Elev=1162.07'
Could not Determine Final Depth

Top of Holding Tank
Elev=1169.90'
Depth Elev=1161.18'

Hoist Arm

Final Clarifier

N

30' 0 30' 60'
SCALE FEET
1" = 30'

Basis of Bearing
Grid South of the Oklahoma State Plane Coordinate System, NAD83

Date of Survey: January 11–29, 2008 and February 4–21

RECORD DRAWINGS

STATE OF OKLAHOMA LICENSED PROFESSIONAL LAND SURVEYOR SHAWN SMITH 1663

The surveyor's signature is not colored, the plan is a copy and should be assumed to contain unreported alterations. The information contained on this document shall not apply to any revisions.

SHAWN SMITH, P.L.S. NO. 1663

DATED: 6-16-10

LEMKE LAND SURVEYING, Inc.
3226 BART CONNER DRIVE, NORMAN, OK. 73072
PH.(405)360-3486 FAX(405)360-3640
CA # 2054 EXP.DATE: 06/30/10
http://www.lemke-ls.com

Mark	Description	Date	Appr.
1	As-Built Topographic Survey, 6/15/10		

Surveyed By: JF/KB/TG
Drawn By: TSY
Approved By: SKL
Date: 2/27/08
Scale: 1"=100'
Project No: 07109

Project: PLAT OF SURVEY
Project Location: PART OF SECTION 35, T-10-N, R-3-W, I.M. CLEVELAND COUNTY, OKLAHOMA
Client: EAGLE CONSULTANTS

Sheet Number 3
Sheet 9 OF 52

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Rim Elev=1172.94'
FL N/S Elev=1160.59'

Construction Waste

Trash Receptacle Storage Area

1170

Rim Elev=1175.02'
FL S/W Elev=1159.44'

Rim Elev=1169.46'
FL SW/NE Elev=1160.38'

Crushed CMP

Rim Elev=1169.41'
18" Pipe NE/SW FL=1160.34'

Rim Elev=1169.70'
24" Pipe NE/SW FL=1160.50'

Sidewalk

Concrete Pad

18" Pipe

24" Pipe

18" Steel
FL Elev=1169.06'

18" Steel
FL Elev=1168.45'

LLS #101

Rim Elev=1172.82'
FL Elev=1159.87'

Rim Elev=1172.71'
FL Elev=1159.45'

Rim Elev=1172.47
FL Elev N/SW =1159.12'

Concrete Vault

Concrete Vault

Diesel Generator

Stairs

Pump Station Concrete

FF=1172.90'

Grit Removal Concrete

Steps

Ramp

Steps

FF=1175.36

Fuel Pump

Primary Clarifier

Stairs

Hoist Arm

Rim Elev=1170.86'
FL Elev=1153.72'

Rim Elev=1173.19'
FL Elev=1152.24'

Rim Elev=1170.61'
FL Elev=1152.59'
8" Pipe E
FL Elev=1162.96'

Rim Elev=1171.92'
FL Elev=1153.38
4" PVC N FL Elev=1165.45'

Rim Elev=1171.54'
FL Elev=1163.80'

12" DIP SL (RD)
8" DIP SL (RD)
Primary Clarifier

Primary Sludge Concrete

FF=1171.42'

Grate Elev=1169.17'
6" PVC E
FL Elev=1168.17'

Concrete Pad

Rim Elev=1171.59'
FL Elev=1159.89'

Rim Elev=1171.87'
FL Elev=1161.28
4" Pipe SW FL Elev=1167.27
6" Pipe SE FL Elev=1164.27

w/2" Flush Pipe

Sidewalk

14" Air (RD)

10" Steel into Building

Rim Elev=1169.89'
FL Elev=1158.91'

FF=1171.22'

Sludge Concrete
FF=1171.36'

Tanks Inside Metal Fence

Steps

Rim Elev=1170.33'
FL Elev=1162.02
6" Pipe NE FL Elev=1163.36
10" Pipe SE FL Elev=1162.80
4" Pipe S FL Elev=1163.01
10" Pipe SW FL Elev=1162.87'

RBC

Sidewalk

FF=1171.87'

Truck Loading Dock

Sludge Concrete

Administration Concrete

FF=1171.89'

Sidewalk

Rim Elev=1169.81'
FL Elev=1158.57'
12" Pipe S FL=1166.93'
12" Pipe E FL Elev=1165.81'

Grate Elev=1169.01'
12" CMP E FL Elev=1166.51'
Could Not Determine
Direction nor the Effluent/Influent
Flow of Fluids

Vault

Covered Loading Station

Limit of 100 Year Flood Plane Provided by The City of Moore

1165

1169

1170

N

30' 0 30' 60'
SCALE
1" = 30'
FEET

Basis of Bearing
Grid South of the Oklahoma
State Plane Coordinate System, NAD83

Date of Survey: January 11–29, 2008
and February 4–21

RECORD DRAWINGS

OKLAHOMA LICENSED PROFESSIONAL LAND SURVEYOR
SHAWN SMITH
1663

SHAWN SMITH, P.L.S. NO. 1663

DATED: 6-16-10

Surveyor's signature is not required, the plan is a copy and should be assumed to contain unauthorized alterations. The statement contained on this document shall not apply to any

LEMKE LAND SURVEYING, Inc.
3226 BART CONNER DRIVE, NORMAN, OK 73072
PH.(405)366-8541 FAX(405)366-8540
CA # 2904 Exp. date 6/30/2010
http://www.lemke-ls.com

Mark	Description	Date	Appr.
1	As-Built Topographic Survey 6/15/10		

PLAT OF SURVEY

PART OF SECTION 35, T-10-N, R-3-W, I.M.
CLEVELAND COUNTY, OKLAHOMA

EAGLE CONSULTANTS

Surveyed By:	JF/KB/TG
Drawn By:	TSY
Approved By:	SKL
Date:	2/27/08
Scale:	1"=100'
Project No:	07109

Project:
Project Location:
Client:

Sheet Number 4

Sheet 10 OF 52

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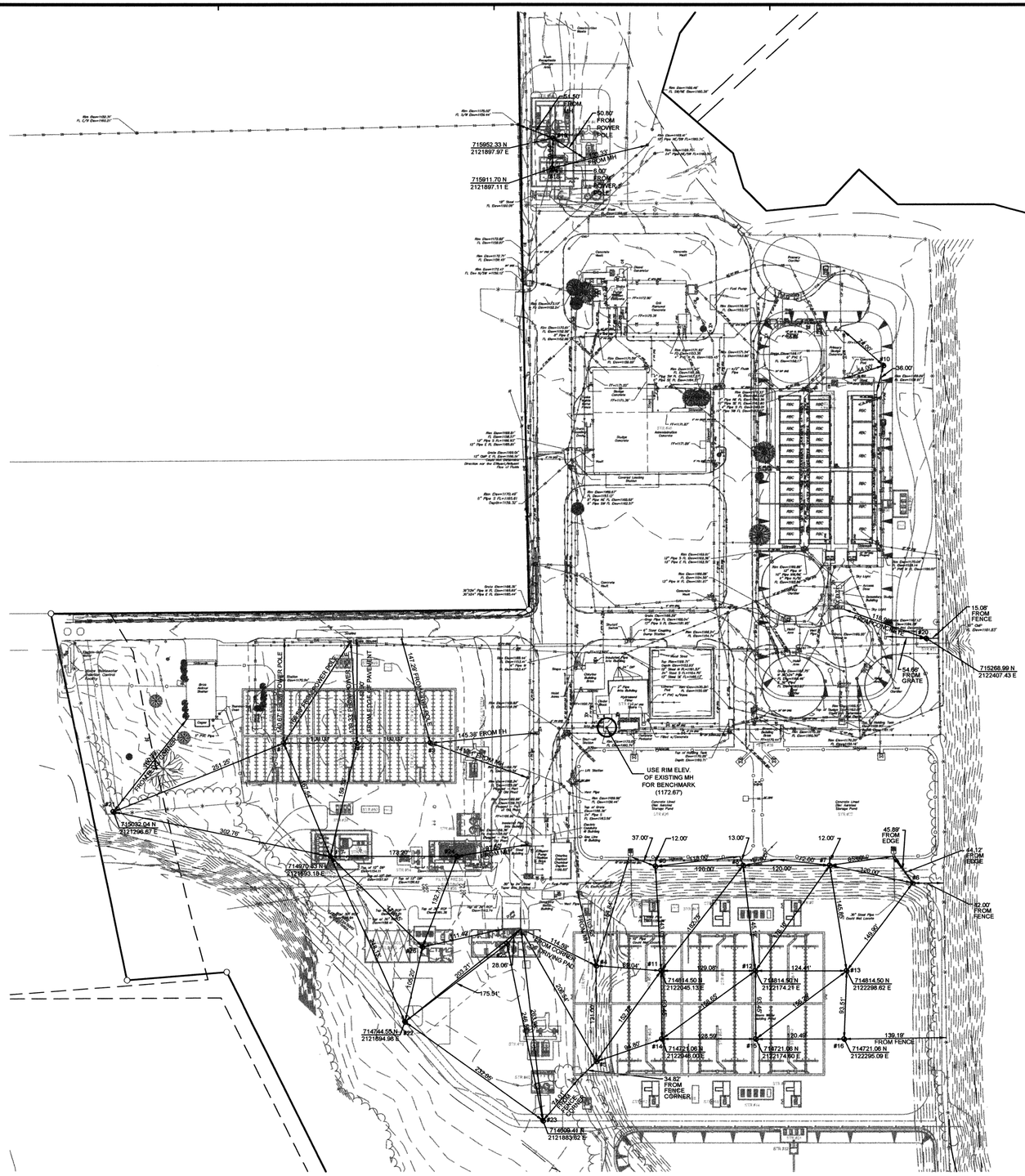

0 40 80 160

Scale 1" = 80'

LEGEND

● = SOIL BORING LOCATION

NOTES:

1. BOREHOLE INFORMATION SHOWN ON THIS SHEET IS BASED ON THE SUBSURFACE EXPLORATION REPORT PREPARED BY TERRACON DATED FEBRUARY 11, 2009. A COPY OF THE REPORT IS AVAILABLE UPON REQUEST FROM THE ENGINEER.
2. THIS SHEET IS PROVIDED FOR INFORMATION ONLY FOR THE CONVENIENCE OF BIDDERS AND DOES NOT CONSTITUTE A PART OF THE CONTRACT.

RECORD DRAWINGS

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/10/2010	1"=200'	11 OF 52

REVISIONS:	DATE:

SOIL BORING LOCATION MAP

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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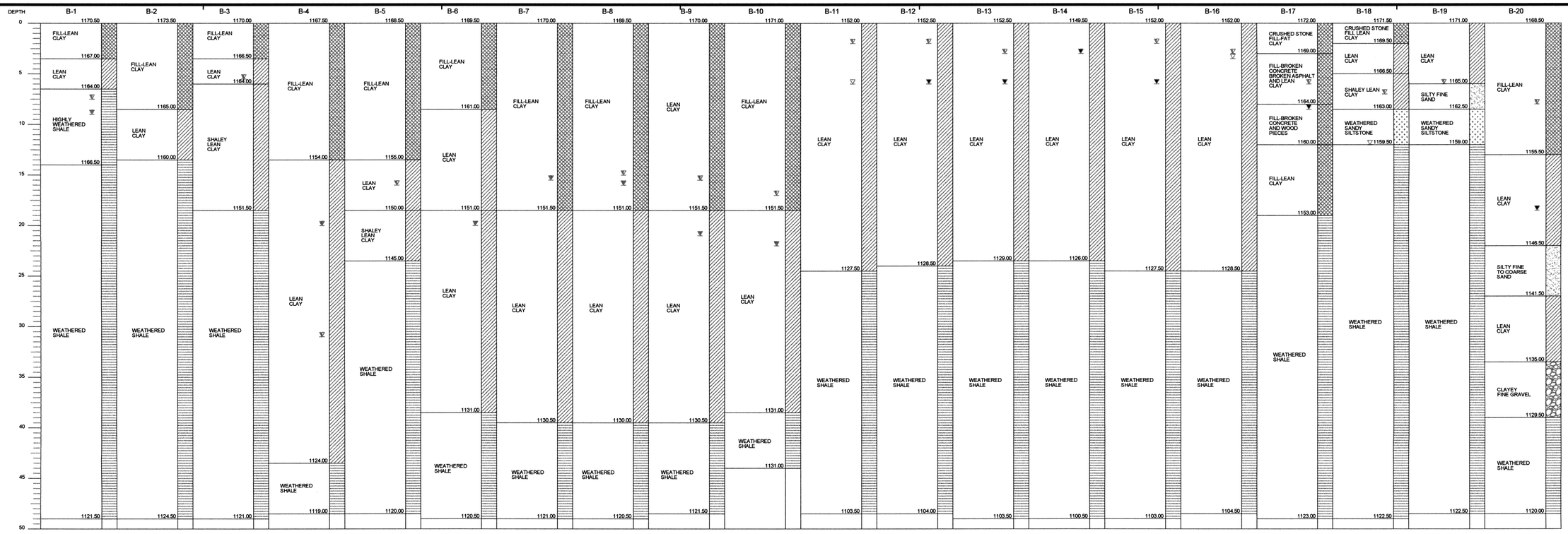

LEGEND

▽ = WATER LEVEL AFTER 24 HOURS

▼ = WATER LEVEL AFTER BORING

▽ = WATER LEVEL

NOTES:

1. BOREHOLE INFORMATION SHOWN ON THIS SHEET IS BASED ON THE SUBSURFACE EXPLORATION REPORT PREPARED BY TERRACON DATED FEBRUARY 12, 2009. A COPY OF THE REPORT IS AVAILABLE UPON REQUEST FROM THE ENGINEER.
2. THIS SHEET IS PROVIDED FOR INFORMATION ONLY FOR THE CONVENIENCE OF BIDDERS AND DOES NOT CONSTITUTE A PART OF THE CONTRACT.

RECORD DRAWINGS

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/10/2010	1" = 5'-0"	12 OF 52

REVISIONS:	DATE:

SOIL BORING LOGS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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GENERAL CONSTRUCTION NOTES

1. THE EXISTING WASTEWATER TREATMENT PLANT MUST REMAIN IN OPERATION DURING CONSTRUCTION UNTIL THE NEW PLANT IS 100% OPERATIONAL. THIS WILL REQUIRE CONSTRUCTION SEQUENCING TO ALLOW NEW UNITS TO BE TESTED AND OPERATED WITHOUT DISRUPTION TO THE OPERATION OF THE EXISTING PLANT. THERE WILL BE TRANSFERRING OF SERVICE BETWEEN THE EXISTING AND NEW PLANT THAT WILL REQUIRE COORDINATION BETWEEN CONTRACTOR AND THE PLANT OPERATOR. ALL CONSTRUCTION SEQUENCING AND TRANSFERS BETWEEN THE EXISTING AND NEW PLANT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, AND AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL PREPARE HIS BID TO BUDGET FOR ANY COST INCURRED DURING THIS PROCESS.
2. THERE SHALL BE NO DISRUPTIONS TO THE OPERATIONS OF THE TREATMENT PLANT DURING THE PERFORMANCE OF THIS CONTRACT.
3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT SHOWN ON THE DRAWING SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN KIND/UNLESS NOTED OTHERWISE.
4. THE CONTRACTOR SHALL PROVIDE A SET OF REDLINE DRAWINGS EACH MONTH WITH THE SUBMISSION OF HIS PAY APPLICATION.
5. ANY INSPECTION BY THE CITY, COUNTY OR STATE SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND REGULATORY & FUNDING AGENCY REQUIREMENTS.
6. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS ON FIELD LOCATIONS. THE SURVEYOR AND ENGINEER MAKE NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN-SERVICE, OR ABANDONED. THE SURVEYOR AND THE ENGINEER FURTHER DO NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE SURVEYOR AND THE ENGINEER HAVE NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING EXACT DETERMINATIONS BEFORE DIGGING. THE CONTRACTOR SHALL LOCATE ALL UTILITIES BY CALLING OKIE AND LOCAL UTILITY COMPANIES BEFORE DIGGING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE. ALL STRUCTURES, UNDERGROUND PIPELINES, ELECTRIC AND TELEPHONE CONDUITS, ETTHER SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY CONSTRUCTION, AND TO OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO THESE FACILITIES. THE ENGINEER WLL NOT GUARANTEE ANY ELEVATIONS OR LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNCOVER ALL EXISTING SEWER AND WATER LINES BEING CONNECTED TO, AND TO VERIFY THE LOCATIONS, SIZE AND FLOW LINE ELEVATIONS OF THE PIPE, BEFORE ANY CONSTRUCTION BEGINS. IF IT IS NECESSARY, TO MOVE LINE BEING INSTALLED HORIZONTALLY AND/OR VERTICALLY DUE TO UNDERGROUND OBSTRUCTIONS, CONTRACTOR SHALL CHECK TO ASCERTAIN THAT THE REALIGNMENT DOES NOT ADVERSELY AFFECT THE OVERALL OUTCOME OF THE PROJECT. CONTRACTOR SHALL ANTICIPATE THIS AND INCLUDE THE COST OF HAVING TO DEAL WITH SUCH EVENTS IN HIS BID. CONTRACTOR SHALL MAKE EVERY EFFORT TO WORK WITH THE ENGINEER TO SORT OUT SUCH ISSUES ON UNDERGROUND CONFLICTS AND CONSTRUCTIVE FIELD CHANGES MAY BE MADE WITHOUT ANY ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE THIS IN HIS BID.
8. UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS, UPON EXPOSING, UTILITY ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
9. DAMAGES TO UTILITIES DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL RESTORE ALL DAMAGED UTILITIES TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS TO THE UTILITIES WILL BE PERFORMED BY THE UTILITY OWNER OR UNDER THEIR DIRECTION, SUCH COST SHALL BE INCLUDED IN THE BID PRICE AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
10. CONTRACTOR IS TO LOCATE ALL EXISTING PROPERTY MONUMENTS PRIOR TO CONSTRUCTION. A REGISTERED LAND SURVEYOR, PREFERABLY THE SURVEYOR THAT PROVIDED THE SURVEY FOR DESIGN, AT THE CONTRACTOR'S EXPENSE SHALL REPLACE ANY MONUMENTS DISTURBED DURING THE CONSTRUCTION OF THIS PROJECT.
11. ALL CONTROLS POINTS SHALL BE LEFT UNDISTURBED. THE CONTRACTOR SHALL CALL THE ENGINEER TO REFERENCE AND RESET OR OFFSET ANY CONTROL POINTS THAT HAVE BEEN OR WILL BE DISTURBED PRIOR TO THE BEGINNING OF CONSTRUCTION. FIELD VERIFY FLOWLINES AND BUILDING FLOOR ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROVIDE STATIONING OR DISTANCES ON ALL NEW SEWER LINES, MANHOLES, CLEANOUTS, TAPS, WATER LINES, VALVES, AND FIRE HYDRANTS INSTALLED IN THIS PROJECT TO THE ENGINEER.
13. ANY CONSTRUCTION PERFORMED WITHOUT THE KNOWLEDGE OF THE PROJECT INSPECTOR OR THE OWNER'S REPRESENTATIVE IS LIABLE FOR REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
14. COMPACTION SHALL BE PER PLANS AND SPECIFICATIONS. ALL COMPACTION TESTING SHALL BE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
15. TRAFFIC CONTROL SHALL. BE MAINTAINED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
16. PRIOR TO FINAL APPROVAL AND ACCEPTANCE OF THE WORK, THE CONTRACTOR WILL BE REQUIRED TO CLEAN AND REPAIR ADJACENT (OFF-PROJECT) ROADWAYS THAT MAY HAVE BEEN USED OR DAMAGED DURING THE COURSE OF CONSTRUCTION.
17. THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, MOST CURRENT EDITION, SHALL GOVERN, UNLESS NOTED OTHERWISE.
18. THE CITY OF MOORE WATER AND WASTEWATER CURRENT STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY AND/ OR THE PROJECT PLANS AND SPECIFICATIONS, WHICH EVER IS THE MOST STRINGENT. SPECIFICALLY TO WATER AND WASTEWATER CONSTRUCTION: WHERE THERE IS CONFLICT WITH THE STATE STANDARD, THE MOST STRINGENT SPECIFICATIONS WILL APPLY TO WATER AND WASTEWATER CONSTRUCTION.
19. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES AT THE TREATMENT PLANT. THE CONTRACTOR SHALL REQUEST THE PLANT OPERATOR'S ASSISTANCE IN OPERATING ANY VALVES OR EQUIPMENT IN THE TREATMENT PLANT SYSTEM TO FACILITATE THE COMPLETION OF THE CONTRACT.
20. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE MOST CURRENT EDITION OF THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY STANDARDS.
21. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER'S REPRESENTATIVE. THE ENGINEER AND THE TESTING COMPANY SHALL BE GIVEN 24-HOUR NOTICE WHEN TESTS ARE TO BE PERFORMED.
22. THE CONTRACTOR SHALL PROVIDE SANITARY FACILITIES AND CLEAN DRINKING WATER FOR HIS EMPLOYEES IN THE AREA IN WHICH WORK IS BEING PERFORMED.
23. SANITARY FACILITIES WILL BE CLEANED ON A REGULAR SCHEDULE. AT NO TIME SHALL THE CONTRACTOR OR HIS EMPLOYEES USE THE TREATMENT PLANT FACILITIES.
24. THE CONTRACTOR SHALL COORDINATE WITH OG&E TO BRING ELECTRIC POWER, SET POLES, TRANSFORMERS AND METERS TO THE SITE AS PART OF THE CONTRACT AND FOR TEMPORARY CONSTRUCTION SERVICE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL UTILITY BILLS INCURRED DURING THE COURSE OF CONSTRUCTION.
25. THE CONTRACTOR SHALL REMOVE EXISTING FENCE WHERE NECESSARY TO ENABLE CONSTRUCTION. WHEN THE CONSTRUCTION IS COMPLETED THE CONTRACTOR WILL REPLACE THE EXISTING FENCE TO ITS ORIGINAL CONDITION OR BETTER, AND TIE IT INTO THE NEW FENCE AS SHOWN ON THE PLANS.
26. ACCESS TO THE SITE WILL BE ONLY THROUGH THE AREA DESIGNATED AS LIMITS OF CONSTRUCTION. AT NO TIME SHALL THE CONTRACTOR OR HIS SUPPLIERS USE ANY OF THE ROADS AT THE EXISTING PLANT SITE. ADEQUATE SIGNAGE SHALL DIRECT EMPLOYEES AND DELIVERIES TO THE DESIGNATED CONSTRUCTION STAGING AREA.
27. THE CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN TO THE ENGINEER FOR HIS APPROVAL PRIOR TO STARTING CONSTRUCTION. EROSION CONTROL SHALL BE IN PLACE THRU THE CONSTRUCTION CONTRACT PERIOD. DISTURBED AREAS SHALL BE SEEDED AND RESTORED TO THE SATISFACTION OF THE OWNER AND ENGINEER.
28. THE CONTRACTOR SHALL PROVIDE TRAFFIC BARRICADES AND SIGNAGE WHEN AND WHERE NECESSARY, BOTH ON AND OFF SITE TO INSURE PUBLIC SAFETY. THIS ITEM WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
29. ANY DAMAGE TO THE EXISTING ROADWAY, THE NEW GRAVEL ROAD OR STAGING AREA DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND THE ENGINEER, AND AT NO ADDITIONAL COST TO THE OWNER, UPON COMPLETION OF CONSTRUCTION AND BEFORE REQUESTING A FINAL INSPECTION
30. THE STAGING AREA WILL BE USED ONLY FOR CONSTRUCTION EQUIPMENT AND MATERIALS USED IN THE CONSTRUCTION OF THE CONTRACT. CONSTRUCTION DEBRIS SHOULD NOT BE ALLOWED TO ACCUMULATE AND WILL BE REMOVED ON A WEEKLY BASIS.
31. ANY RAW SEWAGE OR SLUDGE ENCOUNTERED DURING EXCAVATION OR IN THE COURSE OF CONSTRUCTION SHALL BE CONTAINED AND IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE OWNER. ANY REMEDIATION WILL BE DIRECTED BY THE ENGINEER.
32. LEAKAGE TESTING ON GRAVITY SEWER SHALL BE AS PER ASTM REQUIREMENT. AIR OR WATER MAY BE USED. LEAKAGE SHALL NOT EXCEED 10 GPID/MILE/DAY.
33. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM STANDARD SANITARTY MANHOLE LEAKAGE TEST USING ALL APPLICABLE STANDARDS. ALL TESTS SHALL BE PERFORMED IN THE PRESENSE OF THE ENGINEER'S REPRESENTATIVE.
34. CONTRACTOR SHALL REPAIR OR REPLACE DISTURBED ROADS AND FENCING TO PREVIOUS CONDITION OR BETTER.
35. A MINIMUM EARTH COVER OF 36 INCHES SHALL BE PROVIDED FOR ALL LINES.
36. ALL SURFACE DRAINAGE AFFECTED BY THE CONSTRUCTION SHALL BE RESTORED TO AS GOOD OR BETTER CONDITION.
37. SANITARY SEWERS MUST BE AT LEAST TEN FEET FROM ANDY EXISTING OR PROPOSED WATER MAIN.
38. IN ACCORDANCE WITH OAC 252:656-5-4(C)(1), SANITARY SEWERS MUST BE AT LEAST 10-FEET FROM ANY EXISTING OR PROPOSED WATER MAIN; AND AT LEAST 5-FEET FROM ELECTRICAL LINES AND PETROLEUM LINES. IN ACCORDANCE WITH OAC 252:656-5-4(0(2), SANITARY SEWERS MUST CROSS AT LEAST 24 INCHES ABOVE OR BELOW WATER MAINS, AND THE CROSSING CENTERED AT THE JOINTS WILL BE AS FAR AS POSSIBLE FROM THE WATER MAINS.
39. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, DESIGN AND CONSTRUCT THE SEWER LINE EQUAL TO WATER PIPE, AND PRESSURE TEST IT TO ASSURE WATER TIGHTNESS OF JOINTS ADJACENT TO THE WATER LINE PRIOR TO BACKFILLING. SEWER LINES SHALL NOT BE LAID IN WATER LINE TRENCHES.
40. CONTRACTOR MAY ENCOUNTER CONSTRUCTION DEBRIS DURING EXCAVATION AT THE CONSTRUCTION SITE. BLASTING WILL NOT BE ALLOWED. CONTRACTOR SHALL HAVE ON HAND ADEQUATE MANPOWER AND EQUIPMENT TO EXCAVATE, REMOVE AND DISPOSE SUCH DEBRIS, AND COMPLETE CONSTRUCTION IN SUCH AREAS. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE BID PRICE, AND CONTRACTOR SHALL NOT BE PAID ANY ADDITIONAL AMOUNTS TO PERFORM THIS CONSTRUCTION WORK, AND THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
41. INSTALL METAL TRACER WIRE AND COLOR CODE FOR ALL PIPE CONSTRUCTED.
42. CONTRACTOR MAY ENCOUTER GROUNDWATER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DEWATER AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER. COST OF DEWATERING CONSTRUCTION WORK AREAS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION. CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER.
43. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL STRUCTURES, UNDERGROUND PIPELINES, ELECTRICAL AND TELEPHONE CONDUITS, EITHER SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY CONSTRUCTION, AND TO OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO THESE FACILITIES. THE ENGINEER WILL NOT GUARANTEE ANY ELEVATIONS OR LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS.
44. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VERIFY ALL QUANTITIES, INCLUDING EXCAVATION, BORROW, EMBANKMENT, SHRINK OR SWELL, GROUND COMPACTION, HAUL, AND ANY OTHER ITEMS NEEDED TO COMPLETE THESE PLANS. ANY ADDITIONAL WORK REQUIRED TO COMPLETE THE PLANS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND AT NO ADDITIONAL COST TO THE OWNER. IT SHALL BE THE BIDDERS RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION OF ANY MAJOR DISCREPANCIES BETWEEN HIS ESTIMATED QUANTITIES AND FIELD CONDITIONS.
45. ALL FILL SHALL BE PLACED, COMPACTED, AND FILL SITES PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SOIL INVESTIGATION REPORT. CONTROL OF MOISTURE AND TYPE OF COMPACTION EQUIPMENT USED IS OPTIONAL WITH THE CONTRACTOR.
46. DUST SHALL BE CONTROLLED BY WATERING. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.
47. ALL WORK AND MATERIALS, WHICH DO NOT CONFORM TO THESE PLANS AND SPECIFICATIONS, ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
48. ALL TEMPORARY WATER AND POWER FACILITIES SHALL BE REMOVED PRIOR TO FINAL ACCEPTANCE BY THE MPWA.
49. ANY QUESTIONS RAISED RELATIVE TO THE ACCURACY OF IMPROVEMENT INSTALLATION SHALL BE RAISED PRIOR TO THE COMMENCEMENT OF THE WORK IN QUESTION.
50. CONTRACTOR SHALL COORDINATE WITH THE CITY OF MOORE BEFORE PURCHASING FIRE HYDRANTS TO DETERMINE THE FOLLOWING:
    - A. HOSE NOZZLE THREADING
    - B. PUMPER NOZZLE & THREADING
    - C. OPERATING NUT SIZE AND SHAPE
    - D. DIRECTION OF OPENING
    - E. COLOR & TYPE OF PAINT TO BE APPLIED
51. CONTRACTOR SHALL MATCH AND PROVIDE THE SAME YARD HYDRANTS INSTALLED AROUND THE SOUTH HOLDING POND ON THE NON POTABLE LINE.
52. CONTRACTOR SHALL SUBMIT A FIBER OPTIC LAYING PLAN AND SEQUENCE FOR ENGINEERS APPROVAL PRIOR TO STARTING THIS WORK. LAYING PLAN SHALL SHOW LAYING DEPTH THROUGHOUT THE ENTIRE PROJECT SITE. CONTRACTOR SHALL PREPARE AS-BUILT FIBER OPTIC LAYOUT PLAN AND SUBMIT TO ENGINEER PRIOR TO FINAL PAYMENT ON THE PROJECT.
53. DEBRIS ENCOUNTERED AT THE CONSTRUCTION SITE DURING EXCAVATION FOR STRUCTURES, LINES, AND OTHER CONSTRUCTION SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH STATE ENVIRONMENTAL REGULATIONS. DEBRIS REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO ADDITIONAL MONEY WILL BE ALLOWED FOR DEBRIS REMOVAL AND DISPOSAL UNDER ANY CIRCUMSTANCES.
54. CONTRACTOR SHALL INSTALL WALL SLEEVES AT EACH AND EVERY WALL PENETRATION WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS. COST FOR THIS WORK SHALL BE INCLUDED IN THE BID AND WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.

RECORD DRAWINGS

D DRAWINGS

OKLAHOMA REGISTERED PROFESSIONAL ENGINEER — DEVAN VASHARATHY 11466 — 5-17-10

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/17/10	NO SCALE	13 OF 52

REVISIONS:	DATE:

GENERAL NOTES

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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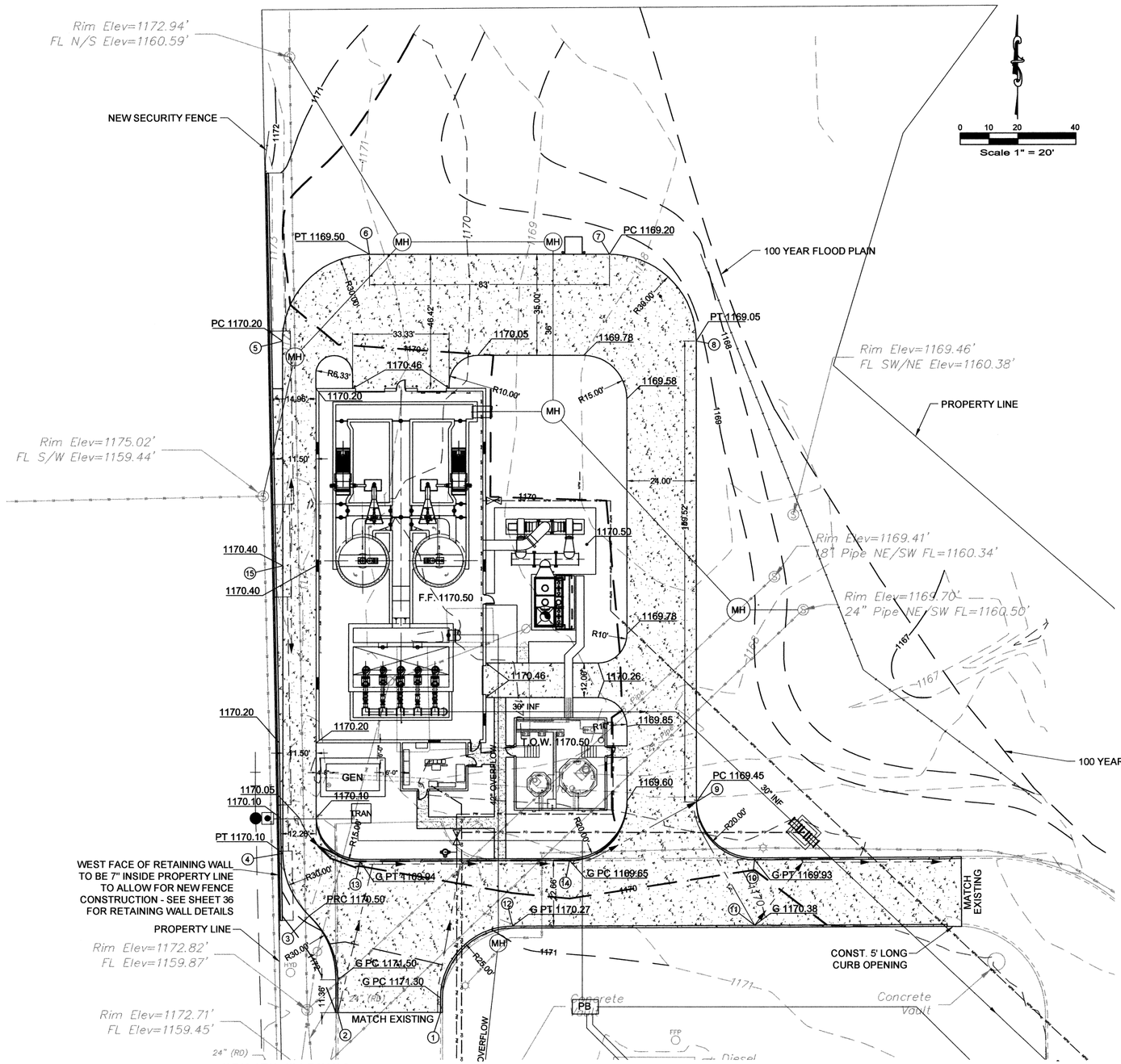

PAVING POINTS NEAR HEADWORKS BUILDING				
#	DESCRIPTION	NORTHING	EASTING	ELEV.
1	POT GUTTER	715792.11	2121911.19	Existing
2	POT GUTTER	715792.08	2121875.60	Existing
3	PRC END GUTTER	715825.63	2121865.80	1170.50
4	PT	715847.17	2121856.68	1170.10
5	PC	716024.53	2121856.68	1170.20
6	PT	716054.53	2121886.68	1169.50
7	PC	716054.53	2121969.69	1169.20
8	PT	716024.53	2121999.69	1169.05
9	PC BEGIN GUTTER	715865.02	2121999.69	1169.45
10	PT GUTTER	715845.02	2122019.77	1169.93
11	POT GUTTER	715822.36	2122019.86	1170.38
12	PC GUTTER	715822.02	2121936.10	1170.27
13	PT GUTTER	715844.47	2121883.24	1169.94
14	PC GUTTER	715844.76	2121955.77	1169.65
15	POT - HIGH POINT	715946.78	2121856.68	1170.40

LEGEND

- PROPOSED STRUCTURES
- EXISTING STRUCTURES
- 1195 — PROPOSED CONTOUR - MAJOR
- 1192 — PROPOSED CONTOUR - MINOR
- 1195 — EXISTING CONTOUR - MAJOR
- 1192 — EXISTING CONTOUR - MINOR
- 100-YR. FLOOD PLAIN
- (S) EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER LINE
- (MH) PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER LINE
- PROPOSED PAVING
- PROPOSED SIDEWALK
- 1170.15 PROPOSED PAVING ELEVATIONS
- PROPOSED DRAINAGE PATH

PAVING NOTES:

After site stripping and completing any required cuts, but before placing any fill, the exposed subgrade shall be proofrolled under the observation of the Soils Engineering personnel with a loaded, tandem-axle dump truck weighing at least 25 tons to locate any zones that are soft or unstable. The proofrolling should involve overlapping passes in mutually perpendicular directions. Where rutting or pumping is observed during proofrolling, the unstable soils should be overexcavated and replaced with an approved fill as described below if it cannot be adequately compacted in-place.

After proofrolling and correcting any unstable subgrade, the exposed subgrade in areas to receive fill should be scarified to a depth of 8 inches. The moisture content of the scarified soils should be adjusted to its optimum value or above and be compacted to at least 95 percent of its maximum dry density as determined by the standard Proctor test method (ASTM D-698).

All fill materials required to develop final grade lines in the pavement areas should consist of approved cohesive materials with a plasticity index between 5 and 25 that are free of organic matter and debris. The fill should be placed and compacted as outlined in the "Floor Slab Subgrade" section of the Soils Engineer's report dated February 11, 2009.

The top 8 inches of the subgrade shall be stabilized with Class "C" fly ash or cement kiln dust. Based on past experience with soils similar to those present at the site, we estimate 10 to 14 percent Class "C" fly ash or cement kiln dust will be needed to adequately stabilize on-site soils. The actual percentage of additive should be determined at the time of construction by the engineer. Before compaction, the treated soil zone should be adjusted to within 2 percent of the material's optimum moisture as determined by the standard Proctor test method (ASTM D-698). After conditioning the soil to the required moisture content, the treated subgrade should be compacted to at least 98 percent of the material's maximum dry density as determined by the standard Proctor test method (ASTM D-698).

MINIMUM PAVEMENT RECOMMENDATIONS *
Portland Cement Concrete

(4,000 psi, Air Entrained) 6.0" Concrete

8.0" Stabilized Subgrade
* All materials should meet the ODOT Standard Specifications for Highway Construction.

RECORD DRAWINGS

UTILITY WARNING

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S HAS THE RESPONSIBILITY TO VERIFY AND LOCATE ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK.

NOTES:

1. ELEVATIONS SHOWN ARE PAVING OR GUTTER ELEVATIONS.
2. A 10' LONG CURB TRANSITION FROM 6" TO 0" HIGH SHALL BE CONSTRUCTED AT ALL END OF CURBS.

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/27/2010	AS NOTED	14 OF 52

REVISIONS:	DATE:

HEADWORKS
GRADING PLAN

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
SATISH DASHARATHY
11456
5-17-2010
OKLAHOMA

BEFORE YOU DIG...
CALL OKIE
1-800-522-6543

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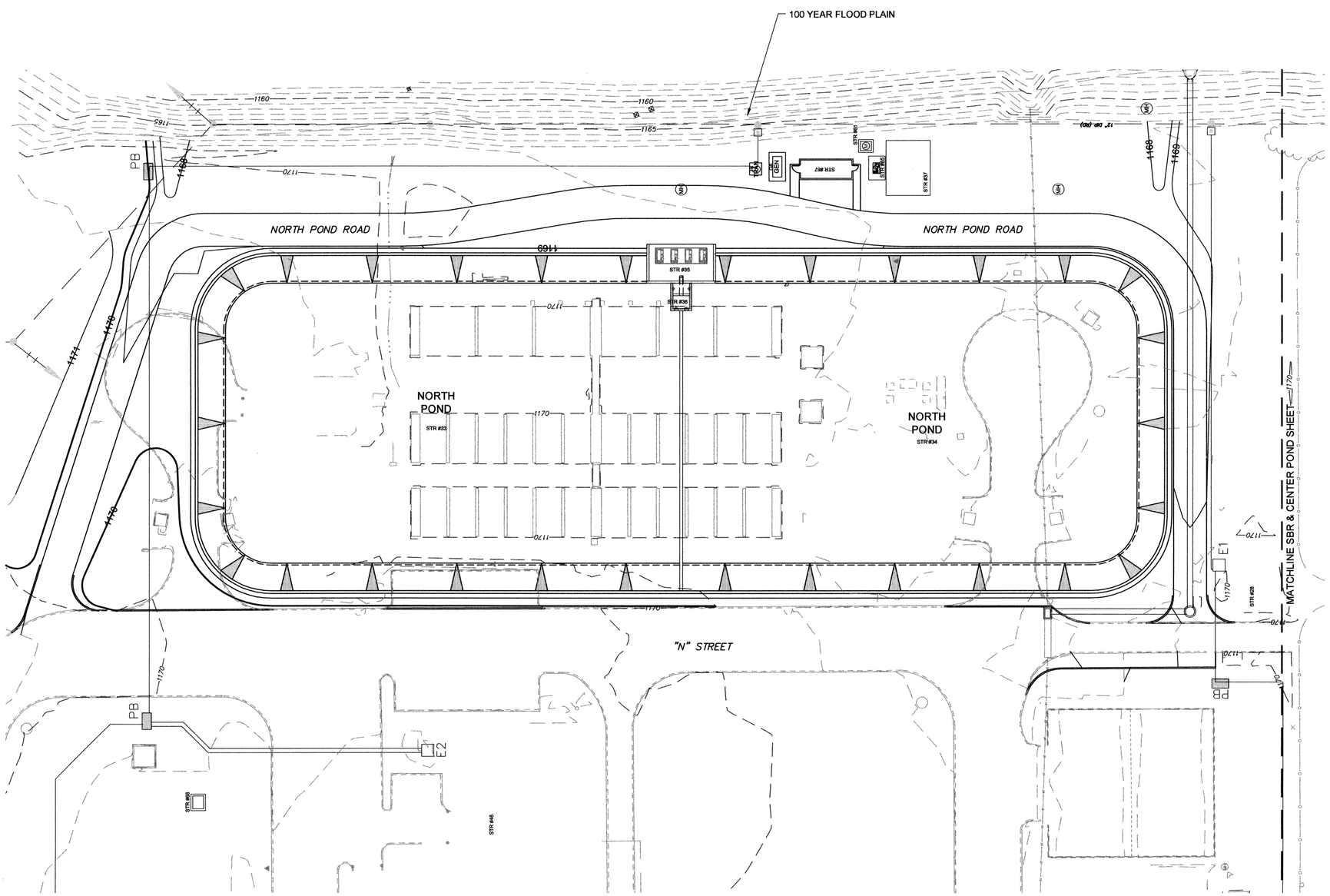
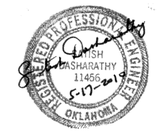


RECORD DRAWINGS



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S.D.		S.D.	S.D.	6/8/2010	AS NOTED	15 OF 52

REVISIONS:	DATE:

NORTH POND SITE GRADING PLAN

EAGLE OFFICE CENTER
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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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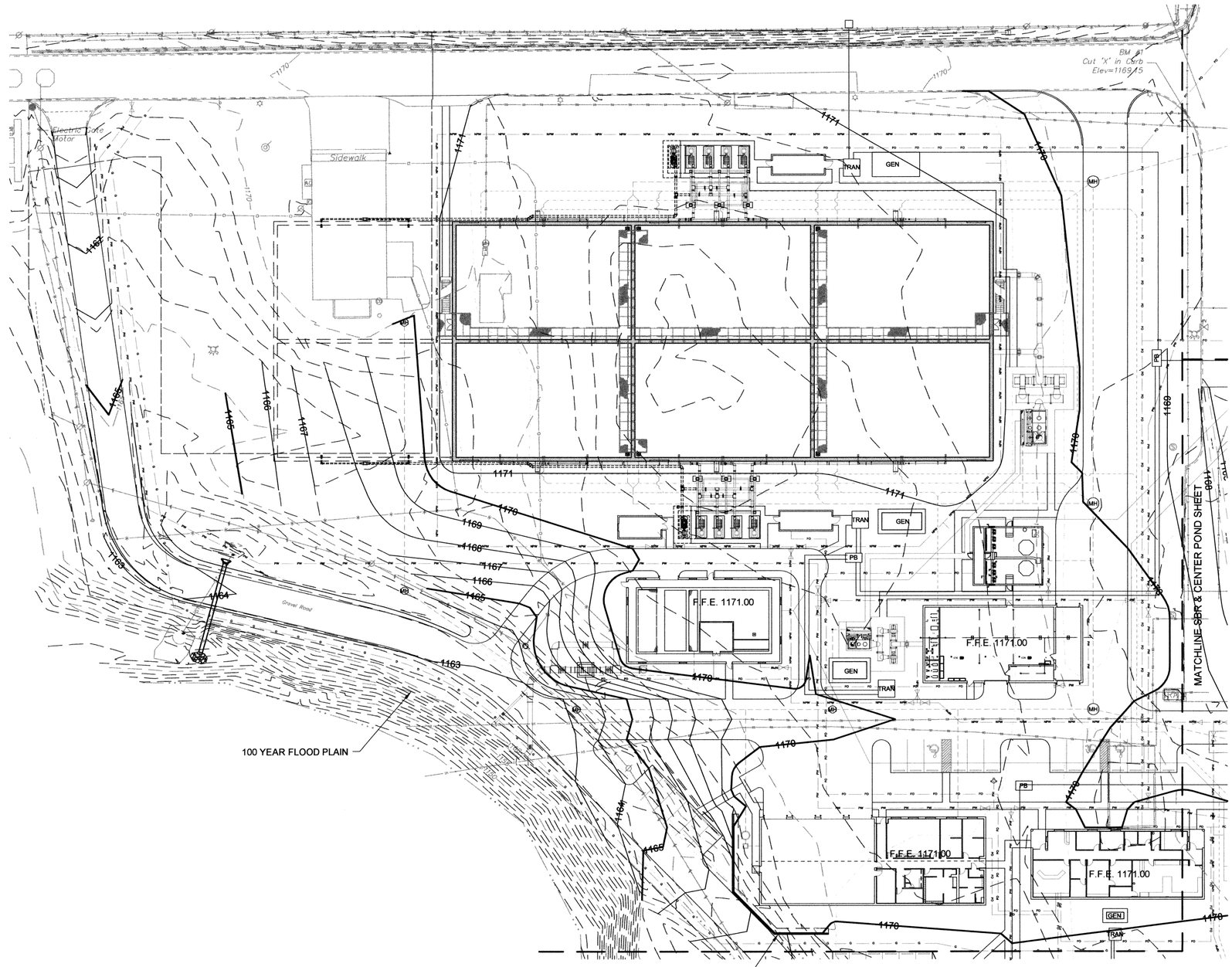

0 15 30 60

Scale 1" = 30'

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER
SHARATHY
11466
5-17-2010
OKLAHOMA

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	6/9/2010	AS NOTED	16 OF 52

REVISIONS:	DATE:

WEST PLANT AREA
SITE GRADING PLAN

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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MATCHLINE NORTH POND SHEET

MATCHLINE WEST PLANT SHEET

MATCHLINE WEST PLANT SHEET

100 YEAR FLOOD PLAIN

0 15 30 60

Scale 1" = 30'

RECORD DRAWINGS

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	6/9/2010	AS NOTED	17 OF 52

REVISIONS:	DATE:

SBR & CENTER POND GRADING PLAN

EAGLE OFFICE CENTER
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EDMOND, OK. 73013
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FAX. (405) 844-3600

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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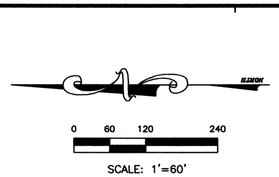

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PAGE 387

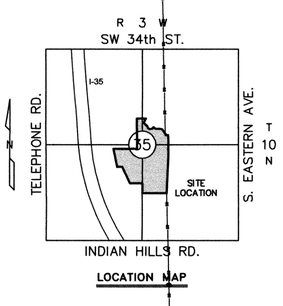
BOOK 2594
PAGE 744

BOOK 1919
PAGE 605

BOOK 2071
PAGE 534

BOOK 287
PAGE 139

BOOK 3126
PAGE 9



LOCATION MAP

EXISTING FACILITES

1) WET WELL
2) LIFT STATION
3) PRE-AERATION BUILDING
4) PRIMARY CLARIFIER NUMBER 1
5) PRIMARY CLARIFIER NUMBER 2
6) PRIMARY PUMP STATION
7) MAIN CONTROL BUILDING
8) BIO-DISC. AREA
9) SECONDARY CLARIFIER NUMBER 1
10) SECONDARY CLARIFIER NUMBER 2
11) SECONDARY CLARIFIER NUMBER 3
12) SLUDGE CAKE STORAGE
13) CHLORINE BUILDING
14) STORM HOLDING POND NUMBER 1
15) STORM HOLDING POND NUMBER 2
16) STORM HOLDING POND
17) EFFLUENT PUMP STATION
18) CHLORINE CONTACT BASIN & EFFLUENT PUMP STATION
19) EFFLUENT FILTER
20) BLOWER BUILDING

RECORD DRAWINGS

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	1/2/2010	1"=100'	18 OF 52

DEMOLITION SITE PLAN

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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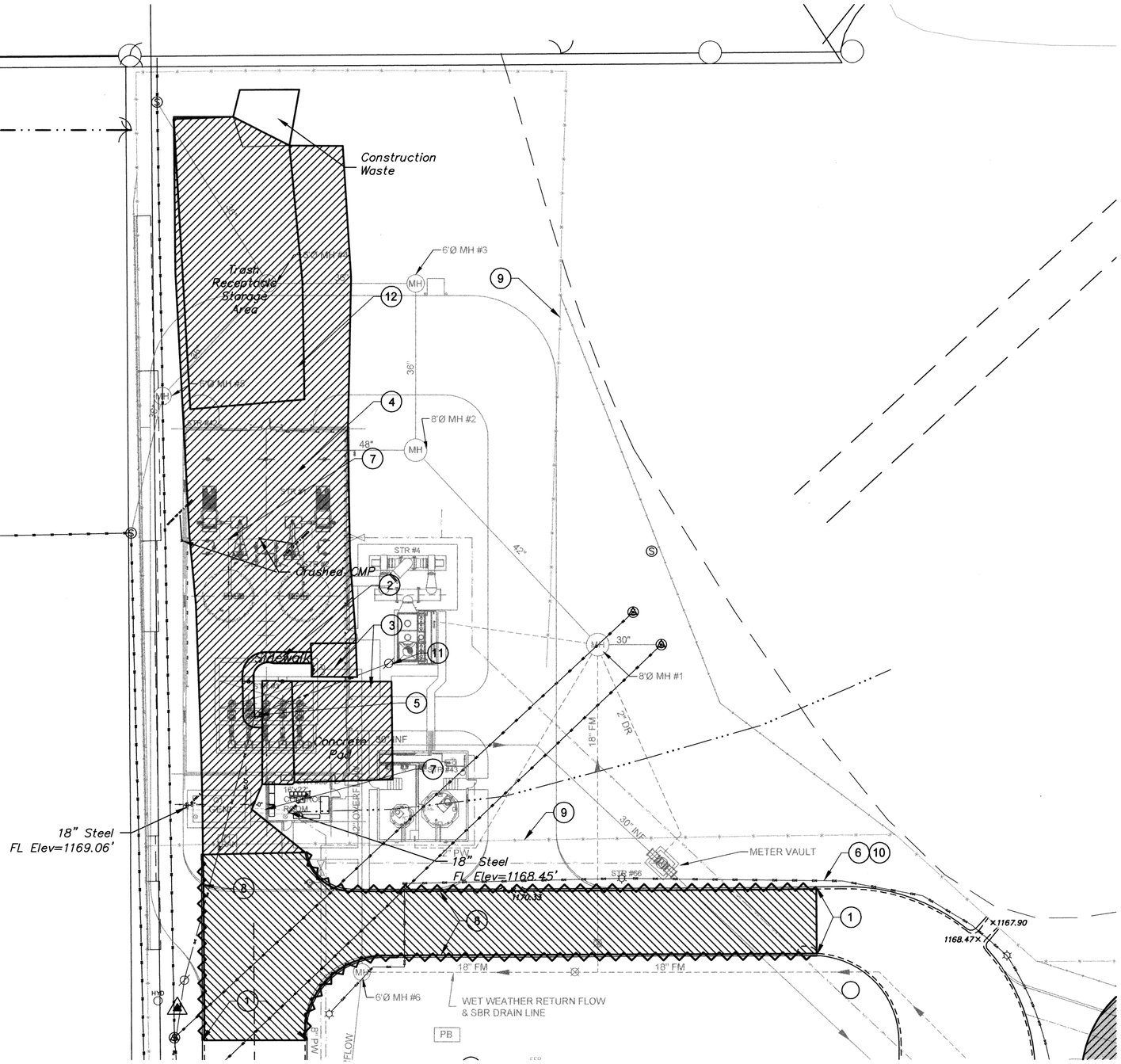

0 10 20 40

SCALE: 1"=20'

NOTES:
1. SAW CUT EXISTING CURB AND PAVEMENT.
2. REMOVE EXISTING SIDEWALK.
3. DEMOLISH AND REMOVE EXISTING CONCRETE PAD TO 12 INCHES BELOW PROPOSED FINISHED GRADE. BACK FILL AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
4. REMOVE EXISTING GRAVEL TO 12 INCHES BELOW PROPOSED FINISHED GRADE. BACK FILL AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
5. RELOCATE EXISTING ELECTRIC POLE AND OVERHEAD LINE TO PROPOSED LOCATION.
6. EXISTING UNDERGROUND ELECTRIC POWER LINES TO REMAIN.
7. REMOVE EXISTING STORM DRAINAGE PIPING AND STRUCTURES.
8. REMOVE EXISTING CURB AND GUTTER.
9. REMOVE AND STORE EXISTING FENCE.
10. EXISTING UTILITY TO REMAIN IN SERVICE AT ALL TIMES UNLESS OTHERWISE NOTED.
11. REMOVE EXISTING LIGHT POLES AND ACCOMPANYING OVERHEAD ELECTRIC LINES.
12. REMOVE TRASH RECEPTACLES AND RETURN TO THE CITY OF MOORE.

BEFORE YOU DIG.. CALL OKIE 1-800-522-8543

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — JAMES D. DASHARATHY 11456 — OKLAHOMA — 5-17-10

REVISIONS:	DATE:

DEMOLITION PLAN 1

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/25/2010	AS SHOWN	19 OF 52

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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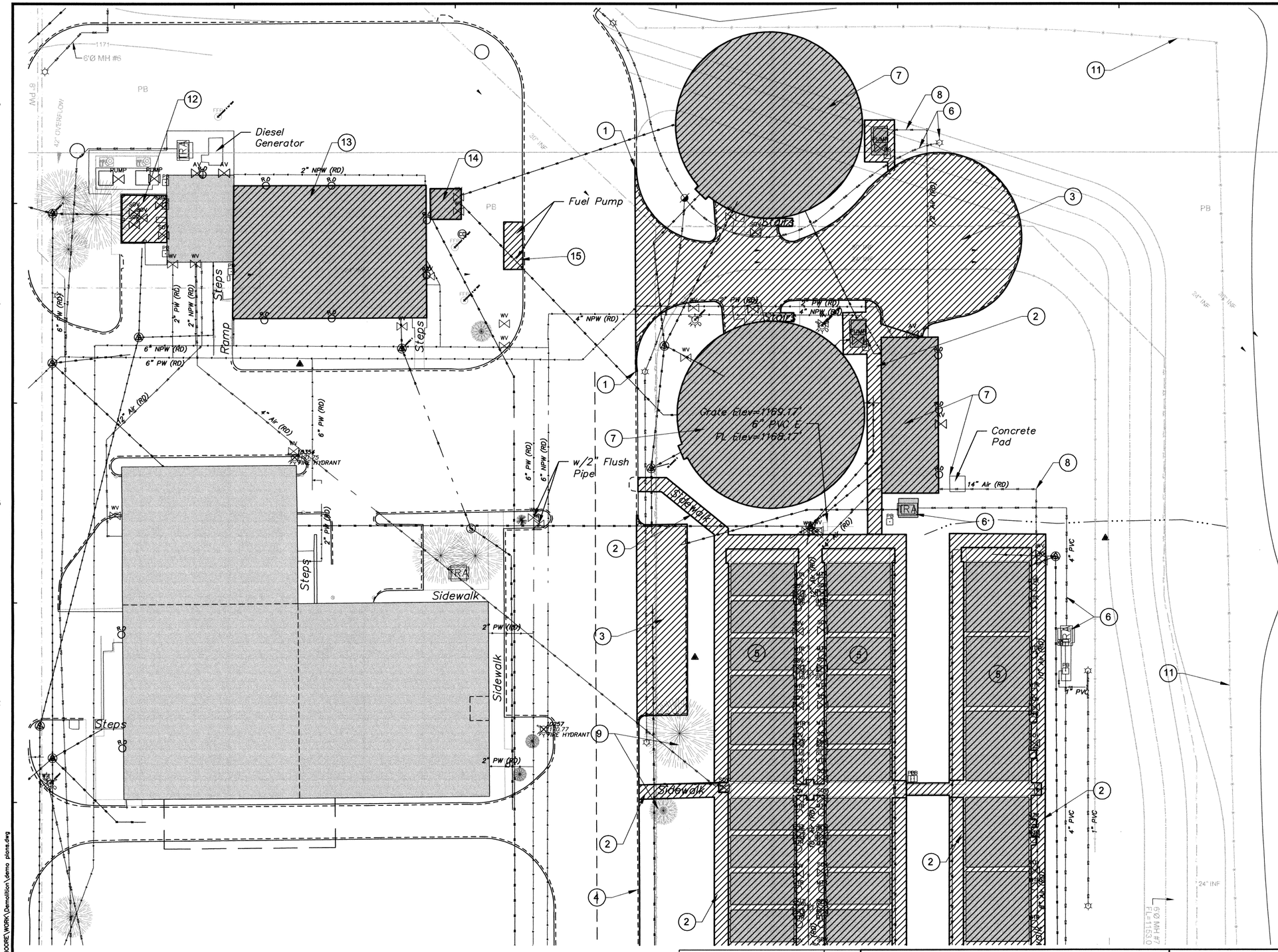

CALL OKIE 1-800-522-8543

NOTES:

1. SAW CUT EXISTING CURB AND PAVEMENT.
2. REMOVE EXISTING SIDEWALK.
3. REMOVE EXISTING PAVEMENT AND CURB.
4. EXISTING CURB AND GUTTER TO REMAIN.
5. REMOVE RBC MOTORS AND DRIVES, HUTS, COVERS, DISK MEDIA, SHAFTS AND APPURTENANCES. REMOVE CONCRETE STRUCTURE TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
6. REMOVE EXISTING UNDERGROUND ELECTRIC POWER LINES, TRANSFORMERS, LIGHT POLES AND PULL BOXES.
7. REMOVE EXISTING STRUCTURES AND ACCOMPANYING EQUIPMENT AND PIPING. REMOVE FOUNDATIONS TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS. ANY BELOW GRADE PIPING NOT REMOVED WILL BE FILLED WITH LEAN CONCRETE.
8. REMOVE EXISTING AIR PIPING.
9. REMOVE TREES.
10. EXISTING UTILITY TO REMAIN IN SERVICE AT ALL TIMES UNLESS OTHERWISE NOTED.
11. REMOVE, STORE, AND REINSTALL FENCE.
12. REMOVE ALL PIPING AND MECHANICAL EQUIPMENT FROM THE WET WELL AT THE EXISTING PRIMARY LIFT STATION. REMOVE OLD ODOR CONTROL EQUIPMENT.
13. DEMOLISH AND REMOVE THE PRE-AERATION BUILDING AND ALL ACCOMPANYING PIPING AND MECHANCIAL EQUIPMENT. REMOVE CONCRETE STRUCTURE TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS. ANY BELOW GRADE PIPING SHALL BE REMOVED OR FILLED WITH LEAN CONCRETE.
14. REMOVE EXISTING JUNCTION BOX TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS. ANY BELOW GRADE PIPING SHALL BE REMOVED OR FILLED WITH LEAN CONCRETE.
15. REMOVE THE EXISTING FUEL ISLAND, PUMPS, PIPING, AND TANKS.

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — SATISH DASHARATHY 11456 — 5-17-2010 — OKLAHOMA

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	1/1/2010	AS SHOWN	20 OF 52

DEMOLITION PLAN 2

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FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

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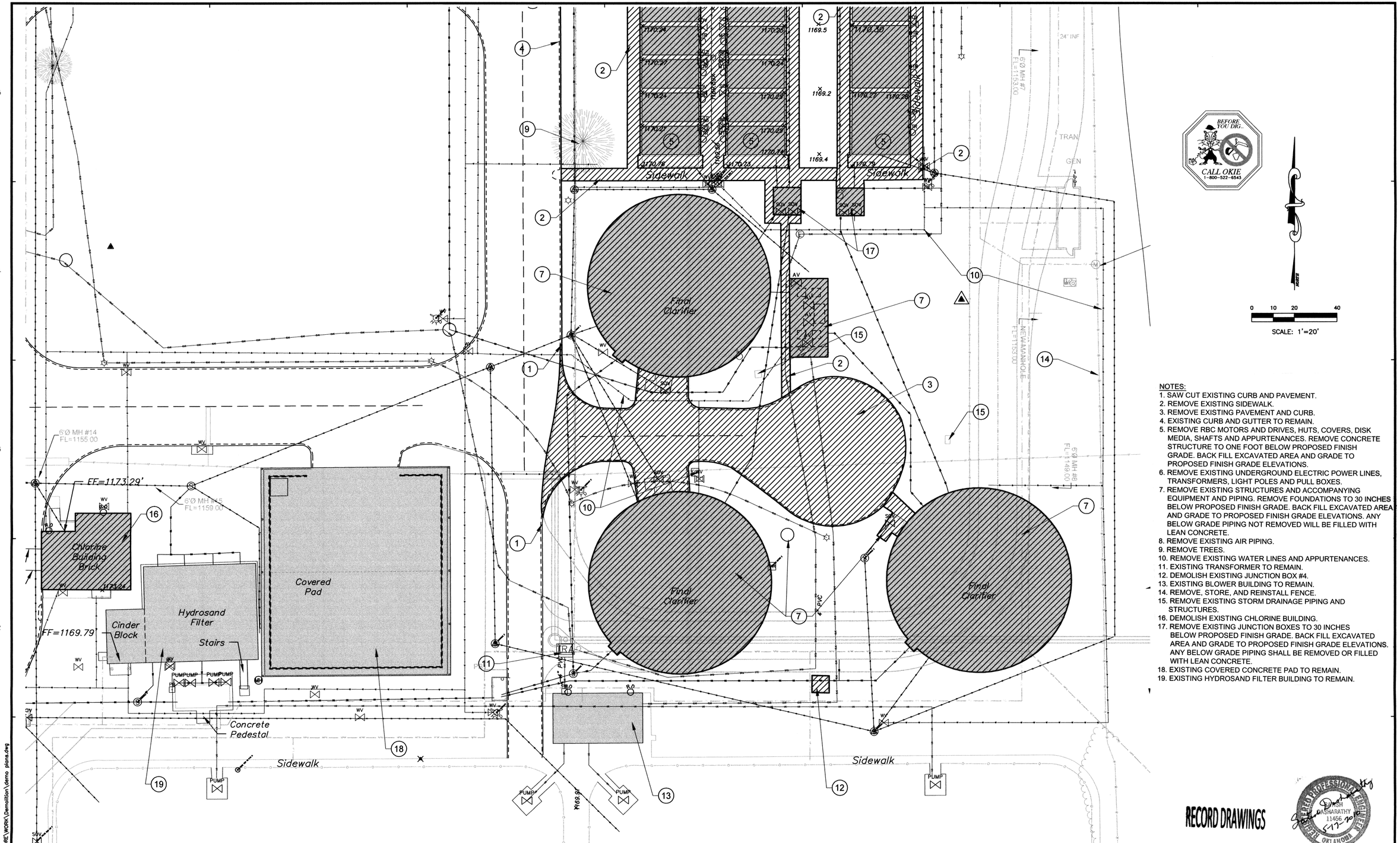
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK



NOTES:
1. SAW CUT EXISTING CURB AND PAVEMENT.
2. REMOVE EXISTING SIDEWALK.
3. REMOVE EXISTING PAVEMENT AND CURB.
4. EXISTING CURB AND GUTTER TO REMAIN.
5. REMOVE RBC MOTORS AND DRIVES, HUTS, COVERS, DISK MEDIA, SHAFTS AND APPURTENANCES. REMOVE CONCRETE STRUCTURE TO ONE FOOT BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
6. REMOVE EXISTING UNDERGROUND ELECTRIC POWER LINES, TRANSFORMERS, LIGHT POLES AND PULL BOXES.
7. REMOVE EXISTING STRUCTURES AND ACCOMPANYING EQUIPMENT AND PIPING. REMOVE FOUNDATIONS TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS. ANY BELOW GRADE PIPING NOT REMOVED WILL BE FILLED WITH LEAN CONCRETE.
8. REMOVE EXISTING AIR PIPING.
9. REMOVE TREES.
10. REMOVE EXISTING WATER LINES AND APPURTENANCES.
11. EXISTING TRANSFORMER TO REMAIN.
12. DEMOLISH EXISTING JUNCTION BOX #4.
13. EXISTING BLOWER BUILDING TO REMAIN.
14. REMOVE, STORE, AND REINSTALL FENCE.
15. REMOVE EXISTING STORM DRAINAGE PIPING AND STRUCTURES.
16. DEMOLISH EXISTING CHLORINE BUILDING.
17. REMOVE EXISTING JUNCTION BOXES TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS. ANY BELOW GRADE PIPING SHALL BE REMOVED OR FILLED WITH LEAN CONCRETE.
18. EXISTING COVERED CONCRETE PAD TO REMAIN.
19. EXISTING HYDROSAND FILTER BUILDING TO REMAIN.

RECORD DRAWINGS

REVISIONS:	DATE:

DEMOLITION PLAN 3

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	7-15-2008	AS SHOWN	21 OF 52

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FAX. (405) 844-3600

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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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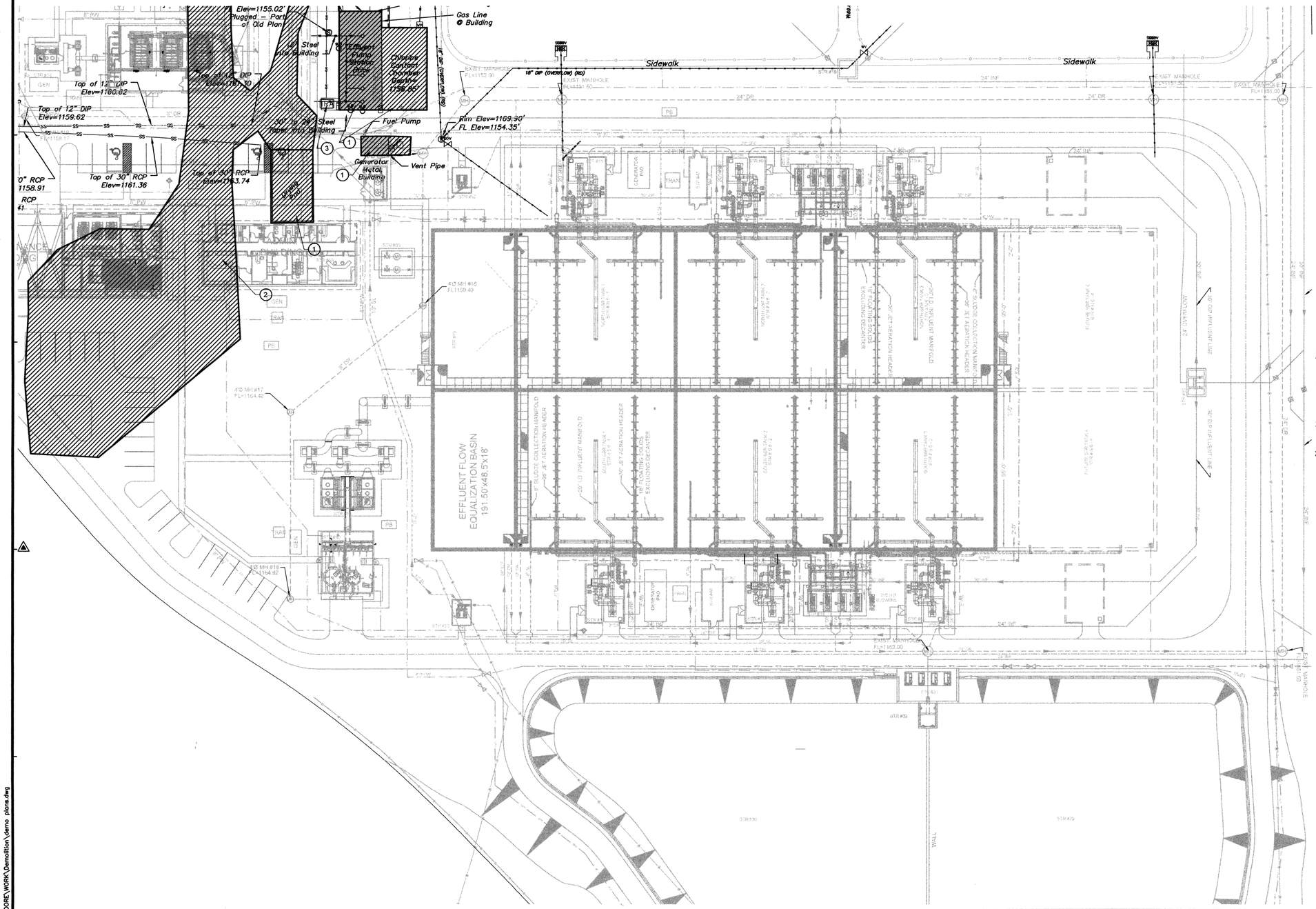

BEFORE YOU DIG.. CALL OKIE 1-800-522-6543

NOTES:
1. REMOVE EXISTING STRUCTURES, ACCOMPANYING EQUIPMENT, PIPING AND UTILITIES. REMOVE FOUNDATIONS TO 30 INCHES BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS. ANY BELOW GRADE PIPING NOT REMOVED WILL BE FILLED WITH LEAN CONCRETE.
2. REMOVE EXISTING GRAVEL TO ONE FOOT BELOW PROPOSED FINISHED GRADE. BACKFILL AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
3. REMOVE EXISTING TRANSFORMER.

RECORD DRAWINGS

SURESH DASHARATHY 11466 OKLAHOMA 11-7-2010

REVISIONS:	DATE:

DEMOLITION PLAN 4

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	1/1/2010	AS SHOWN	22 OF 52

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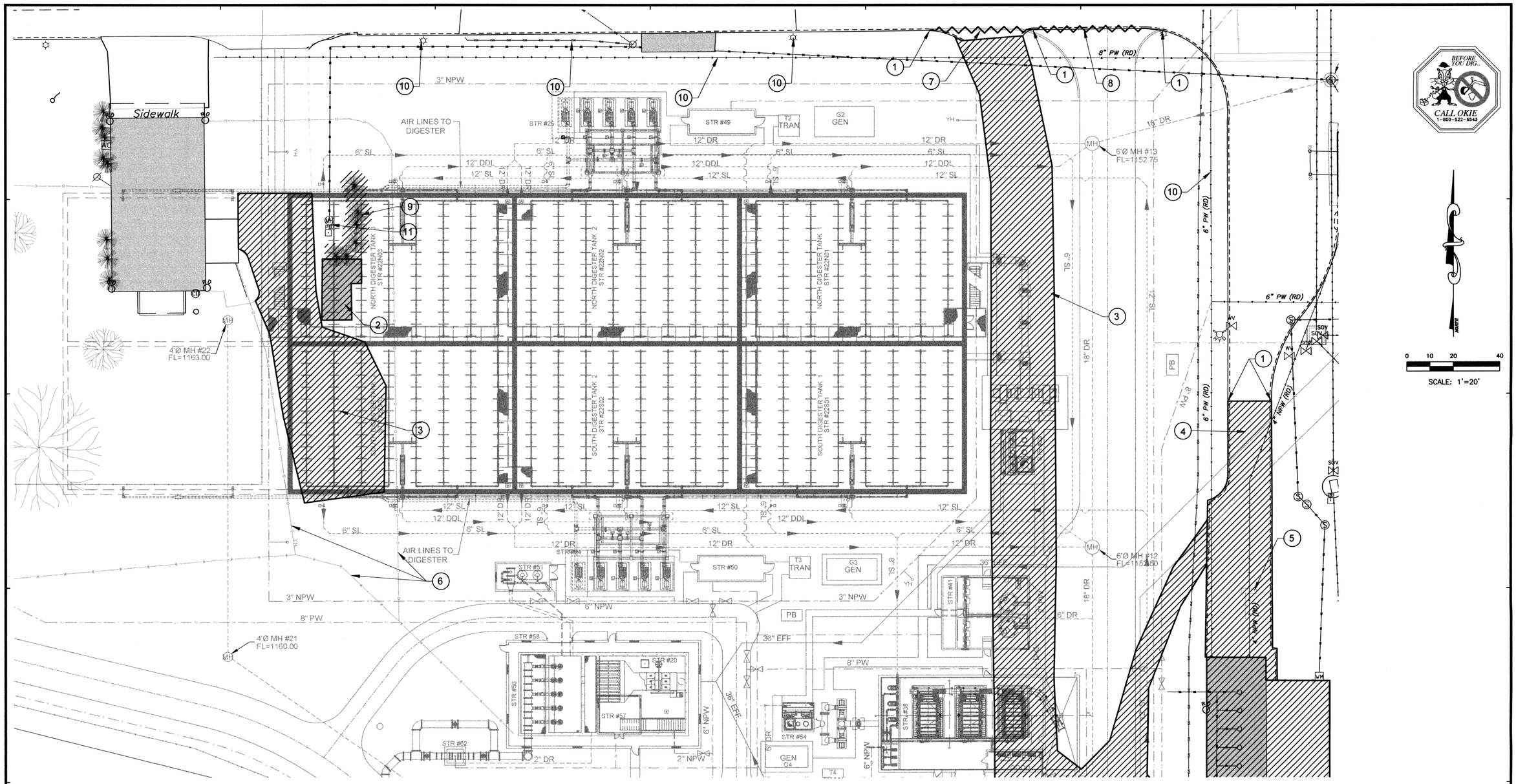
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK



NOTES:
1. SAW CUT EXISTING CURB AND PAVEMENT.
2. REMOVE EXISTING STRUCTURES, UTILITIES, AND FOUNDATIONS TO ONE FOOT BELOW PROPOSED FINISH GRADE. BACK FILL EXCAVATED AREA AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
3. REMOVE EXISTING GRAVEL TO ONE FOOT BELOW PROPOSED FINISHED GRADE. BACKFILL AND GRADE TO PROPOSED FINISH GRADE ELEVATIONS.
4. REMOVE EXISTING PAVEMENT AND CURB.
5. REMOVE EXISTING STORM DRAINAGE PIPING AND STRUCTURES.
6. REMOVE AND STORE FENCE.
7. INSTALL NEW CURB AND GUTTER.
8. REMOVE EXISTING CURB AND GUTTER.
9. REMOVE TREES AND VEGETATION.
10. EXISTING UTILITY TO REMAIN IN SERVICE AT ALL TIMES UNLESS OTHERWISE NOTED.
11. REMOVE EXISTING LIFT STATION & APPURTENANCES.

RECORD DRAWINGS

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/26/2010	AS SHOWN	23 OF 52

DEMOLITION PLAN 5

EAGLE OFFICE CENTER
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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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BUILDING COORDINATES - OUTSIDE CORNER OF CMU WALLS					
BUILDING/STRUCTURE	STR #	NE CORNER		SW CORNER	
		X (E)	Y (N)	X (E)	Y (N)
HEADWORKS		2,121,926.8461	716,008.1156	2,121,868.1794	715,885.4489
CONTROL ROOM	59	2,121,920.6807	715,885.4489	2,121,897.3474	715,868.7809
CHEMICAL FEED BLDG	43	2,121,968.6871	715,894.0948	2,121,936.6872	715,862.0950
METER VAULT (BASE SLAB N&S CORNERS)	66	2,122,036.2521	715,861.8818	2,122,037.3761	715,847.0583
METER VAULT (BASE SLAB CORNERS)	68	2,122,068.4487	715,721.2038	2,122,057.4487	715,711.2038
NORTH POND - NW RADIUS POINT		2,122,218.4399	715,676.2433		
NORTH POND - NE RADIUS POINT		2,122,321.0681	715,676.2433		

BEFORE YOU DIG.. CALL OKIE 1-800-522-6543

0 15 30 60
Scale 1" = 30'

PROPOSED SECURITY FENCE

PROPERTY LINE

HEADWORKS BUILDING

STR #1

STR #2

STR #3

STR #4

STR #59

G1 GEN

CONTROL ROOM

CHEMICAL FEED BLDG.

HEADWORKS DRIVE

STR #66

AVE. 'D'

PB

STR #64

STR #5 Pump Station Concrete

FF=1172.90'

STR #68

'M' STREET

'N' STREET

AVE. 'C'

FF=1171.22'

Sludge Concrete

FF=1171.36'

Tanks Inside Metal Fence

Sidewalk

Truck

STR #46

PROPERTY LINE

PROPOSED SECURITY FENCE

R25'

R25'

NORTH POND

NORTH POND ROAD

STR #53

PROPOSED SECURITY FENCE

— — — — LONGITUDINAL JOINT
——— CONTRACTION JOINT
——— THICKENDED EDGE ISOLATION JOINT

NOTE: ISOLATION JOINT TO BE PLACED AT ALL LOCATIONS WHERE PAVEMENT ABUTS STRUCTURES.

R 3 W
SW 34th ST.
I-35
TELEPHONE RD.
S. EASTERN AVE.
T 10 N
35
1
2
3
4
SITE LOCATION
INDIAN HILLS RD.

LOCATION MAP

RECORD DRAWINGS

Joshua Dashrathy 11456 5-17-2010 OKLAHOMA

REVISIONS:	DATE:

BLDG. COORDINATES, FENCING AND PAVING JOINT LAYOUT
1 OF 4

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	4/5/2010	AS NOTED	24 OF 52

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CIVIL AND ENVIRONMENTAL ENGINEERS
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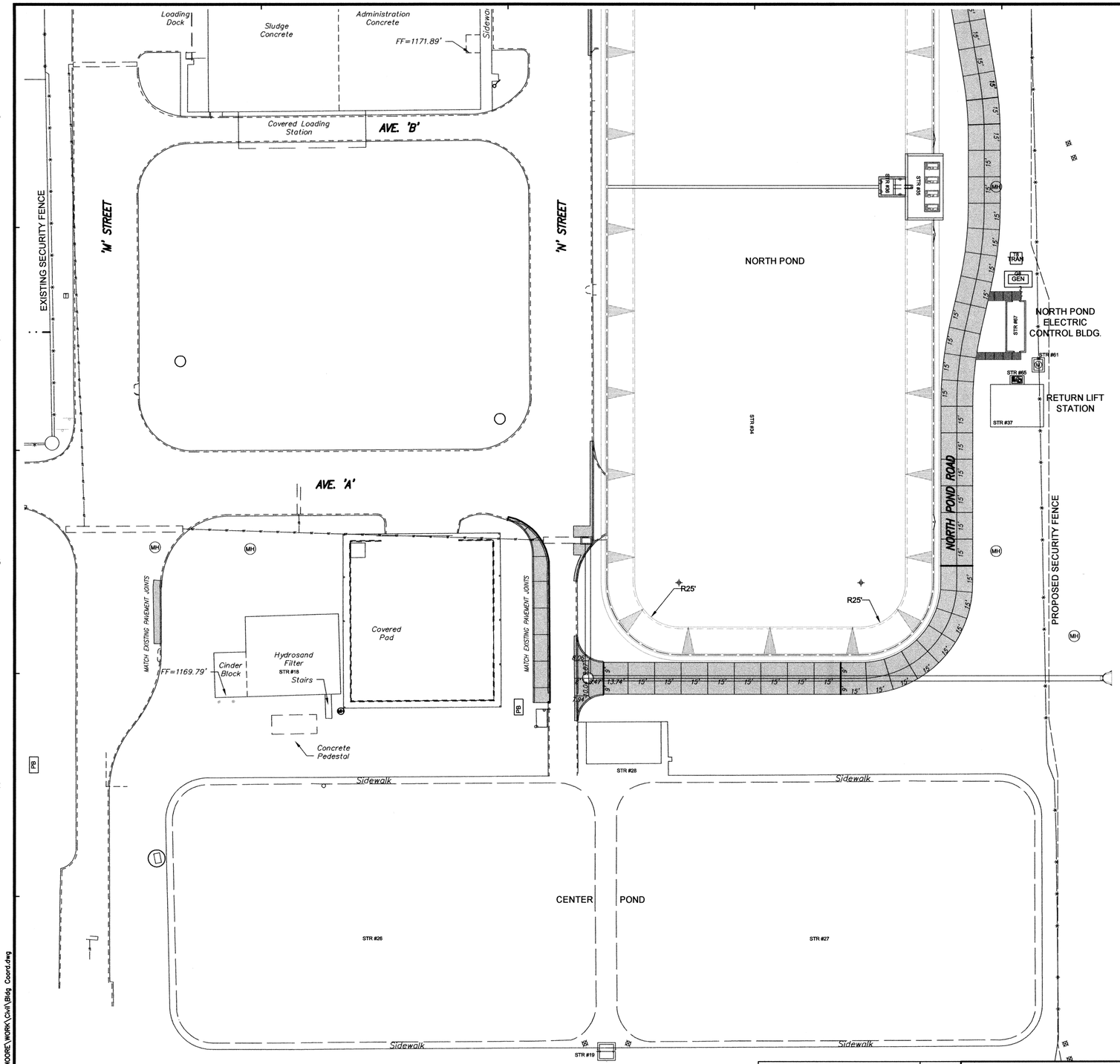
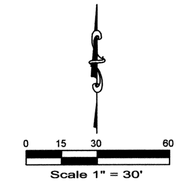
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Civil\Bldg Coord.dwg

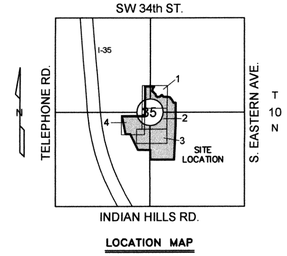
BUILDING COORDINATES - OUTSIDE CORNER OF CMU WALLS					
BUILDING/STRUCTURE	STR #	NE CORNER		SW CORNER	
		X (E)	Y (N)	X (E)	Y (N)
NORTH POND ELECTRIC CONTROL	67	2,122,413.9391	715,388.7220	2,122,402.6058	715,359.3879
RETURN LIFT STATION	37	2,122,424.0074	715,341.3607	2,122,394.0076	715,317.3639
NORTH POND - SE RADIUS POINT		2,122,321.0681	715,229.5572		
NORTH POND - SW RADIUS POINT		2,122,218.4411	715,229.5570		
NORTH POND CENTER WALL - WEST CENTER POINT		2,122,178.4383	715,452.8928		
NORTH POND CENTER WALL - EAST CENTER POINT		2,122,331.0703	715,452.8928		
CENTER POND SPLITTER BOX	19	2,122,182.5336	714,969.7276	2,122,172.5336	714,959.7276





LONGITUDINAL JOINT
CONTRACTION JOINT
THICKENDED EDGE ISOLATION JOINT

NOTE: ISOLATION JOINT TO BE PLACED AT ALL LOCATIONS WHERE PAVEMENT ABUTS STRUCTURES.



LOCATION MAP

RECORD DRAWINGS

REVISIONS:	DATE:

BLDG. COORDINATES, FENCING AND PAVING JOINT LAYOUT
2 OF 4

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	4/5/2010	AS NOTED	25 OF 52

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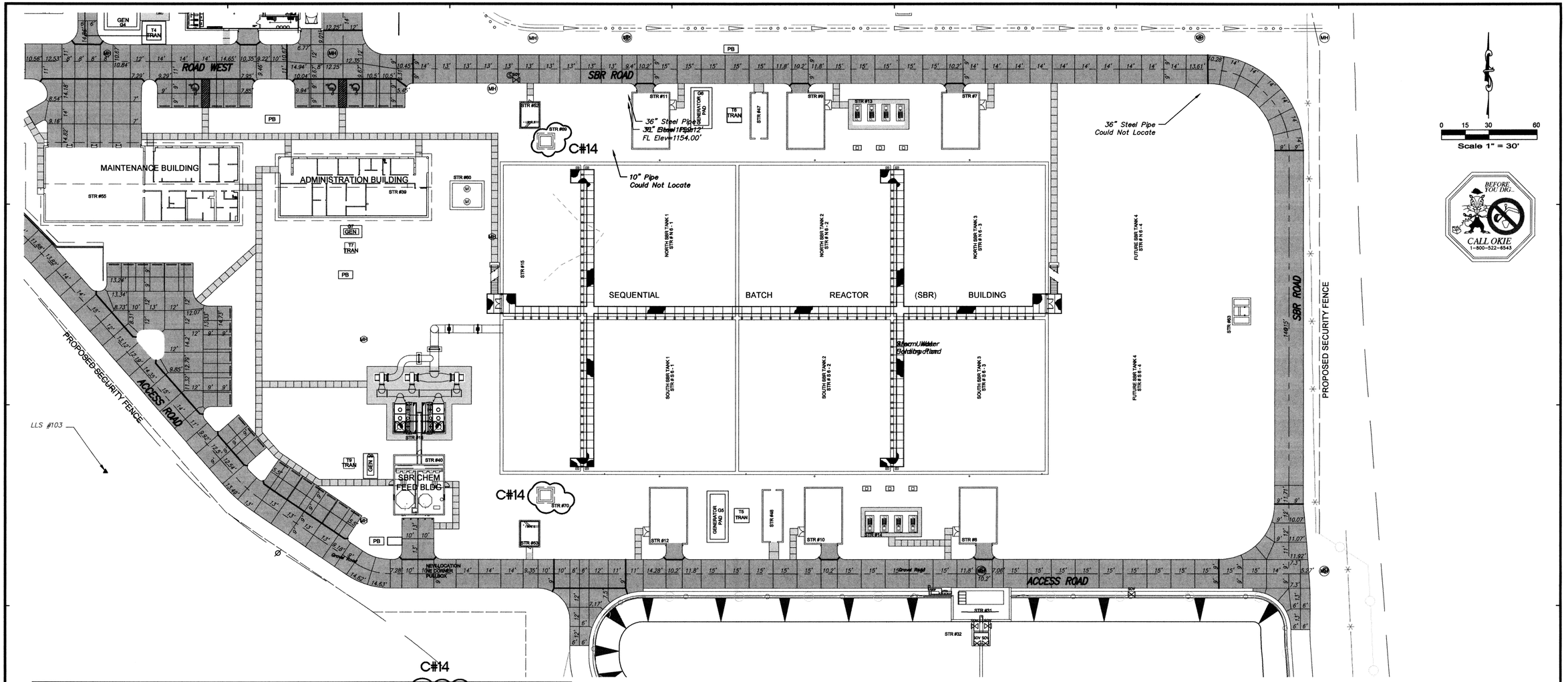
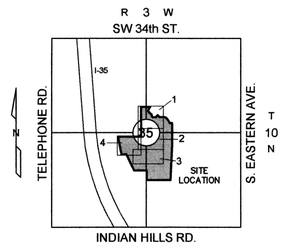


BUILDING COORDINATES - OUTSIDE CORNER OF CMU/CONCRETE WALLS

BUILDING/STRUCTURE	STR #	NE CORNER		SW CORNER	
		X (E)	Y (N)	X (E)	Y (N)
ADMINISTRATION (NNE & SW CORNERS)	39	2,121,871.993	714,870.605	2,121,785.993	714,832.605
- ADMINISTRATION (ENE CORNER)	39	2,121,879.993	714,860.605		
SBR (2.0' wide Upper Walls)	6	2,122,268.512	714,867.507	2,121,924.993	714,671.496
SBR CHEM FEED BLDG	40	2,121,890.326	714,683.767	2,121,858.326	714,645.767
SBR - NORTH ELECTRIC CONTROL	47	2,122,092.736	714,911.245	2,122,081.403	714,881.912
SBR - SOUTH ELECTRIC CONTROL	48	2,122,102.569	714,662.155	2,122,089.236	714,628.822
SBR - NORTHEAST PIPE VAULT	7	2,122,225.346	714,911.423	2,122,201.346	714,875.423
SBR - NORTH PIPE VAULT	9	2,122,128.346	714,911.423	2,122,104.346	714,875.423
SBR - NORTHWEST PIPE VAULT	11	2,122,031.346	714,911.423	2,122,007.346	714,875.423
SBR - SOUTHEAST PIPE VAULT	8	2,122,236.679	714,663.591	2,122,212.679	714,627.591
SBR - SOUTH PIPE VAULT	10	2,122,139.679	714,663.591	2,122,115.679	714,627.591
SBR - SOUTHWEST PIPE VAULT	12	2,122,042.679	714,663.591	2,122,018.679	714,627.591
SBR - FEB EFFLUENT BOX	60	2,121,914.993	714,855.507	2,121,893.493	714,837.507
NORTH WASTE SLUDGE PUMP STATION BASE	52	2,121,949.993	714,905.433	2,121,936.993	714,888.433
SOUTH WASTE SLUDGE PUMP STATION BASE	53	2,121,949.993	714,642.693	2,121,936.993	714,625.693
SBR SPLITTER BOX	63	2,122,395.192	714,782.427	2,122,383.692	714,765.427
NORTH SCUM WELL	69	2,121,957.993	714,884.507	2,121,948.993	714,876.507
SOUTH SCUM WELL	70	2,121,957.993	714,662.496	2,121,948.993	714,654.496

C#14

C#14



LOCATION MAP

LONGITUDINAL JOINT
CONTRACTION JOINT
THICKENDED EDGE ISOLATION JOINT

NOTE: ISOLATION JOINT TO BE PLACED AT ALL LOCATIONS WHERE PAVEMENT ABUTS STRUCTURES.

RECORD DRAWINGS

OKLAHOMA 8-26-14

REVISIONS:	DATE:
C#14 – CLARIFICATION NO. 14	6/3/2011

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	4/6/2010	AS NOTED	26 OF 52

BLDG. COORDINATES, FENCING AND PAVING JOINT LAYOUT
3 OF 4

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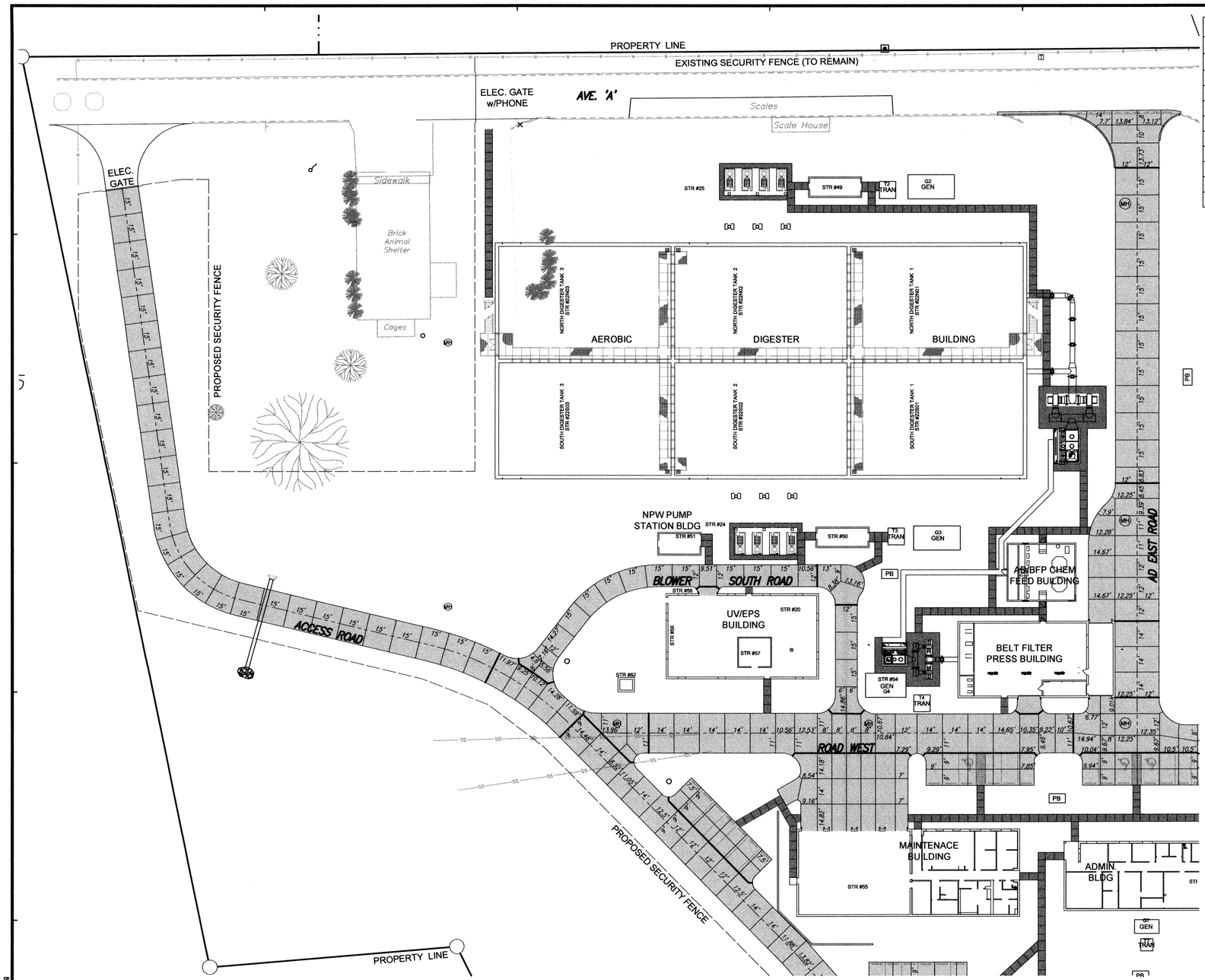
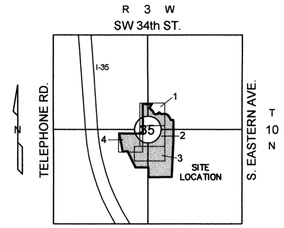


BUILDING COORDINATES - OUTSIDE CORNER OF CMU WALLS					
BUILDING/STRUCTURE	STR #	NE CORNER		SW CORNER	
		X (E)	Y (N)	X (E)	Y (N)
UV/EPS	58	2,121,650.8329	715,007.2711	2,121,566.8333	714,960.6046
NON-POTABLE WATER PUMP STATION	51	2,121,586.1071	715,041.0522	2,121,562.1071	715,028.3860
BELT FILTER PRESS (BFP)		2,121,814.1527	714,992.1180	2,121,727.4907	714,950.1177
AEROBIC DIGESTER (AD)		2,121,765.5292	715,200.4502	2,121,472.5144	715,070.4436
AD - NORTH ELECTRIC CONTROL	49	2,121,674.6444	715,236.9360	2,121,645.3103	715,225.6027
AD - SOUTH ELECTRIC CONTROL	50	2,121,678.6882	715,043.9461	2,121,649.3540	715,032.6128
AD/BFP CHEMICAL FEED	41	2,121,792.5895	715,034.9750	2,121,754.5896	715,002.9741
MAINTENANCE	21	2,121,761.4890	714,877.4380	2,121,638.8273	714,829.4399



LOCATION MAP

BEFORE YOU DIG
CALL OKIE
1-800-522-6543

0 15 30 60
Scale 1" = 30'

LONGITUDINAL JOINT
CONTRACTION JOINT
THICKENDED EDGE ISOLATION JOINT

NOTE: ISOLATION JOINT TO BE PLACED AT ALL LOCATIONS WHERE PAVEMENT ABUTS STRUCTURES.

RECORD DRAWINGS

OKLAHOMA REGISTERED PROFESSIONAL ENGINEER
DARSHATHY 11456 5-17-10

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	4/6/2010	AS NOTED	27 OF 52

REVISIONS:	DATE:

BLDG. COORDINATES, FENCING AND PAVING JOINT LAYOUT
4 OF 4

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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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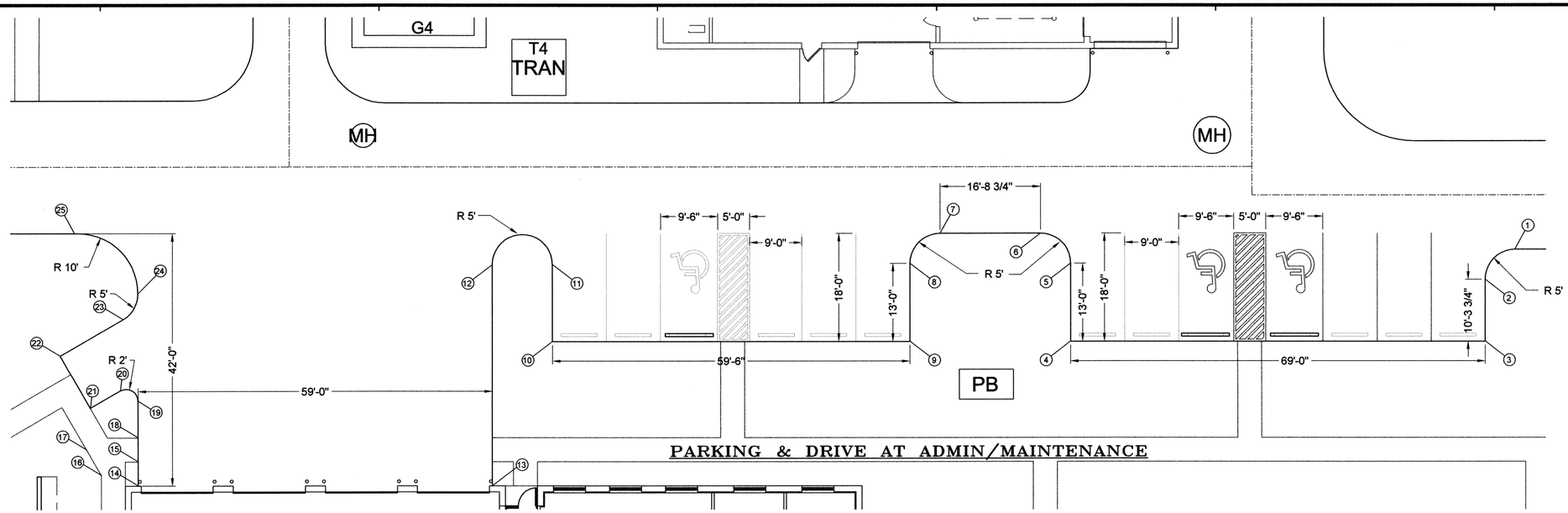
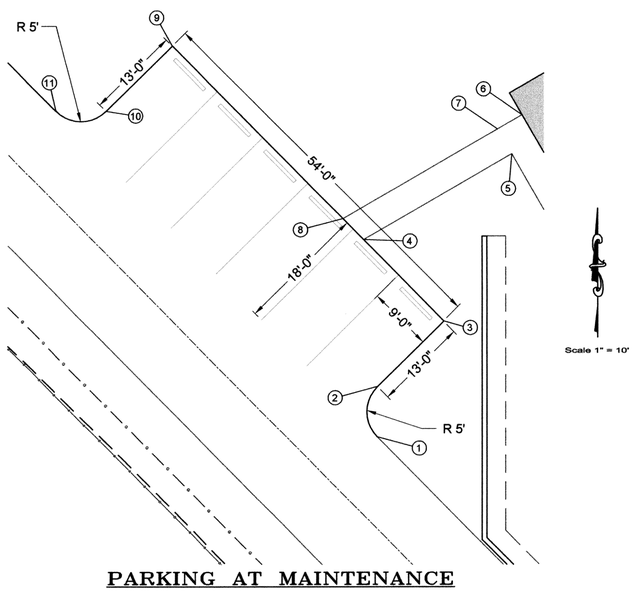


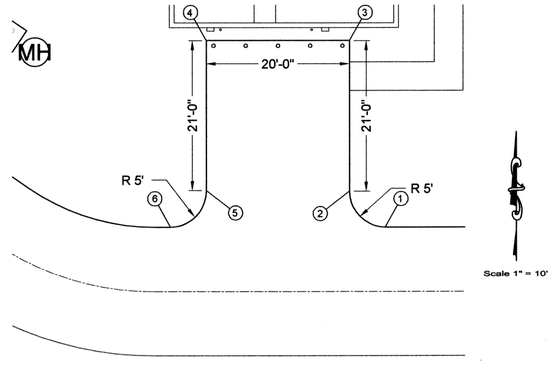
PARKING & DRIVE AT ADMIN/MAINTENANCE

PARKING@ADMIN/MAINTENANCE POINTS				
#	DESCRIPTION	NORTHING	EASTING	ELEV.
1	PC	714916.85	2121870.08	1169.47
2	PT	714911.85	2121865.08	1169.57
3	SE CORNER PARKING	714901.54	2121865.08	1169.63
4	SW CORNER PARKING	714901.54	2121796.08	1170.74
5	PC	714914.54	2121796.08	1170.67
6	PT	714919.54	2121791.08	1170.67
7	PC	714919.54	2121774.35	1170.59
8	PT	714914.54	2121769.35	1170.59
9	SE CORNER PARKING	714901.54	2121769.35	1170.66
10	SW CORNER PARKING	714901.54	2121709.85	1170.30
11	PC	714914.36	2121709.85	1170.23
12	PT	714914.36	2121699.85	1170.18
13	@MAINTENANCE BLDG	714877.54	2121699.85	1170.98
14	@MAINTENANCE BLDG	714877.54	2121640.85	1170.98
15	SIDEWALK CORNER	714881.54	2121640.85	1170.90
16	SIDEWALK CORNER	714879.31	2121634.69	1170.55
17	SIDEWALK CORNER	714883.54	2121632.25	1170.12
18	SIDEWALK CORNER	714885.54	2121640.85	1170.80
19	PC	714891.65	2121640.85	1170.70
20	PT	714893.38	2121637.85	1170.63
21	S COR DUMPSTER PAD	714890.49	2121632.85	1170.68
22	W COR DUMPSTER PAD	714899.15	2121627.85	1170.63
23	PC	714905.21	2121638.35	1170.51
24	PCC	714909.54	2121640.85	1170.34
25	PT	714919.54	2121630.85	1169.50



PARKING AT MAINTENANCE

PARKING@MAINTENANCE POINTS				
#	DESCRIPTION	NORTHING	EASTING	ELEV.
1	PC; MATCH EXISTING	714851.13	2121609.33	1165.91
2	PT	714858.20	2121609.38	1166.06
3	SE CORNER PARKING	714867.32	2121618.63	1166.84
4	SIDEWALK CORNER	714878.66	2121607.44	1166.35
5	SIDEWALK CORNER	714890.62	2121628.16	1170.65
6	SIDEWALK CORNER	714896.09	2121629.62	1170.65
7	SIDEWALK EDGE	714894.09	2121626.16	1170.55
8	SIDEWALK CORNER	714881.61	2121604.54	1166.22
9	NW CORNER PARKING	714905.76	2121580.71	1165.16
10	PC	714896.63	2121571.46	1164.38
11	PT; MATCH EXISTING	714896.68	2121564.39	1163.93



DRIVE AT SBR CHEM BUILDING

DRIVE@SBR CHEM BLDNG POINTS				
#	DESCRIPTION	NORTHING	EASTING	ELEV.
1	PC	714617.36	2121888.20	1167.42
2	PT	714622.36	2121883.20	1167.77
3	END OF DRIVE NE	714643.36	2121883.20	1169.30
4	END OF DRIVE NW	714643.36	2121863.20	1169.30
5	PC	714622.36	2121863.20	1167.77
6	PT	714617.36	2121858.20	1167.41

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RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER STATE OF OKLAHOMA SCOTT D. MARATHY 11456 5-17-10

REVISIONS:	DATE:

PARKING LAYOUT 1

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/25/2010	AS NOTED	28 OF 52

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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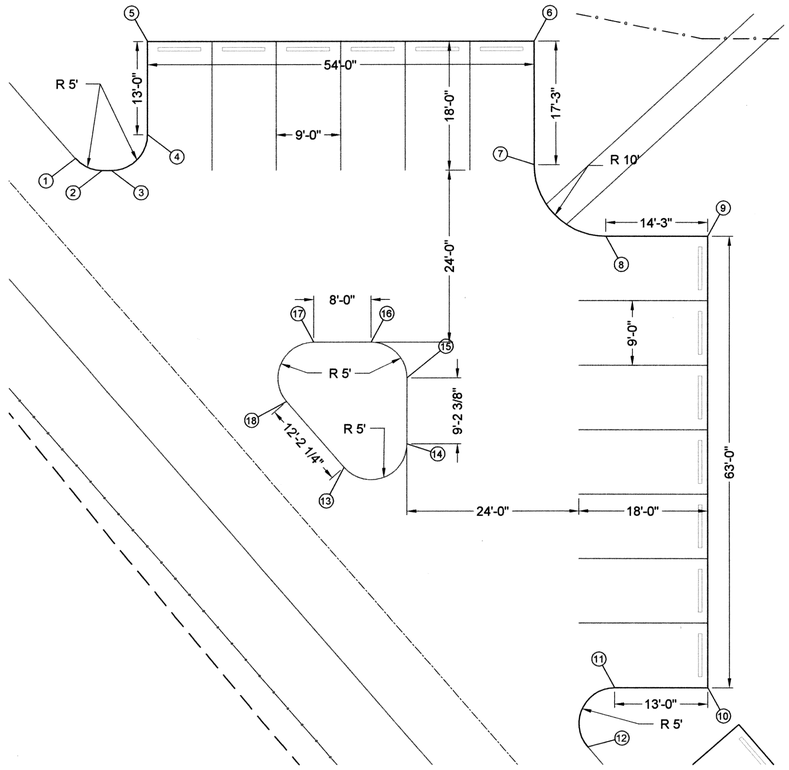
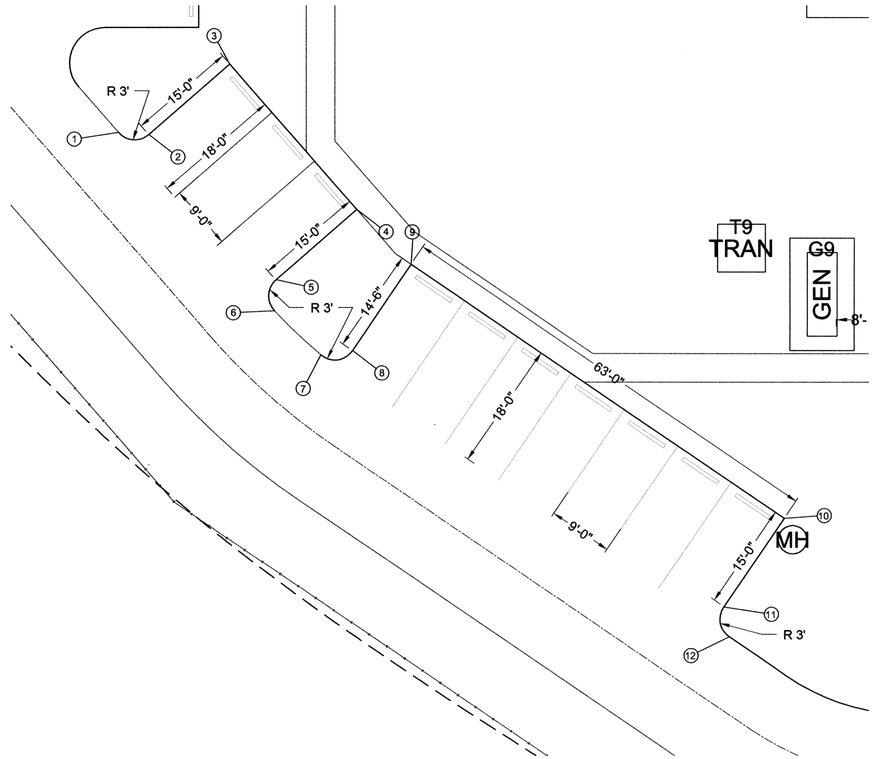


Scale 1" = 10'

EMPLOYEE PARKING AT ADMIN/MAINTENANCE

EMPLOYEE PARKING POINTS				
#	DESCRIPTION	NORTHING	EASTING	ELEV.
1	PC; MATCH EXISTING	714788.00	2121668.31	1168.40
2	PT	714786.35	2121672.08	1168.43
3	PC	714786.35	2121673.36	1168.45
4	PT	714791.15	2121678.36	1168.53
5	NW CORNER PARKING	714804.35	2121678.36	1169.00
6	NE CORNER PARKING	714804.35	2121732.36	1169.00
7	PC	714787.08	2121732.36	1168.83
8	PT	714777.08	2121742.36	1168.75
9	NE CORNER PARKING	714777.08	2121756.61	1168.83
10	SE CORNER PARKING	714714.08	2121756.61	1168.27
11	PC	714714.08	2121743.60	1168.20
12	PT; MATCH EXISTING	714705.80	2121739.82	1168.15
13	PC; MATCH EXISTING	714740.34	2121709.78	1168.46
14	PT	714743.62	2121718.61	1168.53
15	PC	714761.35	2121718.61	1168.58
16	PT	714766.35	2121713.61	1168.66
17	PC	714766.35	2121698.18	1168.61
18	PT; MATCH EXISTING	714758.07	2121694.44	1168.54



Scale 1" = 10'

PARKING SOUTH SIDE

EMPLOYEE PARKING POINTS				
#	DESCRIPTION	NORTHING	EASTING	ELEV.
1	PC; MATCH EXISTING	714699.41	2121745.39	1168.10
2	PT	714699.11	2121749.62	1168.13
3	NE CORNER PARKING	714708.96	2121760.94	1168.20
4	SE CORNER PARKING	714688.59	2121778.66	1167.98
5	PC	714678.78	2121767.39	1167.91
6	PT	714674.46	2121767.17	1167.88
7	PC	714667.53	2121773.43	1167.84
8	PT	714668.12	2121777.86	1167.87
9	NE CORNER PARKING	714680.15	2121786.03	1167.94
10	SE CORNER PARKING	714644.73	2121838.13	1167.52
11	PC	714632.33	2121829.70	1167.45
12	PT; MATCH EXISTING	714628.16	2121830.50	1167.42

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RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — DARSHAN BASHARATHY 11466 5-17-22 — OKLAHOMA

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/24/2010	AS NOTED	29 OF 52

PARKING LAYOUT 2

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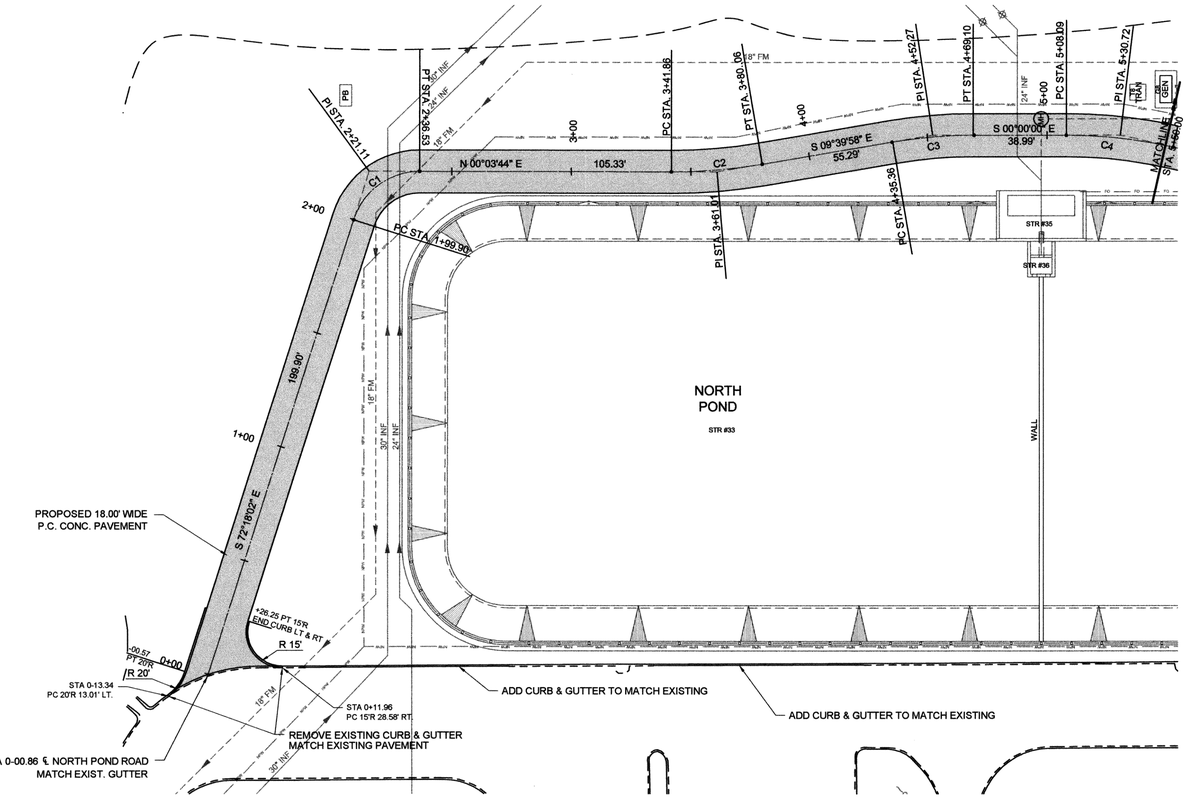
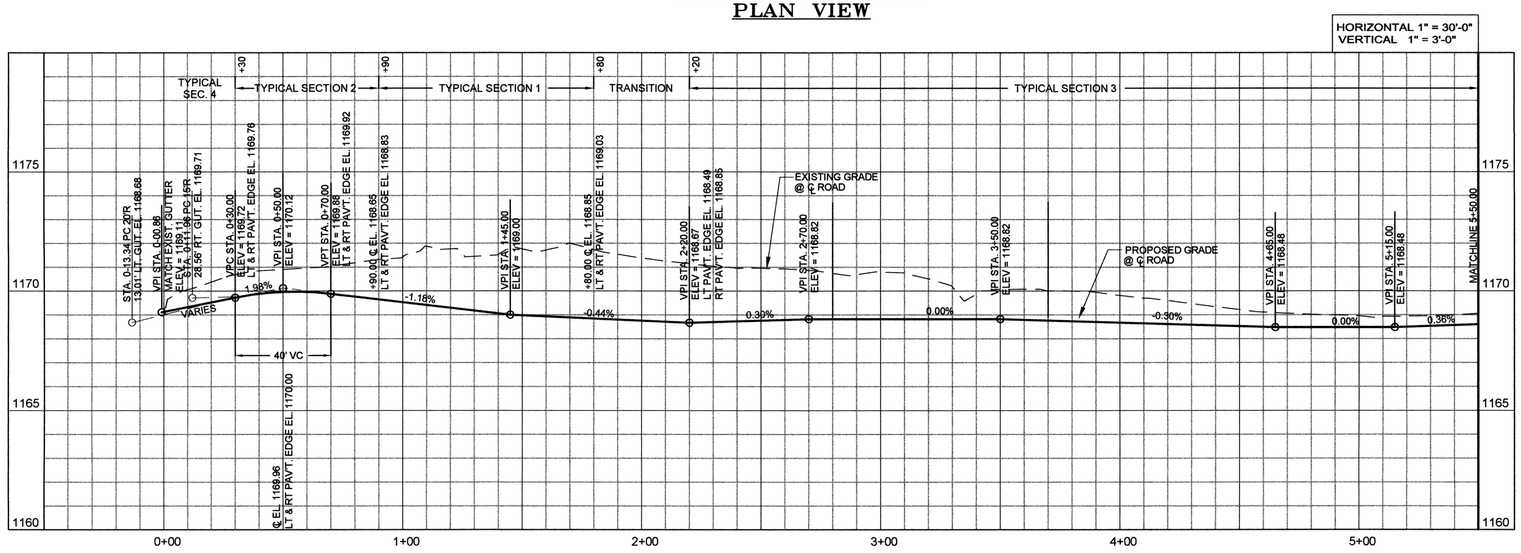


NORTH POND ROAD
PLAN VIEW

CURVE TABLE									
P.I. STA.	NORTHING	EASTING	CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
2+21.11	715733.9811	2122375.3516	C1	36.63'	29.00'	72°22'20"	21.21'	34.24'	S36°07'09"E
3+61.01	715588.2893	2122375.1931	C2	38.20'	225.00'	9°43'42"	19.15'	38.16'	S04°48'07"E
4+52.27	715498.2352	2122390.5314	C3	33.74'	200.00'	9°39'58"	16.91'	33.70'	S04°49'59"E
5+30.72	715419.7070	2122390.5314	C4	45.06'	200.00'	12°54'35"	22.63'	44.97'	S06°27'17"W
5+99.73	715352.2540	2122375.0706	C5	43.43'	191.00'	13°02'44"	21.61'	42.94'	S06°27'17"W
7+76.24	715175.5505	2122375.0706	C6	84.83'	54.00'	90°00'00"	54.00'	76.37'	S45°00'08"W



NORTH POND ROAD
PROFILE

RECORD DRAWINGS

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	2/25/2010	AS NOTED	30 OF 52

NORTH POND ROAD I

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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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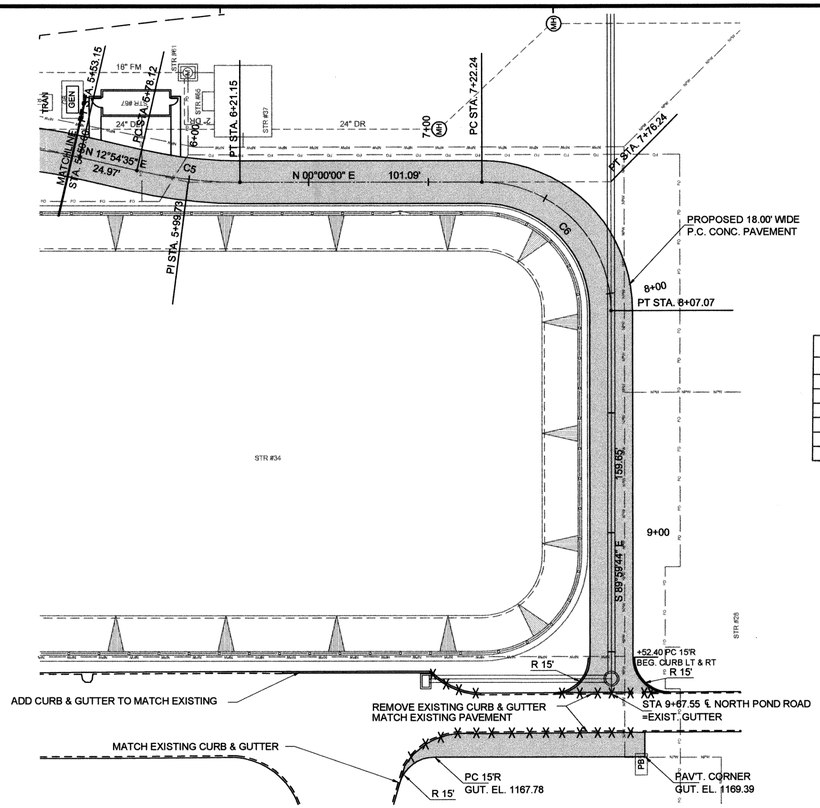
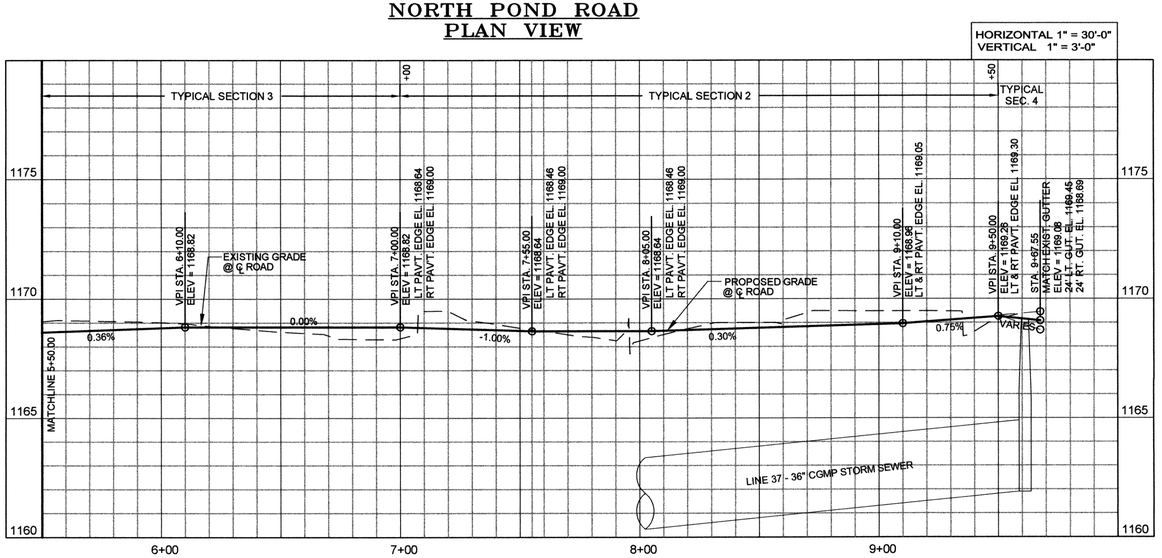


Scale 1" = 30'

CURVE TABLE									
P.I. STA.	NORTHING	EASTING	CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
2+21.11	715733.9811	2122375.3516	C1	36.63'	29.00'	72°22'20"	21.21'	34.24'	S36°07'09"E
3+61.01	715588.2893	2122375.1931	C2	38.20'	225.00'	9°43'42"	19.15'	38.16'	S04°48'07"E
4+52.27	715498.2352	2122390.5314	C3	33.74'	200.00'	9°39'58"	16.91'	33.70'	S04°49'59"E
5+30.72	715419.7070	2122390.5314	C4	45.06'	200.00'	12°54'35"	22.63'	44.97'	S06°27'17"W
5+99.73	715352.2540	2122375.0706	C5	43.43'	191.00'	13°02'44"	21.61'	42.94'	S06°27'17"W
7+76.24	715175.5505	2122375.0706	C6	84.83'	54.00'	90°00'00"	54.00'	76.37'	S45°00'08"W

NORTH POND ROAD
PLAN VIEW



NORTH POND ROAD
PROFILE

BEFORE YOU DIG.. CALL OKIE 1-800-522-6543

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — SATISH DASHARATHY 11465 — 5-17-10 — OKLAHOMA

REVISIONS:	DATE:

NORTH POND ROAD 2

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CIVIL AND ENVIRONMENTAL ENGINEERS
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DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	2/25/2010	AS NOTED	31 OF 52

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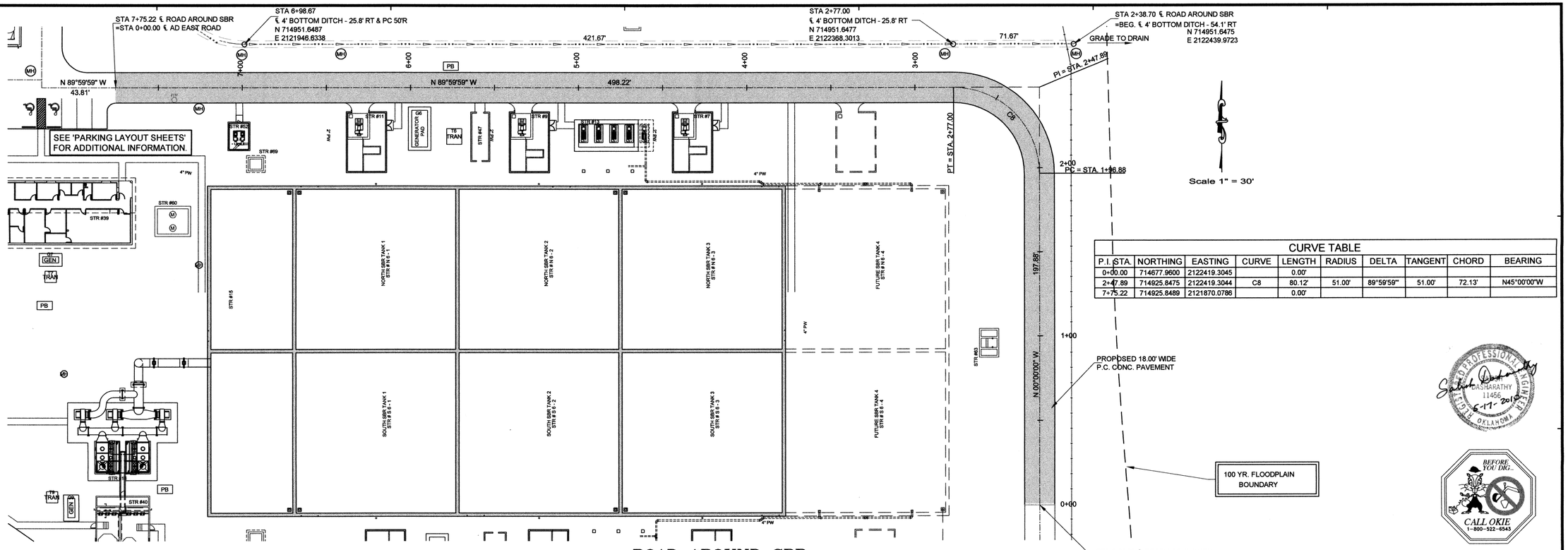
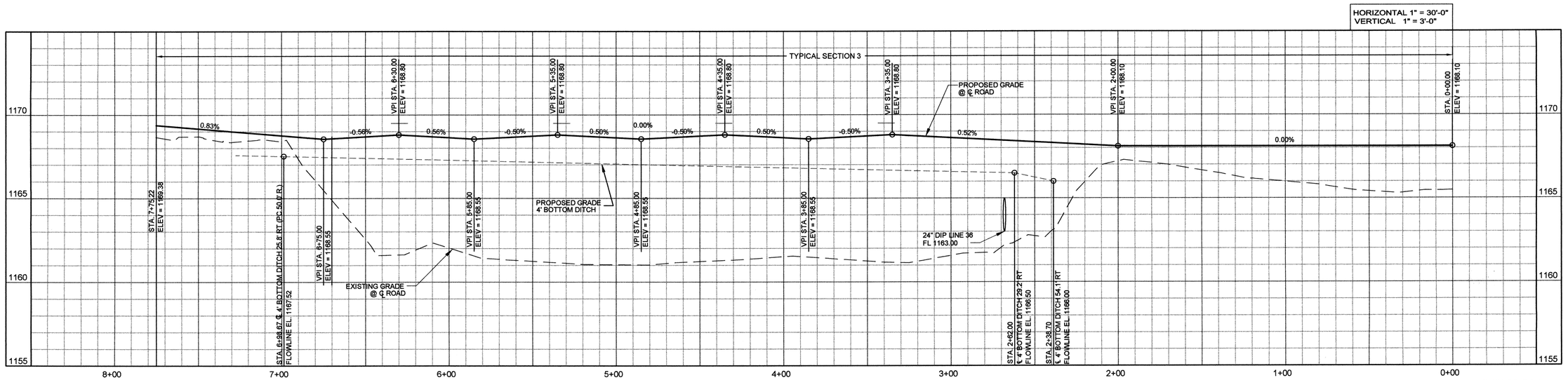


CURVE TABLE									
P.I. STA.	NORTHING	EASTING	CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
0+00.00	714677.9600	2122419.3045		0.00'					
2+47.89	714925.8475	2122419.3044	C8	80.12'	51.00'	89°59'59""	51.00'	72.13'	N45°00'00"W
7+75.22	714925.8489	2121870.0786		0.00'					



ROAD AROUND SBR
PLAN VIEW

ROAD AROUND SBR
PROFILE

RECORD DRAWINGS

REVISIONS:	DATE:

ROAD AROUND SBR

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	6/15/2010	AS NOTED	32 OF 52

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CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
SAHADEVAN DASHARATHY
11456
6-11-2010
OKLAHOMA

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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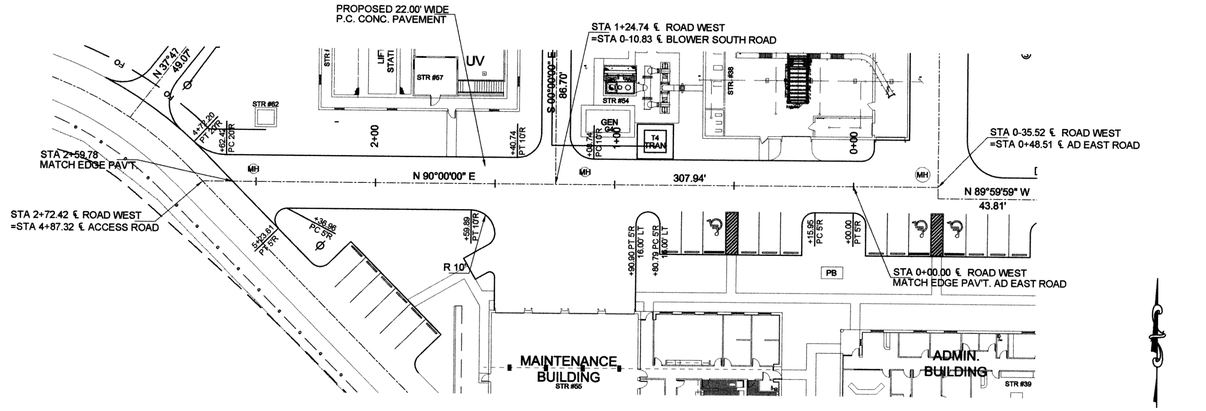
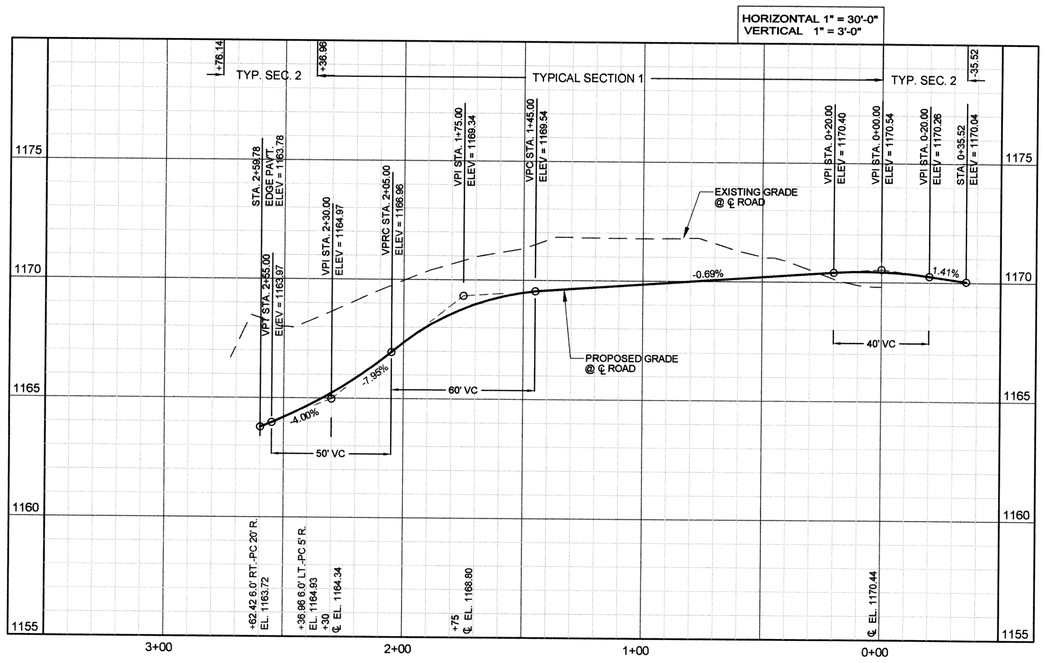


ROAD WEST
PLAN VIEW

SEE 'PARKING LAYOUT SHEETS' FOR ADDITIONAL INFORMATION.

Scale 1" = 30'

℄ ROAD TABLE		
P.I. STA.	NORTHING	EASTING
0-35.52	714930.5431	2121826.2657
0+00.00	714930.5431	2121790.7472
1+24.74	714930.5431	2121666.0119
2+72.42	714930.5431	2121518.3304



ROAD WEST
PROFILE

RECORD DRAWINGS

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REGISTERED PROFESSIONAL ENGINEER STATE OF OKLAHOMA

REVISIONS:	DATE:
Pavement Elevation Revision	2/7/13

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	2/26/2010	AS NOTED	33 OF 52

ROAD WEST

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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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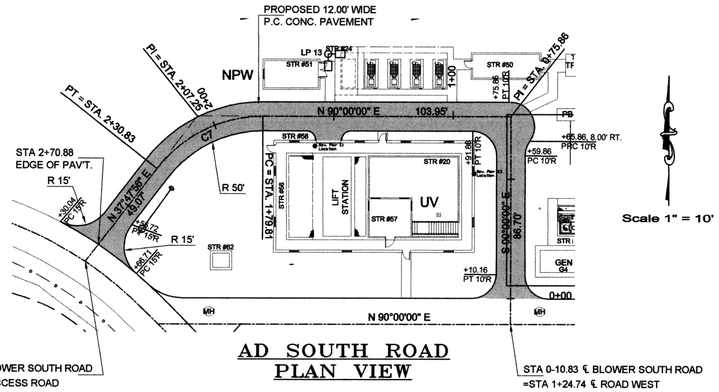
CURVE TABLE									
P.I. STA.	NORTHING	EASTING	CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
0-10.83	714930.5431	2121666.0119							
0+75.86	715017.2395	2121666.0119							
2+07.25	715017.2395	2121534.6283	C7	51.02'	56.00'	52°12'04"	27.43'	49.27'	S63°53'58"W
2+79.90	714956.7877	2121487.7392							

BEFORE YOU DIG.. CALL OKIE 1-800-522-6543

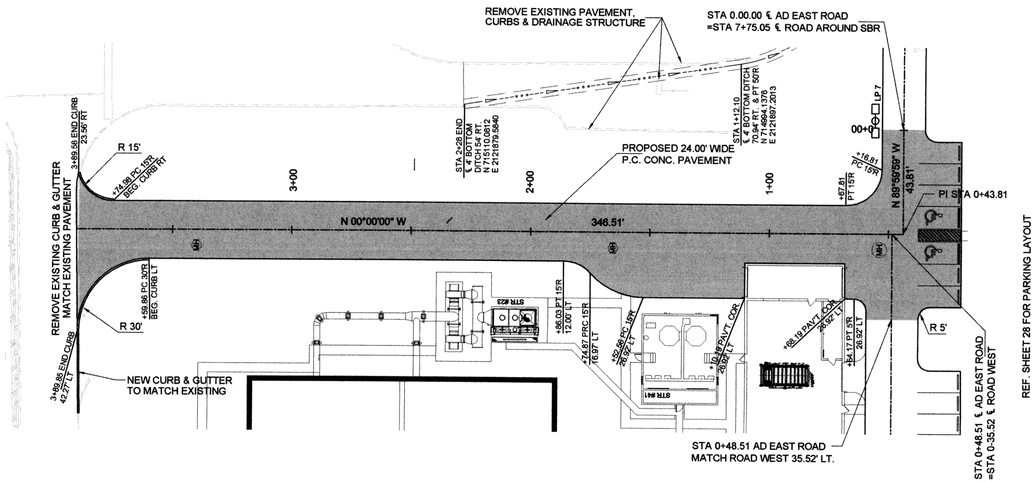


Scale 1" = 10'

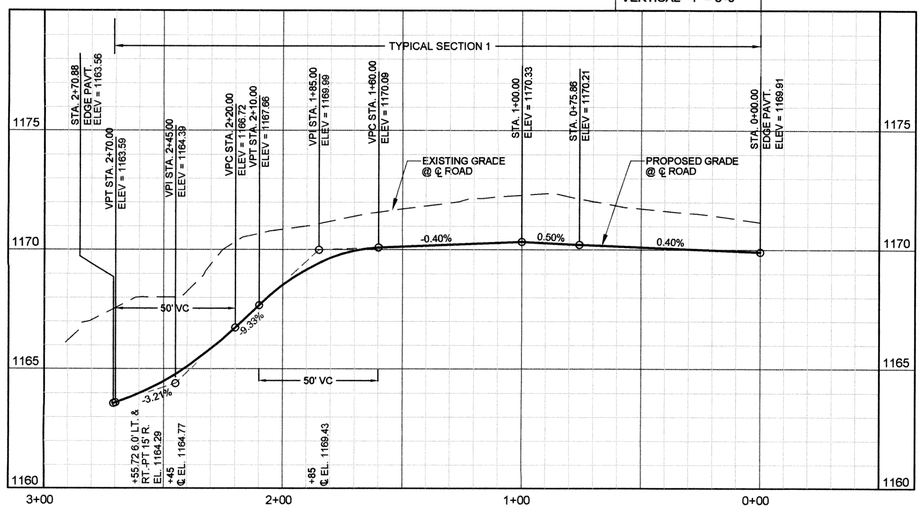
AD SOUTH ROAD PLAN VIEW

℄ ROAD TABLE		
P.I. STA.	NORTHING	EASTING
0+00.00	714925.8489	2121870.0786
0+43.81	714925.8490	2121826.2657
0+48.51	714930.5431	2121826.2657
3+90.32	715272.3582	2121826.2658

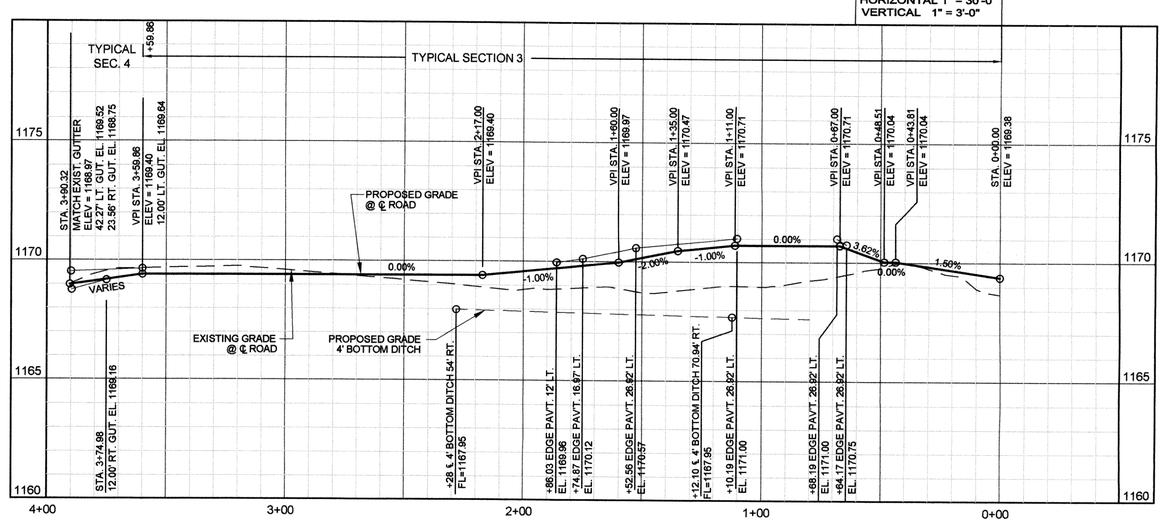
Scale 1" = 30'



AD EAST ROAD PLAN VIEW



AD SOUTH ROAD PROFILE



AD EAST ROAD PROFILE

RECORD DRAWINGS

REVISIONS:	DATE:
Pavement Elevation Revision	2/7/13

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	6/16/2010	AS NOTED	34 OF 52

AD ROADWAYS

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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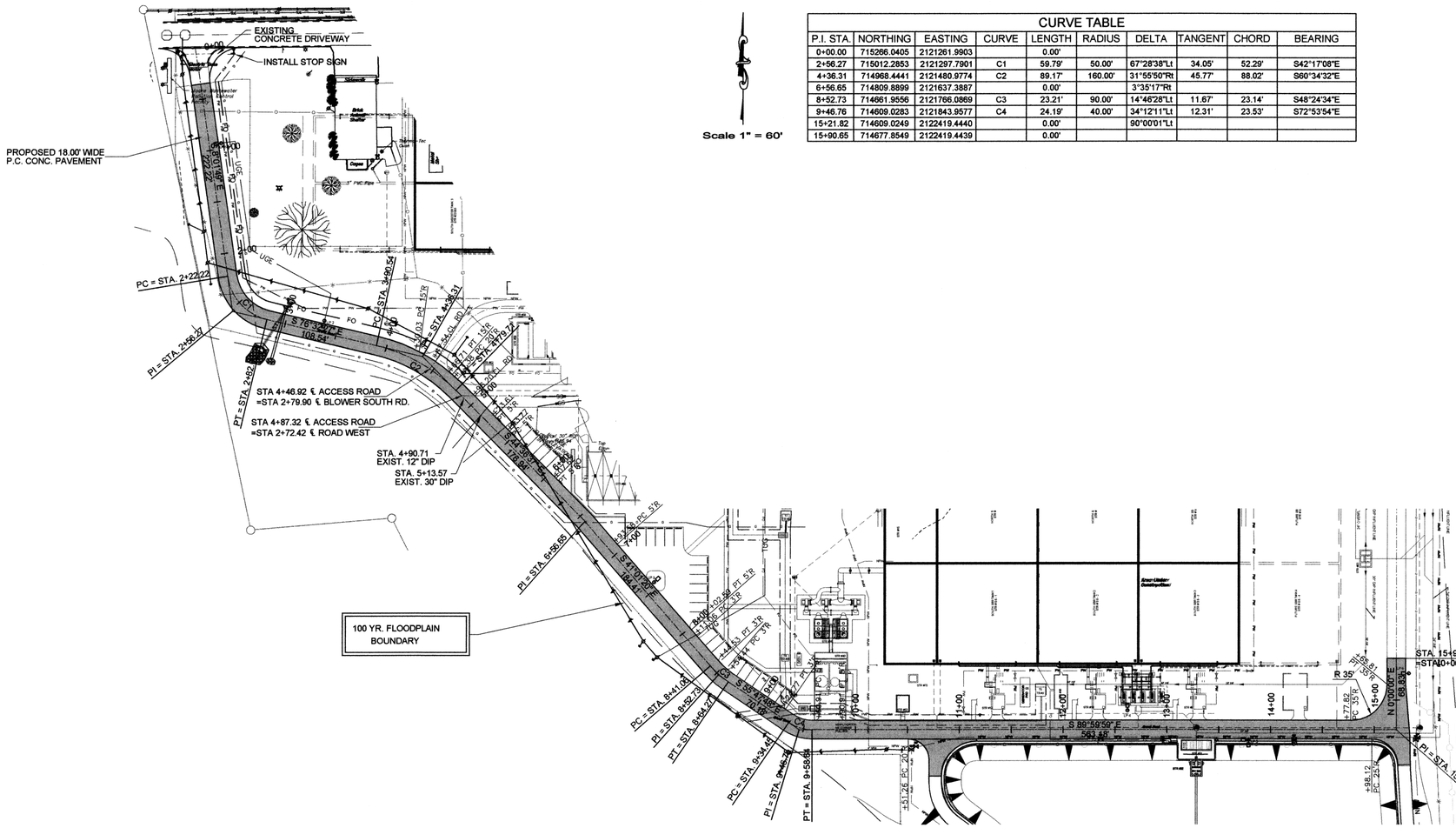
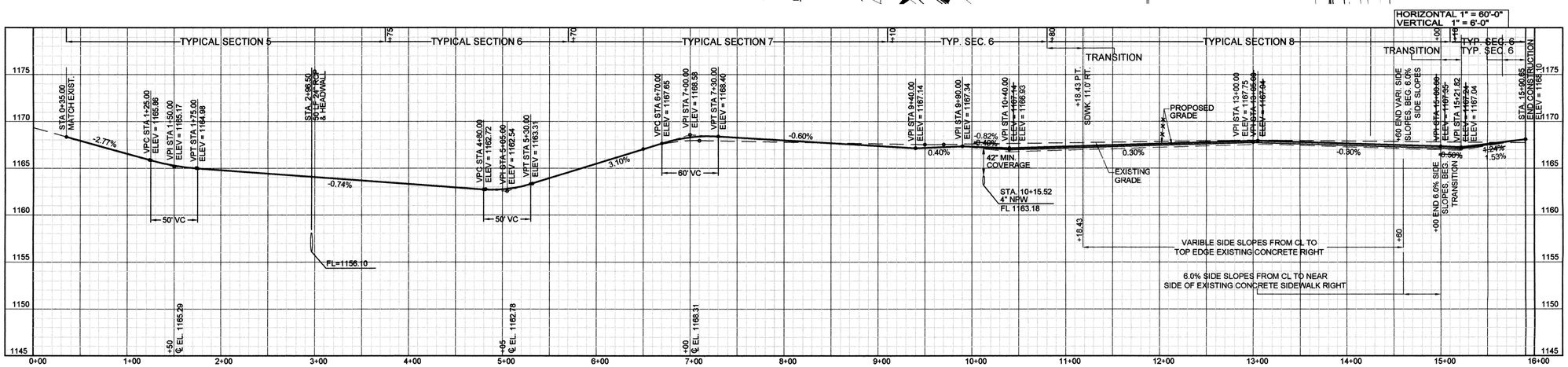


CURVE TABLE									
P.I. STA.	NORTHING	EASTING	CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
0+00.00	715266.0405	2121261.9903		0.00'					
2+56.27	715012.2853	2121297.7901	C1	59.79'	50.00'	67°28'38"Lt	34.05'	52.29'	S42°17'08"E
4+36.31	714968.4441	2121480.9774	C2	89.17'	160.00'	31°55'50"Rt	45.77'	88.02'	S60°34'32"E
6+56.65	714809.8899	2121637.3887		0.00'		3°35'17"Rt			
8+52.73	714661.9556	2121766.0869	C3	23.21'	90.00'	14°46'28"Lt	11.67'	23.14'	S48°24'34"E
9+46.76	714609.0283	2121843.9577	C4	24.19'	40.00'	34°12'11"Lt	12.31'	23.53'	S72°53'54"E
15+21.82	714609.0249	2122419.4440		0.00'		90°00'01"Lt			
15+90.65	714677.8549	2122419.4439		0.00'					



ACCESS ROAD PROFILE

REVISIONS:	DATE:
GRADE REVISION	1/24/2013

ACCESS ROAD

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	3/02/2010	AS NOTED	35 OF 52

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RECORD DRAWINGS

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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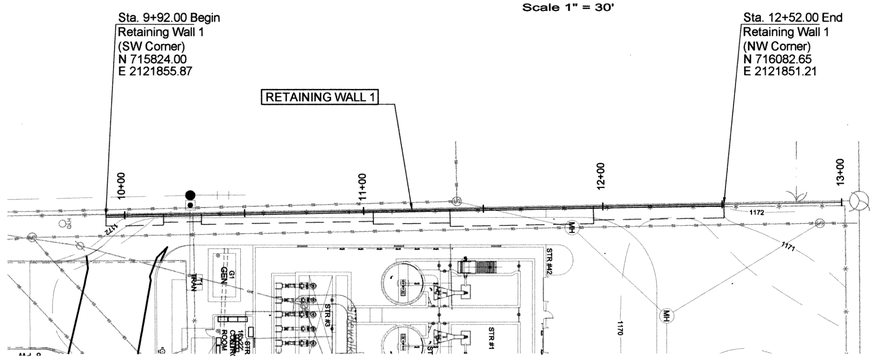
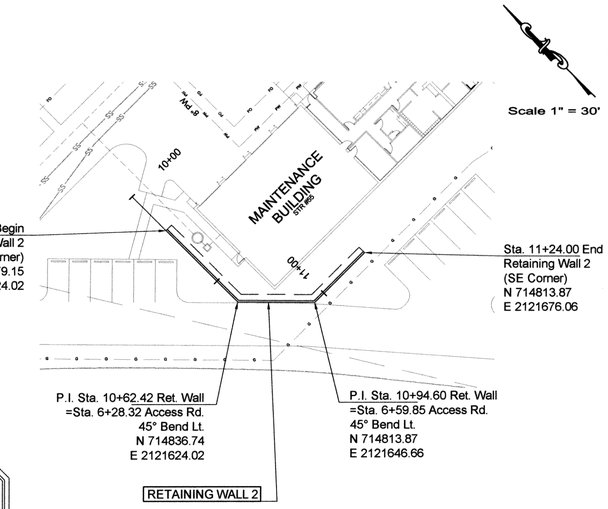


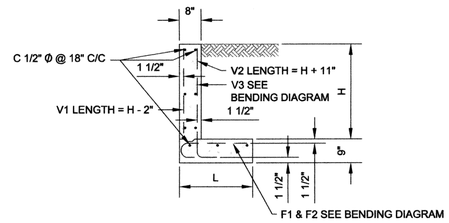
Scale 1" = 30'

RETAINING WALL 1 – NEAR HEADWORKS
PLAN VIEW



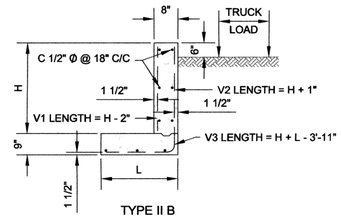
Scale 1" = 30'

RETAINING WALL 2 – AT MAINTENANCE BLDG.
PLAN VIEW



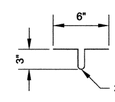
TYPE I A

DESIGN NUMBER	H	L	F1 BAR	F2 BAR	C BAR	V1 BAR	V2 BAR	V3 BAR	QUANTITIES	
			SIZE SPC.	SIZE SPC.	# REQ'D	SIZE SPC.	SIZE SPC.	SIZE SPC.	REINF STEEL LBS. PER L.F.	CONC. C.Y. PER LF.
2	2' - 0"	2' - 0"	1/2" Ø @ 12"	-------	6	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	8.28	0.105
3	3' - 0"	2' - 7"	1/2" Ø @ 12"	-------	8	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	11.11	0.146
4	4' - 0"	3' - 3"	1/2" Ø @ 12"	-------	9	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	13.34	0.189
5	5' - 0"	4' - 0"	1/2" Ø @ 12"	-------	10	5/8" Ø @ 18"	1/2" Ø @ 12"	-------	16.29	0.235
6	6' - 0"	4' - 8"	5/8" Ø @ 12"	-------	11	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	22.00	0.278
7	7' - 0"	5' - 0"	1/2" Ø @ 12"	-------	14	7/8" Ø @ 18"	1/2" Ø @ 12"	1/2" Ø @ 12"	27.76	0.321
8	8' - 0"	6' - 0"	7/8" Ø @ 12"	-------	17	1/2" Ø @ 18"	1/2" Ø @ 12"	5/8" Ø @ 12"	40.67	0.364
9	9' - 0"	6' - 8"	1/2" Ø @ 12"	7/8" Ø @ 12"	19	1/2" Ø @ 18"	1/2" Ø @ 12"	7/8" Ø @ 12"	57.51	0.407

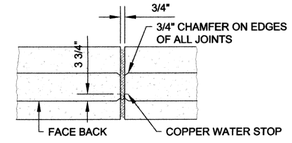


TYPE II B

DESIGN NUMBER	H	L	C BAR	V1 BAR	V2 BAR	V3 BAR	QUANTITIES	
			# REQ'D	SIZE SPC.	SIZE SPC.	SIZE SPC.	REINF STEEL LBS. PER L.F.	CONC. C.Y. PER LF.
2	2' - 0"	2' - 2"	6	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	7.66	0.110
3	3' - 0"	3' - 3"	9	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	11.50	0.164
4	4' - 0"	4' - 5"	10	1/2" Ø @ 18"	1/2" Ø @ 12"	-------	14.07	0.221
5	5' - 0"	5' - 8"	12	1/2" Ø @ 18"	1/2" Ø @ 12"	1/2" Ø @ 12"	21.86	0.281
6	6' - 0"	7' - 2"	15	1/2" Ø @ 18"	1/2" Ø @ 12"	5/8" Ø @ 12"	31.12	0.347
7	7' - 0"	8' - 8"	16	1/2" Ø @ 18"	1/2" Ø @ 12"	7/8" Ø @ 12"	41.90	0.414



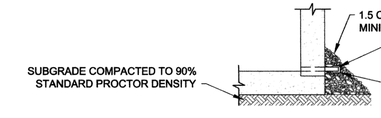
DETAIL OF COPPER WATER STOP



DETAIL OF EXPANSION & CONSTRUCTION JOINT

PLACE JOINTS @ 30' INTERVALS "MAXIMUM"

NOTE: COPPER WATER STOP SHALL BE INSTALLED FULL HEIGHT OF WALL IN ALL VERTICAL EXPANSION JOINTS. ALL COSTS INCLUDING PREMOULDED EXPANSION MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR RETAINING WALL.



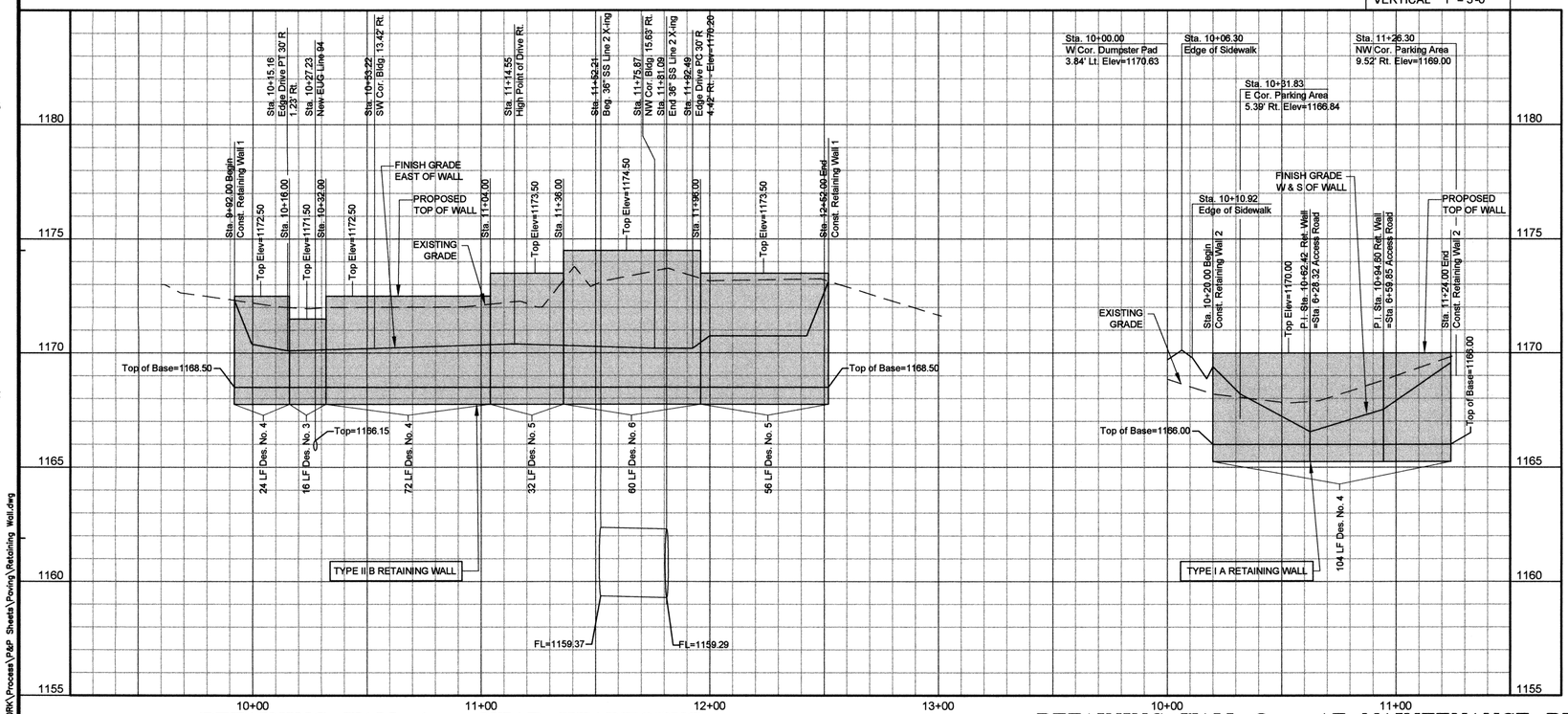
DETAIL OF WEEP HOLES & CONSTRUCTION JOINT

GENERAL NOTES:
ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER.
ALL CONCRETE SHALL BE CLASS "A" CONCRETE 3500 PSI.
EXPANSION JOINTS SHALL BE AT A MAXIMUM OF 30'-0" INTERVALS.
ALL REINFORCING STEEL BARS SHALL BE DEFORMED BARS COLD BENT, NO WELDS PERMITTED.
ALL EXPOSED CONCRETE SURFACES SHALL HAVE A CARBORUNDUM FINISH.

REGISTERED PROFESSIONAL ENGINEER — STATE OF OKLAHOMA — SHARATHY 11455 — 5-17-2010

RECORD DRAWINGS

HORIZONTAL 1" = 30'-0"
VERTICAL 1" = 3'-0"



RETAINING WALL 1 – NEAR HEADWORKS
PROFILE

RETAINING WALL 2 – AT MAINTENANCE BLDG.
PROFILE

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	5/25/2010	AS NOTED	36 OF 52

REVISIONS:	DATE:

RETAINING WALLS 1 & 2

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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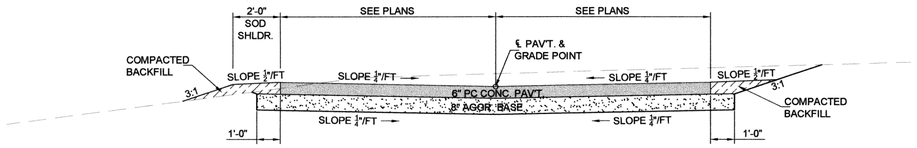

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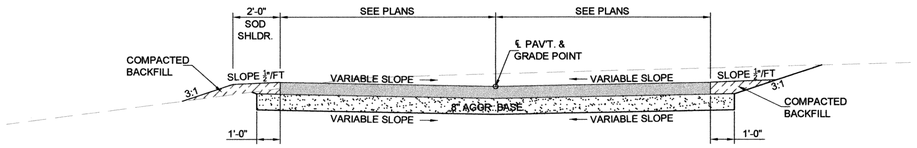

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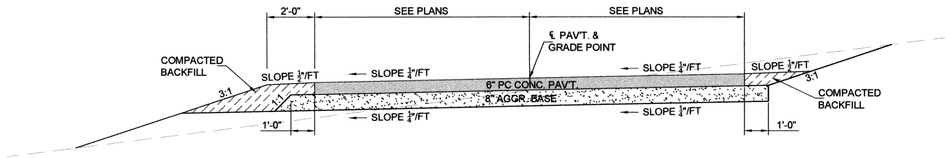
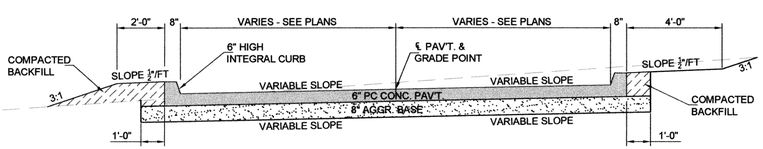


TYPICAL SECTION NO. 3

NOTE: CROSS SLOPE OF PAVEMENT SHALL BE IN THE SAME DIRECTION AS THE EXISTING GROUND.



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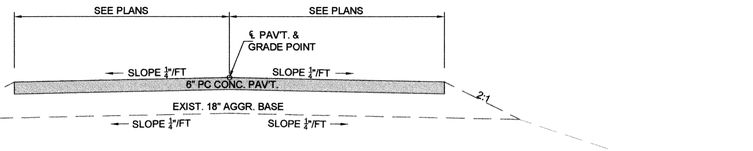

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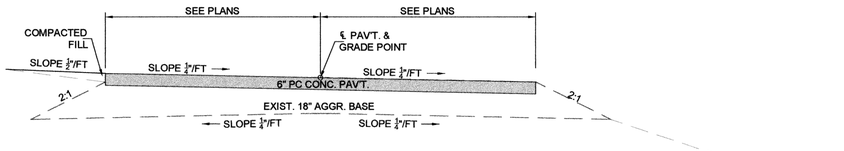
ACCESS ROAD



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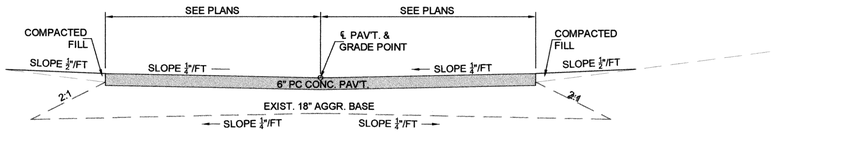
ACCESS ROAD



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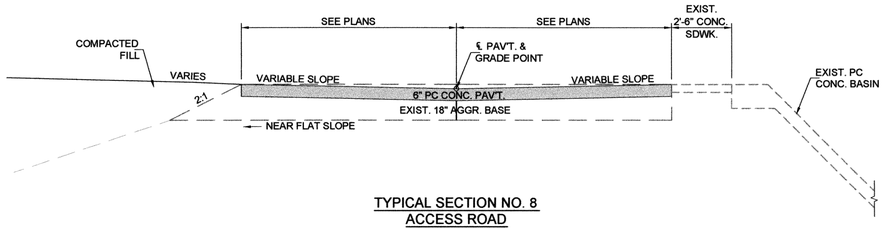

TYPICAL SECTION NO. 8
ACCESS ROAD

DASHARATHY 11456 1-11-10 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

BEFORE YOU DIG.. CALL OKIE 1-800-522-6543

RECORD DRAWINGS

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DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	3/2/2010	AS NOTED	37 OF 52

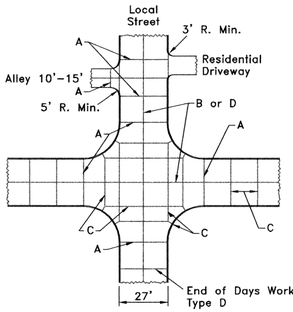
REVISIONS:	DATE:

TYPICAL PAVEMENT SECTIONS

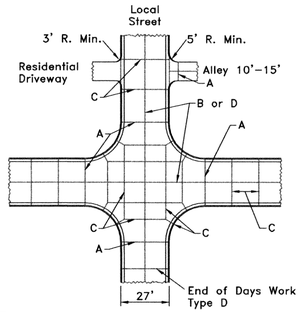
EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK



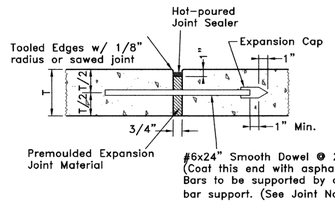
Typical Street Intersection w/ Integral Curb & Gutter



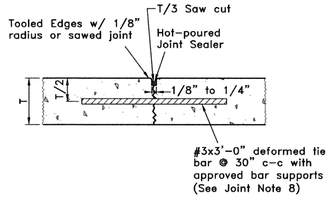
Typical Street Intersection w/ Curb & Gutter Poured Separately

MAX. JOINT SPACING		
TRANSVERSE	LONGITUDINAL	
	Under 30'	30' & Over
15'-0"	1/2 Width	1/3 Width

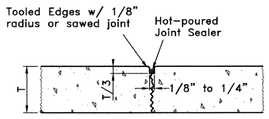
Detail No. 1
Joint Layout



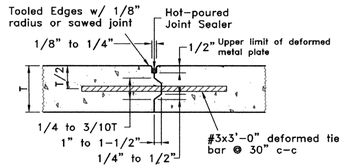
TYPE "A"
Transverse Expansion Joint



TYPE "B"
Longitudinal Control Joint

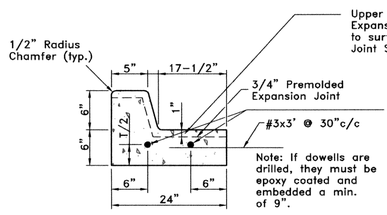


TYPE "C"
Transverse Contraction Joint

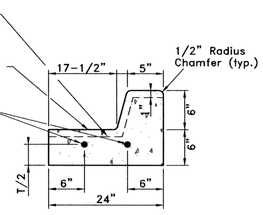


TYPE "D"
Tongue & Groove Construction Joint

Detail No. 3
Longitudinal & Transverse Joints

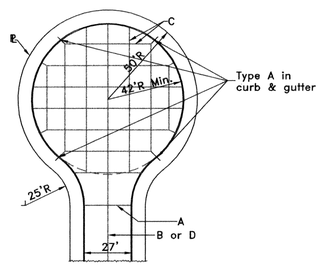


"SLIP-FORM" or "POURED-IN-PLACE" TYPE CONSTRUCTION
(Concrete Pavement)



"SLIP-FORM" or "POURED-IN-PLACE" TYPE CONSTRUCTION
(Asphalt Pavement)

Detail No. 4
Concrete Curb & Gutter



Detail No. 2
Cul-De-Sac

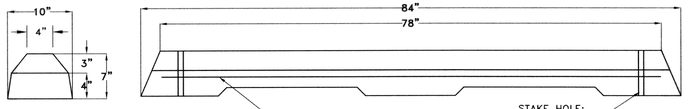
Construction Notes

Typical Street Cross-section Notes

1) Compact fill 3' behind curb to 90% Standard Proctor Density.
2) Pavement design shall be in accordance with City Of Moore modified AASHTO Standards latest edition.
3) All materials, construction methods and testing shall be in accordance with the latest edition of the Oklahoma Department of Transportation's Standard Specifications for Highway Construction.
4) Contractor shall furnish cut/fill data for top of curb stakes prior to construction.
5) Asphalt pavement lifts shall be a maximum of 4".
6) Non-woven Geotextile Fabric shall be SUPAC 5NP as manufactured by Phillips Fiber Corporation or approved equal.
7) If completed subgrade is not covered within 24 hours, it shall be prime coated or it shall be retested for moisture and density prior to application of cover material.
8) Tack coat shall be required if asphalt lifts are not placed the same day.

Joint and Concrete Curb & Gutter Notes

1) Contraction joints shall be sawed as soon as concrete will cut without ravelling. The sawing should begin on the pour made yesterday before the pour begins today, if concrete will cut without ravelling.
2) Grooves in joints may be formed by: (a) Temporary embedment of a suitable mandrel; (b) Installation of a thin strip of pre-molded joint filler material; (c) Sawing the pavement after the concrete has hardened.
3) Grooves in joints will be thoroughly cleaned out before any sealing filler is poured.
4) Hot-poured Joint Sealer shall meet Federal Spec. SS-S-1401C and AASHTO M-173 or approved equal to W.R. Meadows #164 HI-Spec Polymeric Joint Sealing Compound.
5) Type "D" joints shall be used at the end of a day's work.
6) When pavement is asphalt, slip-form or formed-in-place curb and gutter shall have 3/4" Type A expansion joints spaced at 100' c/c max. and at radius points of all intersections and horizontal curves with a minimum of 2 load transfer dowels at each expansion joint. Tongue and groove or sawed joints shall be spaced at 15' c/c maximum between expansion joints. Expansion joint filler in the curbs shall extend to within 1" of the face and top of curb and shall then be filled to surface with joint sealer.
7) When pavement is concrete, 3/4" expansion joints shall be installed at all structures. Type A Joints shall be installed at all radius points of intersections and all horizontal curves.
8) Use chairs for 3/8" tie bar (Type "B"), and approved bar support for #6 smooth dowel bars.
9) Cold applied joint sealant may be used in place of hot-poured joint sealer on curb and shall meet specifications SS-S-200F Type H or approved equal to W.R. Meadows "GARDOX".



SPECIFICATION:
84" L x 7" H x 10" W
WEIGHT: 300 LBS
4000 PSI AFTER 28 DAYS

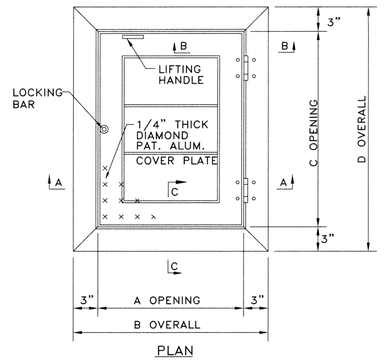
CURB PINS:
16" x 5/8" - 2 EACH

7' PARKING BLOCK
NOT TO SCALE

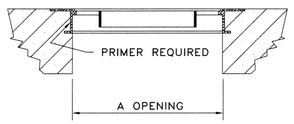
SERIES S1R ACCESS DOOR
(STANDARD REGULAR)

STANDARD FEATURES:

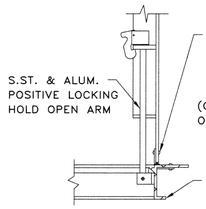
- AUTO-LOCK STAINLESS STEEL HOLD OPEN ARM WITH RELEASE HANDLE
- STAINLESS STEEL HINGES AND ATTACHING HARDWARE
- NON-CORROSIVE LOCKING BAR AND HANDLE
- SINGLE LEAF CONSTRUCTION
- 300 LBS. PER SQ. FT. LOAD RATING
- 10 YEAR GUARANTEE



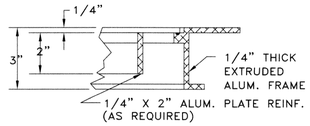
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

MODEL NO.	DIMENSIONS				UNIT WT.
	A	B	C	D	
S1R2424	24"	30"	24"	30"	50 LBS.
S1R3030	30"	36"	30"	36"	62 LBS.
S1R3636	36"	42"	36"	42"	78 LBS.
S1R3048	30"	36"	48"	54"	84 LBS.
S1R3648	36"	42"	48"	54"	97 LBS.

RECORD DRAWINGS

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	2/27/2010	AS SHOWN	38 OF 52

CURB, JOINTS, AND ACCESS DOOR DETAILS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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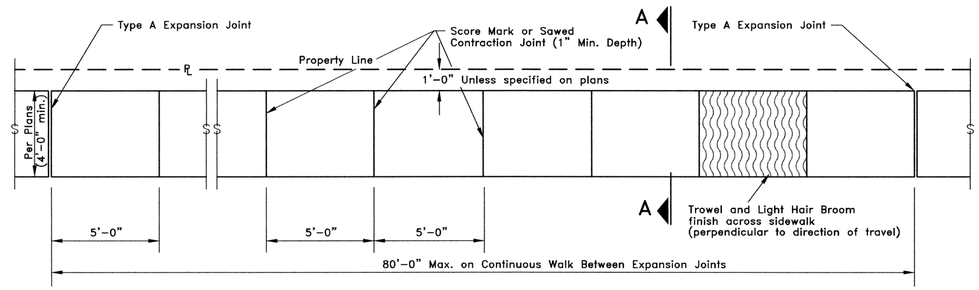
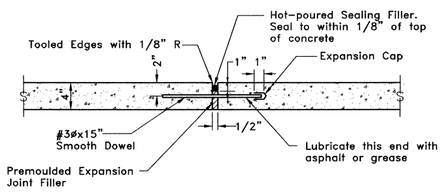
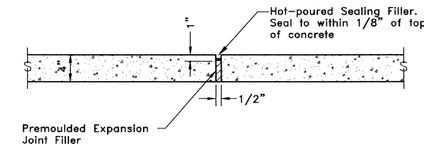


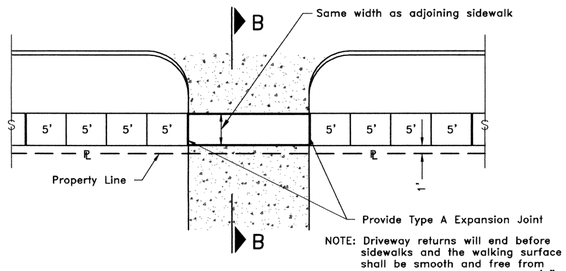
Sidewalk Plan And Joint Layout



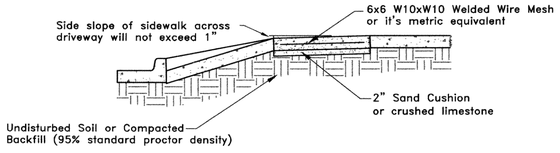
Type A Transverse Expansion Joint



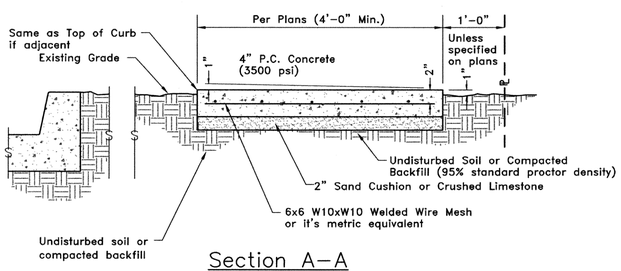
Type B Expansion Joint



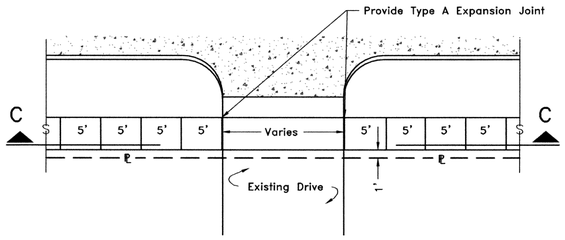
Sidewalk At Concrete Drive



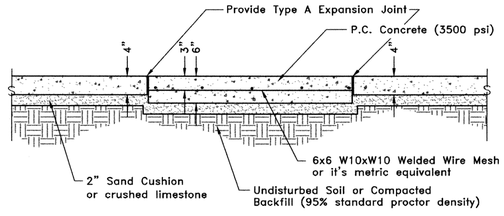
Section B–B



Section A–A



Sidewalk At Existing Drive Other Than Concrete



Section C–C

NOTE: Sidewalk shall not exceed maximum grade of 8%.

Sidewalk Construction Notes

1. Minimum sidewalk widths shall be determined as follows unless otherwise directed by the City Engineer.
   - *Along Arterials 6'-0"
   - *Along Collectors 5'-0"
   - *Within Two Blocks of a School 5'-0"
   - *R-3 & R-4 Zoning 5'-0"
   - *All Other 4'-0"
2. Public sidewalks shall be installed in the right-of-way within 1' of the property line.
3. Meter boxes, fire hydrants, light poles, sign posts, etc., will not be installed within any portion of the sidewalk. Valve boxes installed in sidewalks shall be constructed so that portion of the sidewalk meets required ADA specifications.
4. There will be a 1" drop across sidewalk for drainage.
5. Driveway returns will not cross sidewalks.
6. All new sidewalks will meet ADA Accessibility Guidelines and as set forth in ANSI A117.1 (1986) for accessibile routes:

(A.) Any part of an accessibile route with a slope greater than 1:20 shall be constructed to ADA Ramp Standards as follows and will contain at least one level area 5'-0" in length at the ends of each run.

SLOPE	MAX. RISE	MAX. RUN
1:8 to 1:9	3 in (75 mm)	2 Ft. (0.6m)
1:10 to 1:11	6 in (150 mm)	5 Ft. (1.5m)
1:12 to 1:15	30 in (760 mm)	30 Ft. (9m)
1:16 to 1:19	30 in (760 mm)	40 Ft. (12 m)
1:20	30 in (760 mm)	50 Ft. (15m)

(B.) Transitions between ramps, walks, gutters, driveways, and streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

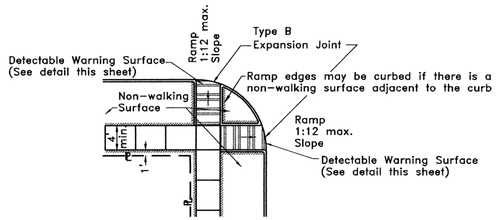
(C.) The minimum width of a curb ramp shall be 36" exclusive of curbing, returns, or flared sides. If the ramp is a returned curb ramp with curbs, ramp width shall be the same as the adjoining walk width.

(D.) Curb ramps with returned curbs may not be used where pedestrians would normally walk across the ramp. (See Ramp Detail A)

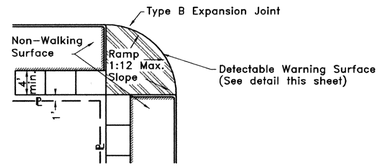
(E.) If a ramp is located where pedestrians will walk across the ramp, then it shall have flared sides. The maximum slope of the flare shall be 1:12.

(F.) All curb ramps shall have a detectable warning texture extending the full width and depth of the curb ramp, including any flares. (See details this sheet)

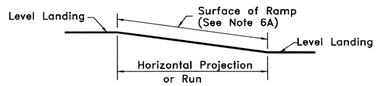
7. The maximum run of a continuous sidewalk without a Type A Expansion Joint will be 80'-0".
8. Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 48" long between the curb ramps in the part of the island intersected by the crossings.

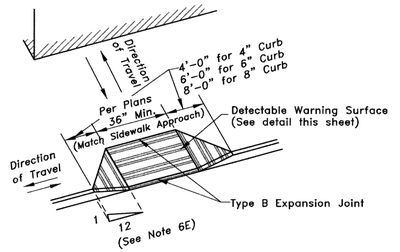


Wheel Chair Ramp Detail A



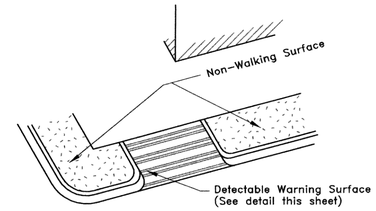
Wheel Chair Ramp Detail B





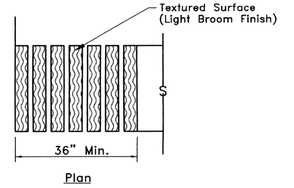
Wheel Chair Ramp Detail C

Flared Sides
Transverse Walking Surface

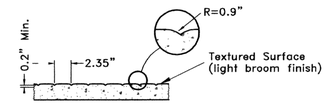


Wheel Chair Ramp Detail D

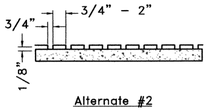
Returned Curb



Plan



Alternate #1



Alternate #2

Detectable Warning Surface Detail

RECORD DRAWINGS

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.	D.O.	S.D.	S.D.	2/27/2010	AS SHOWN	39 OF 52

REVISIONS:	DATE:

SIDEWALK CONST. DETAILS

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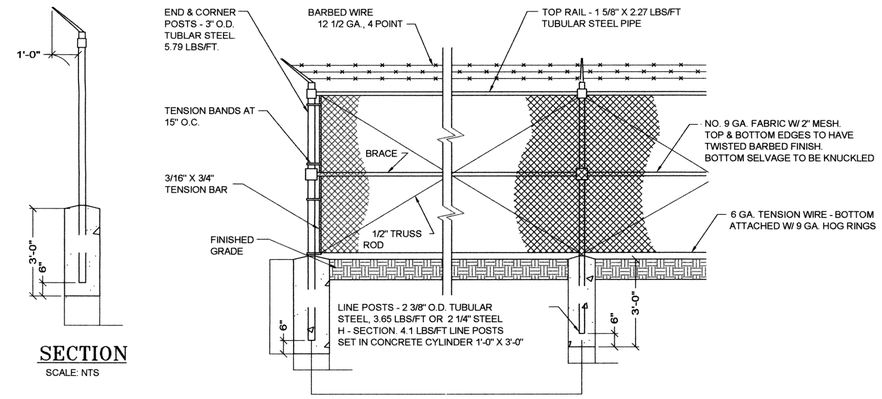
CERTIFICATE OF AUTHORIZATION NO. CA2088

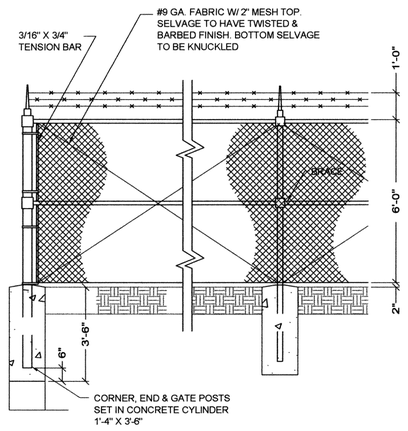
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE_WORK\Process\Details-2.dwg



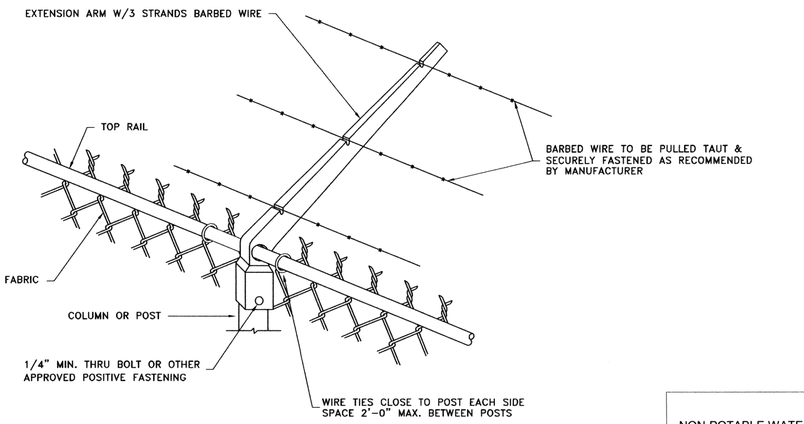
SECTION

SCALE: NTS



CHAIN LINK FENCE OUTSIDE PERIMETER

SCALE: NTS



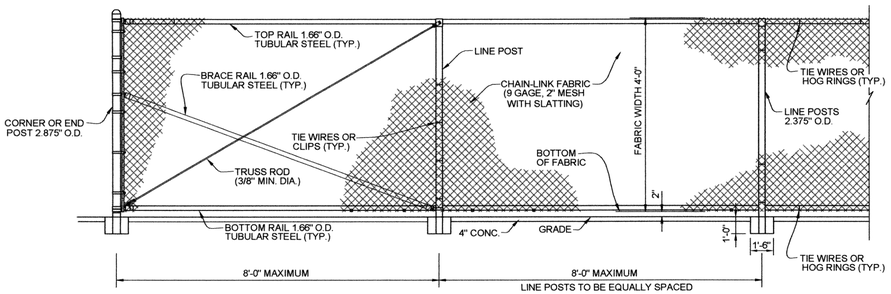
EXTENSION ARM DETAIL

NO SCALE

NON-POTABLE WATER

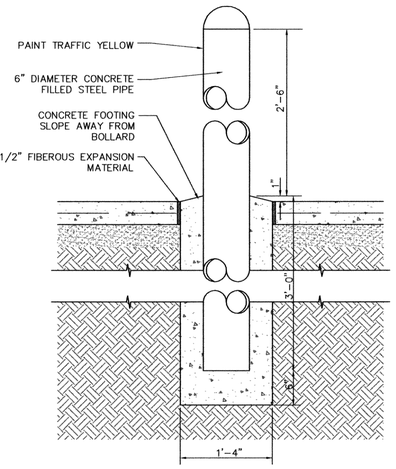
NOT SAFE FOR DRINKING

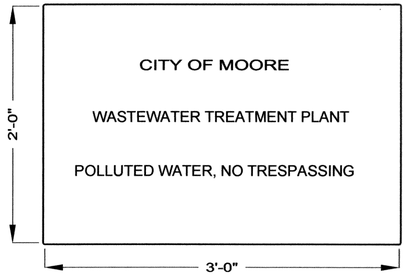
PERMANENTLY POST AT EVERY NON-POTABLE WATER YARD HYDRANT



CHAIN-LINK SECURITY FENCE DETAIL

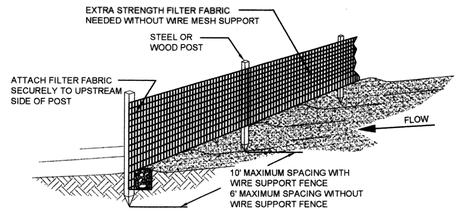
NO SCALE

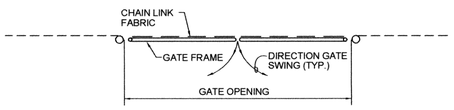




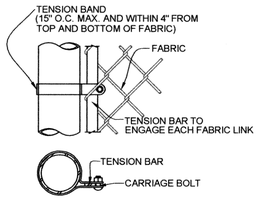
WARNING SIGN

NOT TO SCALE

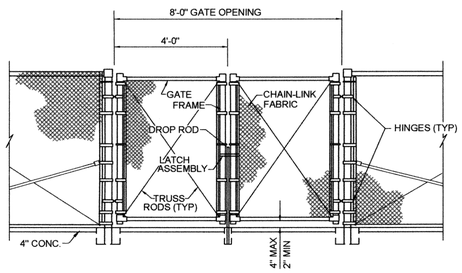




PLAN



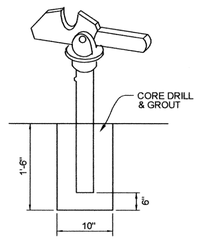
END OR GATE POST DETAIL



ELEVATION

DOUBLE SWING GATE DETAIL

NO SCALE



GATE KEEPER

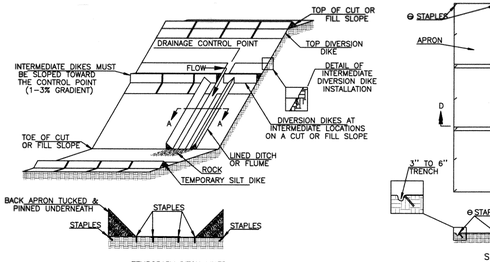
(TO HOLD GATE OPEN)

CHAIN LINK FENCE INSIDE PERIMETER

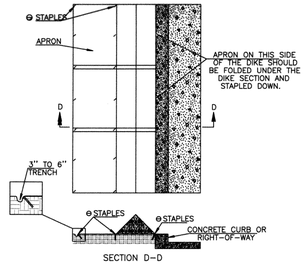
SCALE: NTS

BOLLARD DETAIL

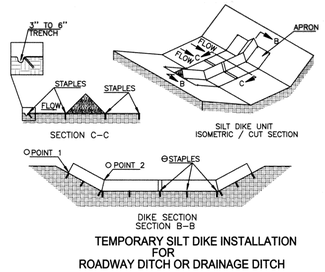
NO SCALE



TEMPORARY SILT DIKE INSTALLATION FOR DIVERSION DIKES AND / OR DITCH LINER



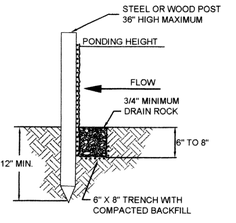
TEMPORARY SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



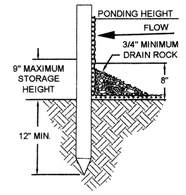
TEMPORARY SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRENCH DETAIL



INSTALLATION WITHOUT TRENCHING

NOTES:

1. MUST BE INSTALLED PROPERLY TO AVOID NOTICE OF VIOLATION.
2. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE POUNDING EFFICIENCY.
3. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
4. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

SILT FENCE DETAIL

SCALE: NTS

BRITISH VASHARATHY 11466 6-17-10 OKLAHOMA REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWINGS

REVISIONS:	DATE:

BOLLARD, SIGN & FENCE DETAILS

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CERTIFICATE OF AUTHORIZATION NO. CA2088

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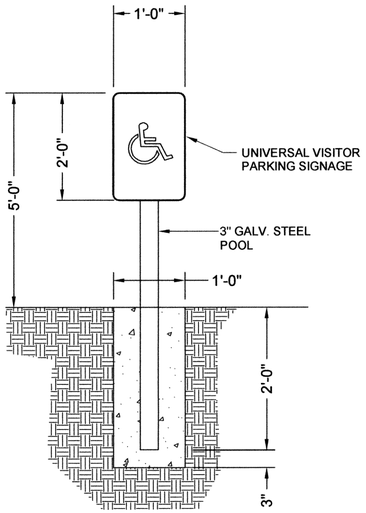
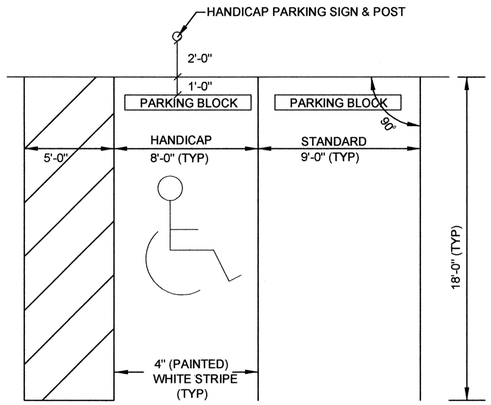
S.D.	D.O.	S.D.	S.D.	3/3/2010	AS SHOWN	40 OF 52

O:_DRAWINGS_MOORE_WORK_Process_Details-2.dwg

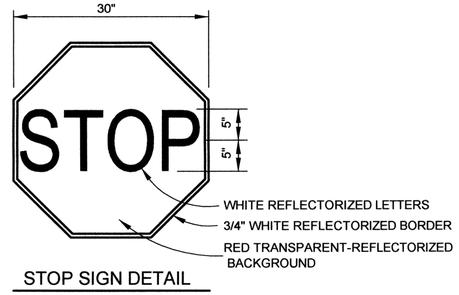
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK



HANDICAP PARKING SIGN & POST



MINIMUM HANDICAP PARKING DETAIL



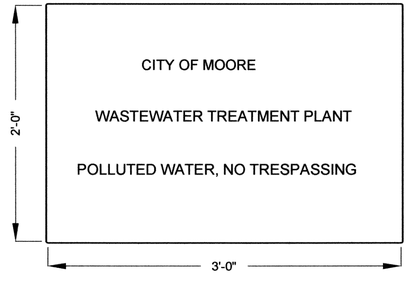
STOP SIGN DETAIL

NO SCALE

STOP SIGN CONSTRUCTION NOTES:
1. SIGN SHALL BE MOUNTED TO GALVANIZED STEEL PIPE POST.
2. SIGN SHALL BE MADE FROM 14 GAGE GALVANIZED STEEL OR 0.080" THICK ALUMINUM ALLOY 6061-T6.
3. SIGN BRACKETS (2) SHALL BE GALVANIZED STEEL OR ALUMINUM CHANNEL 1-1/2"x 1/2"x 1/8" THICK.
4. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED STEEL. ALL BOLT ENDS SHALL BE SUFFICIENTLY BRADDED AFTER FABRICATION OF SIGN TO SIGN POST TO MINIMIZE REMOVAL BY VANDALISM.
5. USE 2"x 9' LONG GALVANIZED STEEL PIPE SIGN POST WITH 36" BURIED. POST SHALL EXTEND 2" ABOVE THE TOP BRACKET, BUT NOT ABOVE THE TOP OF SIGN.

HANDICAP PARKING SIGN & POLE

NOT TO SCALE



WARNING SIGN

NOT TO SCALE

NON-POTABLE WATER

NOT SAFE
FOR DRINKING

PERMANTLY POST AT EVERY
NON - POTABLE WATER YARD HYDRANT

RECORD DRAWINGS

O:\DRAWINGS\MOORE\WORK\Civil\MISCELLENEOUS-DET.DWG

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MISCELLANEOUS STANDARDS

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NON-POTABLE WATER
4" PVC
YARD HYDRANT
ESCALATOR FINE SCREEN
GRIT DEWATERING SCREEN

EXISTING LINE FROM NORTH & WEST SIDE
24" DIP
EXISTING MH
36" DIP LINE 1
EXISTING LINE FROM WEST SIDE
27" DIP
EXISTING MH
36" DIP LINE 2
MH #5 6'Ø
36" DIP LINE 2
MH #4 6'Ø
36" DIP LINE 1
MH #3 6'Ø
36" DIP LINE 1
EXISTING LINE FROM EAST SIDE
24"
EXISTING MH
30" DIP LINE 1
EXISTING LINE FROM EAST SIDE
18"
MH #1 8'Ø
42" DIP LINE 1
MH #2 8'Ø
48" DIP LINE 3

4" NPW LINE 41
FROM NEXT DRAWING
18" DIP LINE 9
FROM NEXT DRAWING
42" DIP LINE 4
CONTINUED NEXT DWG.
CONTINUED NEXT DWG.
Y.H
4" NPW LINE 41
42" DIP LINE 4
30" DIP LINE 5
2" NPW
2" NPW
BYPASS LINE
01SG06
60" CHANNEL
01SG07
02SG05
01SG08
01RC01
2" NPW
4" DRAIN
02SGP01
03SG03
03P01
03CV01
03GV01
LANDFILL
SCREENING GRIT
4'x6' BIN
02GS01
01SG09
02SG04
03SG01
03P02
03CV02
03GV02
01SG01
72" CHANNEL
2" NPW
02SG01
48" MONTANA FLUME
INFLUENT FLOW MESUREMENT
03P03
03CV03
03GV03
01SG05
02SG06
03P04
03CV04
03GV04
03SG02
02GS02
4'x6' BIN
LANDFILL
SCREENING GRIT
02SGP02
1" NPW
2" NPW
01RC02
4" DRAIN
03P05
03CV05
03GV05
01SG02
60" CHANNEL
01SG03
02SG03
01SG04
FINE SCREEN STR # 1
GRIT CHAMBER STR # 2
INFLUENT LIFT STATION STR # 3
HOSE BIB (TYP.)
ODOR CONTROL SYSTEM NOT SHOWN FOR CLARITY
HEADWORKS BUILDING

RECORD DRAWINGS

JOSH OKSHARATHY 11455 7-17-20 OKLAHOMA

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REVISIONS:	DATE:

LIQUID FLOW SCHEMATIC - 1

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Process\Liquid Flow Schematic.dwg

CONTD.PREV. DRAWING

4" NPW

CONTD.NEXT DRAWING

30" DIP LINE 5

CONTD.NEXT DRAWING

24" DIP LINE 6

CONTD.NEXT DRAWING

30" DIP LINE 5

CONTD.PREV. DRAWING

18" GV 9GV01

18" DIP LINE 9

STR. #61

MAG METER 61MM01

18" DIP LINE 9

8" CV 37CV01 | 8" GV 37GV01 | 37P01

8" CV 37CV02 | 8" GV 37GV02 | 37P02

8" CV 37CV03 | 8" GV 37GV03 | 37P03

18" GV 9AGV01

24" DIP LINE6

FROM PREV. DRAWING

30" DIP LINE 5

STR. #66

MAG METER 66MM01

30" DIP LINE 5

5ZPV01

5APV01 M

24" DIP LINE 5Z

N. POND RETURN

24" DIP LINE 27

PLANT DRAIN

CONTINUED NEXT DWG.

STR. #37: RETURN LIFT STATION

24" DIP LINE 26

6APV01 M

24" DIP LINE 5A

24" DIP LINE 6A

MH #7

LINE 9A 18" DIP

STR. #68 MAG METER BOX

MAG METER 68MM01

35BL01 PD BLOWER | 35BL02 PD BLOWER | 35BL03 PD BLOWER | 35BL04 PD BLOWER

24" DIP LINE 26

STR. #35 BLOWER PAD

36SG01 | 36SG02

STR. #36 SPLITTER BOX

36SG03 | 36SG04

STR. #33 NORTH POND NORTH CELL

STR. #34 NORTH POND SOUTH CELL

NORTH HOLDING POND
BLOWER AIR PIPING, VALVES, DIFFUSERS
NOT SHOWN FOR CLARITY

Y.H (TYP.)

4" NPW

CONTD. NEXT DRAWING

FROM PREV. DRAWING

42" DIP LINE 4 (BYPASS)

42" DIP LINE 4

MH #6 6'Ø

EXISTING MH

48" LINE EXISTING

36" PARSHALL FLUME STR.#5-1

20" 10" 10" GV 05GV01 | 05P01 | 14" CV 05CV01 | 14" GV 05GV06

20" 10" 10" GV 05GV02 | 05P02 | 14" CV 05CV02 | 14" GV 05GV07

20" DIP

18" 8" 8" GV 05GV03 | 05P03 | 14" CV 05CV03 | 14" GV 05GV08

20" GV 05GV11

18" 8" 8" GV 05GV04 | 05P04 | 14" CV 05CV04 | 14" GV 05GV09

20" GV 05GV12

18" 8" 8" GV 05GV05 FUTURE PUMP 14" GV 05GV10

LINE 6 24" DIP

STR. #5 (SECONDARY HEADWORKS PUMP STATION IN EXISTING BUILDING)

RECORD DRAWINGS

DINESH DASHARATHY 11466 6-17-20

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S.D.		S.D.	S.D.	3/10/10	NO SCALE	43 OF 52

REVISIONS:	DATE:

LIQUID FLOW SCHEMATIC - 2

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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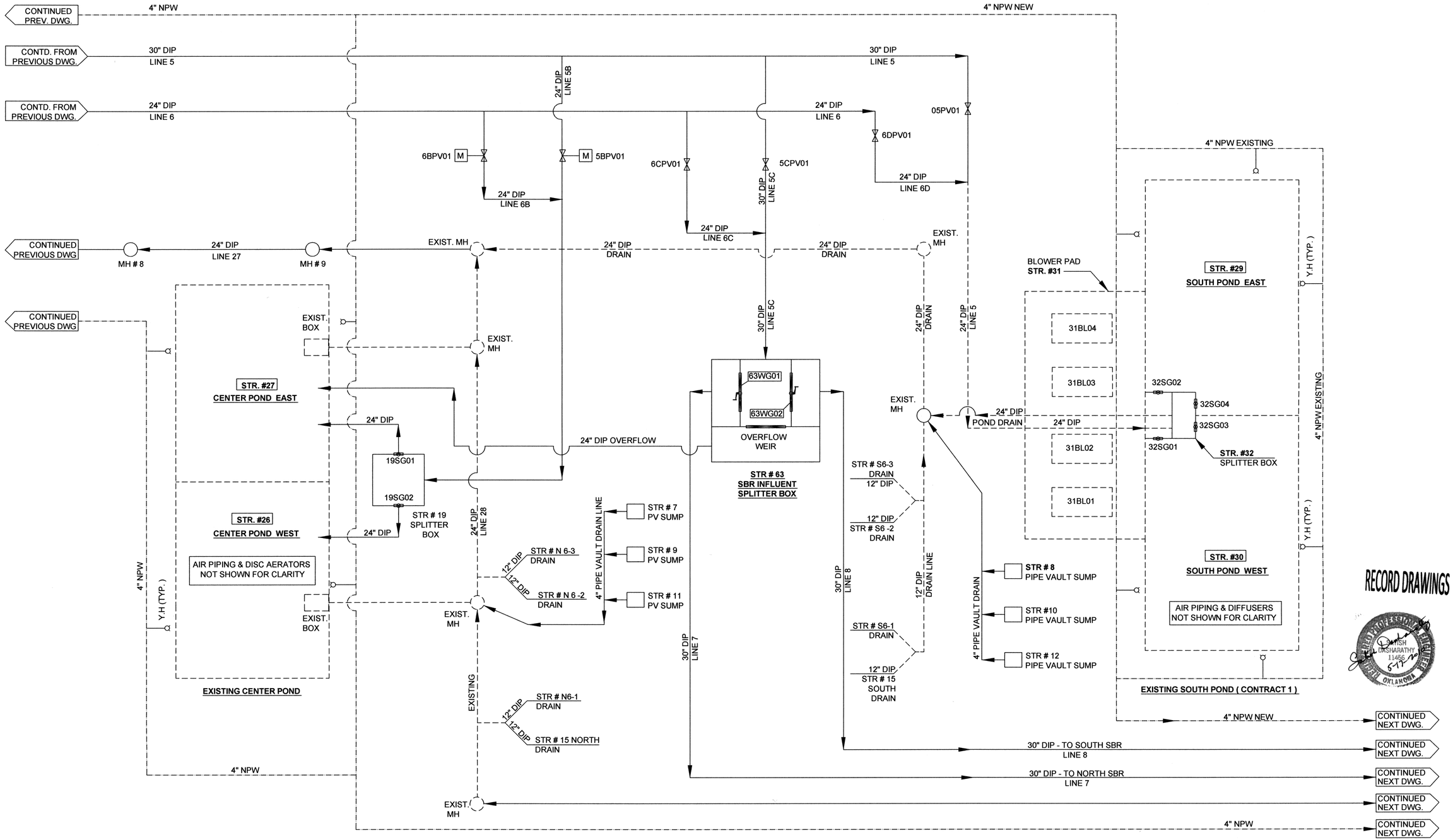

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S.D.		S.D.	S.D.	5/5/10	NO SCALE	44 OF 52

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LIQUID FLOW SCHEMATIC SHEET 3

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Process\Liquid Flow Schematic.dwg

MH # 11
MH # 12
SOUTH AEROBIC DIGESTER DECANT LINE 35
MH # 13
NORTH AEROBIC DIGESTER DECANT LINE 34
EXIST. MH
EXIST. MH
EXISTING FILTER BACKWASH
BELT FILTER PRESS BLDG DRAIN LINE
BFP/AD CHEM FEED BLDG DRAIN LINE
SOUTH AEROBIC DIGESTER DRAIN - 12" DIP LINE 33
AD SCRUBBER DRAIN LINE 33A
NORTH AEROBIC DIGESTER DRAIN - 12" DIP LINE 32
MH # 19
MH # 20
MH # 21
MH # 22
ADMIN BLDG SERVICE
BFP SCRUBBER DRAIN LINE 38
MAINTENANCE BLDG SERVICE
MAINTENANCE BLDG SERVICE
NPW LINE
CONTINUED NEXT DRAWING.
CONTINUED FROM PREV. DWG.
CONTINUED FROM PREV. DWG.
CONTINUED FROM PREV. DWG.
NORTH SBR INFLUENT LINE
36"DIP LINE 14
36"DIP LINE 14
CONTINUED NEXT DRAWING.
MH # 10
TO SLUDGE P.S. SOUTH
10"DIP
TO SLUDGE P.S. NORTH
24" DIP LINE 12
TO SLUDGE P.S. NORTH
8" SL
36"DIP LINE 14
36"DIP LINE 7
11MP01
STR #11
24" EFF
11PV04
11ARV01
11PV02
11PV03
11PV05
11PV01
06N01BFV01
06N01BFV02
09MP01
STR #9
24" EFF
09PV04
09ARV01
09PV03
09PV05
30" INF
09PV02
09PV01
06N02BFV01
06N02BFV02
STR #13
07PV04
07MP01
STR #7
24" EFF
07ARV01
07PV03
07PV05
30" INF
07PV02
07PV01
06N03BFV01
06N03BFV02
NORTH SCUM WELL STR# 69
16" DIP
24" DIP LINE 12
8" SL
60 FM02
60 KV02
60 PV02
STR #60
60 PV01
60 FM01
60 KV01
MH # 16
STR# 60 SUMP LINE
YH
4" NPW
06N03PV01
15 NMV01
06N01MV01
06N01PV01
06N01DC01
06N01DC02
06N01JH01
06N01JH02
06N01SH01
06N1ST01
06N02PV01
06N02DC01
06N02DC02
06N02JH01
06N02JH02
06N02SH01
06N02MV01
06N03MV01
06N03JH01
06N03DC01
06N03DC02
06N03JH02
06N03NHV01
06N03JH02
NORTH SBR EFFLUENT FLOW EQUALIZATION TANK STR #15
NORTH SBR TANK 1 STR # N 6 - 1
NORTH SBR TANK 2 STR # N 6 - 2
NORTH SBR TANK 3 STR # N 6 - 3
FUTURE SBR TANK 4 STR # N 6 - 4
SBR SCRUBBER DRAIN LINE 30A
MH # 17
SBR CHEM FEED BLDG. DRAIN LINE 30B
MH # 18
SOUTH SBR TANK 1 STR # S 6 - 1
SOUTH SBR TANK 2 STR # S 6 - 2
SOUTH SBR TANK 3 STR # S 6 - 3
FUTURE SBR TANK 4 STR # S 6 - 4
SOUTH SBR EFFLUENT FLOW EQUALIZATION TANK STR #15
15 SMV01
06S01MV01
06S01PV01
06S01SH01
06S01JH01
06S01JH02
06S01DC01
06S01DC02
06S01H01
06S1ST01
06S02PV01
06S02SH01
06S02JH01
06S02JH02
06S02DC01
06S02DC02
06S02H01
06S02MV01
06S03MV01
06S03PV01
06S03SH01
06S03JH01
06S03JH02
06S03DC01
06S03DC02
06S03H01
SOUTH SCUM WELL STR# 70
16" DIP
10"DIP
24" EFF
8" SL
06S01BFV01
06S01BFV02
12PV01
12PV02
12PV05
12PV03
12ARV01
12MP01
STR #12
24" EFF
12PV04
06S02BFV01
06S02BFV02
10PV01
10PV02
30" INF
10PV05
10PV03
10ARV01
10MP01
STR #14
24" EFF
10PV04
STR #10
06S03BFV01
06S03BFV02
08PV01
08PV02
30" INF
08PV05
08PV03
08ARV01
08MP01
STR #8
24" EFF
08PV04
24" DIP LINE 13
24" DIP LINE 13
30"DIP LINE 8
TO SLUDGE P.S. SOUTH
TO SLUDGE P.S. SOUTH
TO SLUDGE P.S. SOUTH
TO SLUDGE P.S. SOUTH
CONTINUED FROM PREV. DWG.
CONTINUED FROM PREV. DWG.
30"DIP LINE 8
SOUTH SBR INFLUENT LINE

1. SBR BLOWER AIR PIPING NOT SHOWN FOR CLARITY
2. SLUDGE FLOW SCHEMATIC SHOWN SEPARATELY

RECORD DRAWINGS

SATISH DASHARATHY 11466 5-17-10 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

REVISIONS:	DATE:

LIQUID FLOW SCHEMATIC SHEET 4

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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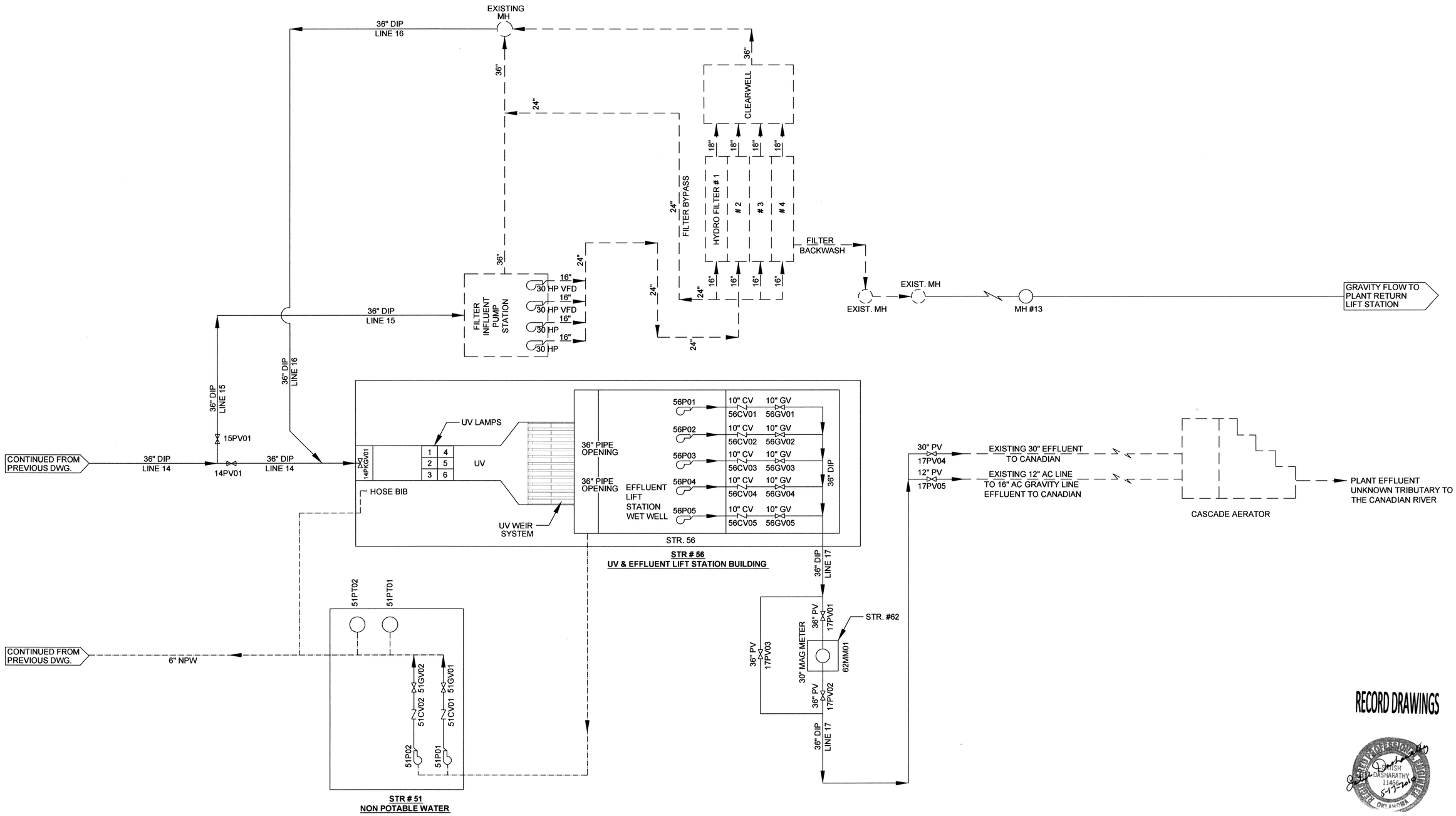

RECORD DRAWINGS

DEVAKUMAR DORAISWAMY DARSHARATHY 11466 5-17-2010 OKLAHOMA

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LIQUID FLOW SCHEMATIC SHEET 5

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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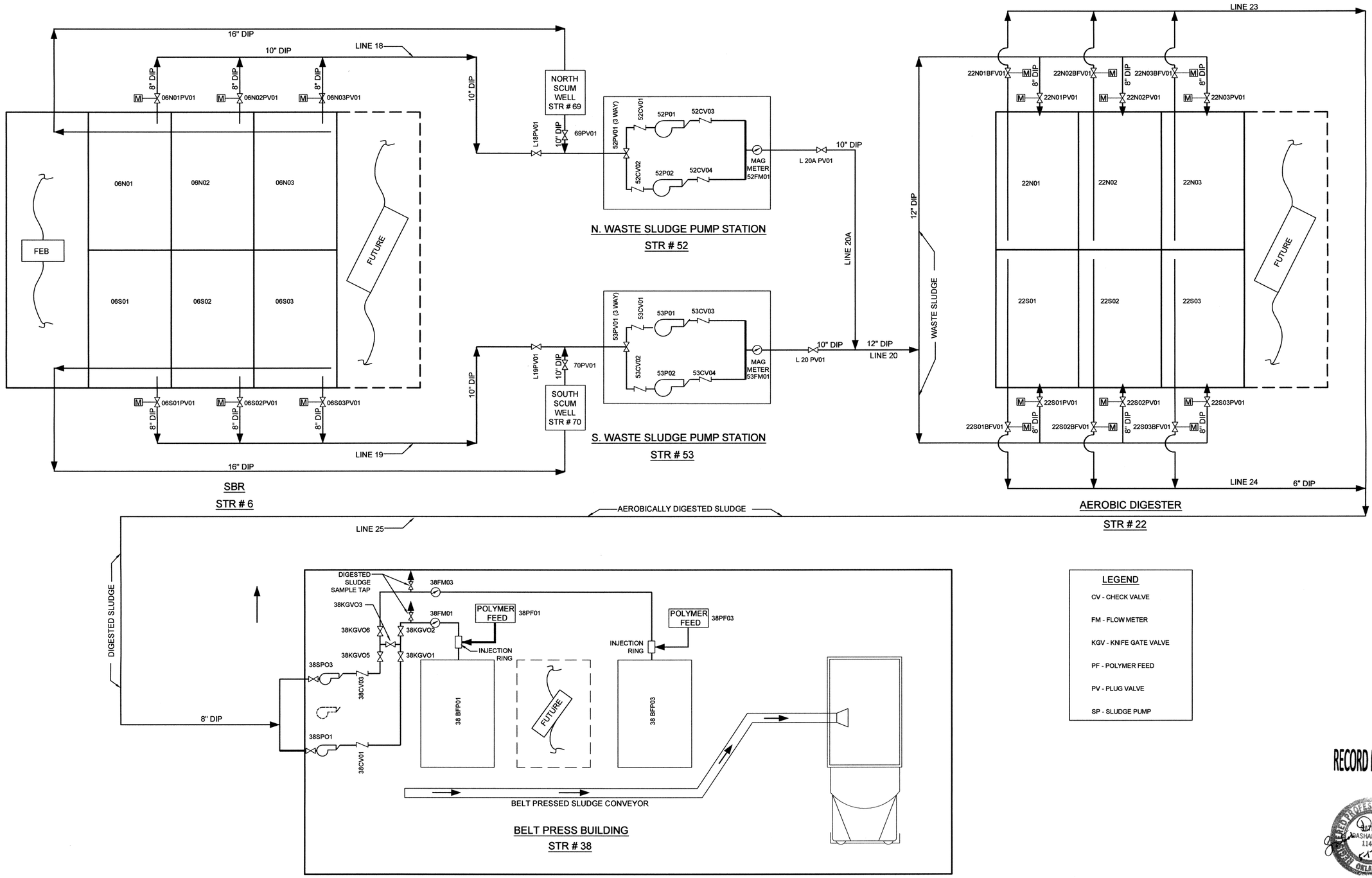

LEGEND
CV - CHECK VALVE
FM - FLOW METER
KGV - KNIFE GATE VALVE
PF - POLYMER FEED
PV - PLUG VALVE
SP - SLUDGE PUMP

RECORD DRAWINGS

REVISIONS:	DATE:

SLUDGE FLOW SCHEMATIC

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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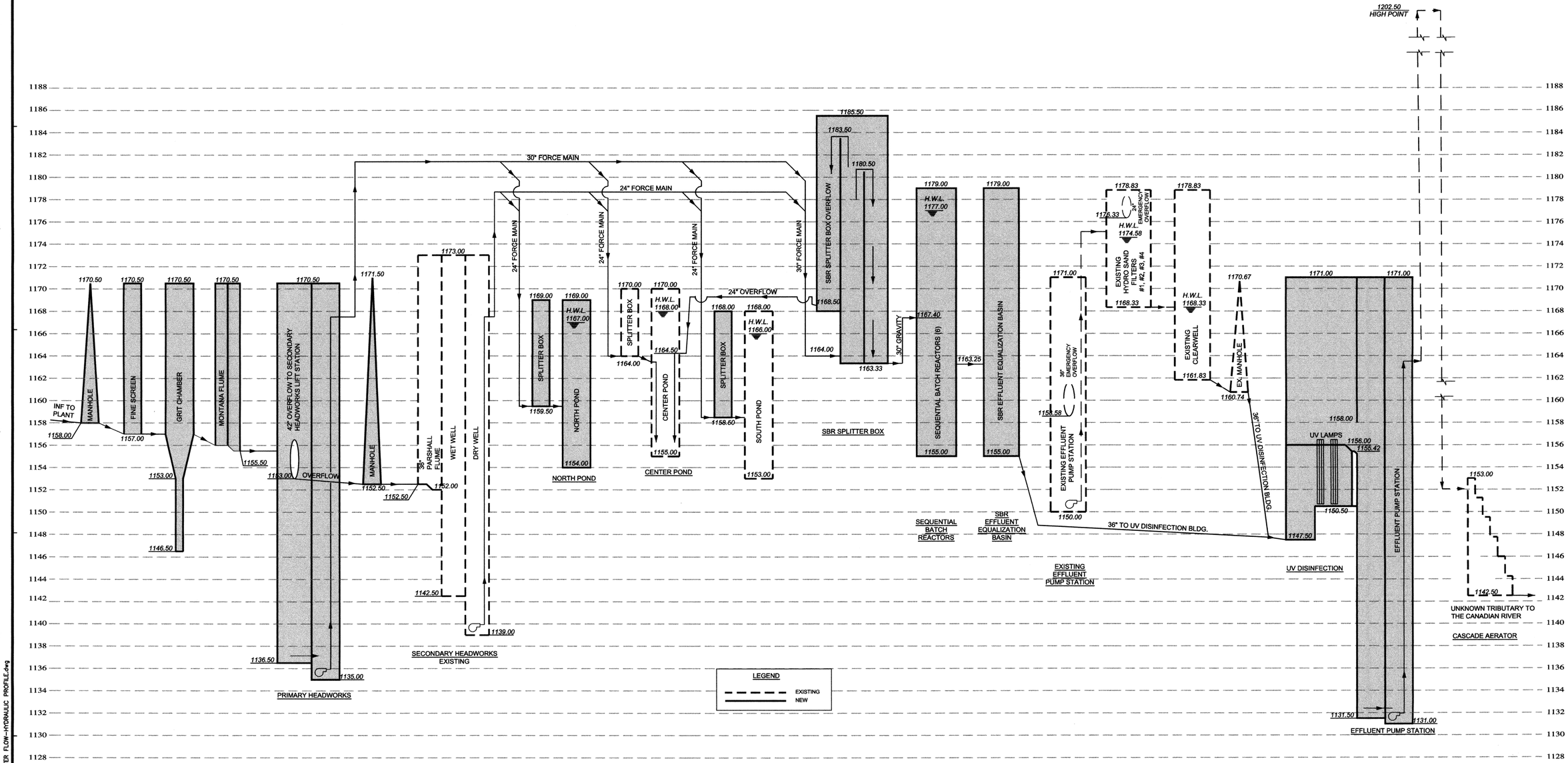

WASTEWATER FLOW - HYDRAULIC PROFILE

RECORD DRAWINGS

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WASTEWATER FLOW HYDRAULIC PROFILE

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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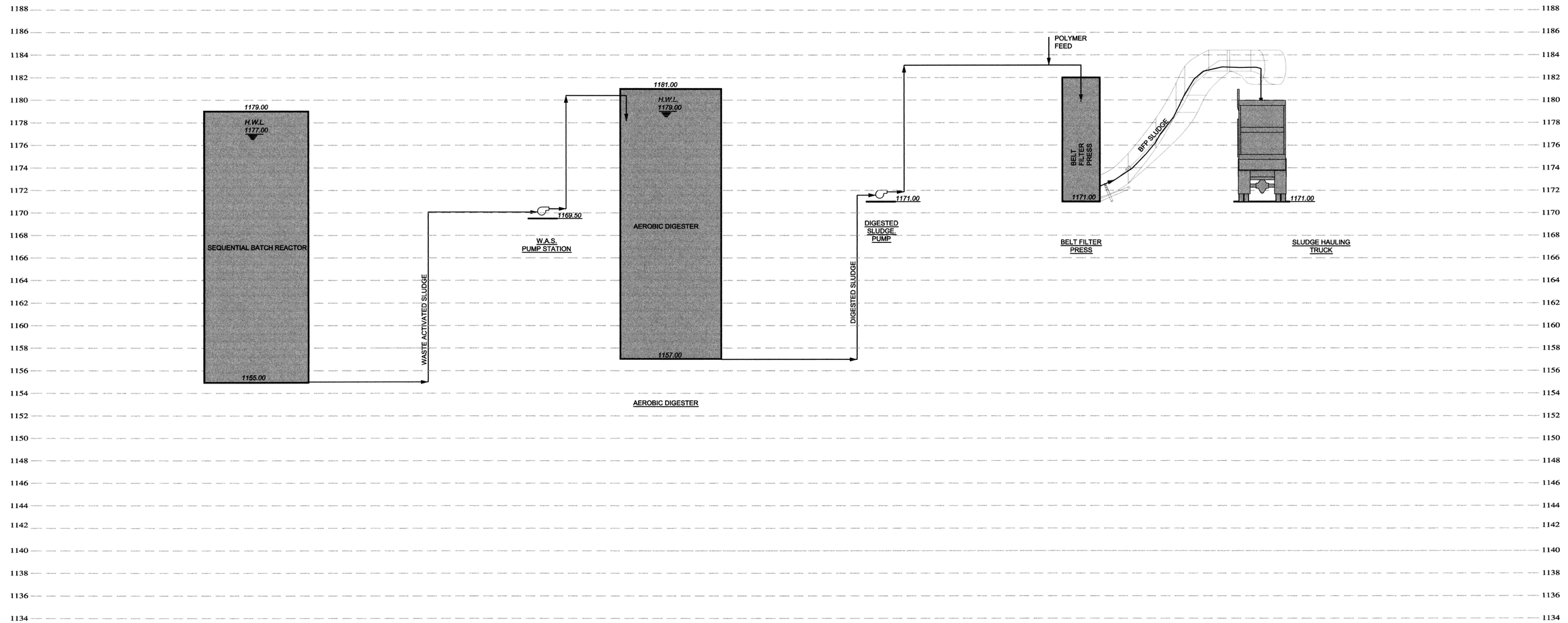

SLUDGE FLOW - HYDRAULIC PROFILE

RECORD DRAWINGS

REGISTERED PROFESSIONAL ENGINEER
SATISH DASHARATHY
11456
6-17-10
OKLAHOMA

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
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SLUDGE FLOW
HYDRAULIC PROFILE

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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ANIMAL SHELTER
FFE. 1171.00 ±
BUILDING SEWER
1170.25
1166.00
MANHOLE 22
1163.00
BFP ODOR CONTROL SYSTEM
1171.00
1166.00
MANHOLE 21
1160.00
ODOR CONTROL DRAIN
1161.00
CLEANOUT
SAND INTERCEPTOR
OIL INTERCEPTOR
1165.50
MANHOLE 20
1159.17
LINE 31
MAINTANCE BUILDING
VEHICLE MAINT. AREA
BUILDING AREA
1171.00
1169.29
MANHOLE 19
1158.17
BUILDING SEWER
ADMIN. BUILDING
1171.00
BUILDING SEWER
1170.00
MANHOLE 11
1152.35
IDENTICAL POINT AT MH 11
SOUTH AEROBIC DIGESTER
1181.00
1179.00
1166.50
1157.00
1163.00
EXIST. MANHOLE
1151.00
1168.50
MANHOLE 10
1152.20
BELT FILTER PRESS BUILDING
1171.00
1170.00
MANHOLE 11
1152.35
BUILDING DRAIN LINE
AEROBIC DIGESTER / BELT FILTER PRESS CHEMICAL FEED BUILDING
ELECTRICAL ROOM
1171.00
SUMP
1169.25
1167.08
BUILDING DRAIN LINE
1170.15
MANHOLE 12
1153.00
1152.55
LINE 29
AEROBIC DIGESTER ODOR CONTROL SYSTEM
1171.50
1170.00
MANHOLE 13
1152.75
DECANT LINE
1163.00
1168.41
EXIST. MANHOLE
1153.41
NORTH AEROBIC DIGESTER
1181.00
1179.00
1166.50
1157.00
1168.50
EXIST. MANHOLE
1151.00
IDENTICAL POINT AT EXISTING MH
1170.00
MANHOLE 10
1152.20
1170.25
MANHOLE 16
1159.40
1158.89
1164.00
SBR ODOR CONTROL SYSTEM
1170.25
MANHOLE 17
1164.42
LINE 30
1164.92
MANHOLE 18
1169.84
SBR CHEMICAL FEED BUILDING FOR ODOR CONTROL
ELECTRICAL ROOM
1170.00
SUMP
1168.25
1166.50
BUILDING DRAIN LINE

DRAINS AND SEWERS - HYDRAULIC PROFILE

RECORD DRAWINGS

SHEET 1

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W W T P DRAINS & SEWERS
HYDRAULIC PROFILE

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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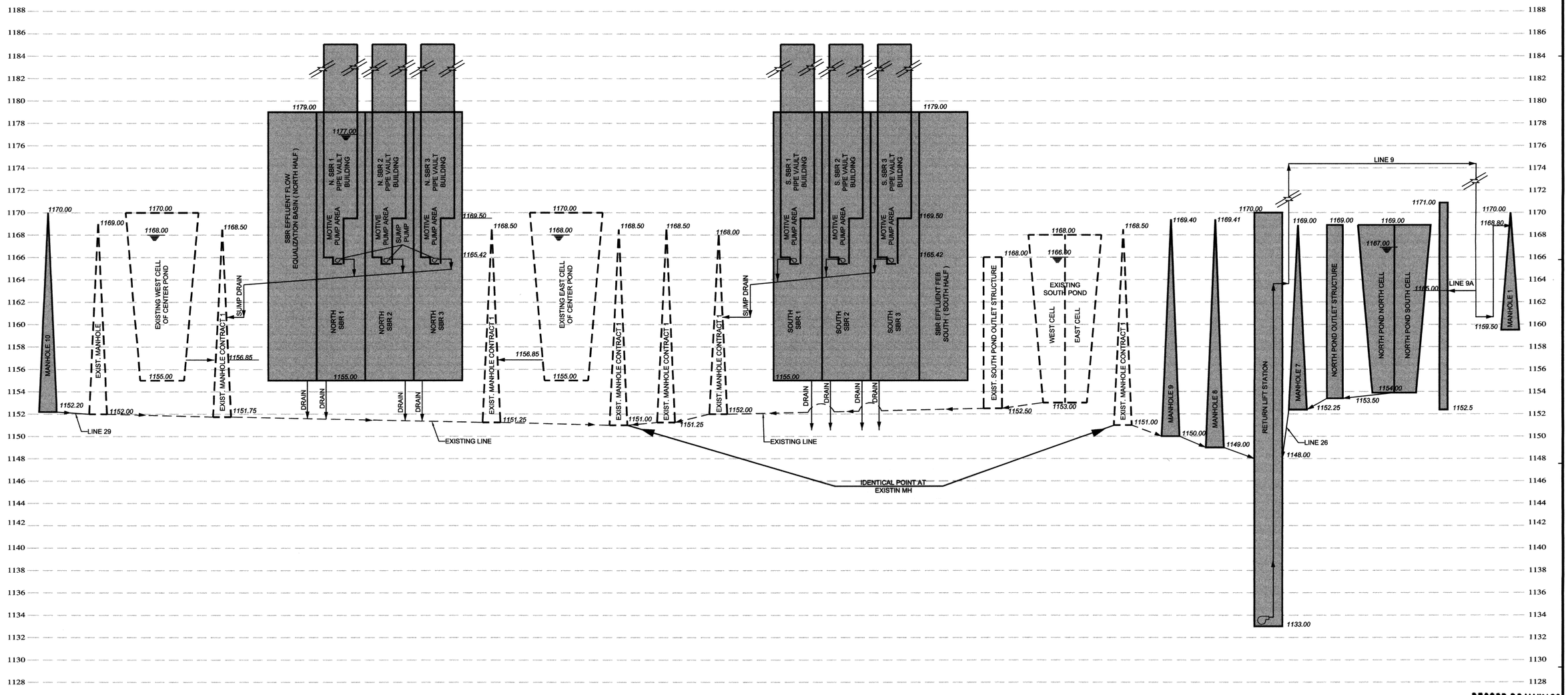

DRAINS AND SEWERS - HYDRAULIC PROFILE

RECORD DRAWINGS

SHEET 2

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W W T P DRAINS & SEWERS
HYDRAULIC PROFILE

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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0 15 30 60

Scale 1" = 30'

NORTH AEROBIC DIGESTERS

CHEMICAL FEED BUILDING FOR AD & BELT FILTER PRESS

BELT FILTER PRESS BUILDING

NORTH SBR

SOUTH SBR

ADMIN. BUILDING

CHEMICAL FEED BUILDING SBR

MAINTENANCE BUILDING

UV BUILDING

SOUTH AEROBIC DIGESTERS

"TO STAY" ANIMAL SHELTER BUILDING

HEADWORKS BUILDING

R 3 W
SW 34th ST.
TELEPHONE RD.
I-35
35
SITE LOCATION
S. EASTERN AVE.
T 10 N
INDIAN HILLS RD.

LOCATION MAP

LANDSCAPE PLAN TABLE

Symbol	Quantity	Common name	Size	Spacing
	Trees			
C	10	Dymanite Crape Myrtle	15 gallon	See plan
R	17	Oklahoma Redbud	2"Caliper	See plan
E	12	Lacebark Elm	3"Caliper	See plan
P	8	Chinese Pistache	3"Caliper	See plan
O	17	Shumurdii Oak	3"caliper	See plan
	Shrubs			
Hg	27	Draft Hamlen Grass	1 gallon	See plan
Bx	32	Wintergem Boxwood	3 gallon	See plan
Cn	16	Compacta Nandina	3 gallon	See plan
Kr	16	Knockout Rose	3 gallon	See plan
Ns	5	Nellie Stevens Holly	15 gallon	See plan
Dpg	3	Ivory Feathers Pampas Grass	5 gallon	See plan
Da	34	Compacta Abelia	3 gallon	See plan

RECORD DRAWINGS

SATISH DASHARATHY 11465 7-16-10 OKLAHOMA

NOTES:

1. 3" RICH-MIX SOIL IN ALL LANDSCAPE BEDS.
2. 3" ALL BARK CEDER MULCH FOR BEDS AND TREES.
3. 2 T-POSTS AND GUY WIRE FOR ALL TREES EXCEPT CRAPE MYRTLE.
4. STEEL EDGING BORDER BETWEEN LANDSCAPE BEDS AND TURF.
5. SPREAD BED PRE - EMERGENT AND ORNAMENTAL FERTILIZER IN LANDSCAPE BEDS.
6. LANDSCAPE BEDS - 1,430 SQUARE FEET.
7. IRRIGATION SHALL BE DONE MANUALLY. HAND WATER USING NON - POTABLE WATER.

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ADDENDUM 1	7/14/2010

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LANDSCAPING PLAN

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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6	DIGESTER CONTROL DIAGRAM I-4
7	BELT FILTER PRESS CONTROL DIAGRAM I-5
8	RETURN AND EXISTING LIFT STATIONS CONTROL DIAGRAM I-6
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11	HEADWORKS OVERALL PLAN
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13	STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL
14	SLIDE GATE DETAILS
15	STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL SECTIONS
16	STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL SECTIONS
17	STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL PIPING DETAILS
18	STRUCTURE NO. 3 PRIMARY HEADWORKS PUMP STATION
19	SLIDE GATE DETAILS
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48	SOUTH SBR BLOWER AIR PIPING DETAILS

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94	MAG METER AT STR 66 STRUCTURAL DETAILS
95	MAG METER AT STR 68 PIPING DETAILS & SCHEDULE

REGISTERED PROFESSIONAL ENGINEER
S. DASHNATHY
21068
OKLAHOMA

REVISIONS:	DATE:
ADDENDUM 1	7/14/10

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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GENERAL NOTES:

1. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY, AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CONTRACTOR TO CALL OKIE AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 1-800-522-6543.
2. THE ENGINEER AND THE CITY OF MOORE MUST APPROVE, PRIOR TO CONSTRUCTION, ANY ALTERATION OR VARIANCE FROM THESE PLANS. ANY VARIATION FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND SUBMITTED TO THE ENGINEER.
3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWINGS, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN KIND, UNLESS NOTED OTHERWISE.
4. ANY INSPECTION BY THE CITY OR COUNTY SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND AGENCY REQUIREMENTS.
5. CONTRACTOR IS TO LOCATE ALL EXISTING PROPERTY MONUMENTS PRIOR TO CONSTRUCTION. A REGISTERED LAND SURVEYOR, AT THE CONTRACTOR'S EXPENSE, SHALL REPLACE ANY MONUMENTS DISTURBED DURING THE CONSTRUCTION OF THIS PROJECT.
6. ALL CONTROL POINTS SHALL BE LEFT UNDISTURBED. THE CONTRACTOR SHALL CALL THE ENGINEER TO REFERENCE AND RESET OR OFFSET ANY CONTROL POINTS THAT HAVE BEEN OR WILL BE DISTURBED PRIOR TO THE BEGINNING OF CONSTRUCTION. FIELD VERIFY FLOWLINES AND BUILDING FLOOR ELEVATIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
7. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8. PRIOR TO FINAL APPROVAL AND ACCEPTANCE OF THE WORK, THE CONTRACTOR WILL BE REQUIRED TO CLEAN AND REPAIR ADJACENT (OFF-PROJECT) ROADWAYS USED OR DAMAGED DURING THE COURSE OF CONSTRUCTION.
9. THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 1999 EDITION SHALL GOVERN, UNLESS NOTED OTHERWISE.
10. THE MOORE PUBLIC WORKS DEPARTMENT WATER AND WASTEWATER DIVISION CURRENT STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY SPECIFICALLY TO WATER AND WASTEWATER CONSTRUCTION. WHERE THERE IS CONFLICT WITH THE STATE STANDARD, THE MOORE STANDARD SPECIFICATIONS WILL APPLY TO WATER AND WASTEWATER CONSTRUCTION.

GRADING AND PAVING NOTES:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL STRUCTURES, UNDERGROUND PIPELINES, ELECTRICAL AND TELEPHONE CONDUITS, EITHER SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY CONSTRUCTION, AND TO OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO THESE FACILITIES. THE ENGINEER WILL NOT GUARANTEE ANY ELEVATIONS OR LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS.
2. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VERIFY ALL QUANTITIES, INCLUDING EXCAVATION, BORROW, EMBANKMENT, SHRINK OR SWELL, GROUND COMPACTION, HAUL, AND ANY OTHER ITEMS NEEDED TO COMPLETE THESE PLANS. IT SHALL BE THE BIDDER'S RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION OF ANY MAJOR DISCREPANCIES BETWEEN HIS ESTIMATED QUANTITIES AND THE ENGINEER'S ESTIMATE.
3. ALL FILL SHALL BE PLACED, COMPACTED, AND FILL SITES PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SOIL INVESTIGATION REPORT. CONTROL OF MOISTURE AND TYPE OF COMPACTION EQUIPMENT USED IS OPTIONAL WITH THE CONTRACTOR.
4. DUST SHALL BE CONTROLLED BY WATERING. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS.
5. ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
6. ALL TEMPORARY WATER AND POWER FACILITIES SHALL BE REMOVED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
7. ANY QUESTIONS RAISED RELATIVE TO THE ACCURACY OF IMPROVEMENT INSTALLATION SHALL BE RAISED PRIOR TO THE COMMENCEMENT OF THE WORK IN QUESTION.
8. PRIME COAT SHALL BE APPLIED AT 0.10 GALLON PER S.Y.
9. TACK COAT SHALL BE APPLIED AT 0.050 GALLON PER S.Y.
10. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO EXISTING CURB AND GUTTER. DAMAGE DONE TO EXISTING CURB AND GUTTER BY CONTRACTOR'S EQUIPMENT SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.

WATER AND SEWER NOTES:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL STRUCTURES, UNDERGROUND PIPELINES, ELECTRICAL AND TELEPHONE CONDUITS, EITHER SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY CONSTRUCTION, AND TO OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO THESE FACILITIES. THE ENGINEER WILL NOT GUARANTEE ANY ELEVATIONS OR LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNCOVER ALL EXISTING SEWER AND WATER LINES BEING CONNECTED TO, AND TO VERIFY THE LOCATIONS, SIZE AND FLOW LINE ELEVATIONS OF THE PIPE, BEFORE ANY CONSTRUCTION BEGINS.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROVIDE STATIONING OR DISTANCES ON ALL NEW SEWER LINES, MANHOLES, CLEANOUTS, TAPS, WATER LINES, VALVES AND FIRE HYDRANTS INSTALLED IN THIS PROJECT TO THE ENGINEER.
4. ANY CONSTRUCTION PERFORMED WITHOUT THE KNOWLEDGE OF THE CITY INSPECTOR OR HIS REPRESENTATIVE IS LIABLE FOR REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
5. ANY QUESTIONS RAISED RELATIVE TO THE ACCURACY OF IMPROVEMENT INSTALLATION SHALL BE RAISED PRIOR TO THE COMMENCEMENT OF THE WORK IN QUESTION.
6. CONTRACTOR SHALL VERIFY FINISHED GRADES AS SHOWN ON THE APPROVED GRADING AND DRAINAGE PLANS PRIOR TO CONSTRUCTION.
7. ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. COMPACTION SHALL BE PER UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
9. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION STAKING. THE CONTRACTOR SHALL ARRANGE FOR CONSTRUCTION STAKING.

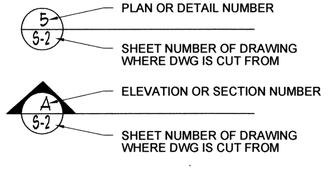
LEGEND

- INF — INFLUENT
- EFF — EFFLUENT
- SL — SLUDGE
- DR — DRAIN
- DDL — DIGESTER DECANTER LINE
- AIR — AIR
- STORM SEWER
- PROPOSED PAVEMENT
- PW — POTABLE WATER
- NPW — NON-POTABLE WATER
- PROPERTY LINE
- MAGNETIC METER
- VALVE
- MANHOLE
- AUTOMATIC PLUG VALVE
- A.P.V. AUTOMATIC PLUG VALVE
- A.B.F.V. AUTOMATIC BUTTERFLY VALVE

PIPE MATERIAL DESIGNATIONS

AC	ASBESTOS CONCRETE
CI	CAST IRON
CS	CARBON STEEL
CP	COPPER
DI	DUCTILE IRON
FRP	FIBERGLASS REINFORCED PIPE
GS	GALVANIZED STEEL
HDP	HIGH DENSITY POLYETHYLENE
PCCP	PRESSURIZED CONCRETE CYLINDER PIPE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SS	STAINLESS STEEL
VCP	VITRIFIED CLAY PIPE

REFERENCE SYMBOLS



TOPOGRAPHIC LEGEND

- AIR CONDITIONER UNIT
- FIRE HYDRANT
- FLAG POLE
- GAS METER
- GAS VALVE
- GAS VENT
- GROUND TRANSFORMER
- GUARD POST
- LIGHT POLE
- STORM DRAIN MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- TELEPHONE MANHOLE
- MONITORING WELL
- PAY PHONE
- TRANSFORMER POLE
- POWER POLE
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SANITARY SEWER CLEANOUT
- COMMERCIAL SIGN
- SIGN
- SPRINKLER HEAD
- SPRINKLER VALVE
- TELEPHONE RISER
- TRAFFIC/ELECTRIC PULL BOX
- WATER METER
- WATER VALVE BOX
- UST FUEL FILL PORT
- VACUUM
- AIR VENT
- ELECTRIC MOTOR
- SHUTOFF VALVE/GATE VALVE
- PUMP

- BARBED WIRE FENCE
- CHAINLINK FENCE
- PIPERAIL FENCE
- STOCKADE FENCE
- SECURITY FENCE
- ELECTRIC FENCE
- HOG WIRE FENCE
- ELECTRIC UNDERGROUND LINE
- OVERHEAD ELECTRIC LINE
- GAS LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- OVERHEAD TELEPHONE LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE TV LINE
- WATER LINE
- 1185 GROUND SURFACE CONTOUR
- CURB AND GUTTER
- SURFACE DRAINAGE FLOWLINE
- TC=1121.63 TOP OF CURB SPOT ELEVATION
- G=1121.13 GUTTER SPOT ELEVATION
- X 1123.5 SPOT ELEVATION
- CONCRETE
- ASPHALT
- GRAVEL

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GENERAL NOTES & LEGEND

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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Civil\C1_LegendNotes.dwg

INSTRUMENT LEGEND

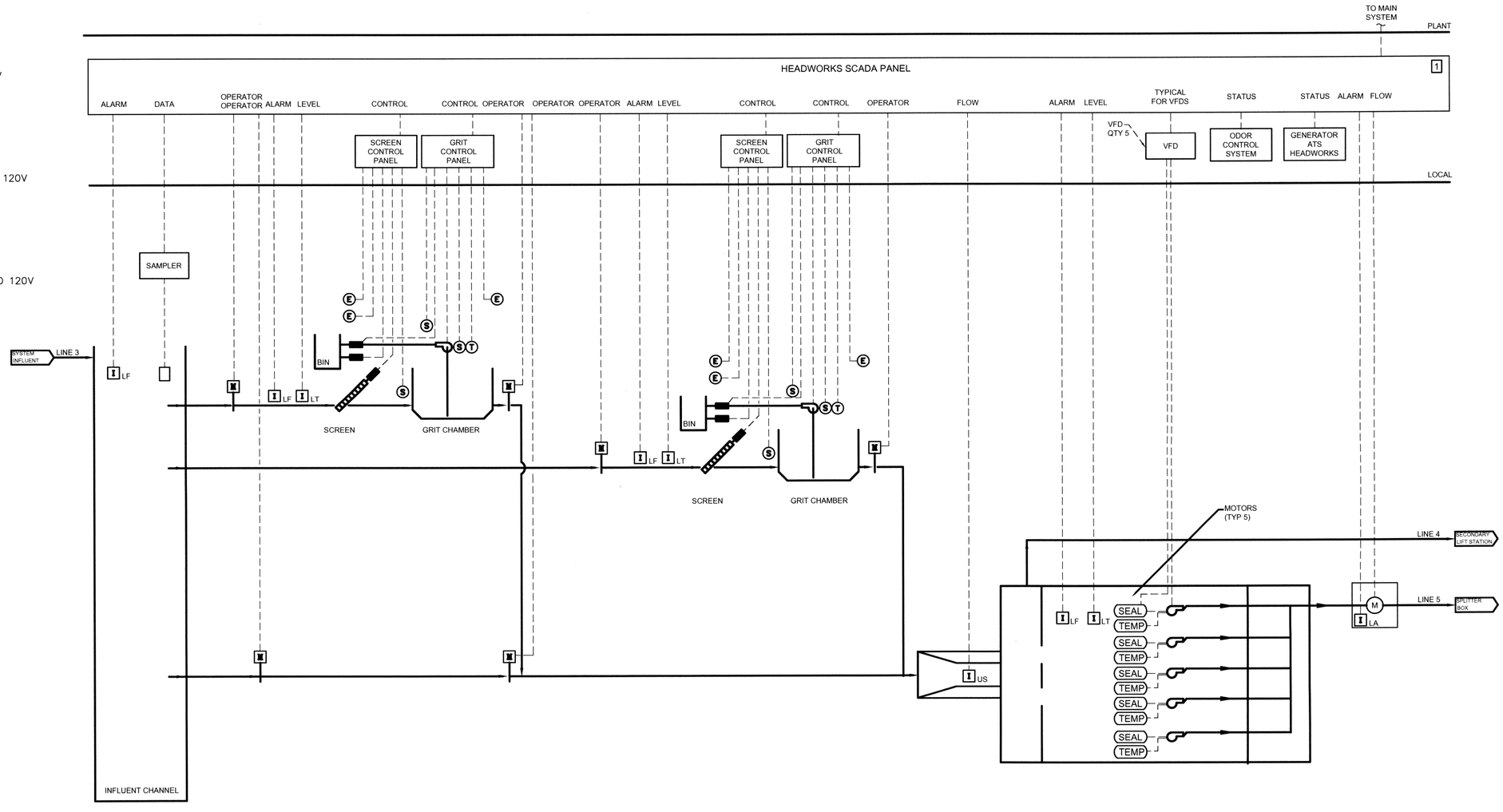
- I LF — INSTRUMENT – FLOATS, 6–#14
- I LA — INSTRUMENT – SINGLE FLOAT, 2–#14
- I LT — INSTRUMENT – LEVEL TRANSDUCER, 1–STP
- I T — INSTRUMENT – TEMPERATURE, 1–STP AND 120V
- I DO — INSTRUMENT – DISSOLVED OXYGEN, 1–STP AND 120V
- I TSS — INSTRUMENT – TOTAL SOLIDS, 1–STP AND 120V
- I PH — INSTRUMENT – ACIDITY, 1–STP AND 120V
- I A — INSTRUMENT – AIR FLOW, 1–STP
- I DP — INSTRUMENT – DIFFERENTIAL PRESSURE, 1–STP AND 120V
- I TB — INSTRUMENT – TURBIDIMETER, 1–STP AND 120V
- I TOC — INSTRUMENT – TOC ANALYZER, 1–STP AND 120V
- I CL — INSTRUMENT – CHLORINE, 1–STP AND 120V
- I US — INSTRUMENT – ULTRASONIC FLOW METER, 1–STP AND 120V
- I M — INSTRUMENT – MAG FLOW METER, 1–STP AND 120V
- CHE — CHEMICAL FEED SYSTEM, PER VENDOR
- M — MOTOR OPERATED VALVE
- M A — MOTOR OPERATED VALVE – AIRLINE
- (E) — EMERGENCY STOP, 2–#12
- (S) — SOLENOID VALVE, 2–#12
- (E) — EMERGENCY STOP, 2–#12
- (S) — SOLENOID VALVE, 2–#12
- (SEAL) — MOTOR SEAL LEAK SENSOR
- (TEMP) — MOTOR TEMP SENSOR
- (M) — MAG METER (FLOW METER), 1–2TP AND 120V
- SYSTEM PUMP FOR REFERENCE
- 1 — SCADA CONTROL PANEL NUMBER

TYPICAL VFD MONITORING AND CONTROL:
- RUN INDICATION
- SPEED INDICATION
- SPEED REFERENCE
- CALL
- FAULT/TROUBLE

TYPICAL STARTER MONITORING AND CONTROL:
- RUN INDICATION
- CALL
- FORWARD/REVERSING (ON F/R STARTERS)
- FAULT/TROUBLE

TYPICAL LEVEL FLOATS:
- LOW LEVEL ALARM
- LOW LEVEL CALL
- HIGH LEVEL STOP
- HIGH LEVEL ALARM

1	2	3	4	5	6	7	8	9	10	11	12
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	CONTROL RM ADMIN BLDG



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REGISTERED PROFESSIONAL ENGINEER — THOMAS F. KEETER — PE 17749 — OKLAHOMA
05/07/10

Thomas F. Keeter, PE# 17749
TFK Engineering, Inc.
CofA# 5206 exp 6/2011

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HEADWORKS CONTROL DIAGRAM
I–1

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

1	2	3	4	5	6	7	8	9	10	11	12
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	MAIN PLANT ADMIN BLDG

TO MAIN SYSTEM

TO OTHER PANELS

PLANT

SBR CONTROL PANEL AND SCADA INTERFACE, NORTH AND SOUTH [2] [3]

OPERATOR OPERATOR ALARM LEVEL ALARM TYP STARTER OPERATOR OPERATOR OPERATOR OPERATOR OPERATOR OPERATOR DATA TYP STARTER OPERATOR DATA OPERATOR OPERATOR LEVEL LEVEL DATA DATA DATA OPERATOR OPERATOR OPERATOR STATUS STATUS

MCC

MCC
REDUCED VOLTAGE SOFT STARTERS

GENERATOR ATS NORTH, SOUTH

ODOR CONTROL SYSTEM SOUTH ONLY

MAIN PLANT SCADA PANEL - ADMINISTRATION BUILDING [12]

LEVEL LEVEL ALARM FLOW FLOW OPERATOR OPERATOR STATUS

GENERATOR ATS ADMIN BLDG

LOCAL

FROM HEADWORKS LINE 5C

FROM HEADWORKS LINE 5B

FROM HEADWORKS LINE 6

LA LT

LA MP

LINE 7/8

COOLANT SOLENOID VALVE

IN BUILDING SUMP

SPLITTER BOX

LF LT DO PH TSS

A

- IMPENDING SURGE
- SURGE
- IMPENDING OVERLOAD
- OVERLOAD
- BEARINGS

SURGE PROTECTION PANEL

BLOWER (TYP 4)

SBR BASIN

LINE 12/13

LF LT

M

LA

FLOW EQ. BASIN

LINE 14 EFFLUENT TO UV SYSTEM

LINE 18/19 TO DIGESTER

LINE 6B TO CENTER PONDS

SPLITTER BOX AND BYPASS VALVES TO NORTH SIDE SCADA PANEL

TYPICAL OF SIX **SBR JET MOTIVE PUMP AND VALVES**

TYPICAL FOUR BLOWERS NORTH AND FOUR BLOWERS SOUTH

TYPICAL OF SIX

REGISTERED PROFESSIONAL ENGINEER THOMAS F. KEETER PE 17749 OKLAHOMA

05/07/10

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SBR CONTROL DIAGRAM
I–2

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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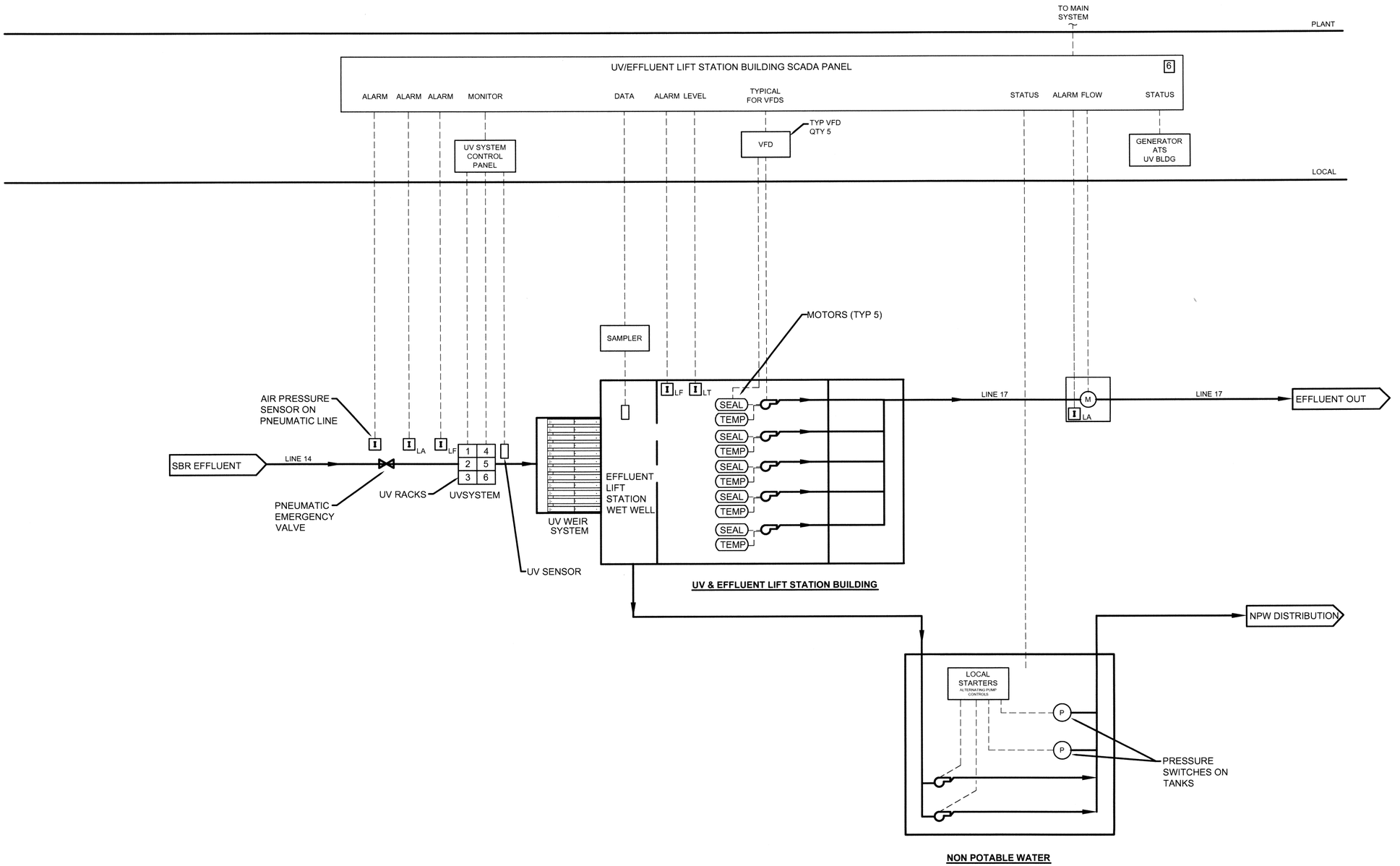
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	CONTROL RM ADMIN BLDG



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UV & EFFLUENT LIFT STATION CONTROLS DIAGRAM
I–3

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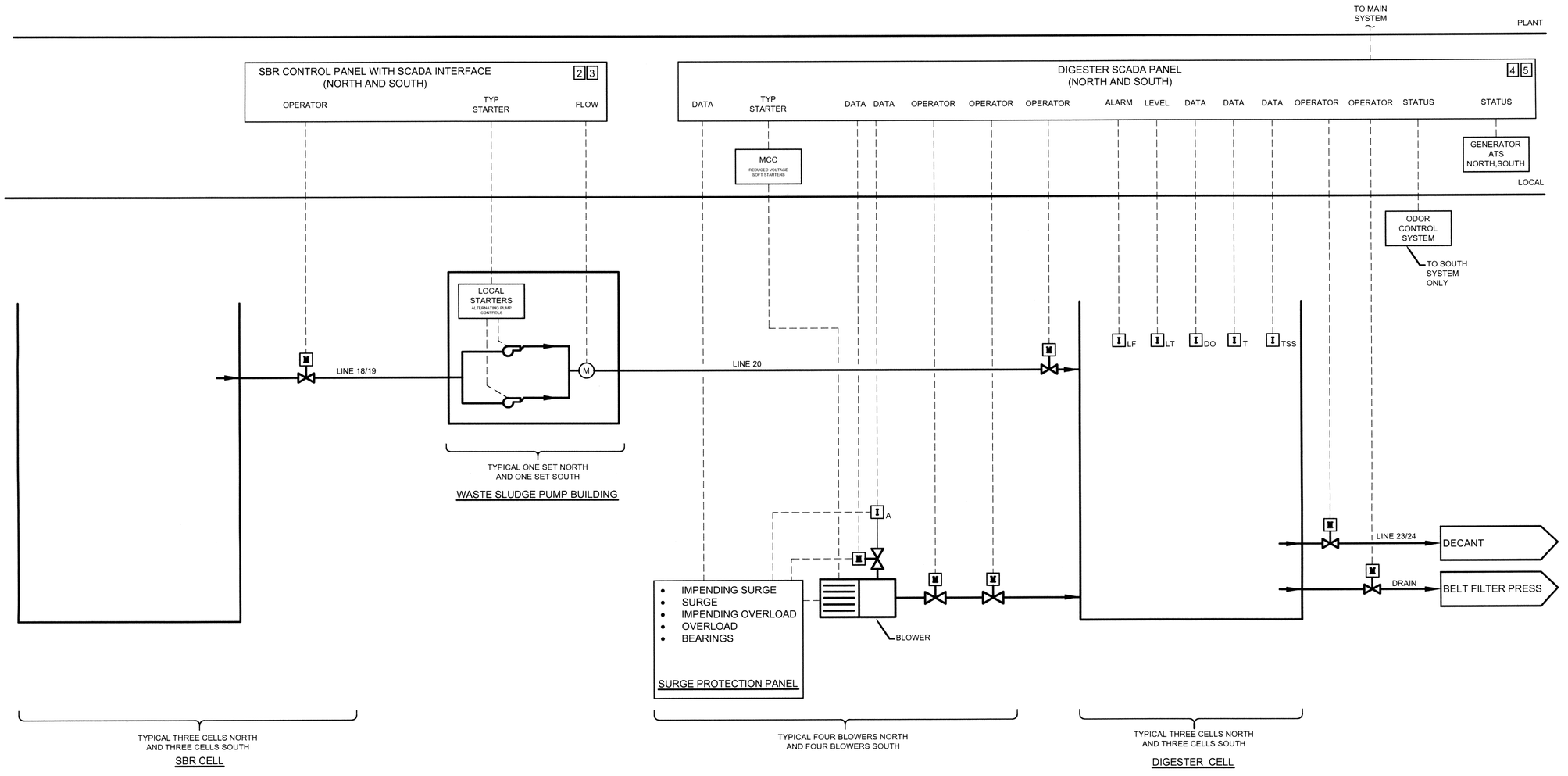
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	CONTROL RM ADMIN BLDG



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DIGESTER CONTROL DIAGRAM
I–4

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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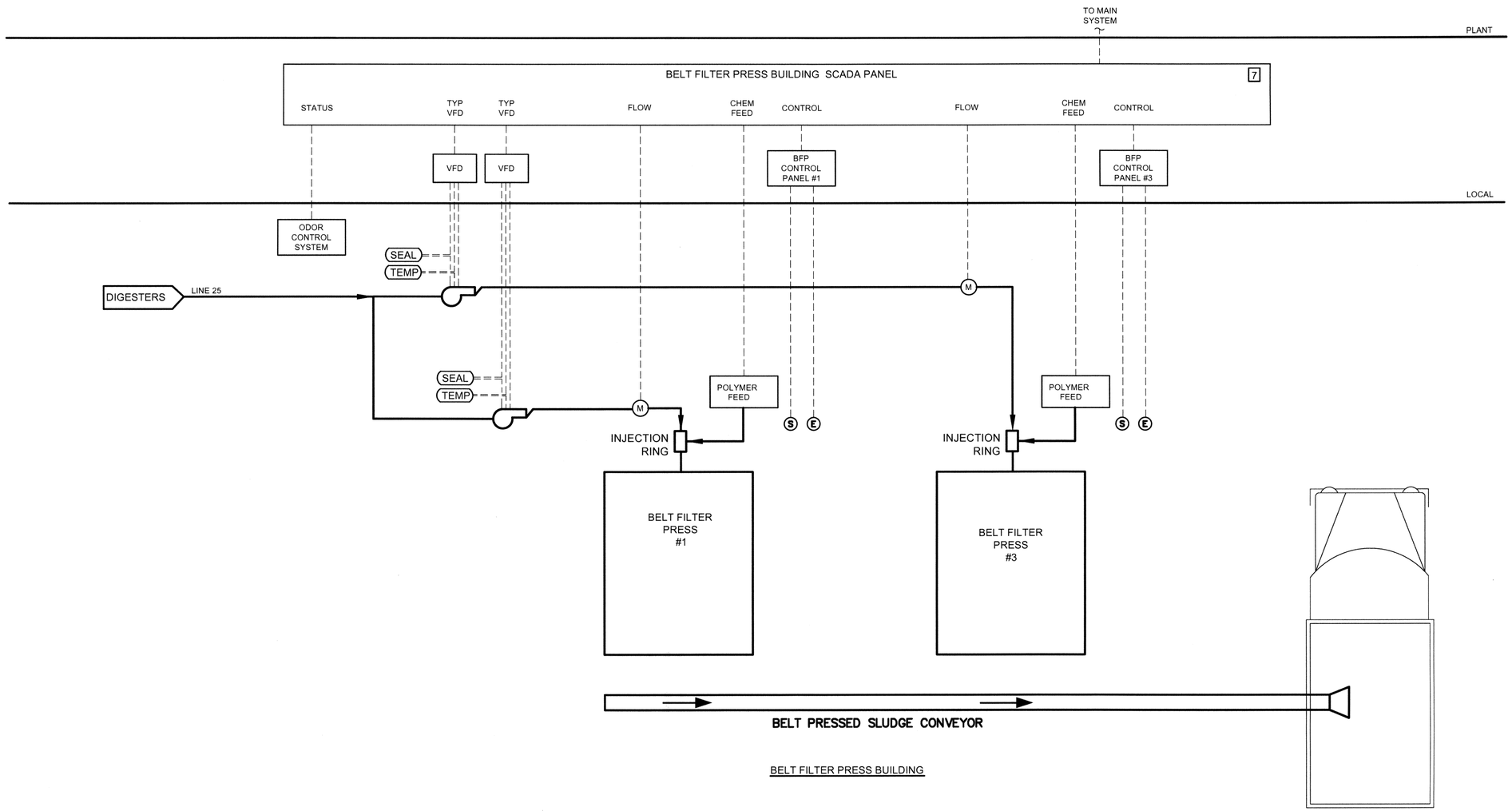
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	CONTROL RM ADMIN BLDG



BELT FILTER PRESS BUILDING

REGISTERED PROFESSIONAL ENGINEER
THOMAS F. KEETER
PE 17749
OKLAHOMA
05/07/10

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CofA# 5206 exp 6/2011

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BELT FILTER PRESS CONTROL DIAGRAM I–5

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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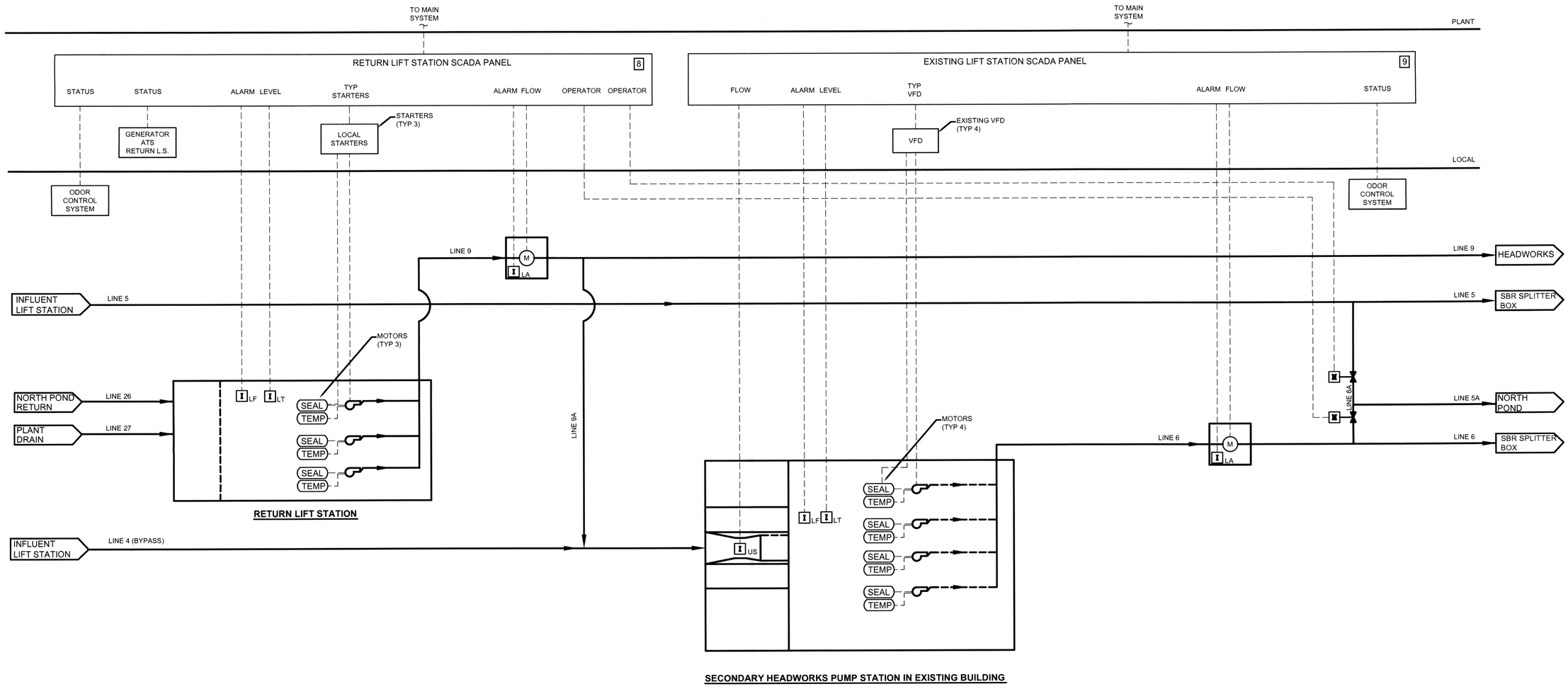
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	CONTROL RM ADMIN BLDG



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THOMAS F. KEETER PE 17749 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

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RETURN AND EXISTING LIFT STATIONS CONTROL DIAGRAM I–6

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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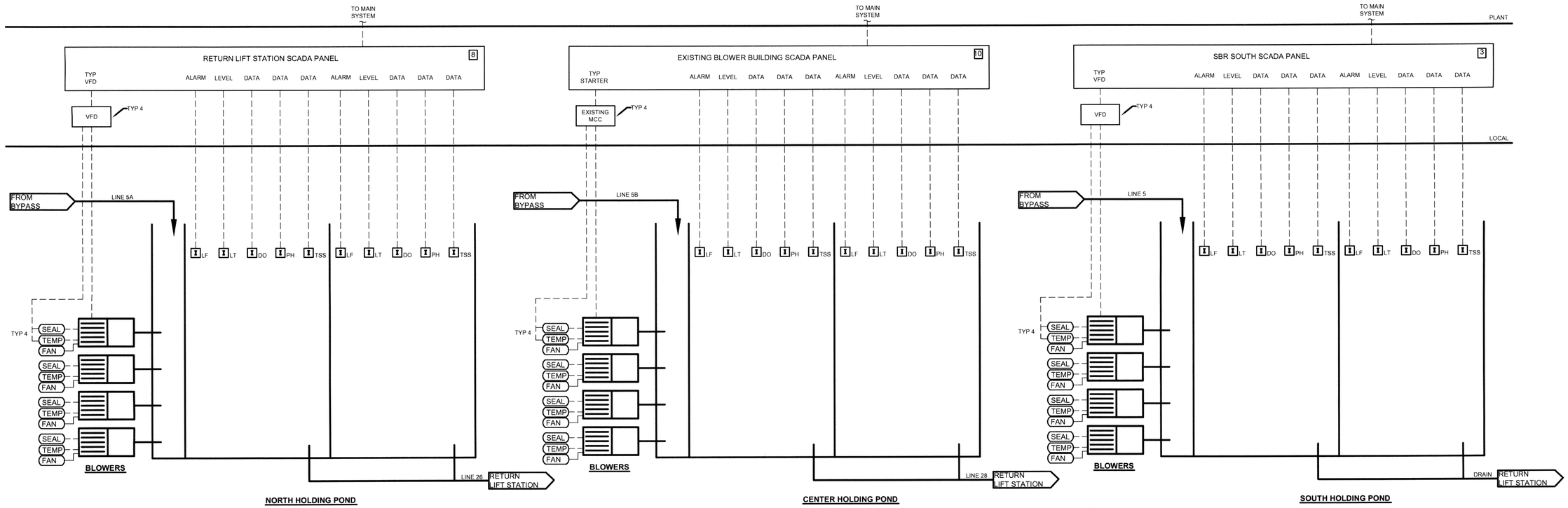
HEADWORKS	SBR NORTH	SBR SOUTH	DIGESTER NORTH	DIGESTER SOUTH	UV/EFF. LIFT ST.	BFP BUILDING	RETURN LIFT ST.	EXISTING LIFT ST.	EXISTING BLOWER BLDG	EXISTING SAND FILTER	CONTROL RM ADMIN BLDG



05/07/10

REGISTERED PROFESSIONAL ENGINEER
THOMAS F. KEETER
PE 17749
OKLAHOMA

Thomas F. Keeter, PE# 17749
TFK Engineering, Inc.
CofA# 5206 exp 6/2011

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HOLDING PONDS CONTROL DIAGRAM
I–7

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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0 30 60 120
Scale 1" = 60'

NORTH POND ELECTRICAL BUILDING

"TO STAY" CENTER POND BLOWER BUILDING

NORTH SBR

EXISTING CENTER POND

SOUTH SBR

NORTH POND

SOUTH POND

SOUTH SBR PIPE VAULT BUILDINGS

SOUTH SBR ELECTRICAL BUILDING

CHEMICAL FEED BUILDING HEADWORKS

"TO STAY" STORAGE SHED

NORTH SBR PIPE VAULT BUILDINGS

"TO STAY" EXISTING EFFLUENT FILTER BUILDING

NORTH SBR ELECTRICAL BUILDING

CHEMICAL FEED BUILDING FOR AD & BELT FILTER PRESS

BELT FILTER PRESS BUILDING

"TO STAY" EXISTING ADMIN. BUILDING

ELECTRICAL BUILDING NORTH AEROBIC DIGESTERS

ADMIN. BUILDING

CHEMICAL FEED BUILDING SBR

HEADWORKS BUILDING

"TO STAY" EXISTING PUMP STATION BUILDING

NORTH AEROBIC DIGESTERS

PROPERTY LINE

MAINTENANCE BUILDING

UV BUILDING

SOUTH AEROBIC DIGESTERS

ELECTRICAL BUILDING SOUTH AEROBIC DIGESTERS

NON POTABLE WATER BUILDING

"TO STAY" ANIMAL SHELTER BUILDING

R 3 W
SW 34th ST.
TELEPHONE RD.
S. EASTERN AVE.
T 10 N
35
I-35
SITE LOCATION
INDIAN HILLS RD.

LOCATION MAP

REGISTERED PROFESSIONAL ENGINEER
DINESH DASHARATHY
11456
5-17-2010
OKLAHOMA

REVISIONS:	DATE:

PROCESS LOCATION PLAN

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

MATCH LINE

EXIST.MH
FL.1160.59

SCALE: 1" =10'

36" DIP LINE #1

MH # 4

MH # 3

36" DIP LINE #1

36" DIP LINE #2

36" DIP LINE #1

MH # 5

MATCH LINE

MH # 6

HEADWORKS
FINE SCREEN
STR # 1

EXIST.MH
FL.1159.44

HEADWORKS
GRIT REMOVAL
STR # 2

HEADWORKS
MONTANA
FLUME

HEADWORKS
INFLUENT
PUMP STATION
STR # 3

HEADWORKS
GENERATOR PAD

HEADWORKS
TRANSFORMER PAD

STR # 1

STR # 2

STR # 3

Sidewalk

Concrete
Pad

GENERATOR PAD
G1

T1

STR # 59

HEADWORKS
CONTROL
BUILDING
STR # 59

48" DIP LINE # 3

MH # 8

36" DIP LINE # 1

42" DIP LINE # 3

HEADWORKS
ODOR CONTROL
SYSTEM
STR # 4

STR # 4

4" NPW

STR # 43

HEADWORKS
CHEMICAL FEED
BUILDING
STR # 43

16" EXIST. S.S

30: DIP
LINE 5

1170.33

SCALE: 1" =10'

EXIST.MH
FL.1160.38

EXIST.MH
FL.1160.34

MH # 1

EXIST.MH
FL.1160.50

24" EXIST. S.S

6" DRAIN LINE

18" FORCE MAIN

2" DRAIN LINE

4" NPW

STR # 66

REVISIONS:	DATE:
GRIT CHAMBERS SHIFTED	9/10/10

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HEADWORKS OVERALL PLAN

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
DEVI SARATHY
11456
4-10-10
OKLAHOMA

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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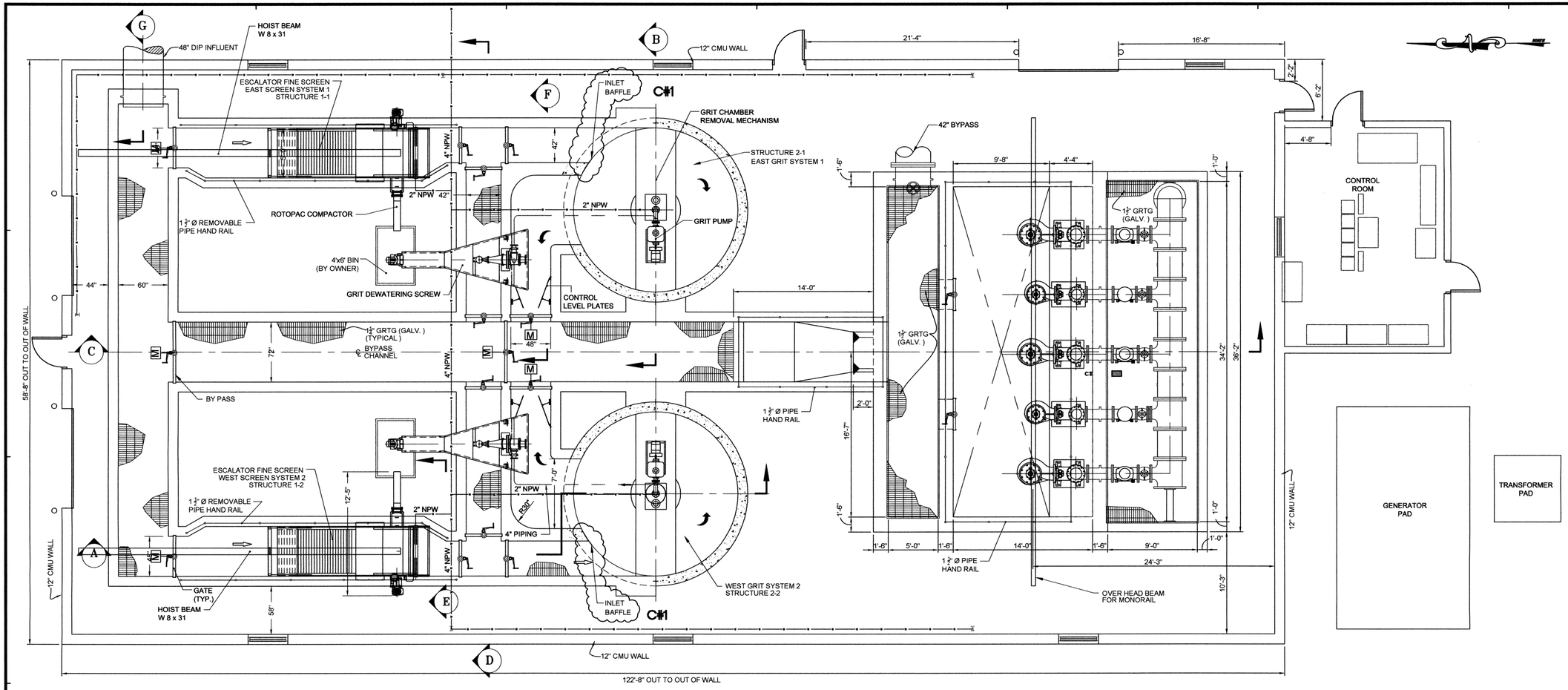
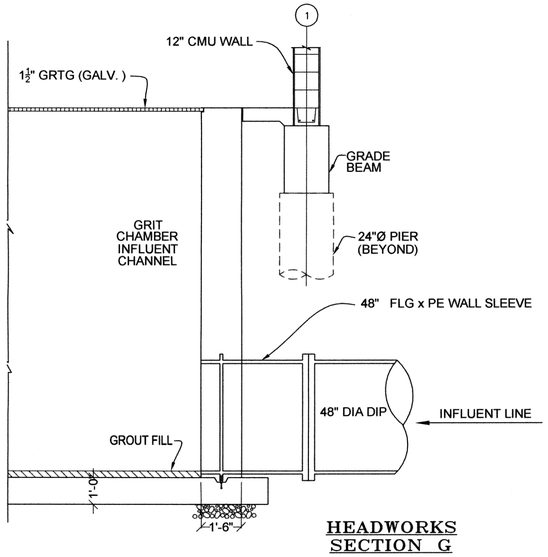




HEADWORKS SECTION G

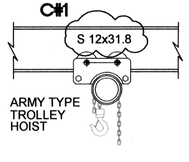
SCALE: 3/4" = 1'-0"

HEADWORKS PLAN

SCALE: 3/16" = 1'-0"

C#1

DETAIL REMOVED



HOIST DETAIL

SCALE: 3/4" = 1'-0"

HOIST NOTES:

1. CONTRACTOR SHALL PROVIDE HOIST CAPABLE OF LIFTING SUBMERSIBLE PUMPS FROM WET WELL FOR PUMP MAINTENANCE & REPAIR.
2. HOIST SUPPLIER SHALL INSPECT INSTALLATION & CERTIFY THAT HOIST INSTALLATION MEETS MINIMUM STANDARDS & IS APPROPRIATE FOR THIS APPLICATION.

REVISIONS:	DATE:
ADDENDUM 1	7/14/2010
GRIT CHAMBERS SHIFTED	9/10/10
C#1 – CLARIFICATION NO. 1	9/30/2010

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	10/1/2010	AS SHOWN	12 OF 95

STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL

EAGLE OFFICE CENTER
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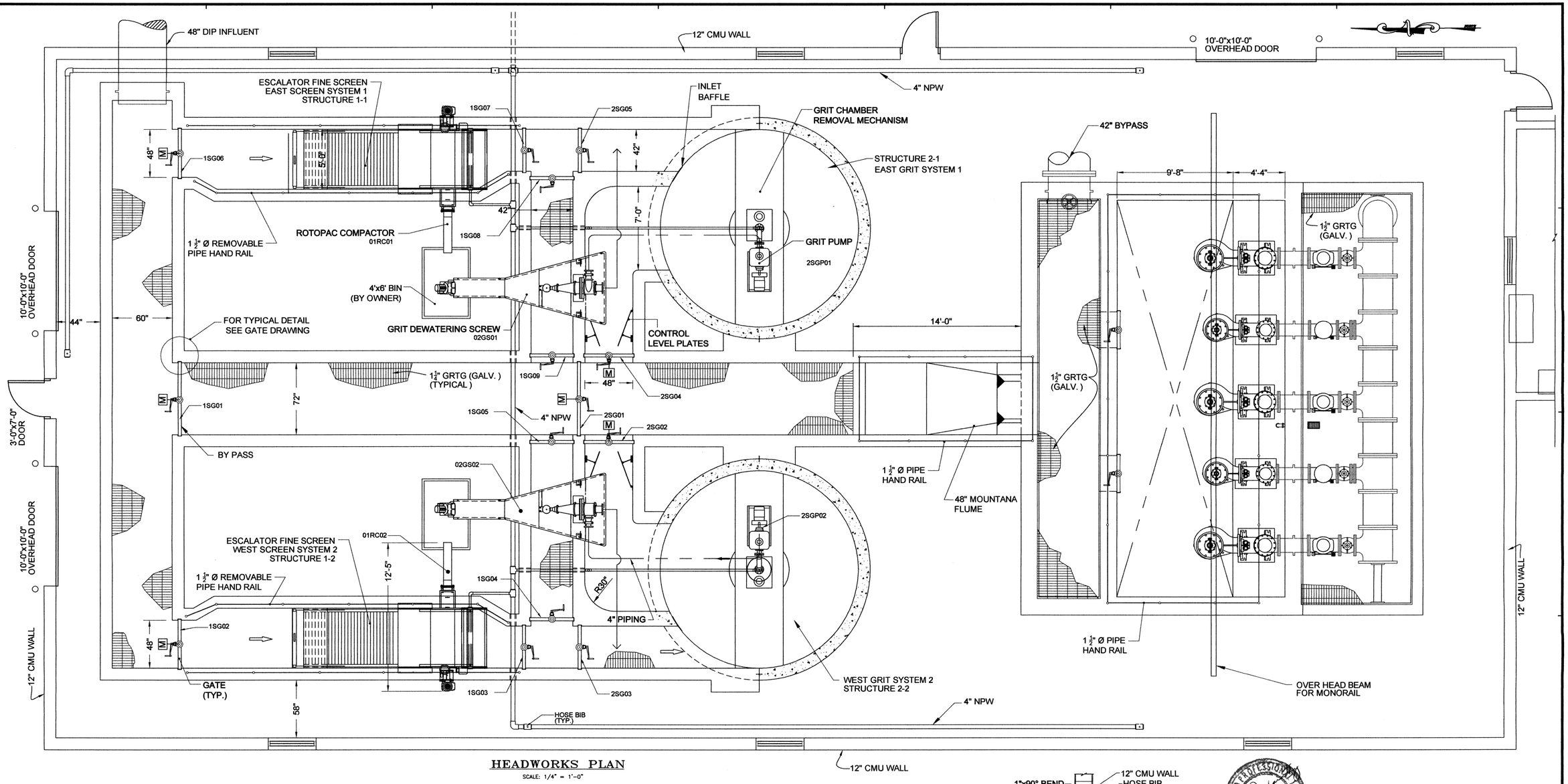
EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
SATISH DHARATHY
11466
9-30-10
STATE OF OKLAHOMA

G:\DRAWINGS\MOORE\WORK\Process\Headworks\HDWKS--details.dwg



HEADWORKS PLAN

SCALE: 1/4" = 1'-0"

SLIDE GATE SCHEDULE STR. #1 (CHANNEL)

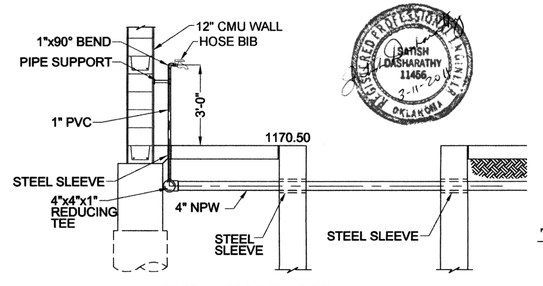
GATE IDENTIFICATION	1SG01	1SG02	1SG03	1SG04	1SG05	1SG06	1SG07	1SG08	1SG09
GATE SERIES	921	921	921	921	921	921	921	921	921
GATE TYPE	SELF-CONTAINED								
SIZE WIDTH x HEIGHT	6'-0"x4'-0"	4'-0"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	4'-0"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"	3'-6"x3'-6"
OPERATING FLOOR ELEVATION	1170'-6"	1170'-6"	1170'-6"	1170'-6"	1170'-6"	1170'-6"	1170'-6"	1170'-6"	1170'-6"
INVERT ELEVATION	1157'-6"	1157'-6"	1157'-3"	1157'-3"	1157'-3"	1157'-6"	1157'-3"	1157'-3"	1157'-3"
HEAD (SEATING/UNSEATING)	48"	48"	48"	48"	48"	48"	48"	48"	48"
MANUAL OR AUTOMATIC	A	A	M	M	M	A	M	M	M

SLIDE GATE SCHEDULE STR. #2 (CHANNEL)

GATE IDENTIFICATION	2SG01	2SG02	2SG03	2SG04	2SG05
GATE SERIES	921	921	921	921	921
GATE TYPE	SELF-CONTAINED				
SIZE WIDTH x HEIGHT	6'-0"x4'-0"	4'-0"x3'-6"	3'-6"x3'-6"	4'-0"x3'-6"	3'-6"x3'-6"
OPERATING FLOOR ELEVATION	1170'-6"	1170'-6"	1170'-6"	1170'-6"	1170'-6"
INVERT ELEVATION C#9	1157'-3"	1158'-3"	1157'-3"	C#9 1158'-3"	1157'-3"
HEAD (SEATING/UNSEATING)	48"	48"	48"	48"	48"
MANUAL OR AUTOMATIC	A	A	M	A	M

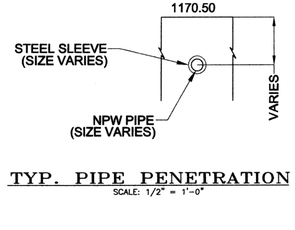
A - MOTORIZED / ACTUATED ELECTRICALLY

M - REMOVABLE HAND CRANK ACTUATOR



TYP. HOSE BIB

SCALE: 3/8" = 1'-0"



TYP. PIPE PENETRATION

SCALE: 1/2" = 1'-0"

REVISIONS:	DATE:
GRIT CHAMBERS SHIFTED	9/10/10
C#9 – CLARIFICATION NO. 9	3/11/2011

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	9/10/10	AS SHOWN	13 OF 95

STRUCTURES NO. 1 & 2
FINE SCREEN & GRIT REMOVAL

EAGLE OFFICE CENTER
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EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

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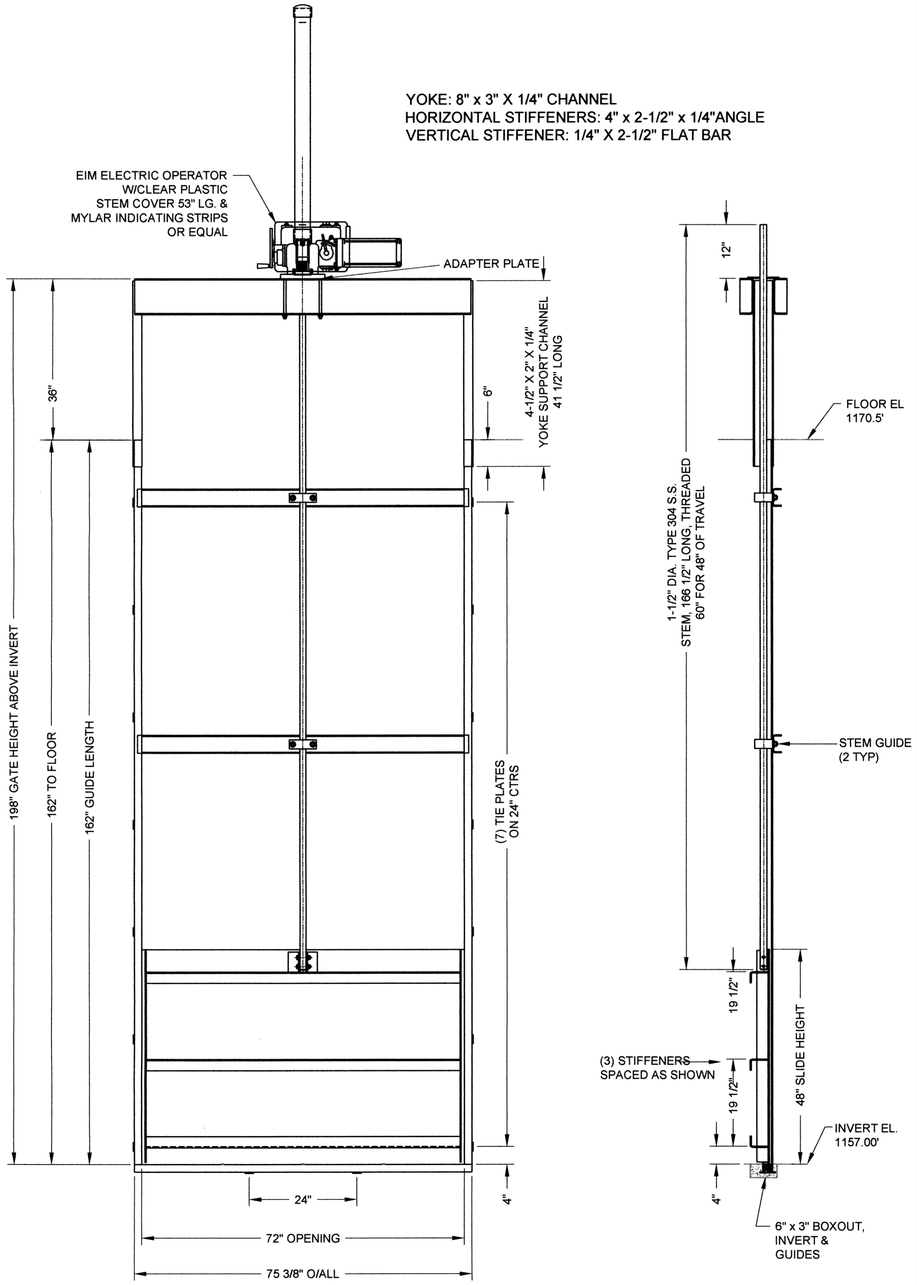
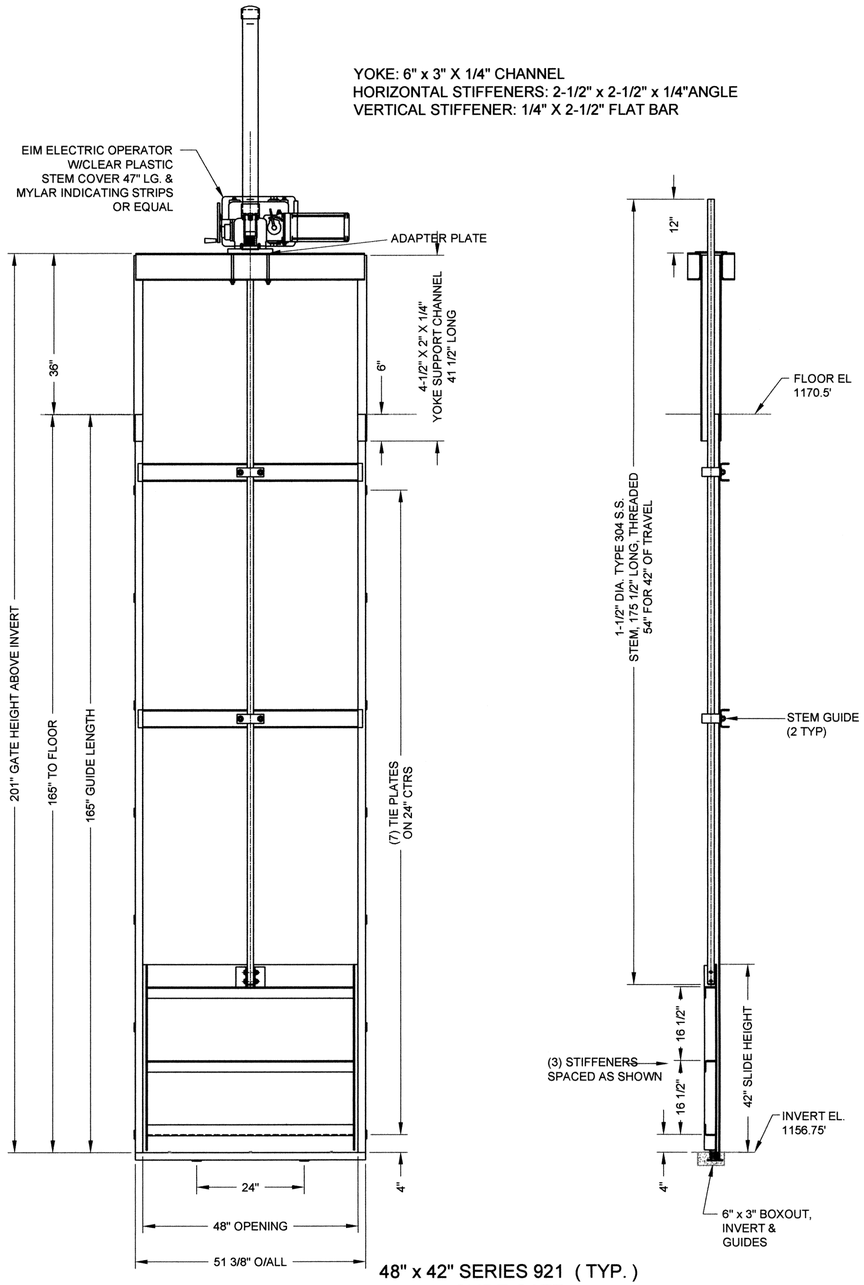
YOKE: 8" x 3" X 1/4" CHANNEL
HORIZONTAL STIFFENERS: 4" x 2-1/2" x 1/4"ANGLE
VERTICAL STIFFENER: 1/4" X 2-1/2" FLAT BAR



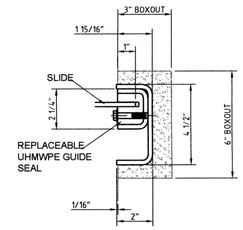
72" x 48" SERIES 921 (TYP.)
SLIDE GATE
1SG01

NOTE:
CONTRACTOR SHALL SUBMIT DETAIL FOR EACH INDIVIDUAL GATE

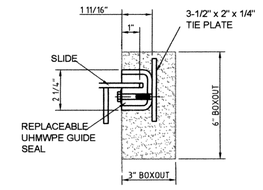
YOKE: 6" x 3" X 1/4" CHANNEL
HORIZONTAL STIFFENERS: 2-1/2" x 2-1/2" x 1/4"ANGLE
VERTICAL STIFFENER: 1/4" X 2-1/2" FLAT BAR



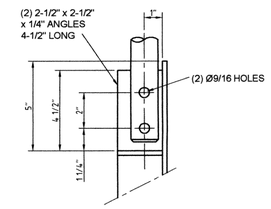
48" x 42" SERIES 921 (TYP.)
SLIDE GATE
2SG02
2SG04



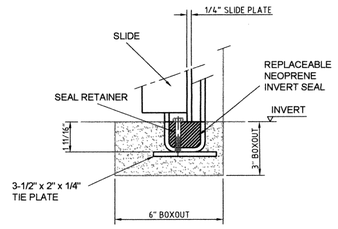
EMBEDDED GUIDE SECTION (FLOOR LEVEL)



EMBEDDED GUIDE SECTION



STEM CONNECTOR DETAIL



EMBEDDED INVERT SECTION

REVISIONS:	DATE:

SLIDE GATE DETAILS

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DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	2/10/10	AS SHOWN	14 OF 95

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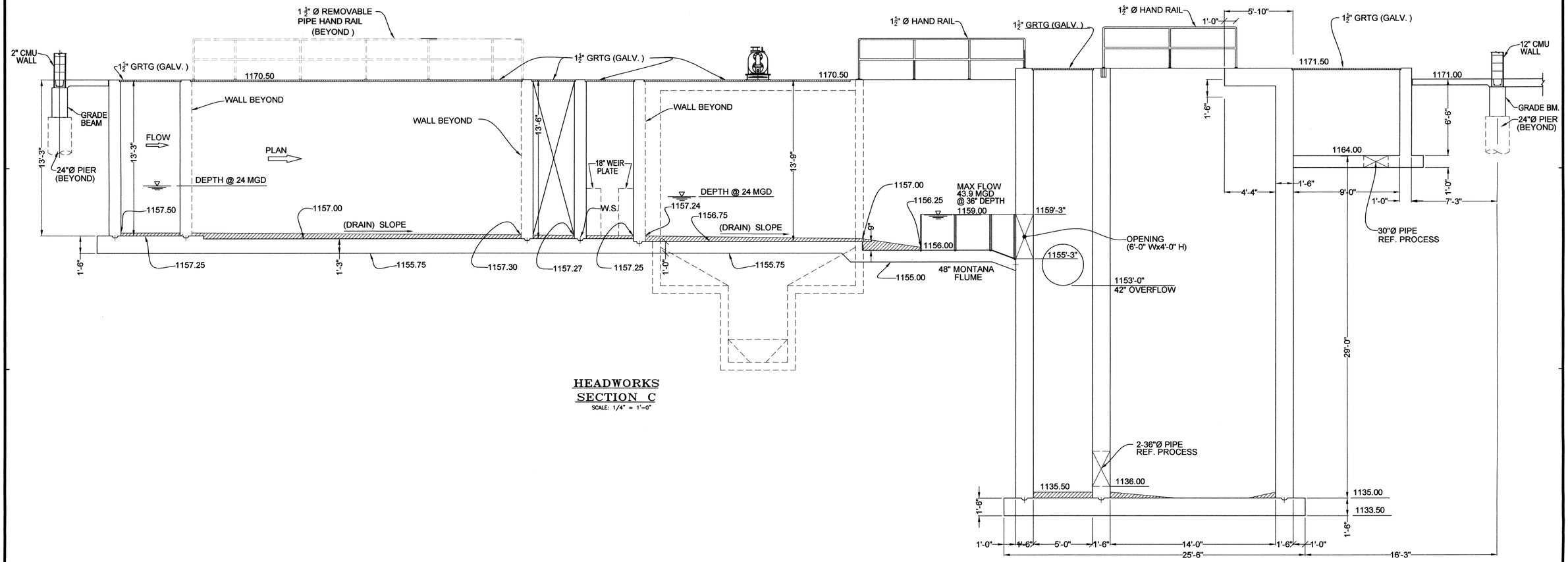
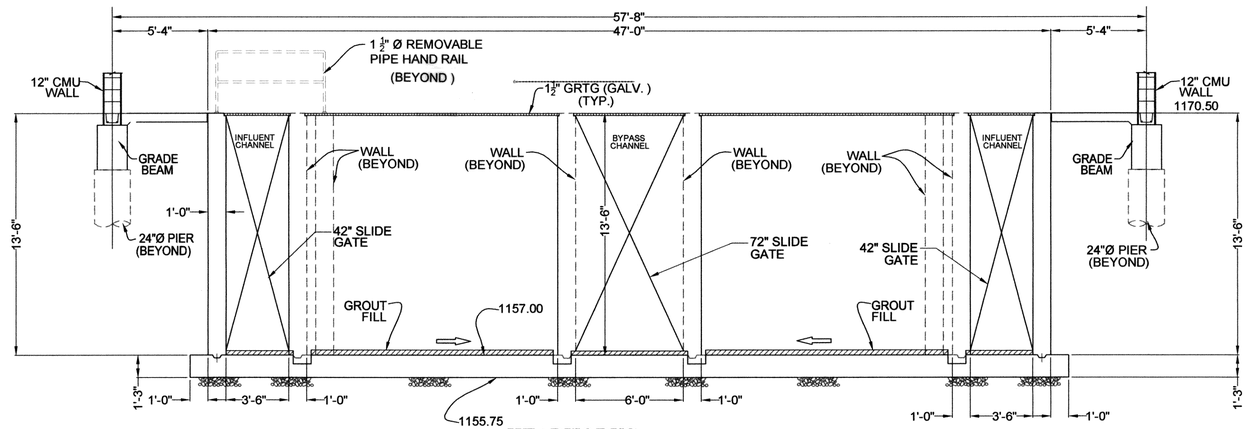


HEADWORKS SECTION C

SCALE: 1/4" = 1'-0"



HEADWORKS SECTION D

SCALE: 1/4" = 1'-0"

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	2/10/10	AS SHOWN	15 OF 95

STRUCTURES NO. 1 & 2
FINE SCREEN & GRIT REMOVAL
SECTIONS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
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EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER — BRITISH BASHARATH — 11456 — OKLAHOMA — 5-17-10

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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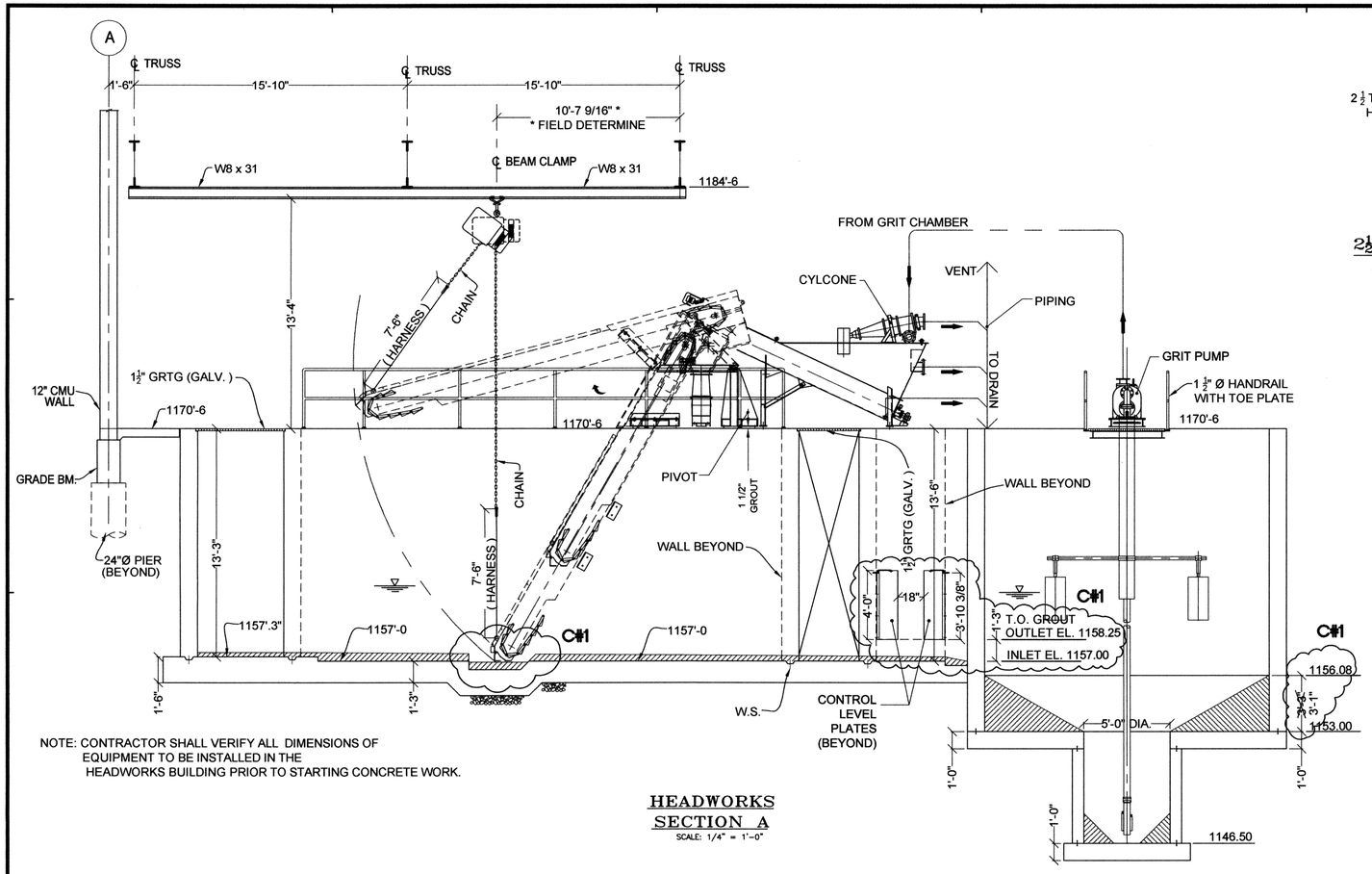
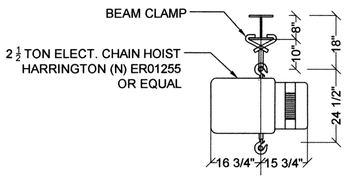


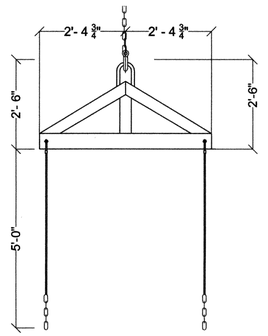
NOTE: CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF EQUIPMENT TO BE INSTALLED IN THE HEADWORKS BUILDING PRIOR TO STARTING CONCRETE WORK.

HEADWORKS SECTION A

SCALE: 1/4" = 1'-0"



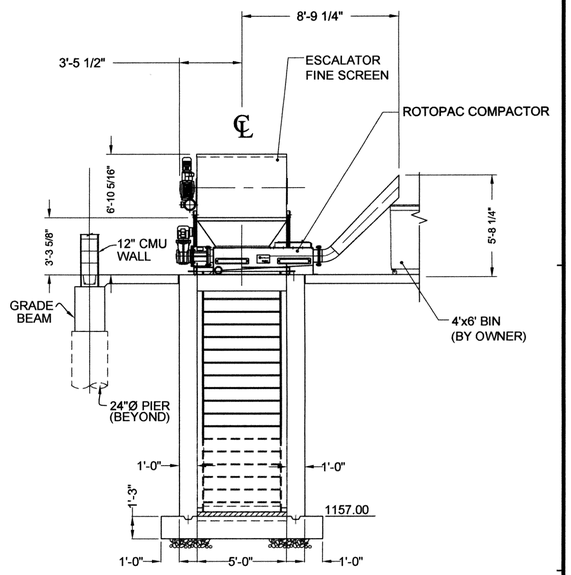
2½-TON HOIST & BEAM CLAMP



HARNESS TO BE SUPPLIED BY SCREEN MANUFACTURER

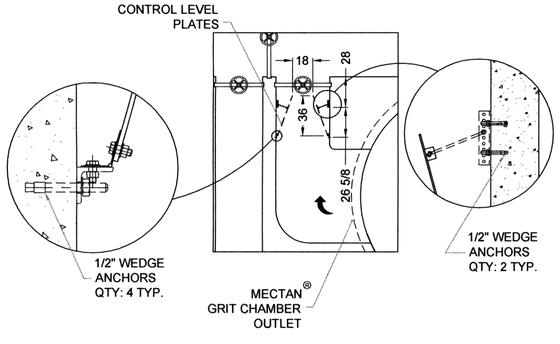
HARNESS

(NO SCALE)



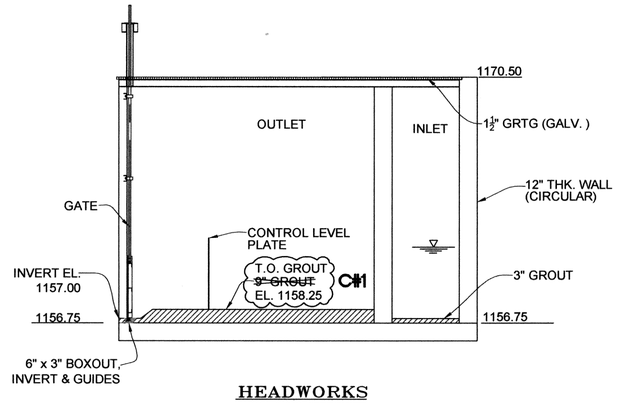
HEADWORKS SECTION E

SCALE: 1/4" = 1'-0"



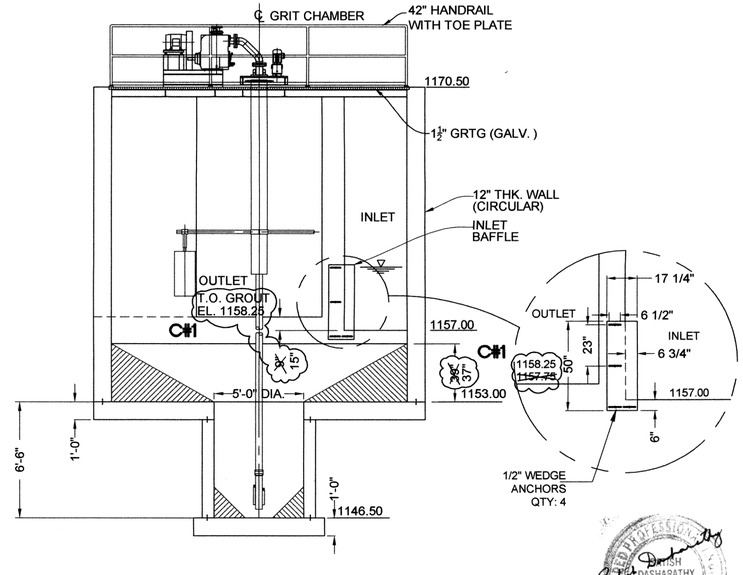
CONTROL LEVEL PLATES DETAILS

SCALE: 1/4" = 1'-0"



HEADWORKS SECTION F

SCALE: 1/4" = 1'-0"



HEADWORKS SECTION B

SCALE: 1/4" = 1'-0"

REVISIONS:	DATE:
GRIT CHAMBERS SHIFTED	09/10/10
C#1 – CLARIFICATION NO. 1	09/30/10

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	10/1/10	AS SHOWN	16 OF 95

STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL SECTIONS

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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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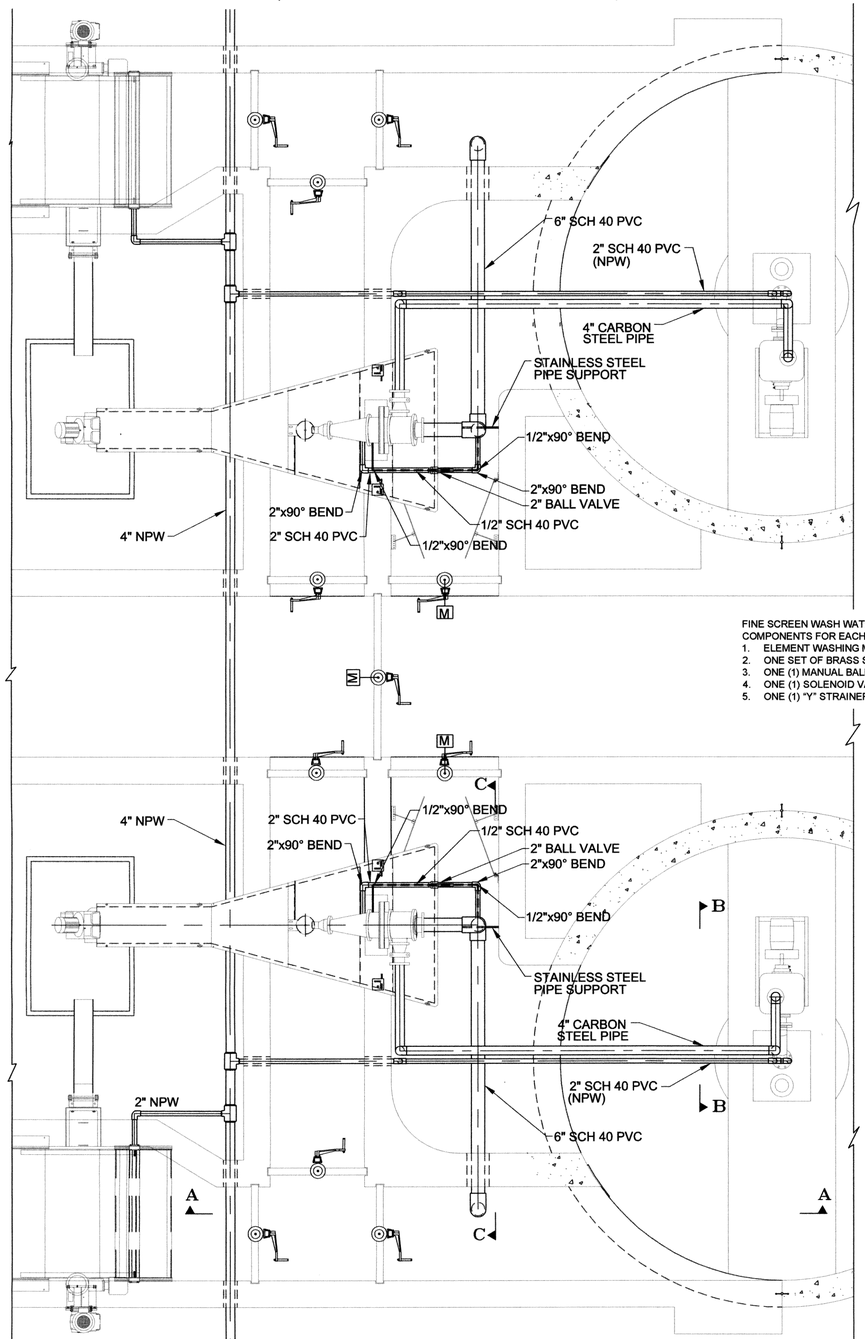
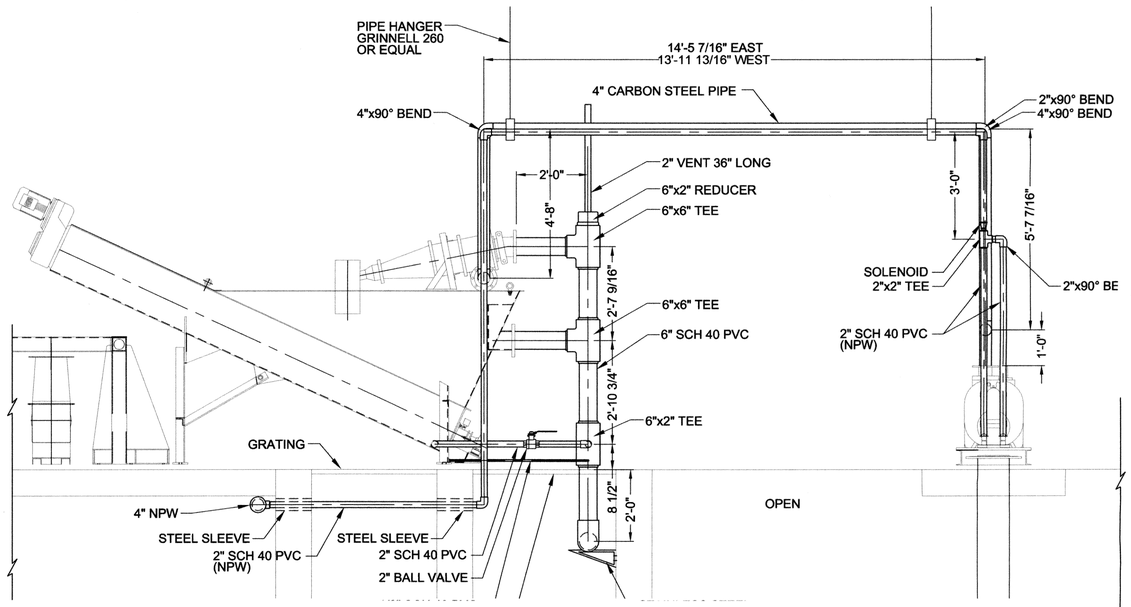


HEADWORKS PIPING PLAN

SCALE: 1/4" = 1'-0"

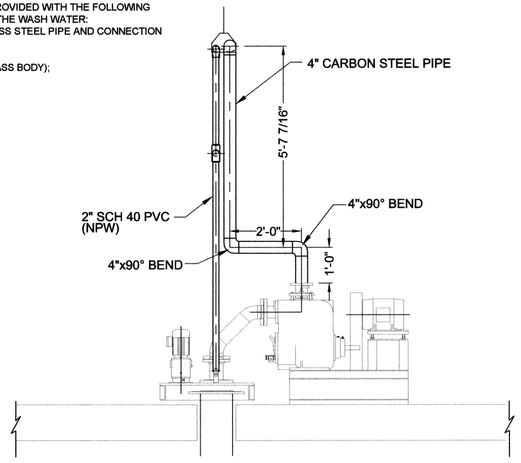
FINE SCREEN WASH WATER SYSTEM SHALL BE PROVIDED WITH THE FOLLOWING COMPONENTS FOR EACH SCREEN, TO CONTROL THE WASH WATER:

1. ELEMENT WASHING MANIFOLD WITH STAINLESS STEEL PIPE AND CONNECTION
2. ONE SET OF BRASS SPRAY NOZZLES;
3. ONE (1) MANUAL BALL VALVE (BRONZE BODY;
4. ONE (1) SOLENOID VALVE, NEMA-7 ASCO (BRASS BODY);
5. ONE (1) "Y" STRAINER (BRONZE BODY)



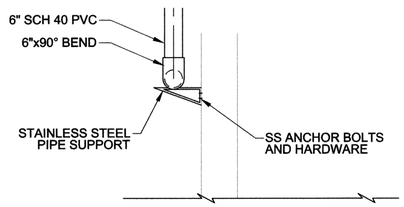
HEADWORKS PIPING SECTION A–A

SCALE: 1/2" = 1'-0"



HEADWORKS PIPING SECTION B–B

SCALE: 1/2" = 1'-0"



SS PIPE SUPPORT DETAIL

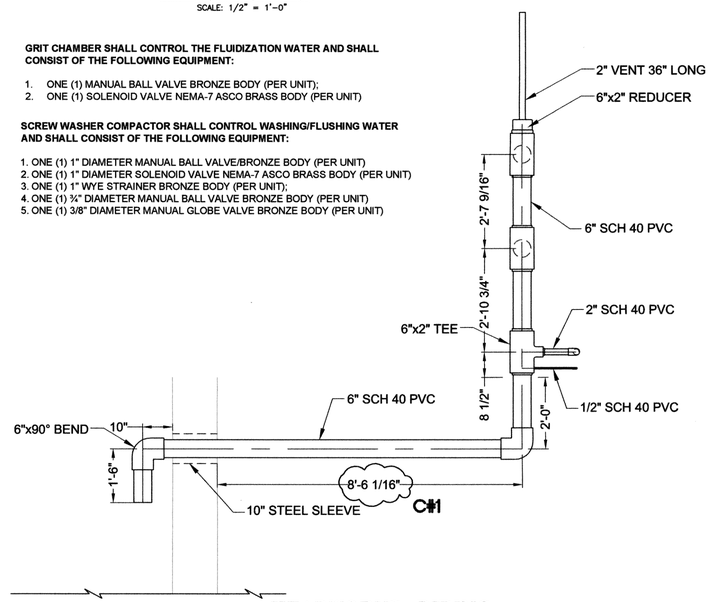
SCALE: 1/2" = 1'-0"

GRIT CHAMBER SHALL CONTROL THE FLUIDIZATION WATER AND SHALL CONSIST OF THE FOLLOWING EQUIPMENT:

1. ONE (1) MANUAL BALL VALVE BRONZE BODY (PER UNIT);
2. ONE (1) SOLENOID VALVE NEMA-7 ASCO BRASS BODY (PER UNIT)

SCREW WASHER COMPACTOR SHALL CONTROL WASHING/FLUSHING WATER AND SHALL CONSIST OF THE FOLLOWING EQUIPMENT:

1. ONE (1) 1" DIAMETER MANUAL BALL VALVE/BRONZE BODY (PER UNIT)
2. ONE (1) 1" DIAMETER SOLENOID VALVE NEMA-7 ASCO BRASS BODY (PER UNIT)
3. ONE (1) 1" WYE STRAINER BRONZE BODY (PER UNIT);
4. ONE (1) ¾" DIAMETER MANUAL BALL VALVE BRONZE BODY (PER UNIT)
5. ONE (1) 3/8" DIAMETER MANUAL GLOBE VALVE BRONZE BODY (PER UNIT)



HEADWORKS PIPING SECTION C–C

SCALE: 1/2" = 1'-0"

REVISIONS:	DATE:
GRIT CHAMBERS SHIFTED	9/10/10
C#1 – CLARIFICATION NO. 1	9/30/2010

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	10/1/10	AS SHOWN	17 OF 95

STRUCTURES NO. 1 & 2 FINE SCREEN & GRIT REMOVAL PIPING DETAILS

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REGISTERED PROFESSIONAL ENGINEER — SUDARSHAN DESHMUKH — 11456 — 9-30-10 — OKLAHOMA

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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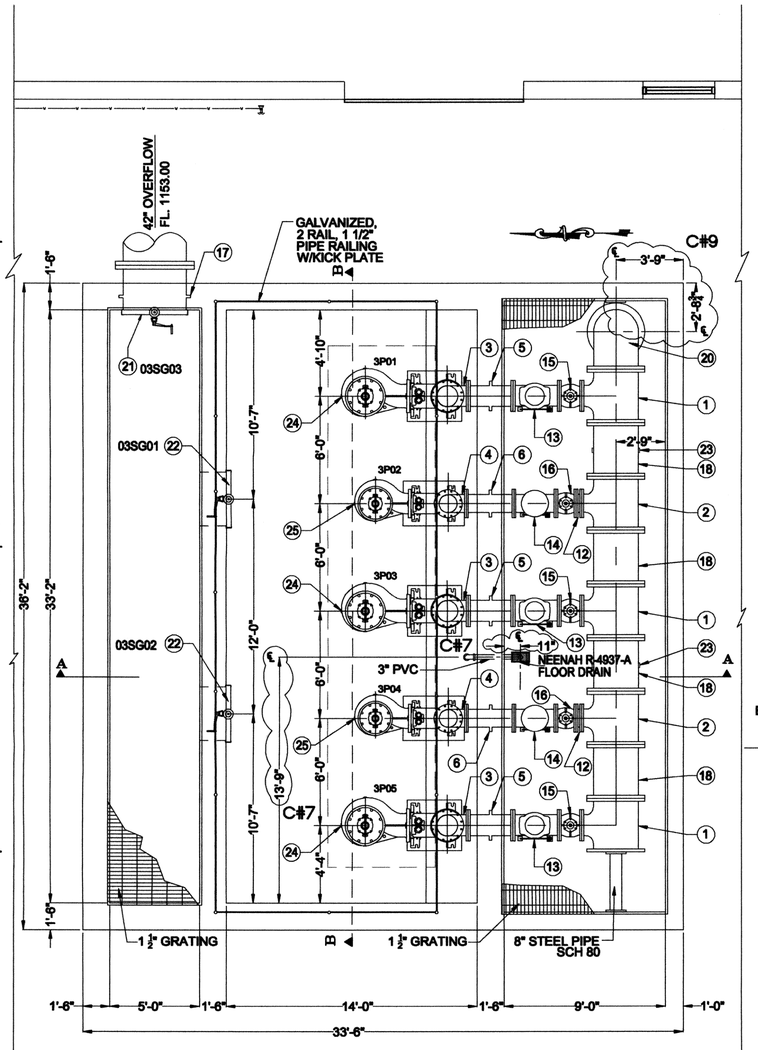
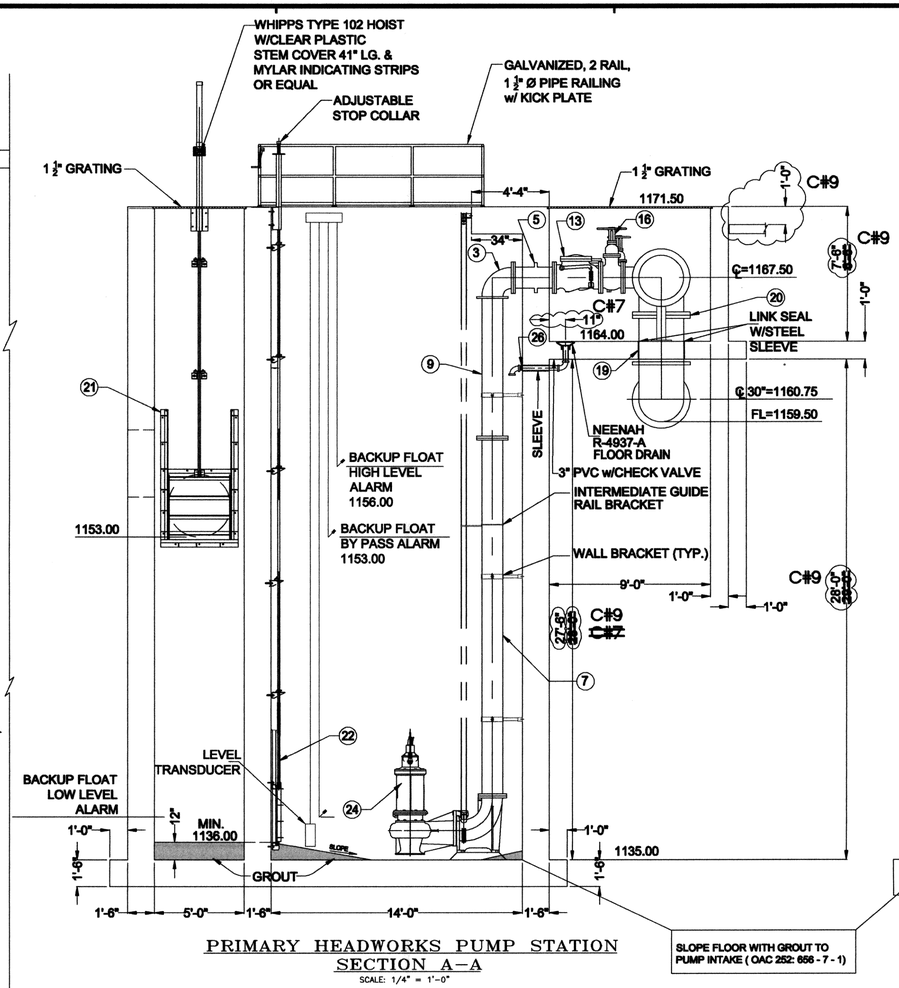
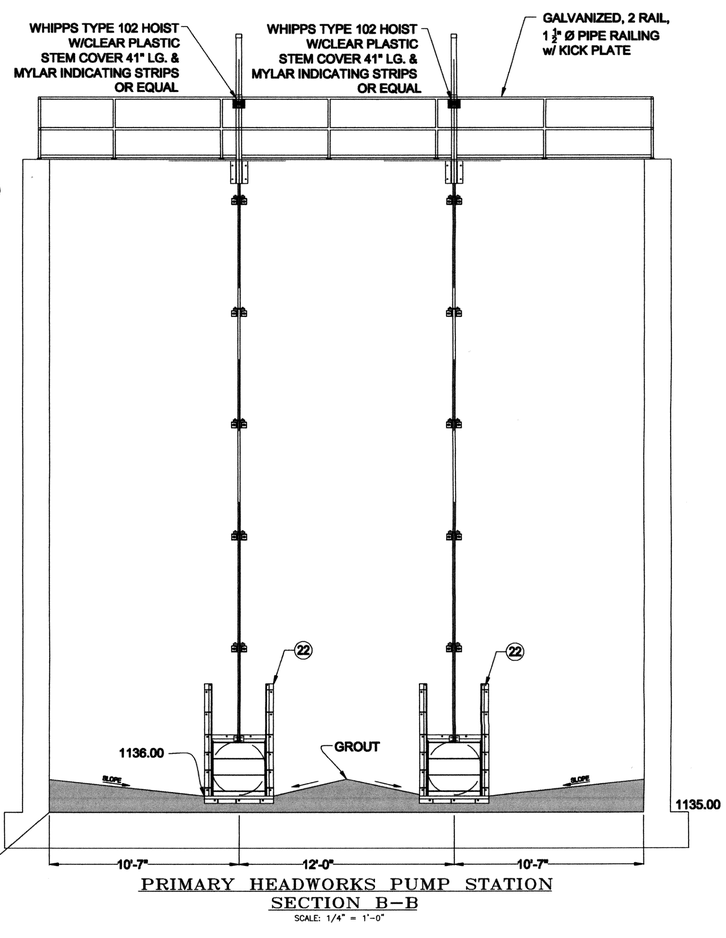


PRIMARY HEADWORKS PUMP STATION
PLAN
SCALE: 1/4" = 1'-0"



PRIMARY HEADWORKS PUMP STATION
SECTION A–A
SCALE: 1/4" = 1'-0"



PRIMARY HEADWORKS PUMP STATION
SECTION B–B
SCALE: 1/4" = 1'-0"

PUMP STATION EQUIPMENT SCHEDULE

No.	ITEM	Qty.	DESCRIPTION
①	30"x14" REDUCING TEE	3	
②	30"x12" REDUCING TEE	2	
③	14" FLGxMJ 90° BEND	3	WITH RESTRAINT GLAND
④	12" FLGxMJ 90° BEND	2	WITH RESTRAINT GLAND
⑤	14" WALL SLEEVE	3	2'-6"
⑥	12" WALL SLEEVE	2	2'-6"
⑦	14" DIP FLGxFLG	3	20'-0"
⑧	12" DIP FLGxFLG	2	20'-0" (NOT SHOWN)
⑨	14" DIP FLGxPE	3	7'-9 5/8"
⑩	12" DIP FLGxPE	2	7'-9 5/8" (NOT SHOWN)
⑪	NOT USED		
⑫	12" DIP FLGxFLG	2	4"

PUMP STATION EQUIPMENT SCHEDULE

No.	ITEM	Qty.	DESCRIPTION
⑬	14" CHECK VALVE	3	3CV01, 03CV03, 03CV05
⑭	12" CHECK VALVE	2	3CV02, 03CV04
⑮	14" GATE VALVE	3	3GV01, 3GV03, 3GV05
⑯	12" GATE VALVE	2	3GV02, 3GV04
⑰	42" WALL SLEEVE	1	2'-6"
⑱	30" DIP FLGxFLG	4	3'-0"
⑲	30" DIP FLGxPE	1	2'-8"
⑳	30"x90Ø BASE BEND	1	W/8" KICKER PIPE TO WALL
㉑	42" SLUICE GATE	1	03SG03
㉒	36" SLUICE GATE	2	03SG01, 03SG02
㉓	PIPE STANDS	2	
㉔	14" SUBMERSIBLE PUMP	3	03P01, 03P03, 03P05
㉕	12" SUBMERSIBLE PUMP	2	03P02, 03P04
㉖	3" CHECK VALVE	1	03CV06

SLUICE GATE SCHEDULE @ INFLUENT L.S.

No.	ITEM	DESCRIPTION		
Ⓐ	SLUICE GATE ID	03SG01	03SG02	03SG03
Ⓑ	GATE SERIES	925	925	925
Ⓒ	GATE TYPE	SLUICE	SLUICE	SLUICE
Ⓓ	SIZE (W x H)	36" x 36" (36 Ø PIPE)	36" x 36" (36 Ø PIPE)	42" x 42" (42" Ø PIPE)
Ⓔ	OPERATING FLOOR ELEV.	1171.50	1171.50	1171.50
Ⓕ	INVERT ELEVATION	1136.00	1136.00	1153.00
Ⓖ	MANUAL / AUTOMATIC	M	M	M
Ⓗ	ACTUATOR TYPE	HAND WHEEL	HAND WHEEL	HAND WHEEL
Ⓘ	MOUNTING	WALL	WALL	WALL
Ⓙ	HEAD SEATING/ UNSEATING	19.25 / 16.25	19.25 / 16.25	16.50 / 15.00

REVISIONS:	DATE:
C#7 – CLARIFICATION NO. 7	2/14/2011
C#9 – CLARIFICATION NO. 9	3/11/2011

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	4/12/10	AS SHOWN	18 OF 95

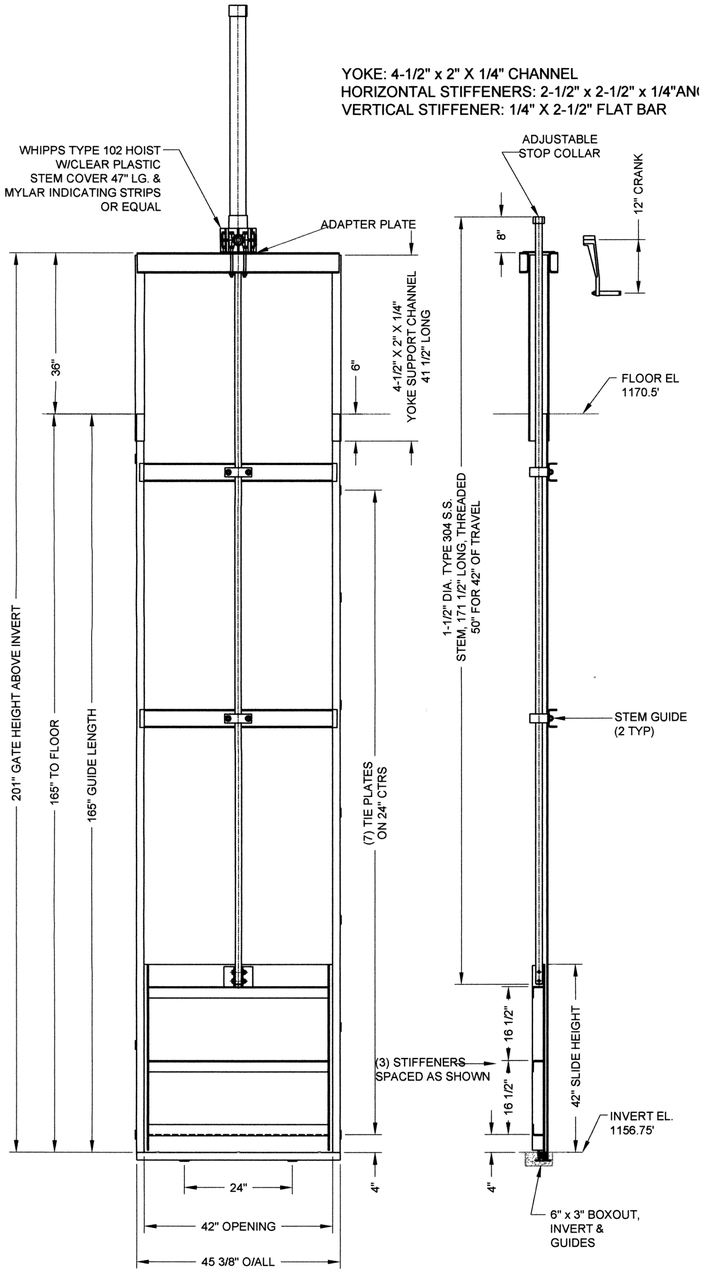
STRUCTURE NO. 3
PRIMARY HEADWORKS
PUMP STATION

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

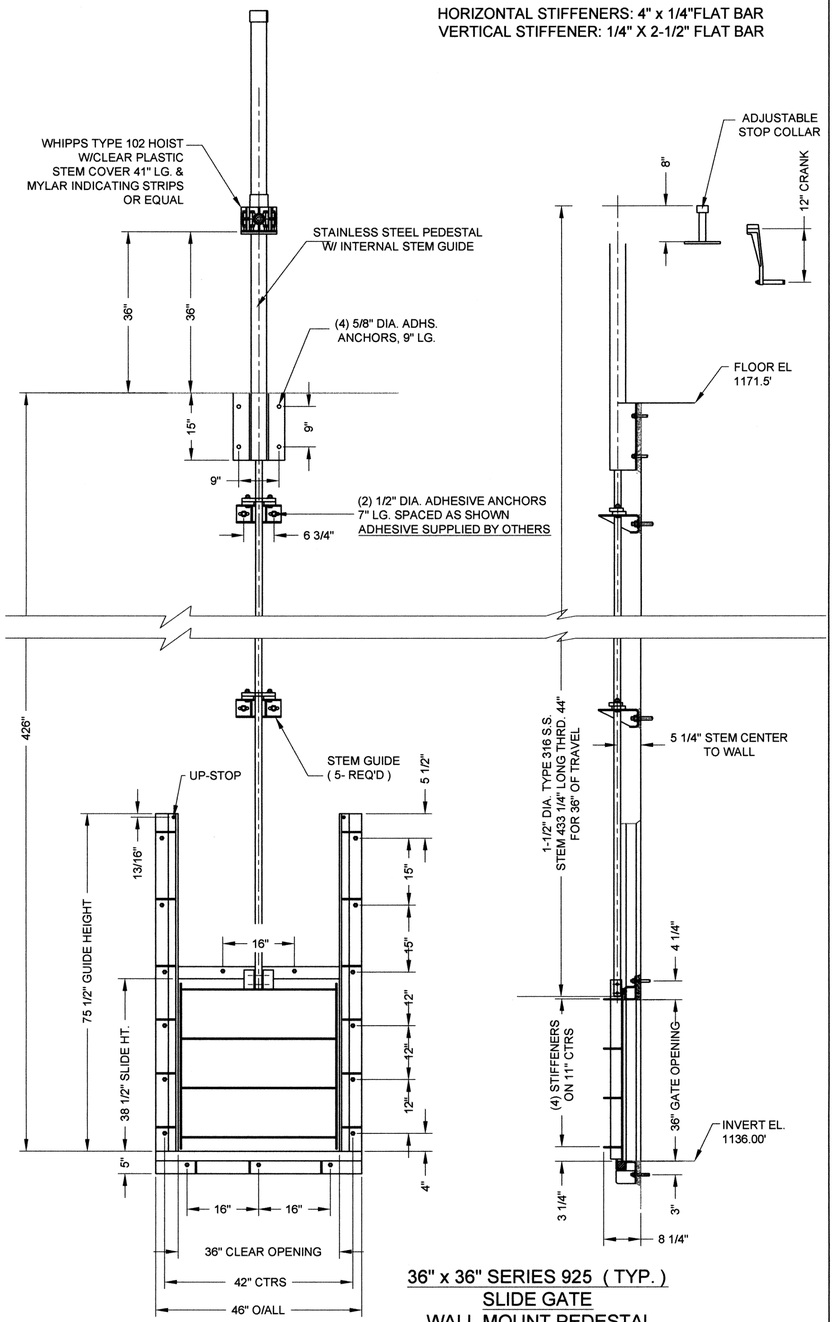
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Process\Headworks\PRIMARY LIFT STATION.dwg



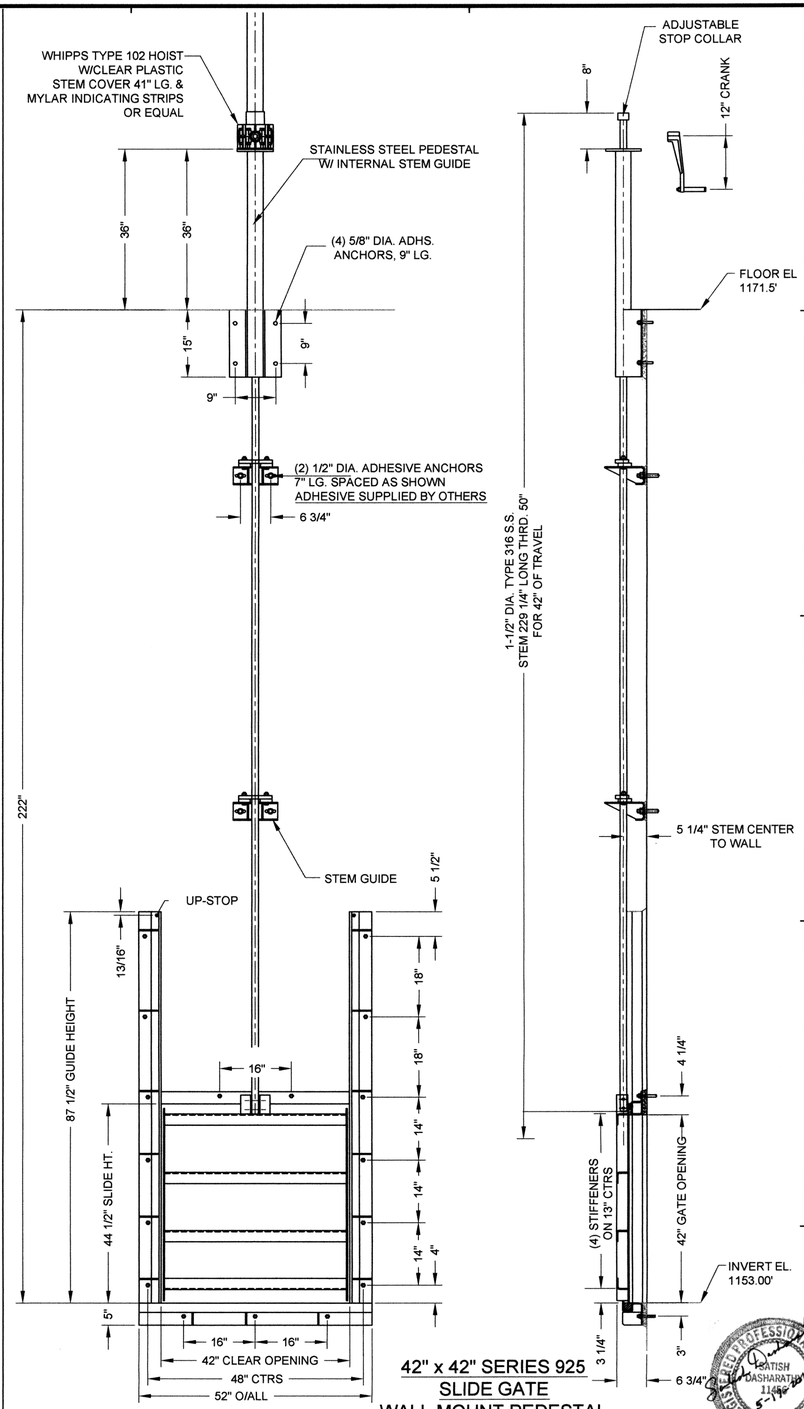
42" x 42" SERIES 921 (TYP.)
SLIDE GATE

2SG03	1SG05
2SG05	1SG07
1SG03	1SG08
1SG04	1SG09



36" x 36" SERIES 925 (TYP.)
SLIDE GATE
WALL MOUNT PEDESTAL
03SG01
03SG02

NOTE:
CONTRACTOR SHALL SUBMIT DETAIL FOR EACH INDIVIDUAL GATE



42" x 42" SERIES 925
SLIDE GATE
WALL MOUNT PEDESTAL
03SG03

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	2/10/10	AS SHOWN	19 OF 95

REVISIONS:	DATE:

SLIDE GATE DETAILS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
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FAX. (405) 844-3600

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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

SATISH DASHARATHI 11459 5-19-10 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

Q:\DRAWINGS\MOORE\WORK\Process\Gates.dwg

SCALE: 3/8" = 1'-0"

HEADWORKS BUILDING

SIDEWALK

SIDEWALK

SIDEWALK

T.O.C. EL. 1170'-6"

12' DRIVEWAY

CHEMICAL FEED BUILDING.

PRECAST CONC. TRENCH

PIPE SUPPORT (TYP.)

T.O.C. EL. 1170'-6"

T.O.C. EL. 1171'-0"

T.O.C. EL. 1170'-6"

T.O.C. EL. 1170'-6"

TRENCH FOR DRAIN GRATED

1168'-6"

PIPINGTRENCH W/STEEL LID

4"Ø PVC, SCH. 40 DRAIN PIPE

INLET VANE DAMPER

36" I.D.

4 " I.D.

T.O.C. EL. 1171'-0"

36" I.D.

INLET VANE DAMPER

48" I.D.

LEGEND

1. INLET TRANSITION
2. FAN OUTLET FLEXIBLE CONNECTOR
3. SYSTEM FRP INLET TRANSITION
4. INLET AIR SAMPLE
5. 18" DIA. SUMP ACCESS
6. STAGE 1 DRAIN/OVERFLOW
7. STAGE 1 pH PROBE
8. STAGE 1 SUMP LOW LEVEL SWITCH
9. STAGE 1 RECIRCULATION PUMP
10. STAGE 1 NaOH CONNECTION
11. GROUNDING CONNECTION
12. STAGE 2/3 DRAIN/OVERFLOW
13. STAGE 2/3 pH PROBE
14. STAGE 2/3 ORP PROBE
15. STAGE 2/3 SUMP LOW LEVEL SWITCH
16. STAGE 2/3 RECIRCULATION PUMP
17. STAGE 2/3 NaOH CONNECTION
18. STAGE 2/3 NaOCl CONNECTION
19. MAKEUP WATER CONNECTION
20. PRESSURE GAUGES
21. DIFFERENTIAL PRESSURE GAUGES
22. OUTLET AIR SAMPLE
23. (NOT USED)
24. 24" DIA ACCESS
25. SYSTEM MIST ELIMINATOR (INTERNAL)
26. M.E. WASHDOWN
27. 30" DIA NOZZLE M.E. ACCESS
28. EXHAUST STACK
29. 18" DIA ACCESS
30. ANCHOR LUGS (4)
31. (NOT USED)
32. VESSEL I.D. TAG
33. VESSEL CAUTION TAG
34. NFPA TAG
35. 42" DIA OUTLET

SITE PLAN

Scale 3/8" = 1'

REGISTERED PROFESSIONAL ENGINEER
SUDHISH DASHARATHY
11456
5-17-10
OKLAHOMA

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/6/10	AS SHOWN	20 OF 95

REVISIONS:	DATE:

HEADWORKS ODOR CONTROL STRUCTURE #4

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
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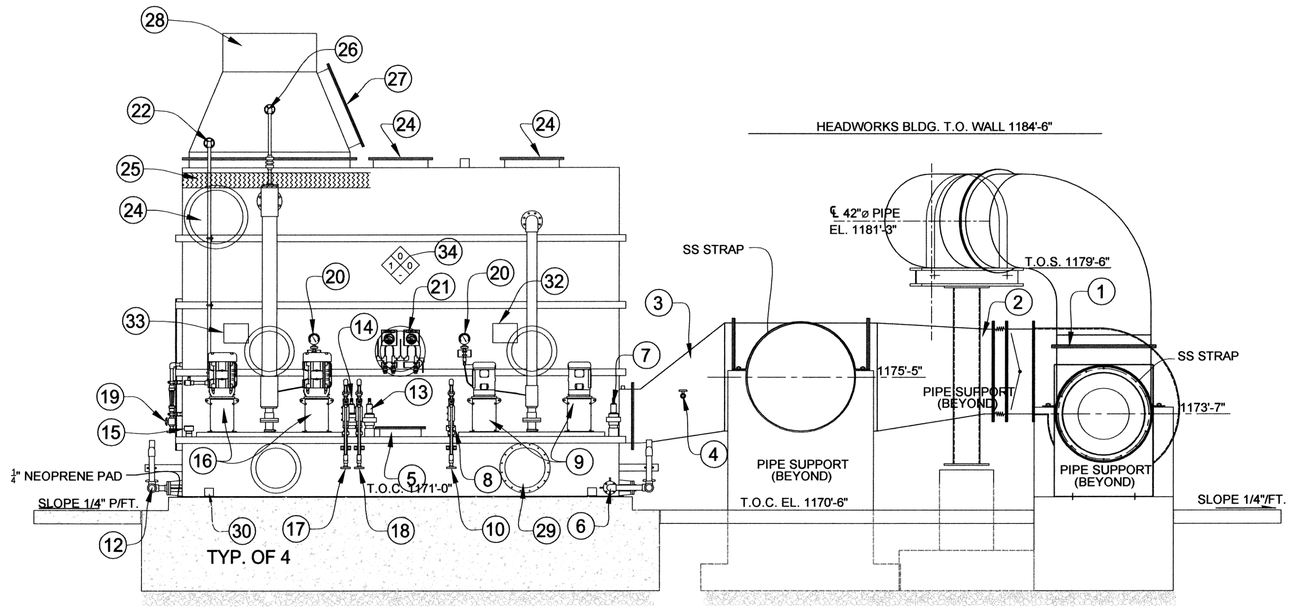
FAX. (405) 844-3600

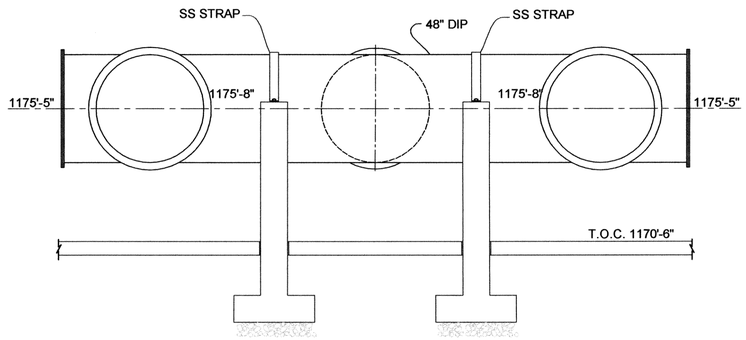
EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Process\Headworks\HDWKS-OdorControl.dwg



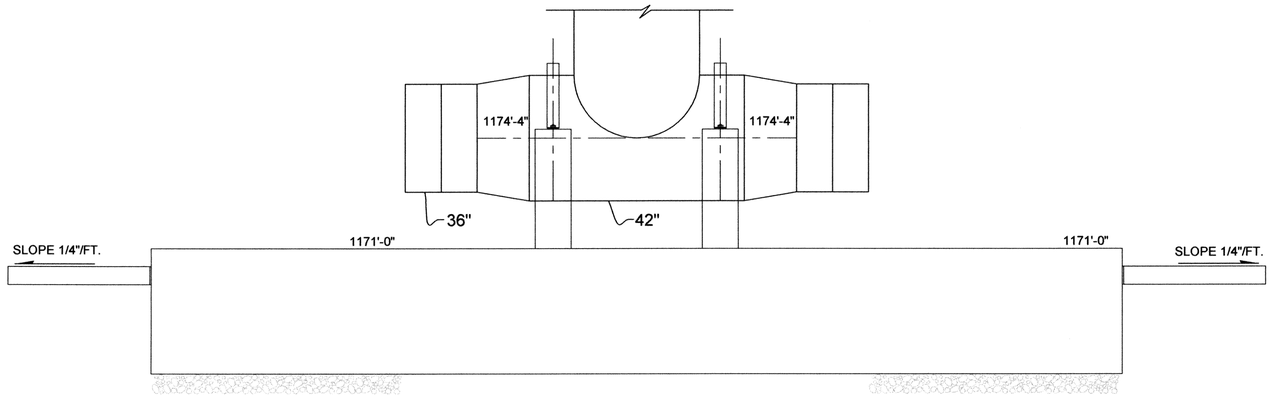
1 SECTION
SCALE: 3/8" = 1'-0"



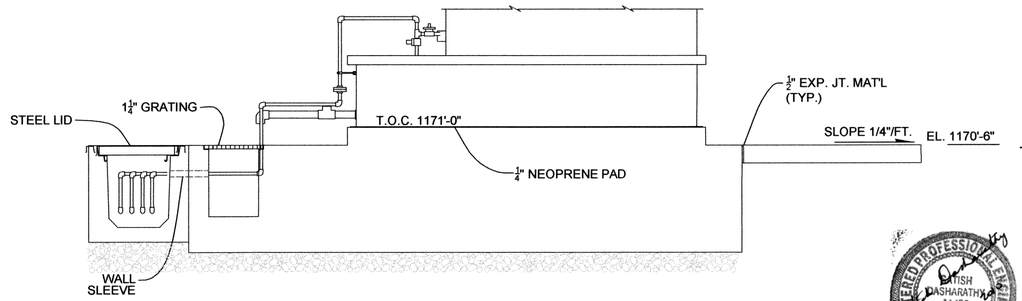
3 SECTION
SCALE: 3/8" = 1'-0"

LEGEND

1. INLET TRANSITION
2. FAN OUTLET FLEXIBLE CONNECTOR
3. SYSTEM FRP INLET TRANSITION
4. INLET AIR SAMPLE
5. 18" DIA. SUMP ACCESS
6. STAGE 1 DRAIN/OVERFLOW
7. STAGE 1 pH PROBE
8. STAGE 1 SUMP LOW LEVEL SWITCH
9. STAGE 1 RECIRCULATION PUMP
10. STAGE 1 NaOH CONNECTION
11. GROUNDING CONNECTION
12. STAGE 2/3 DRAIN/OVERFLOW
13. STAGE 2/3 pH PROBE
14. STAGE 2/3 ORP PROBE
15. STAGE 2/3 SUMP LOW LEVEL SWITCH
16. STAGE 2/3 RECIRCULATION PUMP
17. STAGE 2/3 NaOH CONNECTION
18. STAGE 2/3 NaOCl CONNECTION
19. MAKEUP WATER CONNECTION
20. PRESSURE GAUGES
21. DIFFERENTIAL PRESSURE GAUGES
22. OUTLET AIR SAMPLE
23. (NOT USED)
24. 24" DIA ACCESS
25. SYSTEM MIST ELIMINATOR (INTERNAL)
26. M.E. WASHDOWN
27. 30" DIA NOZZLE M.E. ACCESS
28. EXHAUST STACK
29. 18" DIA ACCESS
30. ANCHOR LUGS (4)
31. (NOT USED)
32. VESSEL I.D. TAG
33. VESSEL CAUTION TAG
34. NFPA TAG
35. 42" DIA OUTLET



4 SECTION
SCALE: 1/2" = 1'-0"



2 SECTION
SCALE: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
BRITISH DASHARATH
11456
5-1-10
OKLAHOMA

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/6/10	AS SHOWN	21 OF 95

HEADWORKS ODOR CONTROL DETAILS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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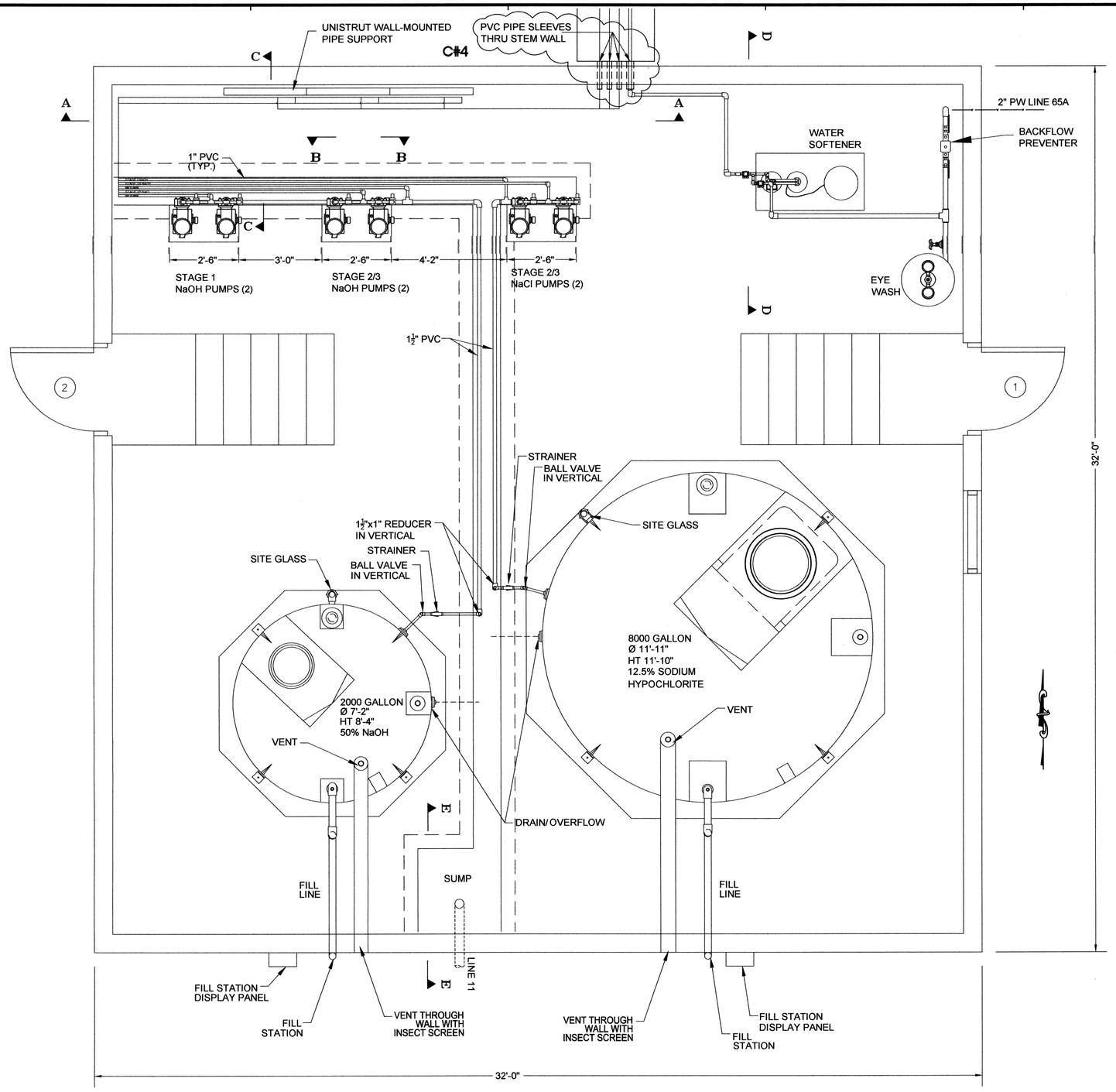
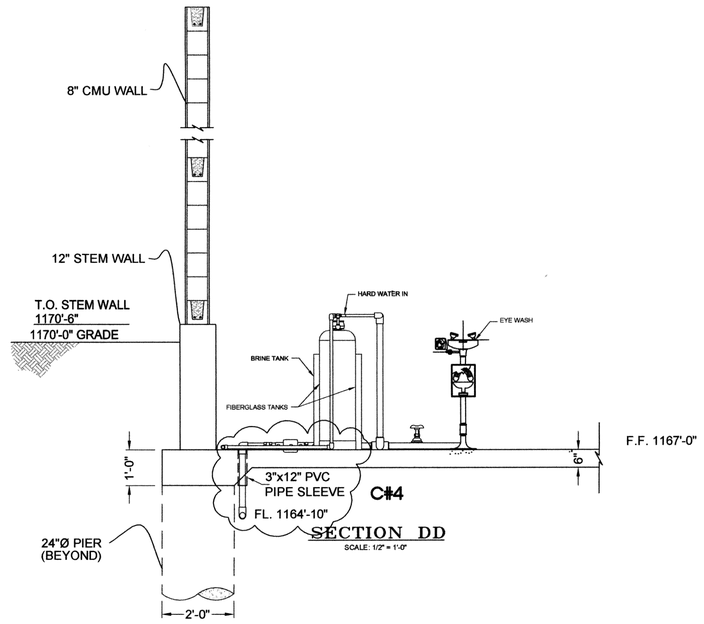
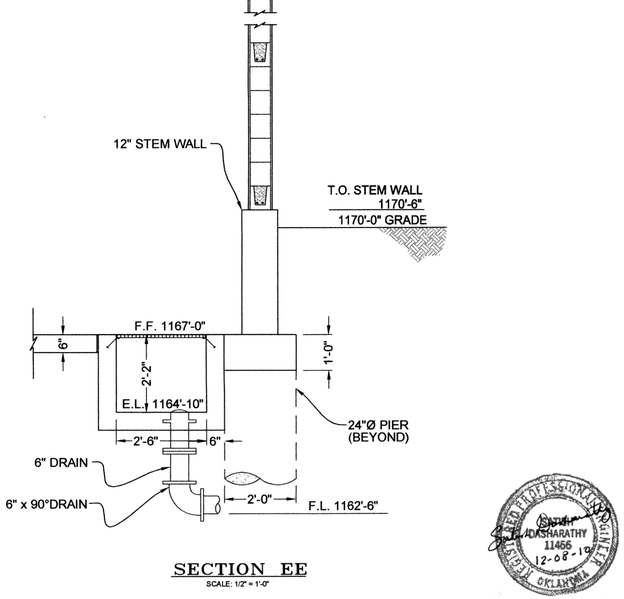




SECTION DD
SCALE: 1/2" = 1'-0"



SECTION EE
SCALE: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
ADITYA S. ADHIKARATHY
11466
12-08-10
OKLAHOMA

CHEMICAL FEED BUIDLING PLAN
SCALE: 1/2" = 1'-0"

REVISIONS:	DATE:
C#4 – CLARIFICATION NO. 4	12/8/10

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/16/2010	AS NOTED	22 OF 95

HEADWORKS CHEMICAL FEED STRUCTURE #43 DETAILS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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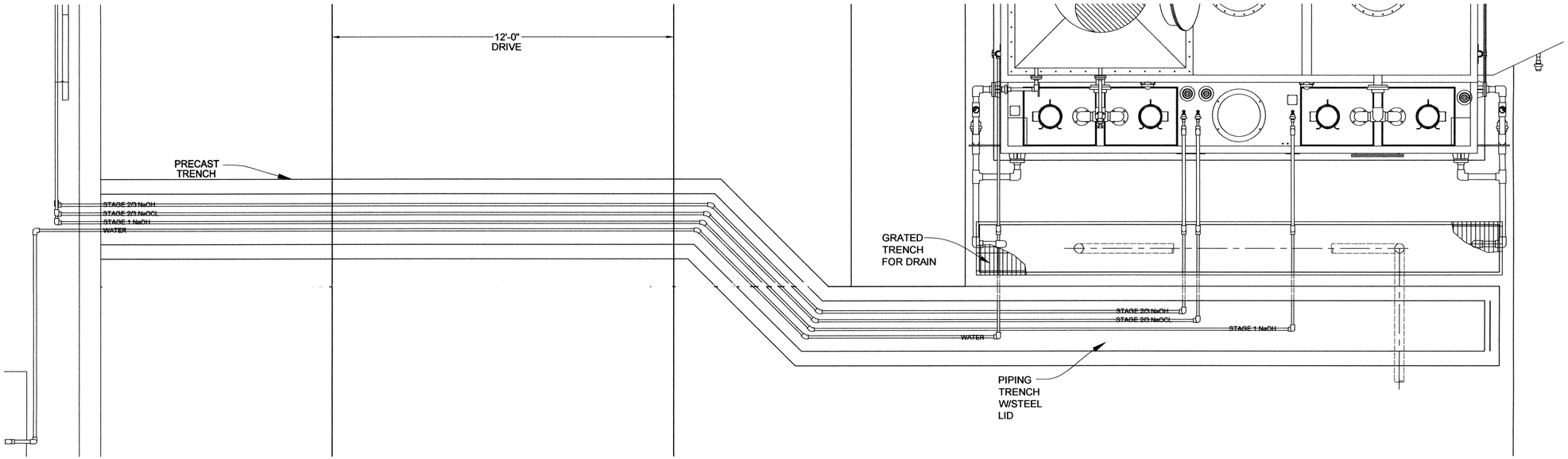
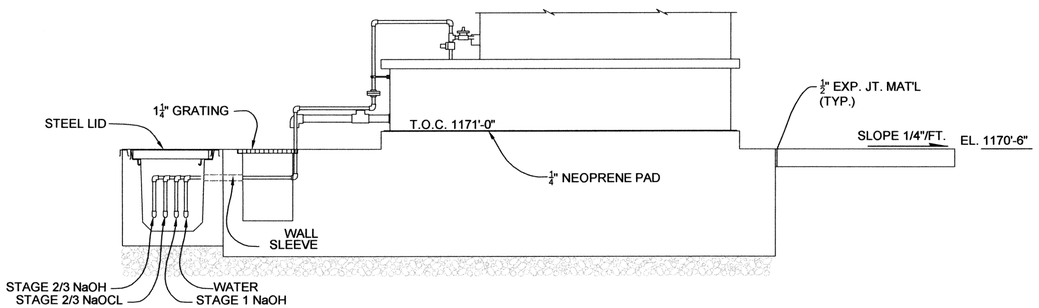
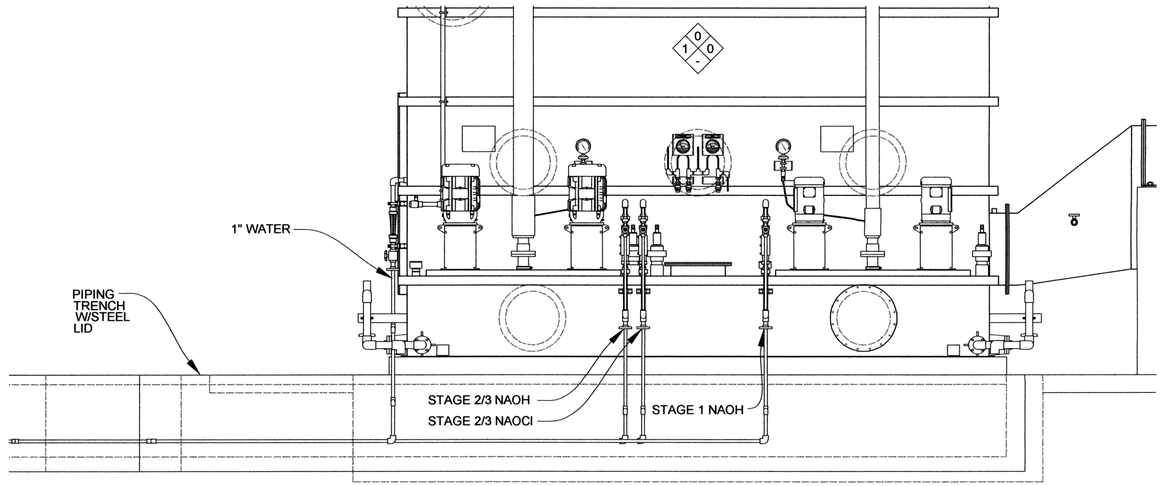


PLAN
SCALE: 3/8" = 1'-0"

NOTE: CHEM FEED AND WATER PIPING SHALL BE HEAT TRACED FOR ALL ODOR CONTROL STRUCTURES.



DETAIL
SCALE: 1/2" = 1'-0"



ELEVATION
SCALE: 3/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
SATISH DASHARATHI
11459
OKLAHOMA

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/8/10	AS SHOWN	23 OF 95

CHEMICAL FEED PIPING FOR HEADWORKS ODOR CONTROL

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

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CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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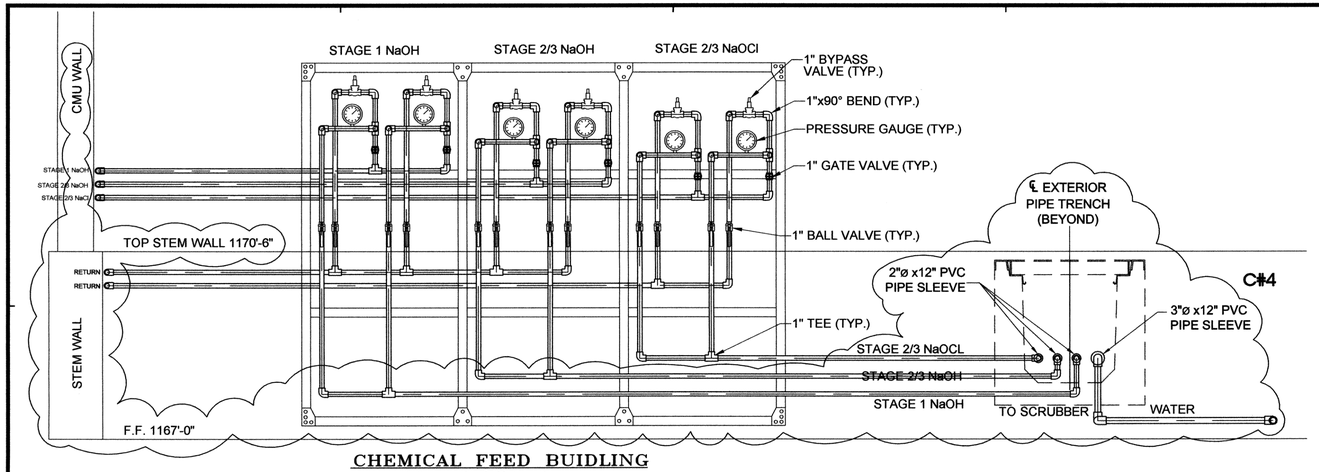
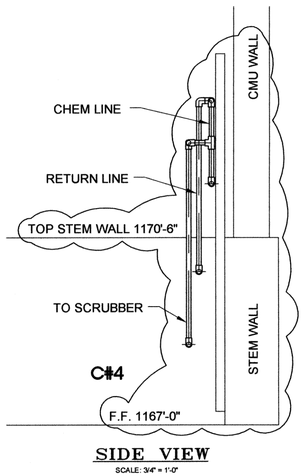


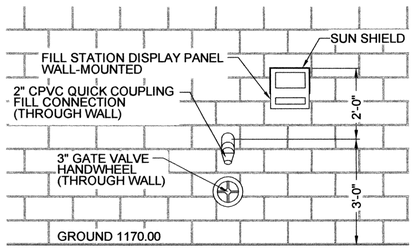
CHEMICAL FEED BUIDLING ELEVATION A–A

SCALE: 3/4" = 1'-0"



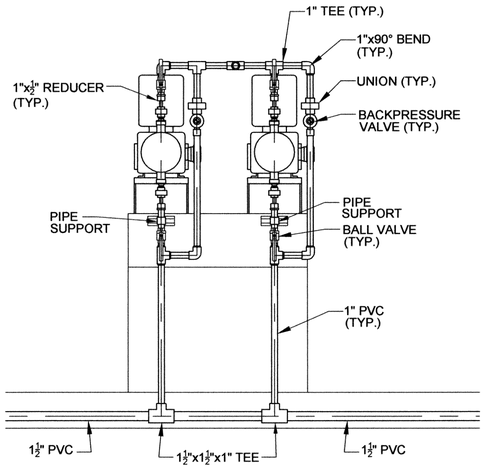
SIDE VIEW

SCALE: 3/4" = 1'-0"



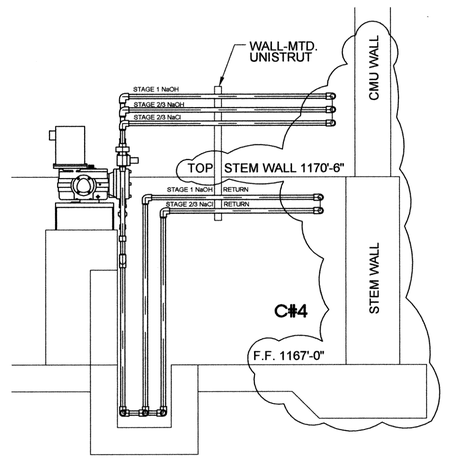
FILL STATION ELEVATION

SCALE: 1/2" = 1'-0"



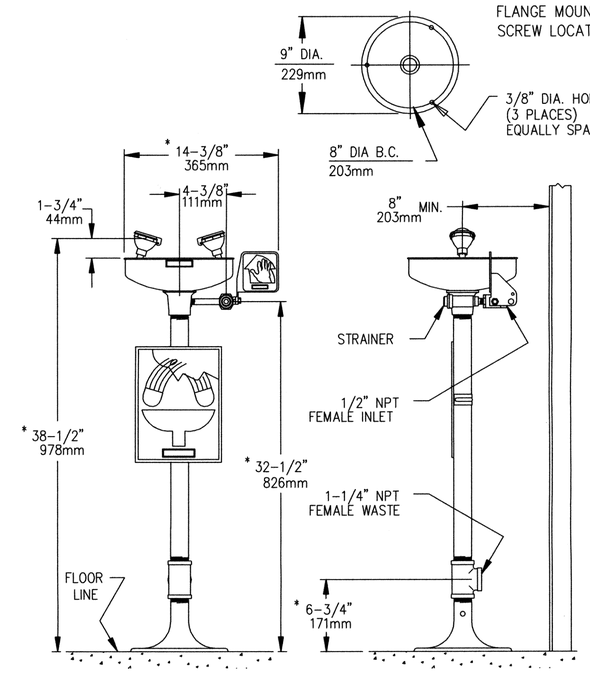
CHEMICAL FEED BUIDLING ELEVATION B–B

SCALE: 1" = 1'-0"



CHEMICAL FEED BUIDLING ELEVATION C–C

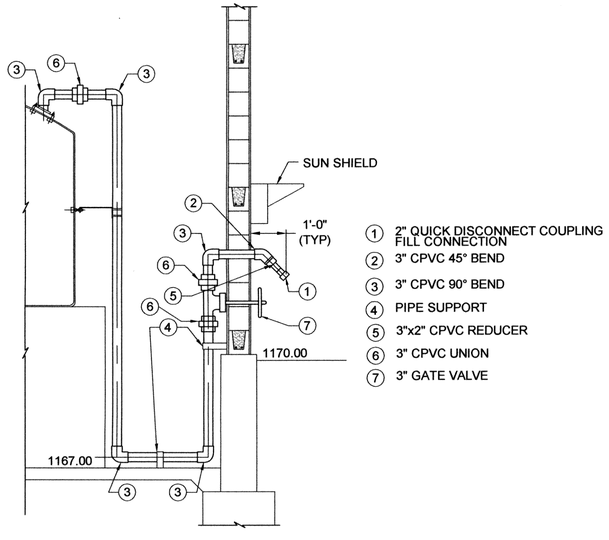
SCALE: 3/4" = 1'-0"



- FLOOR MOUNTED PEDESTAL EYE/FACE WASH
- STAINLESS STEEL RECEPTOR
- DUAL HIGH IMPACT ABS PLASTIC SPRAY HEADS IN HIGH VISIBILITY YELLOW
- INTEGRAL DUST COVERS FOR SPRAY HEADS THAT RELEASE WHEN VALVE IS ACTIVATED
- PUSH-TO-ACTIVATE BALL VALVE THAT STAYS OPEN UNTIL MANUALLY CLOSED
- HIGH VISIBILITY EMERGENCY SIGN (NOT SHOWN)
- MEETS ANSI STANDARD Z358.1
- FINISH: NO FINISH

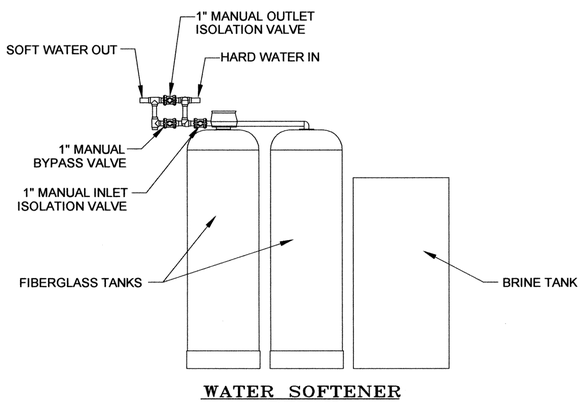
EYE WASH DETAIL

NO SCALE



FILL ASSEMBLY SECTION

SCALE: 1/2" = 1'-0"



WATER SOFTENER DETAIL

NO SCALE

REVISIONS:	DATE:
C#4 – CLARIFICATION NO. 4	12/8/10

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	5/16/10	AS NOTED	24 OF 95

HEADWORKS CHEMICAL FEED BUILDING PIPING

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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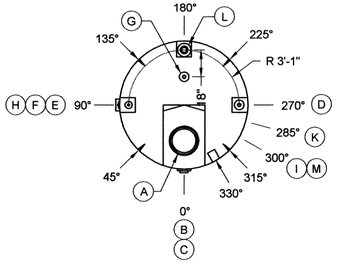
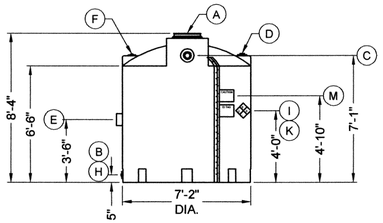
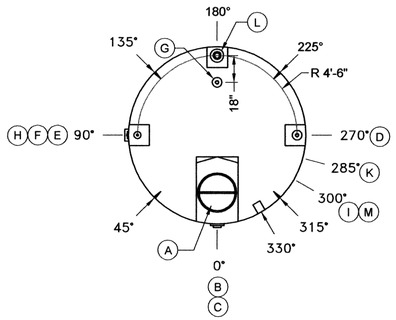


PLAN

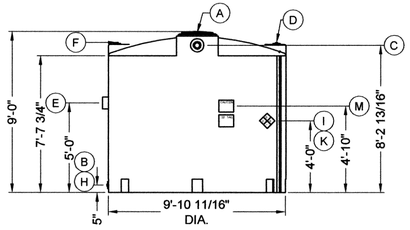


2000 GAL. STORAGE TANK

SCALE: 1/4" = 1'-0"

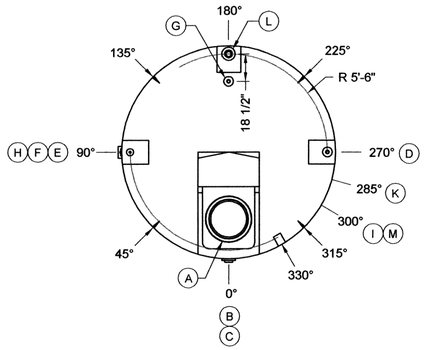


PLAN

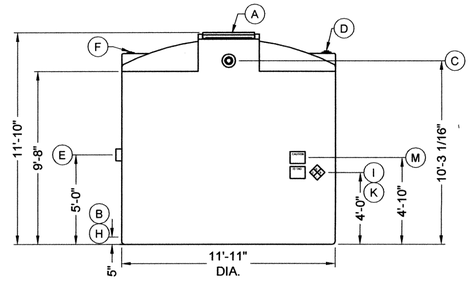


4000 GAL. STORAGE TANK

SCALE: 1/4" = 1'-0"

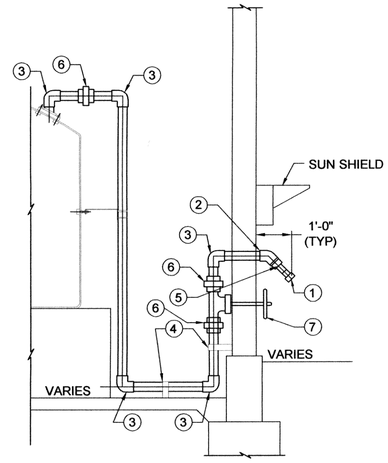


PLAN



8000 GAL. STORAGE TANK

SCALE: 1/4" = 1'-0"



TANK FILL ASSEMBLY DETAIL

SCALE: 1/2" = 1'-0"

ITEM	DESCRIPTION	SIZE	ORIENTATION	EL
A	16" DIA MANWAY	-	0°	TOP
B	FULL DRAIN PVC FLANGED FITTING	2"	0°	5"
C	OVERFLOW PVC FLANGED FITTING	2"	0°	7'-1"
D	FILL PORT PVC BULKHEAD FITTING	2"	270°	TOP
E	SIGHT GAUGE SUPPORT BRACKET	-	90°	3'-6"
F	UPPER SIGHT GAUGE PVC FLANGED FITTING	1"	90°	TOP
G	VENT PORT PVC FITTING	2"	180°	TOP
H	CHEMICAL FEED/ LOWER SIGHT G. FLANGED FITTING	1"	90°	5"
I	TANK ID TAG	-	300°	4'-0"
K	NFPA LABEL	-	285°	4'-0"
L	LOW LEVEL SWITCH PORT PVC FITTING	2"	180°	TOP
M	TANK CAUTION TAG	-	300°	4'-10"

ITEM	DESCRIPTION	SIZE	ORIENTATION	EL
A	24" DIA MANWAY	-	0°	TOP
B	FULL DRAIN PVC FLANGED FITTING	2"	0°	5"
C	OVERFLOW PVC FLANGED FITTING	2"	0°	8'-3"
D	FILL PORT PVC BULKHEAD FITTING	2"	270°	TOP
E	SIGHT GAUGE SUPPORT BRACKET	-	90°	5'-0"
F	UPPER SIGHT GAUGE PVC FLANGED FITTING	1"	90°	TOP
G	VENT PORT PVC FITTING	2"	180°	TOP
H	CHEMICAL FEED/ LOWER SIGHT G. FLANGED FITTING	1"	90°	5"
I	TANK ID TAG	-	300°	4'-0"
K	NFPA LABEL	-	285°	4'-0"
L	LOW LEVEL SWITCH PORT PVC FITTING	2"	180°	TOP
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A	24" DIA MANWAY	-	0°	TOP
B	FULL DRAIN PVC FLANGED FITTING	2"	0°	5"
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F	UPPER SIGHT GAUGE PVC FLANGED FITTING	1"	90°	TOP
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M	TANK CAUTION TAG	-	300°	4'-10"

1. 2" QUICK DISCONNECT COUPLING FILL CONNECTION
2. 3" CPVC 45° BEND
3. 3" CPVC 90° BEND
4. PIPE SUPPORT
5. 3"x2" CPVC REDUCER
6. 3" CPVC UNION
7. 3" GATE VALVE

GENERAL NOTES FOR CHEMICAL STORAGE TANKS (NaOCl and NaOH):

A. Chemical storage tanks shall be furnished for containment of 12.5 percent sodium hypochlorite and 50 percent sodium hydroxide solution. The tanks shall be made of high density, cross linked polyethylene. All tanks shall be provided by one manufacturer.

B. Each storage tank shall be provided with bulkhead pipe connections for tank drain, outlet, inlet, and vent. Each vent shall be provided with insect screen. Flanged connections shall be of the same materials as the tank wall. Threaded connections shall be of standard NPT. The tank details showing the locations of all openings, nozzles, and appurtenances shall be included in shop drawings and submitted for approval before fabrication of the chemical storage tank.

C. Each storage tank shall be provided with a liquid level control device to detect low level. In case low level is detected, the control device shall shut off the chemical metering pump(s).

D. Each storage tank shall be provided with a transparent sight glass for level monitoring.

E. The chemical storage tanks shall be sized as follows:

System I.D.	OCS-1	OCS-2 & OCS-3(shared)	OCS-4 & OCS-5 (shared)
50% NaOH Solution, gallons	2,000	2,000	2,000
12.5% NaOCl Solution, gallons	8,000	2,000	4,000

O:\DRAWINGS\MOORE\WORK\Process\Headworks\Tanks--HDWKS.dwg

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/6/10	AS SHOWN	25 OF 95

REVISIONS:	DATE:

CHEMICAL STORAGE TANK DETAILS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

FLOWS AND LINES

- NEW MAIN FLOW
- EXISTING MAIN FLOW
- FUTURE MAIN FLOW
- NEW SECONDARY FLOW
- EXISTING SECONDARY FLOW
- FUTURE SECONDARY FLOW
- MATERIAL SPECIFICATION CHANGE (CS / SS)
- ( ) AVERAGE FLOW
- [ ] PEAK FLOW

ABBREVIATIONS

A TO C	–	AIR TO CLOSE
A TO O	–	AIR TO OPEN
AVG	–	AVERAGE
B/EL	–	BOTTOM ELEVATION
CL	–	CENTER LINE
CFM	–	CUBIC FEET PER MINUTE
CW	–	CITY WATER (POTABLE)
DIA	–	DIAMETER
DWG	–	DRAWING
EL	–	ELEVATION
F.C.	–	FAIL CLOSED
F.O.	–	FAIL OPEN
FRL	–	FILTER\REGULATOR\LUBRICATOR
GAL	–	GALLONS
GPD	–	GALLONS PER DAY
GPH	–	GALLONS PER HOUR
GPM	–	GALLONS PER MINUTE
HB	–	HOSE BIB
HG	–	INCHES OF MERCURY
HI	–	HIGH
HOA	–	HAND/OFF/AUTO
HP	–	HORSEPOWER
IA	–	INSTRUMENT AIR
ID	–	INSIDE DIAMETER
INV	–	INVERT
LO	–	LOW
MH	–	MANHOLE
MW	–	MANWAY
N.C.	–	NORMALLY CLOSED
N.O.	–	NORMALLY OPEN
OAL	–	OVERALL LENGTH
O.D.	–	OUTSIDE DIAMETER
PA	–	PLANT AIR
PSIG	–	POUNDS PER SQUARE INCH – GAUGE
PW	–	PLANT WATER
RED	–	REDUCER
RPM	–	REVOLUTIONS PER MINUTE
SCFM	–	STANDARD CUBIC FEET PER MINUTE
SCH	-	SCHEDULE
SG	-	SPECIFIC GRAVITY
SP	-	SETPOINT
SSH	-	STRAIGHT SIDE HEIGHT
STD	-	STANDARD
SW	-	SEAL WATER
SWD	-	SIDE WATER DEPTH
TDH	-	TOTAL DYNAMIC HEAD(FT OF FLUID)
T/EL	-	TOP ELEVATION
TYP	-	TYPICAL
VAC	-	VACUUM
VSD	-	VARIABLE SPEED DRIVE
WC	-	WATER COLUMN
WD	-	WATER DEPTH
WL	-	WATER LEVEL
WV	-	WORKING VOLUME (DOES NOT INCLUDE FREEBOARD OR HEEL)

VALVE SYMBOLS

- ANGLE
- BALL
- BUTTERFLY
- CHECK
- DIAPHRAGM
- GATE
- GLOBE
- KNIFE
- NEEDLE
- PINCH
- PLUG
- PRESSURE REDUCING
- RELIEF
- SQUEEZE
- THREE WAY
- FOUR WAY
- VACUUM BREAKER
- AIR RELEASE
- HOSE BIBB
- INTEGRAL BLOCK & BLEED

ACTUATORS

- CYLINDER
- DIAPHRAGM–SPRING
- ELECTRO HYDRAULIC
- ELECTRO PNEUMATIC
- MOTOR
- SOLENOID
- POSITIONER * – TYPE
- BACKDRAFT DAMPER

PIPING AND TUBING MATERIALS

ABS	-	ACRYLONTRILE BUTADIENE STYRENE TRUSS PIPE
ALM	-	ALUMINUM PIPE OR TUBING
ARP	-	ALUMINUM REINFORCED PLASTIC PIPE
BL	-	BLACK IRON PIPE
BPT	-	BRAIDED PLASTIC TUBING–PVC
CI	-	CAST IRON PIPE
CISP	-	CAST IRON SOIL PIPE
CMCP	-	CORRUGATED METAL CULVERT PIPE
CMH	-	CHEMICAL HOSE
CMP	-	CORRUGATED METAL PIPE
COP	-	COPPER PIPE
CPVC	-	CHLORINATED POLYVINYL CHLORIDE PIPE
CS	-	CARBON STEEL PIPE
DI	-	DUCTILE CAST IRON PIPE
ERP	-	EPOXY RESIN PIPE
FRP	-	FIBERGLASS REINFORCED PLASTIC PIPE
GS	-	GALVANIZED STEEL PIPE
HOSE	-	FLEXIBLE HOSE
HSI	-	HIGH SILICON IRON PIPE
KLS	-	PVDF LINED STEEL PIPE (KYNAR ® LINED TYPICAL)
KYN	-	PVDF (KYNAR ® TYPICAL)
MI	-	CARBON STEEL PIPE W/MALLEABLE IRON FITTINGS
NEO	-	NEOPRENE HOSE
NI	-	NICKEL ALLOY PIPE
NLS	-	NEOPRENE LINED STEEL PIPE
PEP	-	POLYETHYLENE PIPE
PETB	-	POLYETHYLENE TUBING
PLS	-	POLYPROPYLENE LINED STEEL PIPE
POP	-	POLYPROPYLENE PIPE
PRP	-	PHENOLIC RESIN PIPE
PVC	-	POLYVINYL CHLORIDE PIPE
PVC HOSE	-	POLYVINYL CHLORIDE HOSE
PVDF	-	POLYVINYLIDENE FLUORIDE PIPE
RBR	-	RUBBER HOSE
RCCP	-	REINFORCED CONCRETE CULVERT PIPE
RCP	-	REINFORCED CONCRETE PIPE
SAR	-	SARAN TUBING
SLH	-	SLUDGE HOSE
SLS	-	SARAN LINED STEEL PIPE
SS	-	STAINLESS STEEL PIPE OR TUBING
TEF	-	TEFLON TUBING
TI	-	TITANIUM ALLOY PIPE
TLS	-	TEFLON LINED STEEL PIPE
TYB	-	TYGON ® TUBING–BRAIDED
TYG	-	TYGON ® TUBING–UNBRAIDED

INSTRUMENTATION AND RELATED ITEMS

- CAPILLARY TUBING
- ELECTRICAL
- HYDRAULIC
- PNEUMATIC
- DATA LINK
- FLUME
- MAGNETIC FLOW METER
- ROTAMETER
- SONIC FLOW METER
- TURBINE FLOW METER
- VENTURI
- WEIR
- VORTEX SENSOR

INSTRUMENT SYMBOLS

	PRIMARY LOCATION ***NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY LOCATION ***NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS	1 (* IP1**)	2	3
SHARED DISPLAY, SHARED CONTROL	4	5	6
COMPUTER FUNCTION	7	8	9
PROGRAMMABLE LOGIC CONTROL	10	11	12

* SYMBOL SIZE MAY VARY ACCORDING TO THE USER'S NEEDS AND THE TYPE OF DOCUMENT. A SUGGESTED SQUARE AND CIRCLE SIZE FOR LARGE DIAGRAMS IS SHOWN ABOVE. CONSISTENCY IS RECOMMENDED.

** ABBREVIATIONS OF THE USER'S CHOICE SUCH AS IP1 (INSTRUMENT PANEL #1), IC2 (INSTRUMENT CONSOLE #2), CC3 (COMPUTER CONSOLE #3), ETC., MAY BE USED WHEN IT IS NECESSARY TO SPECIFY INSTRUMENT OR FUNCTION LOCATION.

*** NORMALLY INACCESSIBLE OR BEHIND–THE–PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOL BUT WITH DASHED HORIZONTAL BARS, I.E.

PIPING ACCESSORIES

- DIAPHRAGM SEAL
- DRESSER COUPLING
- EJECTOR/EDUCTOR
- EXPANSION JOINT
- FLANGED CONNECTION
- FLEXIBLE HOSE
- HOSE CONNECTION
- INSULATION
- INSULATED PIPE WITH ELECTRIC HEAT TRACE (E)
- INSULATED PIPE WITH STEAM HEAT TRACE (S)
- PIPE TO TUBING ADAPTER
- PULSATION DAMPENER
- QUICK DISCONNECT
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- RUPTURE DISK
- SIGHT FLOW INDICATOR
- STRAINER
- UNION
- STEAM TRAP
- AIR FILTER
- AIR LUBRICATOR
- AIR REGULATOR
- COMB. AIR FILTER/ REGULATOR W/GAUGE
- FLOW ORIFICE
- SIGHT FLOW STRAINER
- SPECTACLE BLIND OPEN
- SPECTACLE BLIND CLOSE
- PIGTAIL SIPHON

ISA INSTRUMENT IDENTIFICATION TABLE

	FIRST LETTER		SUCCEEDING LETTERS	
	PROCESS VARIABLE	MODIFIER (IF NEEDED)	READOUT OR COMPUTER FUNCTION	MODIFIER (IF NEEDED)
A	ANALYSIS		ALARM	
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE		CONTROL	
D	USER'S CHOICE	DIFFERENTIAL		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	RATIO (FRACTION)		
G	USER'S CHOICE		GLASS, VIEWING DEVICE	
H	HAND			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE	CONTROL STATION	
L	LEVEL		LIGHT	LOW
M	USER'S CHOICE	MOMENTARY		MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE
O	OPRATING		ORIFICE (RESTRICTION)	
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)	
Q	QUANTITY	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD	
S	SPEED, FREQUENCY	SAFETY	SWITCH	
T	TEMPERATURE		TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS		VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X–AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y–AXIS	RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z–AXIS	DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

LEGEND BASED ON ISA STANDARD S 5.1

INSTRUMENT TAG NUMBERS

TIC 103 – INSTRUMENTATION IDENTIFICATION OR TAG NUMBER
103 – LOOP NUMBER
TIC – FUNCTIONAL IDENTIFICATION
NOTE: HYPHENS ARE OPTIONAL AS SEPARATORS

ELECTRICAL AND RELATED ITEMS

- (S) (S) – SELECTOR SWITCHES
- VFD – VARIABLE FREQUENCY DRIVE
- EM – EMERGENCY POWER
- (I) – INTERLOCK
- – PILOT LIGHT

LINE NUMBER IDENTIFICATION

1"–P–110–CS–I

- 1" – LINE SIZE
- P – FLUID SERVICE DESIGNATION
- 110 – LINE NUMBER
- CS – MATERIAL CLASS
- I – INSULATION

LINE CONTINUATIONS

- INDICATES A LINE GOING TO OR COMING FROM BATTERY LIMITS (CONTRACT LIMITS)
- 5 A 2 – INDICATES CONTINUATION OF LINE IS ON SHEET NUMBER 5 (SAME DRAWING NUMBER) IN ZONE A 2
- SHT 5 – INDICATES CONTINUATION OF A SIGNAL IS ON SHEET NUMBER 5

EQUIPMENT TAG NUMBERS

MXXXX	AGITATORS, AERATORS
BXXXX	AIR HANDLING–BLOWERS, COMPRESSORS, DRYERS
RXXXX	CLARIFIERS, THICKENERS, SEPARATORS
FXXXX	FILTERS–VACUUM, PRESSURE, CENTRIFUGES
PXXXX	PUMPS
TXXXX	TANKS
EXXXX	HEAT EXCHANGER
IXXXX	SOFTENERS, DEMINERALIZERS
ROXXXX	REVERSE OSMOSIS UNITS
SGXXXX	STEAM GENERATORS

VALVE & ACCESSORY TAG

VXXXX	VALVE
EJXXXX	EXPANSION JOINT
HXXXX	HOSE
FXXXX	FILTER
SXXXX	STRAINER
SBXXXX	SPECTACLE BLIND
STXXXX	STEAM TRAP

NOTES:
1. ALL FRP DUCTING, ACCESSORIES, AND DUCT SUPPORTS UP TO THE FAN INLET SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
2. ALL CHEMICAL PIPING FROM STORAGE TANKS TO METERING PUMPS AND FROM METERING PUMPS TO SCRUBBER SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
3. CHEMICAL TANKS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
4. ALL CHEMICAL TANKS' PIPING (SUPPLY, FILL, OVERFLOW, DRAIN, VENT, ETC.) TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
5. ALL WATER SUPPLY AND DRAIN LINES SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
6. 460 V, 3 PH AND 110 V, 1 PH POWER SUPPLY TO CONTROL PANEL SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
7. ALL FIELD WIRING TO CONTROL PANEL FROM FAN, NaOH AND NaOCl TANKS' LEVEL SWITCHES, WATER SOFTENER, ETC. SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
8. HEAT TRACING AND INSULATION NOT SHOWN. HEAT TRACING AND INSULATION (IF REQUIRED) SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. STRAINERS SHALL BE PROVIDED BY CONTRACTOR AND THEY SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO METERING PUMPS.
10. CHEMICAL TANK LEVEL SWITCHES TO BE PROVIDED, WIRED, AND INSTALLED BY CONTRACTOR.
11. WATER SOFTENER TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
12. ALL WATER SUPPLY FROM MAIN TO SOFTENER AND FROM SOFTENER TO SCRUBBER SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	4/8/10	NO SCALE	26 OF 95

P&ID LEGEND & SYMBOLS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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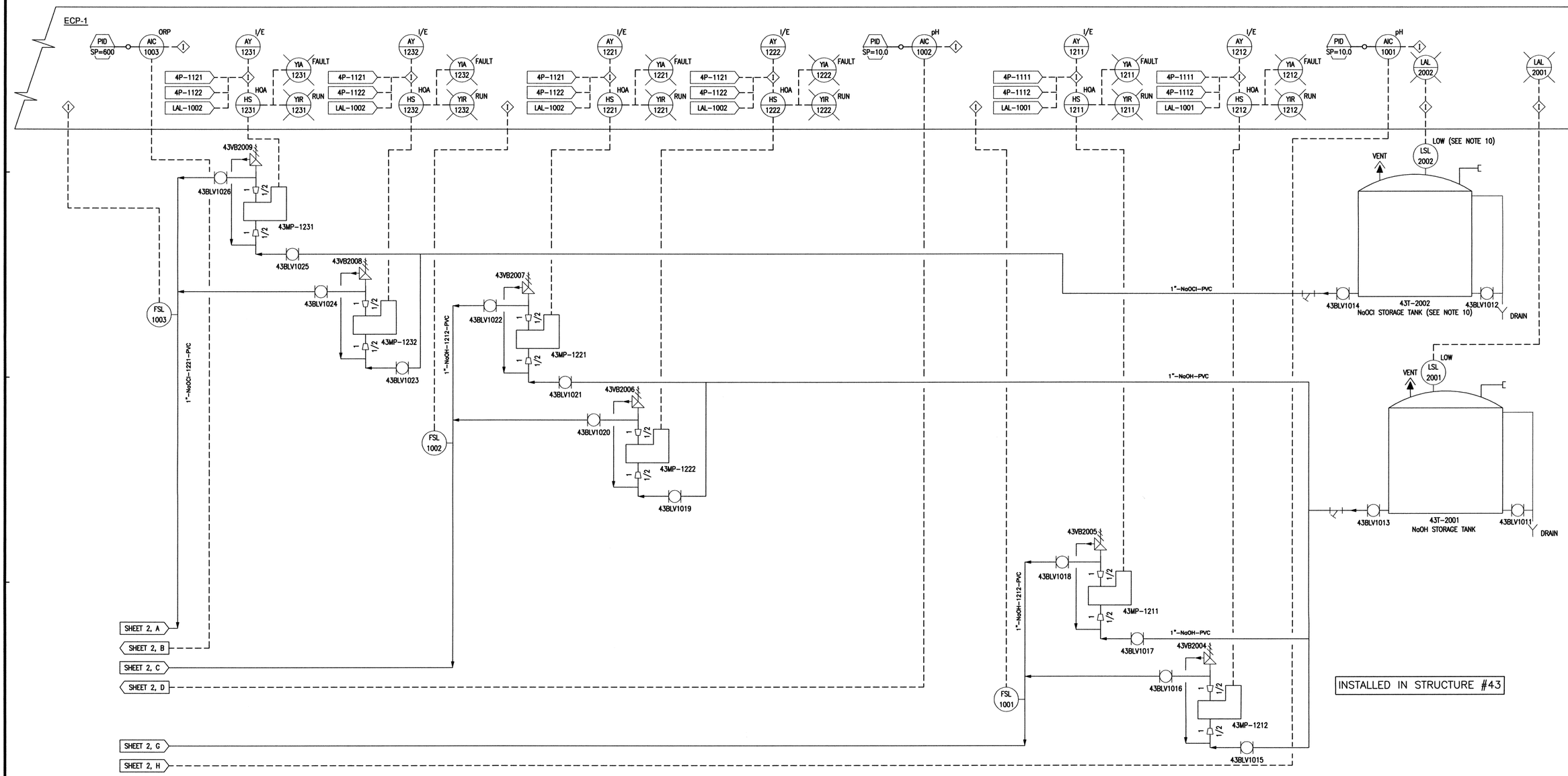

43MP-1231

2nd STAGE NaOCl METERING PUMP
DESIGN FLOW: 0 – 50 GPH
MAXIMUM PRESSURE: 150 PSI
STROKE: 144 STROKES/MIN
MOTOR: 0.75 HP
LIQUID END MATERIAL: PVC/TFE

43MP-1232

2nd STAGE NaOCl METERING PUMP
DESIGN FLOW: 0 – 50 GPH
MAXIMUM PRESSURE: 150 PSI
STROKE: 144 STROKES/MIN
MOTOR: 0.75 HP
LIQUID END MATERIAL: PVC/TFE

43MP-1221

2nd STAGE NaOH METERING PUMP
DESIGN FLOW: 0 – 13 GPH
MAXIMUM PRESSURE: 175 PSI
STROKE: 72 STROKES/MIN
MOTOR: 0.5 HP
LIQUID END MATERIAL: PVC/TFE

43MP-1222

2nd STAGE NaOH METERING PUMP
DESIGN FLOW: 0 – 13 GPH
MAXIMUM PRESSURE: 175 PSI
STROKE: 72 STROKES/MIN
MOTOR: 0.5 HP
LIQUID END MATERIAL: PVC/TFE

43MP-1211

1st STAGE NaOH METERING PUMP
DESIGN FLOW: 0 – 13 GPH
MAXIMUM PRESSURE: 175 PSI
STROKE: 72 STROKES/MIN
MOTOR: 0.5 HP
LIQUID END MATERIAL: PVC/TFE

43MP-1212

1st STAGE NaOH METERING PUMP
DESIGN FLOW: 0 – 13 GPH
MAXIMUM PRESSURE: 175 PSI
STROKE: 72 STROKES/MIN
MOTOR: 0.5 HP
LIQUID END MATERIAL: PVC/TFE

NOTES:
1. ALL FRP DUCTING, ACCESSORIES, AND DUCT SUPPORTS UP TO THE FAN INLET SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
2. ALL CHEMICAL PIPING FROM STORAGE TANKS TO METERING PUMPS AND FROM METERING PUMPS TO SCRUBBER SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
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11. WATER SOFTENER TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
12. ALL WATER SUPPLY FROM MAIN TO SOFTENER AND FROM SOFTENER TO SCRUBBER SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/5/10	NO SCALE	27 OF 95

REVISIONS:	DATE:

HEADWORKS CHEM FEED STRUCTURE NO. 43 P & ID

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EDMOND, OK. 73013
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FAX. (405) 844-3600

EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
SATISH DASHARATHY
11456
5-17-2010
OKLAHOMA

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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ECP-1

FAULT YIA 1001 — RUN YIR 1001 — HOA HS 1001

HOA HS 1002 — FAULT YIA 1002 — RUN YIR 1002

FAULT YIA 1111 — RUN YIR 1111 — HOA HS 1111 — 43MP-1211 — 43MP-1212

FAULT YIA 1002 — RUN YIR 1002 — HOA HS 1002 — 43MP-1211 — 43MP-1212

LAL 1001

FAULT YIA 1121 — RUN YIR 1121 — HOA HS 1121 — 43MP-1221 — 43MP-1222 — 43MP-1231 — 43MP-1232

FAULT YIA 1122 — RUN YIR 1122 — HOA HS 1122 — 43MP-1221 — 43MP-1222 — 43MP-1231 — 43MP-1232

LAL 1002

OCS-1
LO/PRO ODOR CONTROL SCRUBBER
DESIGN FLOW: 20,000 ACFM
PEAK INLET H_2S: 100 ppm
EFFICIENCY: 99.5%
FRP RESIN: HETRON 922

4BLV1003 — 1/2 — 1/4

PDI 1002 — 1/2 — 1/4

4BLV1002

PDI 1001 — 4BLV1001

DPSL 1001

M — 4BD1001 — 4F-1001 EXHAUST FAN 1 — 4BLV1004

M — 4BD1002 — 4F-1002 EXHAUST FAN 2 — 4BLV1005 — DRAIN

FOUL AIR FROM PROCESS

FA-FRP

4BLV1011

PSL 1001 — PI 1001 — 4BLV1012

PSL 1002 — PI 1002 — 4BLV1013

4P-1111 — 4CV1001 — 4P-1112 — 4CV1002 — LSL 1001 — LOW

4P-1121 — 4CV1003 — 4P-1122 — 4CV1004 — LSL 1112 — LOW

LI 1001 — 4BLV1006 — DRAIN

LI 1002 — 4BLV1007 — DRAIN

FI 1001 — 4GV3001

FI 1002 — 4GV3002

AE 1001 — pH — 4BLV1008 — 4VB2001

AE 1002 — pH — 4BLV1009 — 4VB2002

AE 1003 — ORP — 4BLV1010 — 4VB2003

FROM WATER SUPPLY — 1"-SW-PVC — SEE NOTE 5

BY CONTRACTOR — BY ODOR CONTROL SUPPLIER

INSTALLED IN STRUCTURE #4

SHEET 3, A
SHEET 3, B
SHEET 3, C
SHEET 3, D
SHEET 3, G
SHEET 3, H

4F-1001 (DUTY)

EXHAUST FAN
TYPE: BACKWARD INCLINED
DESIGN FLOW: 20,000 CFM. @ 8 IN WC
MOTOR: 50 HP, 1800 RPM
MATERIAL: FRP

4F-1002 (STANDBY)

EXHAUST FAN
TYPE: BACKWARD INCLINED
DESIGN FLOW: 20,000 CFM. @ 8 IN WC
MOTOR: 50 HP, 1800 RPM
MATERIAL: FRP

4P-1111 (DUTY)

1st STAGE RECIRCULATION PUMP
TYPE: VERTICAL CENTRIFUGAL
DESIGN FLOW: 330 GPM
TOTAL HEAD: 40 FT H20
MOTOR: 10 HP / 1800 RPM
MATERIAL: POLYPROPYLENE

4P-1112 (STANDBY)

1st STAGE RECIRCULATION PUMP
TYPE: VERTICAL CENTRIFUGAL
DESIGN FLOW: 330 GPM
TOTAL HEAD: 40 FT H20
MOTOR: 10 HP / 1800 RPM
MATERIAL: POLYPROPYLENE

4P-1121 (DUTY)

2nd STAGE RECIRCULATION PUMP
TYPE: VERTICAL CENTRIFUGAL
DESIGN FLOW: 330 GPM
TOTAL HEAD: 40 FT H20
MOTOR: 10 HP / 1800 RPM
MATERIAL: POLYPROPYLENE

4P-1122 (STANDBY)

2nd STAGE RECIRCULATION PUMP
TYPE: VERTICAL CENTRIFUGAL
DESIGN FLOW: 330 GPM
TOTAL HEAD: 40 FT H20
MOTOR: 10 HP / 1800 RPM
MATERIAL: POLYPROPYLENE

REGISTERED PROFESSIONAL ENGINEER — JAYANTH UMASHARATHY — 11456 — 5-17-10 — OKLAHOMA

NOTES:
1. ALL FRP DUCTING, ACCESSORIES, AND DUCT SUPPORTS UP TO THE FAN INLET SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
2. ALL CHEMICAL PIPING FROM STORAGE TANKS TO METERING PUMPS AND FROM METERING PUMPS TO SCRUBBER SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
3. CHEMICAL TANKS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
4. ALL CHEMICAL TANKS' PIPING (SUPPLY, FILL, OVERFLOW, DRAIN, VENT, ETC.) TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
5. ALL WATER SUPPLY AND DRAIN LINES SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
6. 460 V, 3 PH AND 110 V, 1 PH POWER SUPPLY TO CONTROL PANEL SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
7. ALL FIELD WIRING TO CONTROL PANEL FROM FAN, NaOH AND NaOCl TANKS' LEVEL SWITCHES, WATER SOFTENER, ETC. SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
8. HEAT TRACING AND INSULATION NOT SHOWN. HEAT TRACING AND INSULATION (IF REQUIRED) SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. STRAINERS SHALL BE PROVIDED BY CONTRACTOR AND THEY SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO METERING PUMPS.
10. CHEMICAL TANK LEVEL SWITCHES TO BE PROVIDED, WIRED, AND INSTALLED BY CONTRACTOR.
11. WATER SOFTENER TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
12. ALL WATER SUPPLY FROM MAIN TO SOFTENER AND FROM SOFTENER TO SCRUBBER SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	3/5/10	NO SCALE	28 OF 95

REVISIONS:	DATE:

HEADWORKS ODOR CONTROL STRUCTURE NO. 4 P & ID

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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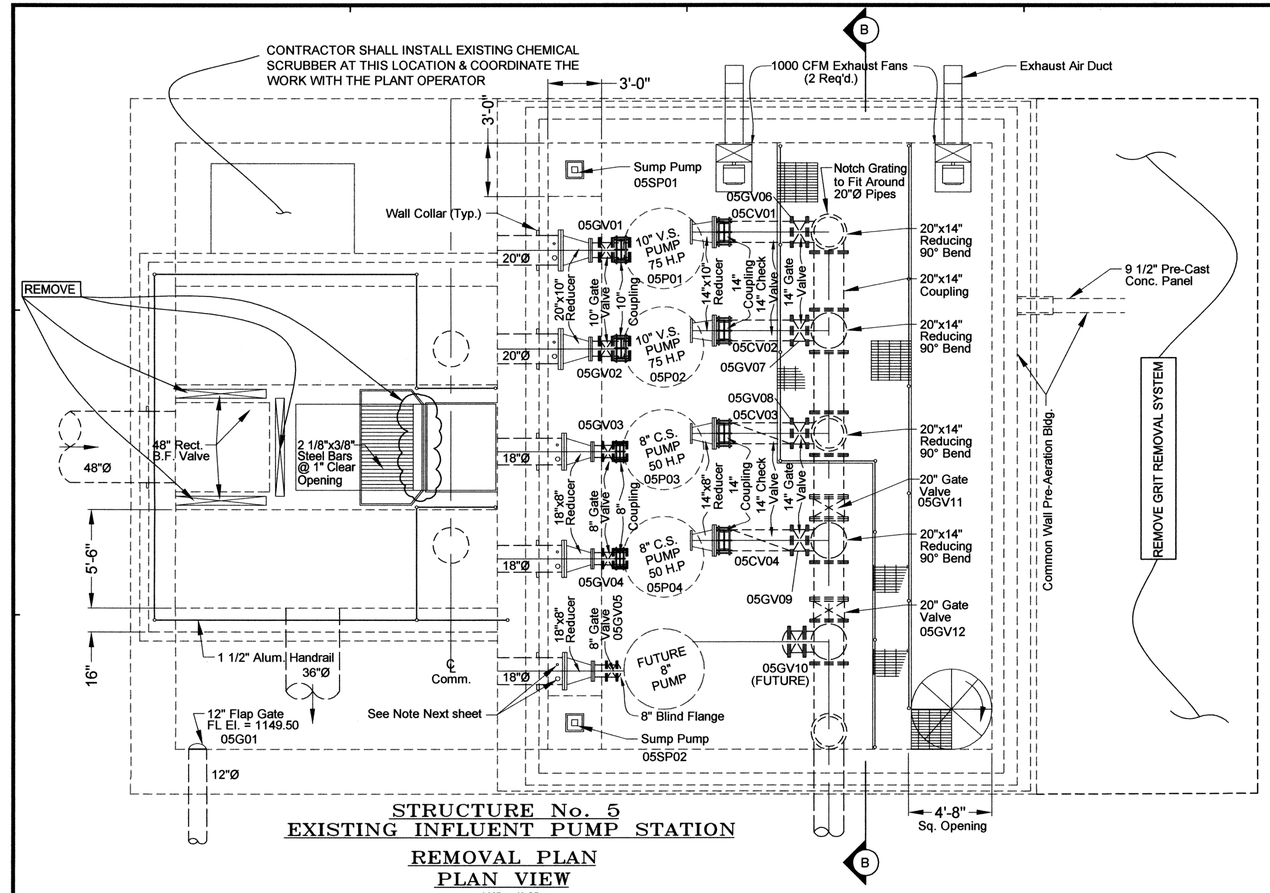
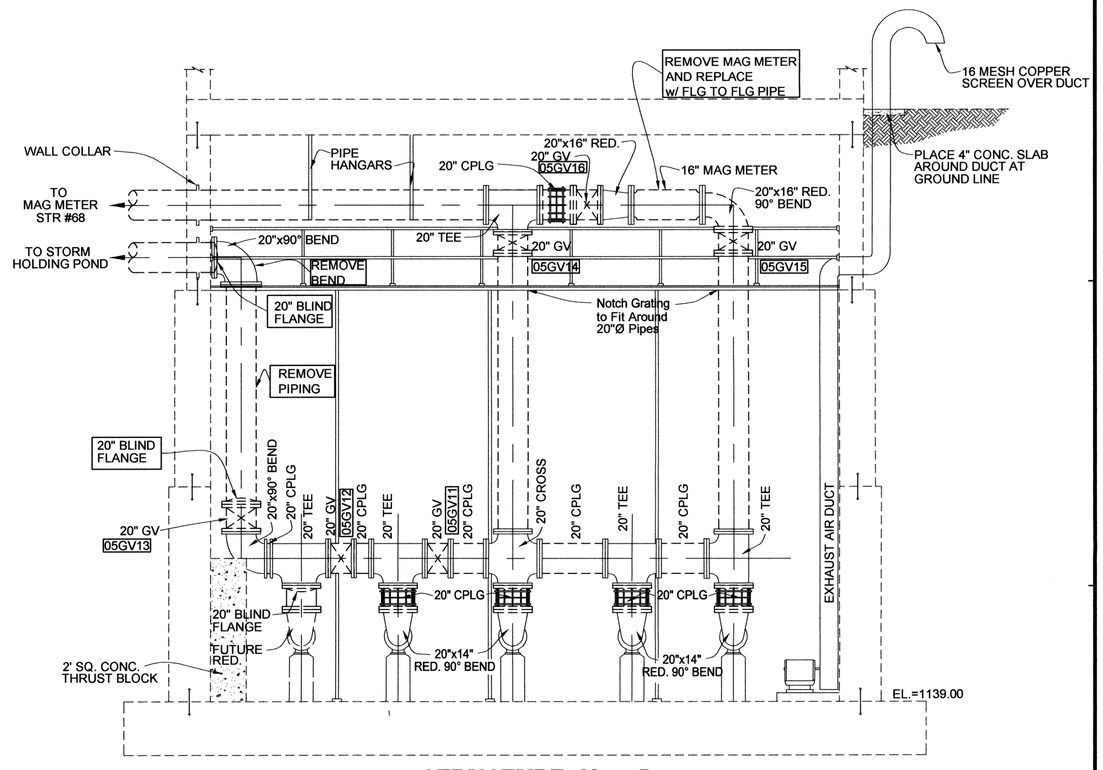
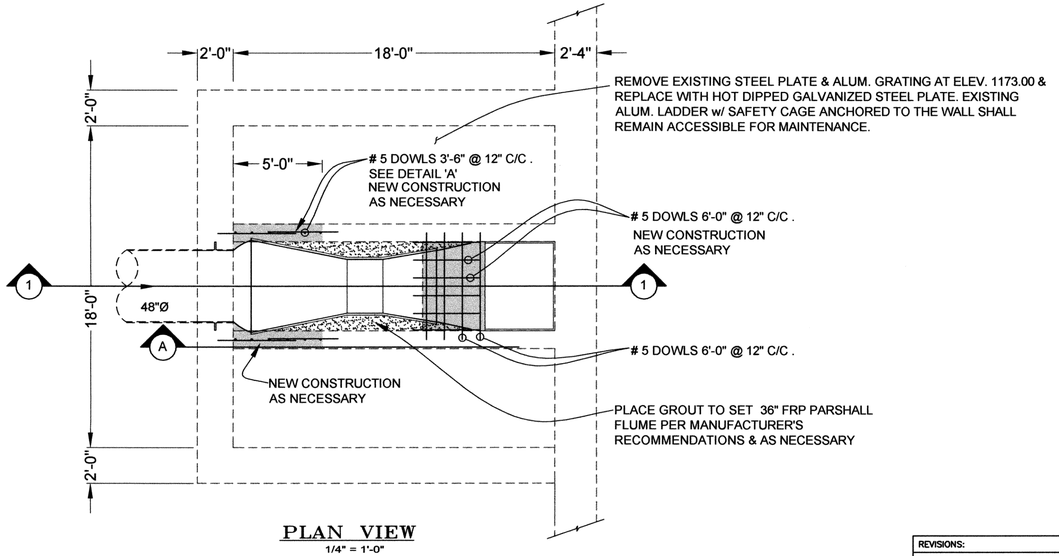


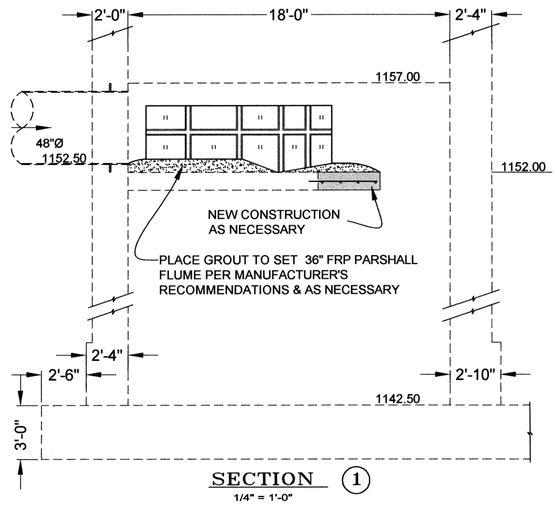
STRUCTURE No. 5
EXISTING INFLUENT PUMP STATION
REMOVAL PLAN
PLAN VIEW
1/4" = 1'-0"



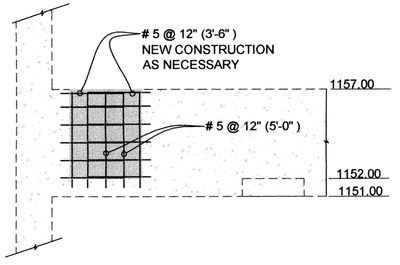
STRUCTURE No. 5
EXISTING INFLUENT PUMP STATION
SECTION B–B
SCALE: 1/4" = 1'-0"



PLAN VIEW
1/4" = 1'-0"



SECTION (1)
1/4" = 1'-0"



DETAIL 'A'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER — DARSHAN DASHARATHY 11456 — 5-17-10 — OKLAHOMA

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
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STRUCTURE NO. 5
REMOVAL AND PARSHALL FLUME

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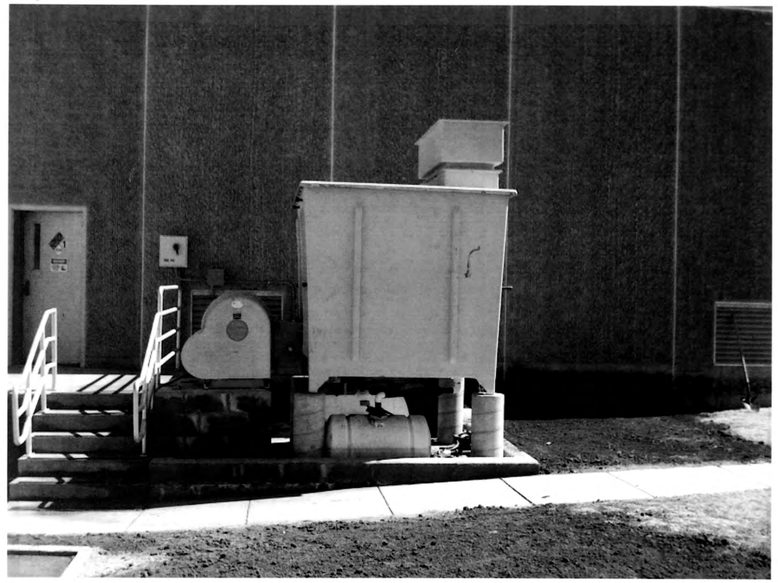
EXISTING SCRUBBER UNITS



PHOTOGRAPH NO. 1

PHOTOGRAPH NO. 2

PHOTOGRAPH NO. 3

EXISTING SCRUBBER DETAILS

1. BLOWER MOTOR: 5 HP, 230 VOLT, 12.4 AMP, 3 PHASE
2. RECIRULATION MOTOR: 0.75 HP, 230 VOLT, 5.2 AMP, SINGLE PHASE
3. SCRUBBER FOOTPRINT: 144" X 97"

CONSTRUCTION NOTES

1. CONTRACTOR SHALL COORDINATE THIS WORK WITH ENGINEER AND PLANT OPERATOR.
2. EXISTING SCRUBBERS WILL BE IN USE UNTIL NEW PLANT IS IN OPERATION.
3. SCRUBBER UNITS SHALL BE REMOVED FROM THEIR CURRENT LOCATIONS AND RELOCATED TO:
   a. EXISTING INFLUENT LIFT STATION.
   b. NEW RETURN LIFT STATION
4. AT THE EXISTING LIFT STATION, USE EXISTING PAD TO PLACE SCRUBBER UNIT, EXISTING PIPE PENETRATION TO CONNECT FOUL AIR LINE.
5. AT THE NEW RETURN LIFT STATION, CONSTRUCT A NEW SLAB TO ACCOMMODATE THE SCRUBBER, MAKE PROVISION FOR PIPE PENETRATION OF THE ROOF OF THE LIFT STATION WET WELL TO CONNECT FOUL AIR LINE.
6. CONTRACTOR SHALL SUBMIT A RELOCATION PLAN FOR ENGINEER'S APPROVAL PRIOR TO STARTING WORK.
7. CONTRACTOR SHALL MAKE PROVISIONS FOR ELECTRICAL SERVICE TO THE SCRUBBER UNITS, AND THE ELECTRICAL SERVICE PLAN SHALL BE APPROVED BY THE ENGINEER.
8. AFTER INSTALLATION CONTRACTOR SHALL TAKE ASSISTANCE FROM WWTP OPERATOR FOR SCRUBBER START-UP.
9. CONTRACTOR SHALL EXERCISE CARE AND GOOD JUDGMENT IN RETRIEVING SCRUBBER UNITS FROM EXISTING LOCATION AND RELOCATING THE UNIT TO THE DESCRIBED LOCATIONS.

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S.D.		S.D.	S.D.	4/16/10	AS SHOWN	30 OF 95

REVISIONS:	DATE:

EXISTING ODOR CONTROL UNIT TO BE INSTALLED AT EXISTING & RETURN LIFT STATIONS

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WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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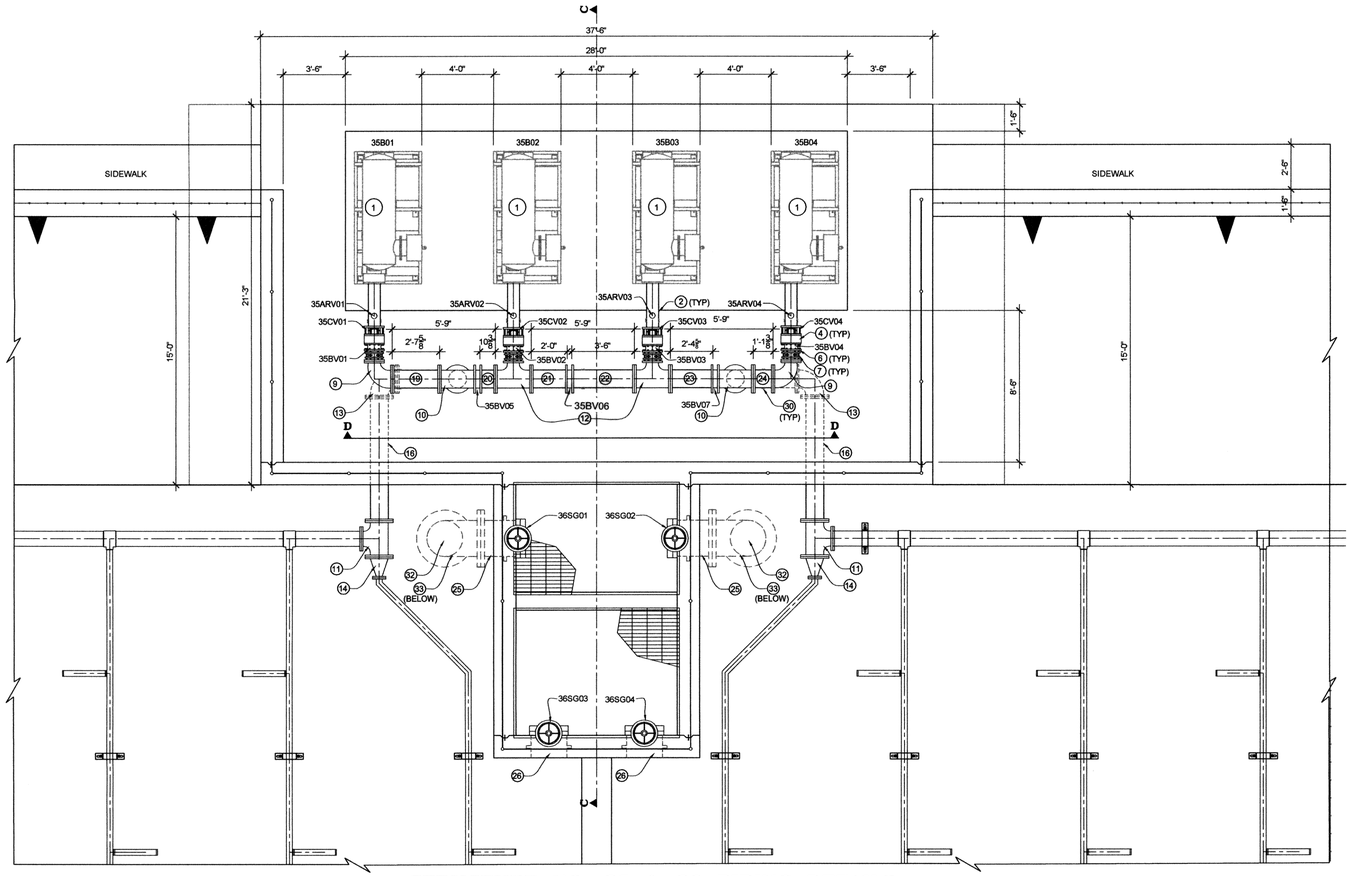
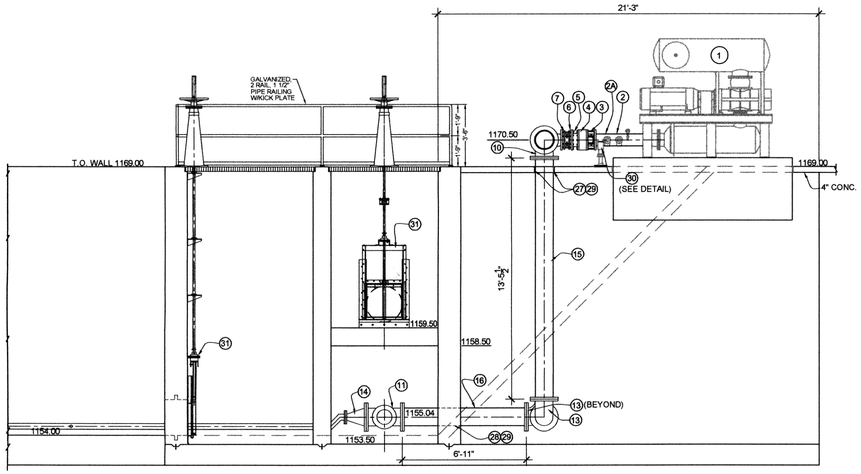


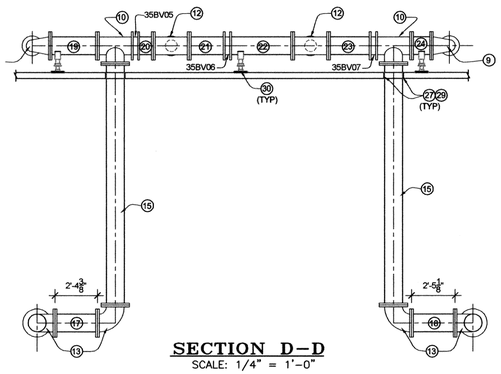
STRUCTURE NO. 35 & 36 PIPING DETAILS

SCALE: 1/4" = 1'-0"



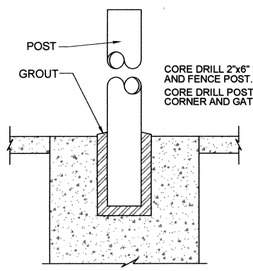
SECTION C–C

SCALE: 1/4" = 1'-0"



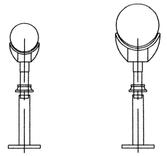
SECTION D–D

SCALE: 1/4" = 1'-0"



POST DETAIL

NO SCALE



ADJUSTABLE PIPE SADDLE SUPPORT

NO SCALE

SLUICE GATE SCHEDULE

GATE IDENTIFICATION	36SG01	36SG02	36SG03	36SG04
GATE TYPE	SERIES 22	SERIES 22	SERIES 22	SERIES 22
SIZE WIDTH x HEIGHT	24"x24"	24"x24"	24"x24"	24"x24"
OPERATING FLOOR ELEVATION	1168'-0"	1168'-0"	1168'-0"	1168'-0"
INVERT ELEVATION	1158'-3"	1158'-3"	1153'-0"	1153'-0"
HEAD (SEATING/UNSEATING)	10'/8'	10'/8'	15'/13'	15'/13'
MOUNTING	WALL	WALL	WALL	WALL

AIR MANIFOLD VALVE SCHEDULE

VALVE IDENTIFICATION	35BV05	35BV06	35BV07
VALVE TYPE	WAFER BUTTERFLY	WAFER BUTTERFLY	WAFER BUTTERFLY
VALVE SIZE	12"	12"	12"

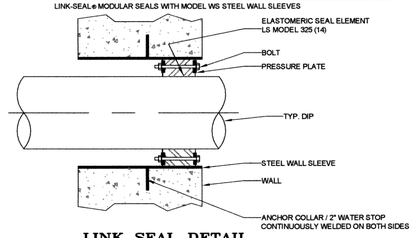
BLOWER DISCHARGE VALVE SCHEDULE

BLOWER IDENTIFICATION	35B01	35B02	35B03	35B04
VALVE IDENTIFICATION	35CV01	35CV02	35CV03	35CV04
VALVE TYPE	WAFER CHECK	WAFER CHECK	WAFER CHECK	WAFER CHECK
VALVE SIZE	8"	8"	8"	8"
VALVE IDENTIFICATION	35BV01	35BV02	35BV03	35BV04
VALVE TYPE	WAFER BUTTERFLY	WAFER BUTTERFLY	WAFER BUTTERFLY	WAFER BUTTERFLY
VALVE SIZE	8"	8"	8"	8"

EQUIPMENT SCHEDULE

No.	ITEM	Qty.	DESCRIPTION
1	BLOWER	4	POSITIVE DISPLACEMENT
2	BLOWER DISCHARGE	4	BY BLOWER MANUFACTURER
2A	AIR RELIEF VALVE	4	35ARV01-4
3	8" WAFER CHECK VALVE	4	35CV01-4
4	8"x5" TAPPED 3/4" NST FLANGE FILLER	4	
5	8" WAFER BUTTERFLY VALVE	4	35BV01-4
6	8"x1" FLANGE FILLER	4	
7	8" FLEX CONNECTOR	4	PROCO SERIES 231
8	12" WAFER BUTTERFLY VALVE	3	35BV05-7
9	12"x8" FLANGED REDUCING 90° BEND	2	
10	12"x12" FLANGED TEE	2	
11	12"x10" FLANGED TEE	2	
12	12"x8" FLANGED TEE	2	
13	12" FLANGED 90° BEND	4	
14	12"x4" FLANGED REDUCERS	2	
15	12" DIP FLGxFLG	2	13'-5 1/2"
16	12" DIP FLGxFLG	2	6'-11"
17	12" DIP FLGxFLG	1	2'-4 3/8"
18	12" DIP FLGxFLG	1	2'-5 1/8"
19	12" DIP FLGxFLG	1	2'-7 5/8"
20	12" DIP FLGxFLG	1	0'-10 3/8"
21	12" DIP FLGxFLG	1	2'-0"
22	12" DIP FLGxFLG	1	3'-6"
23	12" DIP FLGxFLG	1	2'-4 5/8"
24	12" DIP FLGxFLG	1	1'-1 3/8"
25	24" DIP FLGxPE WALL SLEEVE	2	2'-0"
26	24" DIP PExPE WALL SLEEVE	2	1'-3"
27	16" GALVANIZED STEEL WALL SLEEVE	2	1'-0"
28	16" GALVANIZED STEEL WALL SLEEVE	2	1'-3"
29	#325 LINK SEAL	4	14 LINKS PER SEAL
30	PIPE STANDS	7	
31	24"x24" SLUICE GATE	4	36SG01-4
32	24"x90° BEND	2	
33	24" DIP FLGxPE	2	3'-10"

LINK-SEAL® MODULAR SEALS WITH MODEL WS STEEL WALL SLEEVES



LINK SEAL DETAIL

NO SCALE

REGISTERED PROFESSIONAL ENGINEER SATISH BASHARATHU 11456 6-17-10 OKLAHOMA

REVISIONS:	DATE:

STRUCTURE NO. 35 & 36 PIPING DETAILS

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S.D.		S.D.	S.D.	1/11/10	AS SHOWN	31 OF 95

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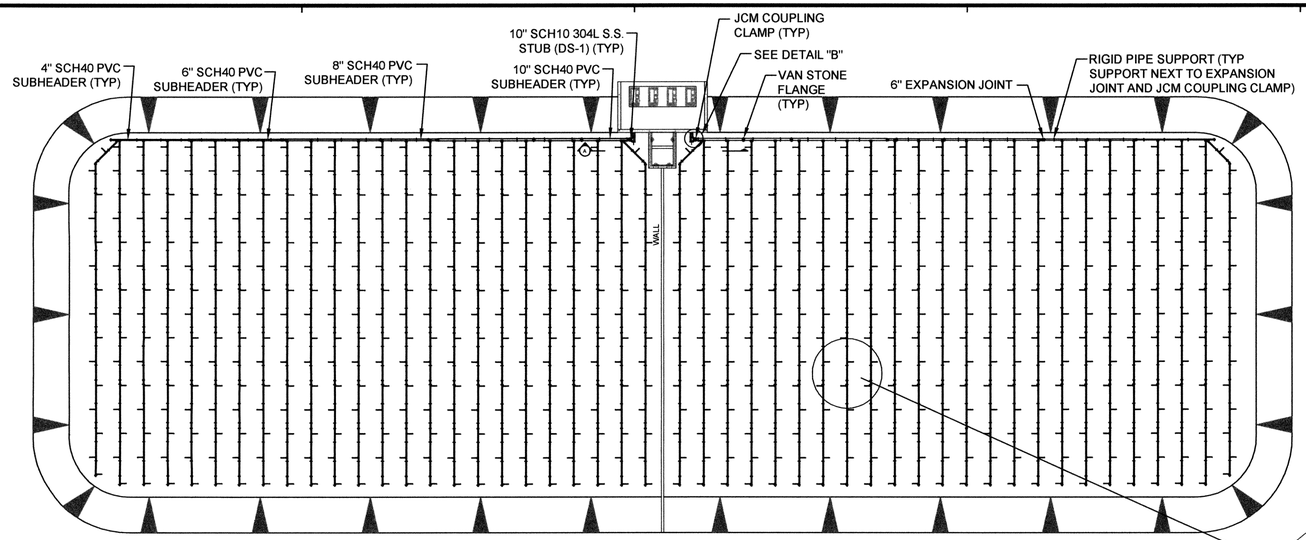
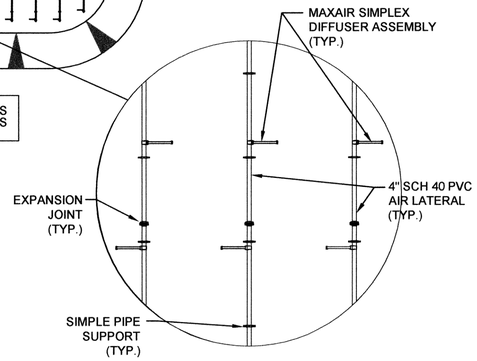
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

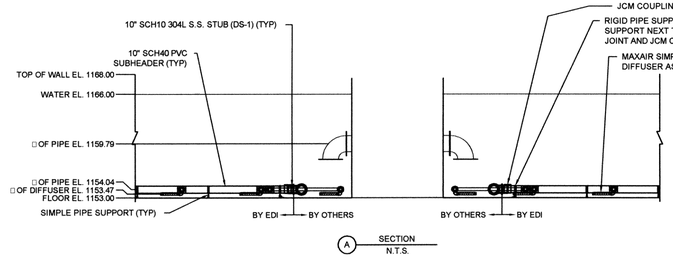


NORTH POND AIR PIPING PLAN

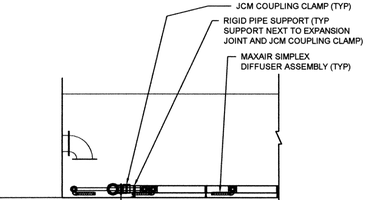
SCALE: 1" = 30'-0"

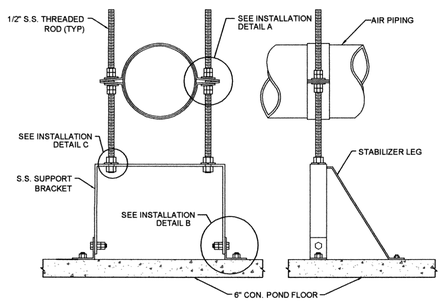
NORTH BASIN: 360 DIFFUSER ASSEMBLIES
SOUTH BASIN: 360 DIFFUSER ASSEMBLIES

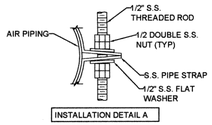




A SECTION
N.T.S.



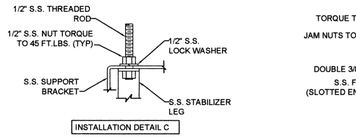




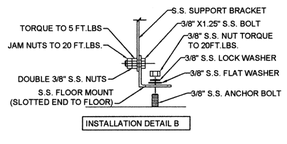
INSTALLATION DETAIL A

INSTALLATION DETAIL A NOTES:

1. LEVEL PIPE
2. TIGHTEN STRAP UNTIL EARS TOUCH
3. JAM NUTS TO EACH OTHER AT 45 FT.LBS.



INSTALLATION DETAIL C



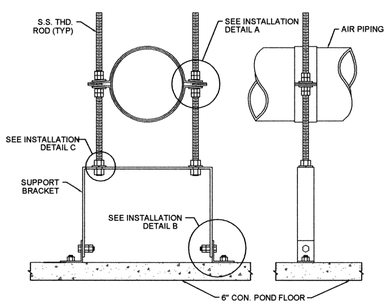
INSTALLATION DETAIL B

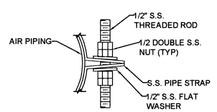
S.S. RIGID PIPE SUPPORT DETAIL

N.T.S.

RIGID PIPE SUPPORT NOTES:

1. FLOOR MOUNTS AND STABILIZER LEGS ARE SECURED TO BASIN FLOOR BY CONCRETE ANCHOR BOLTS.
2. A COMMERCIAL GRADE ANTI SEIZE LUBRICANT MUST BE USED ON ALL STAINLESS STEEL THREADED CONNECTIONS.

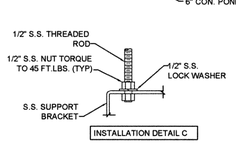




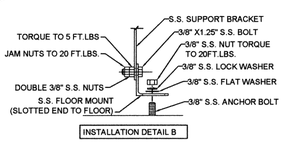
INSTALLATION DETAIL A

INSTALLATION DETAIL A NOTES:

1. LEVEL PIPE
2. TIGHTEN STRAP UNTIL EARS TOUCH
3. JAM NUTS TO EACH OTHER AT 45 FT.LBS.



INSTALLATION DETAIL C



INSTALLATION DETAIL B

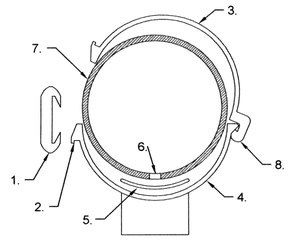
S.S. SIMPLE PIPE SUPPORT DETAIL

N.T.S.

SIMPLE PIPE SUPPORT NOTES:

1. FLOOR MOUNTS ARE SECURED TO BASIN FLOOR BY CONCRETE ANCHOR BOLTS.
2. A COMMERCIAL GRADE ANTI SEIZE LUBRICANT MUST BE USED ON ALL STAINLESS STEEL THREADED CONNECTIONS .

LEGEND:
1. LOCKING WEDGE
2. LOCKING LUG
3. TOP OF SADDLE
4. BOTTOM OF SADDLE
5. O-RING
6. AIR OUTLET IN LATERAL
7. AIR LATERAL
8. HINGE



SADDLE ASSEMBLY INSTALLATION NOTES:

A. LOCATE DIFFUSERS WITH BOTTOM OF SADDLE AND O-RING OVER OUTLET HOLE IN AIR LATERAL.

B. HOOK HINGE TOGETHER AND SWING SADDLE TOP UNTIL LOCKING LUGS MEET.

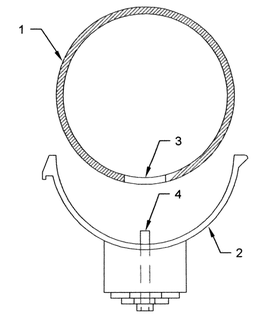
C. SLIDE WEDGE OVER LOCKING LUGS UNTIL HAND TIGHT.

D. TAP END OF WEDGE AN ADDITIONAL 2.5" WITH RUBBER MALLET.

SADDLE ASSEMBLY

N.T.S.

LEGEND:
1. AIR LATERAL
2. BOTTOM OF SADDLE
3. AIR OUTLET HOLE DRILLED IN LATERAL
4. LOCATOR PIN (WELDED IN PLACE)



DESCRIPTION:

A. ALIGNMENT TOOL IS UTILIZED TO AID IN CENTERING DIFFUSER MOUNT OVER DRILLED LATERAL HOLE. GENERAL USAGE INSTRUCTIONS ARE LISTED BELOW.

ALIGNMENT TOOL NOTES:

B. PLACE ALIGNMENT TOOL LOCATOR PIN INTO AIR OUTLET HOLE ON AIR LATERAL.

C. USE MARKING PEN (BY OTHERS) TO OUTLINE CORNERS OF SADDLE BODY ONTO LATERAL PIPE.

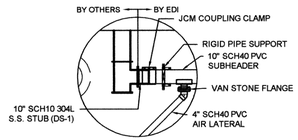
D. REMOVE ALIGNMENT TOOL.

E. PLACE DIFFUSER ASSEMBLY ON AIR LATERAL. ALIGN DIFFUSER UNIT SADDLE BOTTOM WITH OUTLINE MARKINGS. CLAMP IN PLACE.

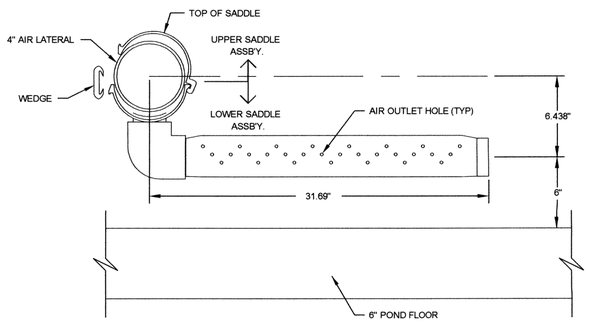
F. REFERENCE DIFFUSER UNIT INSTALLATION INSTRUCTIONS FOR FINAL DIFFUSER ATTACHMENT.

SADDLE ALIGNMENT TOOL

N.T.S.



DETAIL B



DIFFUSER ASSEMBLY

N.T.S.

REGISTERED PROFESSIONAL ENGINEER
BRITISH DASHARATH
11456
5-7-10
OKLAHOMA

REVISIONS:	DATE:

AIR PIPING AND DETAILS

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EDMOND, OK. 73013
PH. (405) 844-3900
FAX. (405) 844-3600

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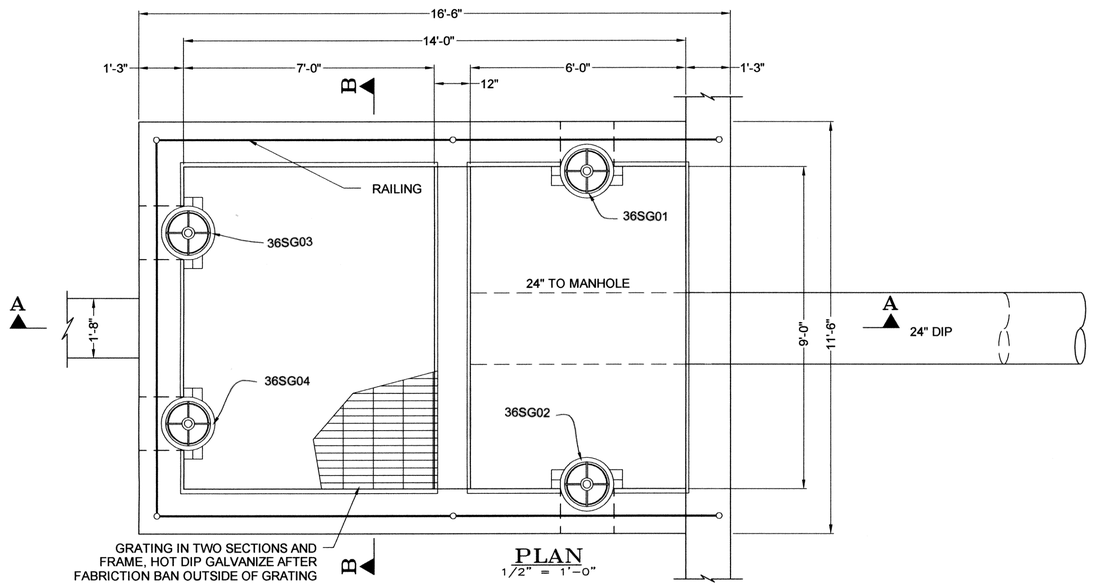
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

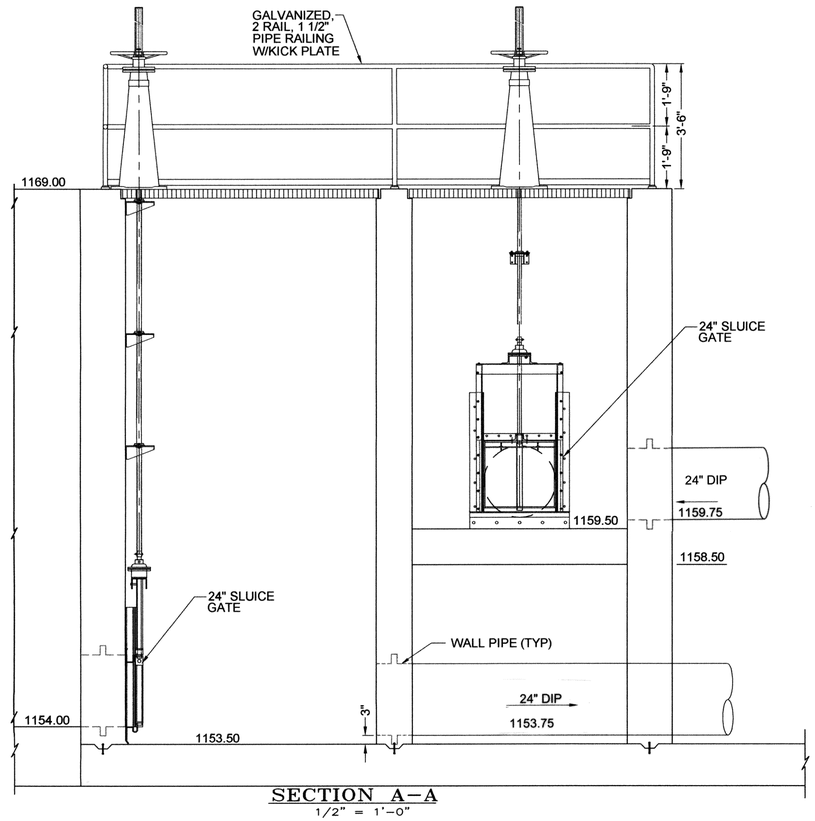
DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	1/11/10	AS NOTED	32 OF 95

O:\DRAWINGS\MOORE\WORK\Process\North Pond\air piping.dwg

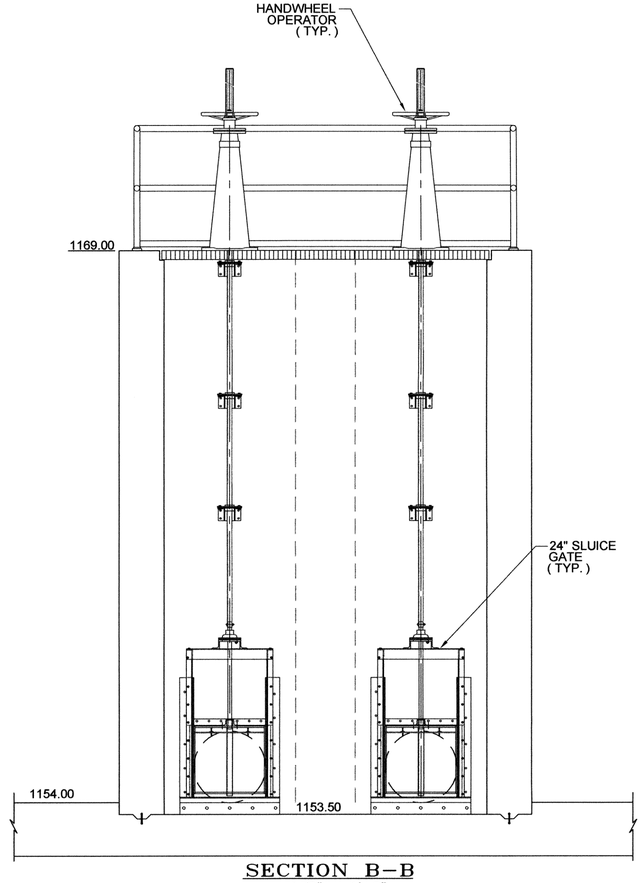
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK



PLAN
1/2" = 1'-0"



SECTION A–A
1/2" = 1'-0"



SECTION B–B
1/2" = 1'-0"

REVISIONS:	DATE:

STRUCTURE NO. 36
OUTLET STRUCTURE

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S.D.		S.D.	S.D.	1/10/10	AS SHOWN	33 OF 95

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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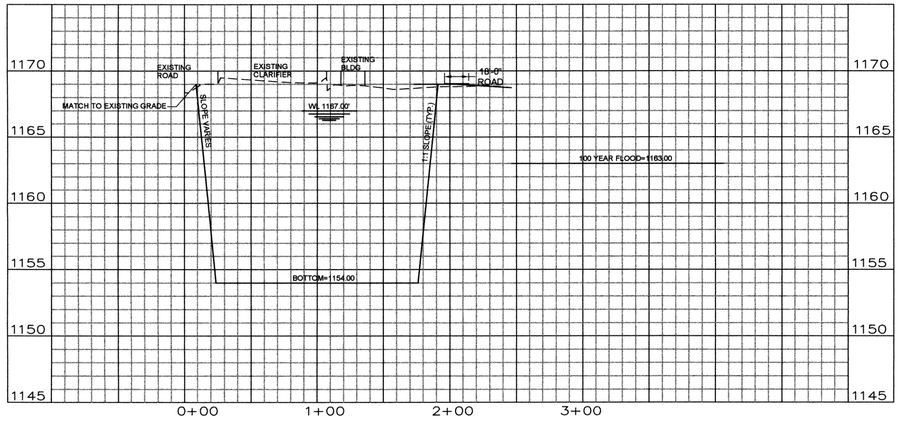
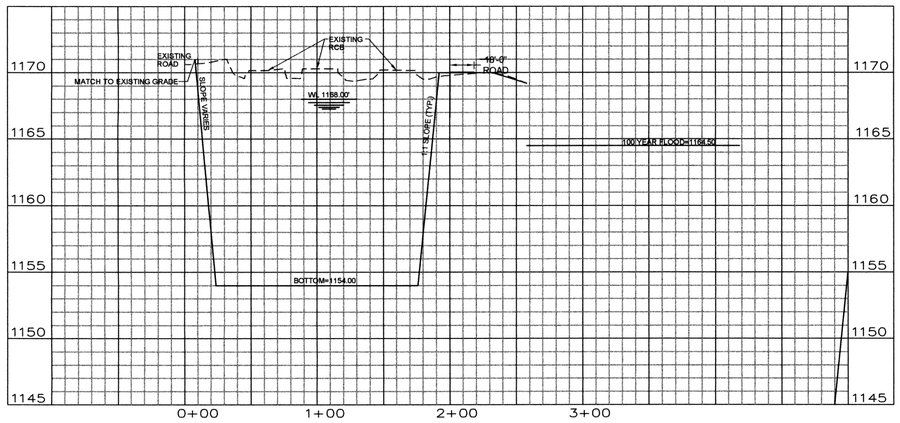
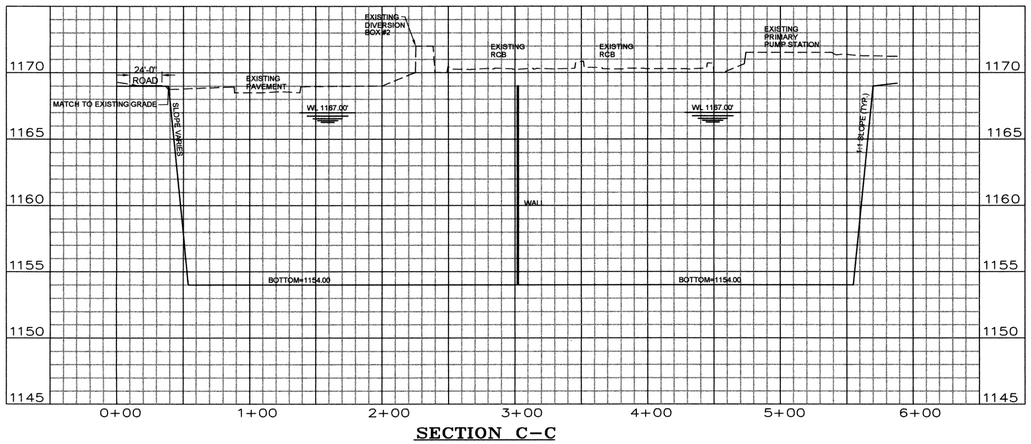


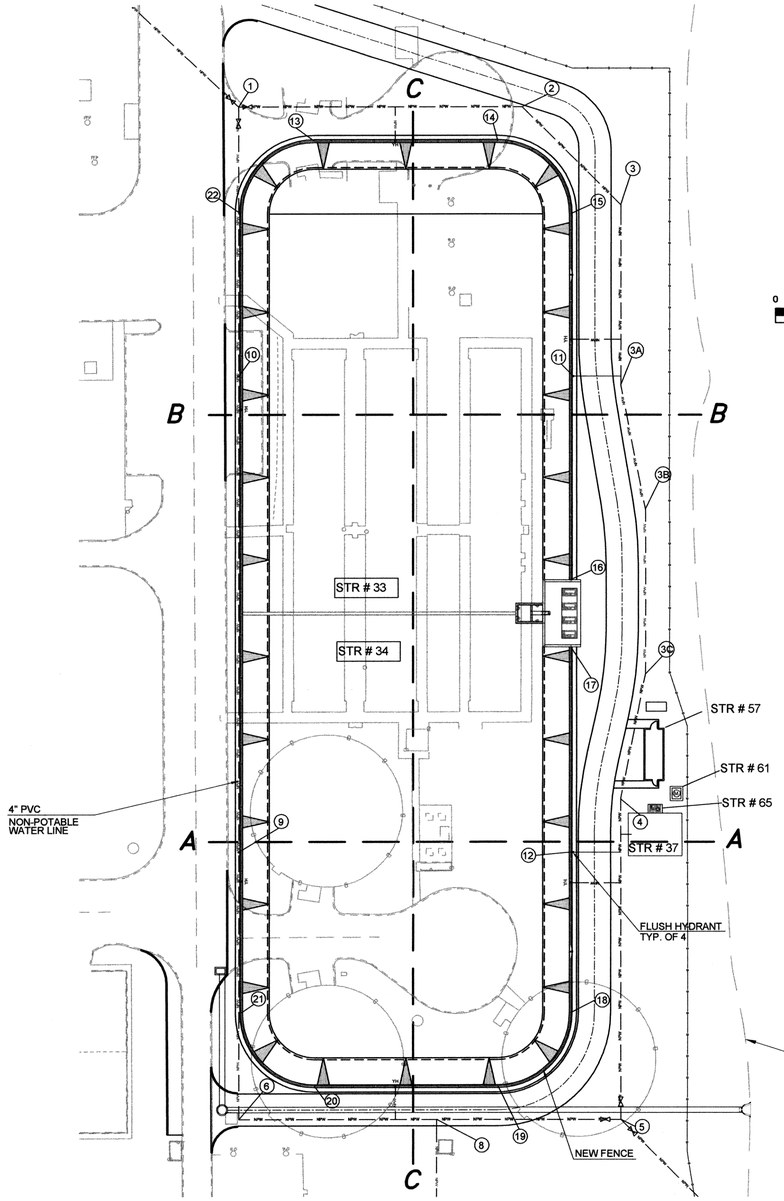
SECTION A–A



SECTION B–B



SECTION C–C



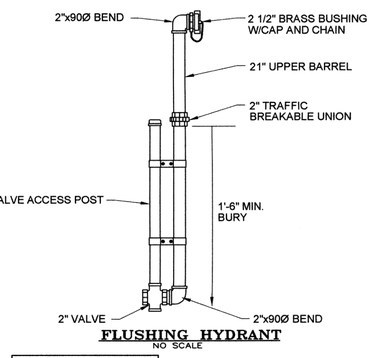
NPW POINTS			
#	NORTHING	EASTING	DESCRIPTION
1	715736.23	2122176.26	BEND
2	715736.23	2122334.62	BEND
3	715736.23	2122389.71	BEND
3A	715580.47	2122389.71	BEND
3B	715511.00	2122403.53	BEND
3C	715418.84	2122403.53	BEND
4	715349.36	2122389.71	BEND
5	715170.08	2122389.71	BEND
6	715170.08	2122176.26	BEND
8	715178.61	2122286.84	TEE
9	715319.43	2122177.10	YH07
10	715585.64	2122177.10	YH08
11	715585.64	2122362.98	YH09
12	715319.43	2122362.98	YH10

0 20 40 80

SCALE: 1"=40'

NON-POTABLE WATER NOTES:

1. ALL VALVES WILL BE CAST IRON WITH 2" OPERATING NUTS AND WITH VALVE BOXES.
2. ALL FITTING SHALL BE DUCTILE IRON MECHANICAL JOINT WITH RESTRAINT GLANDS, CONCRETE KICKERS ON BOTH.
3. 4" PIPE SHALL BE C-900.
4. 2" PIPE SHALL BE SCH 40.
5. HYDRANTS SHALL BE MUELLER FLUSHING HYDRANT #A-408 OR EQUAL.
6. PIPE SHALL HAVE MAGNETIC, COLOR-CODED IDENTIFICATION TAPE 6" ABOVE THE PIPE.
7. PIPE SHALL BE BEDDED AND BACK-FILLED PER SPECIFICATION.
8. INSTALL 12"x6" REFLECTIVE ALUMINUM SIGN STATING "NON-POTABLE WATER" (LINE 1), "NOT SAFE FOR DRINKING" (LINE 2) AT ALL YARD HYDRANTS AND HOSE BIBS CONNECTED TO NON-POTABLE SYSTEM.



FLUSHING HYDRANT
NO SCALE

LEGEND

PROPOSED GRADE

EXISTING GRADE

FENCE POINTS		
#	NORTHING	EASTING
13	715717.00	2122218.44
14	715717.00	2122321.07
15	715676.24	2122361.82
16	715471.65	2122361.82
17	715434.15	2122361.82
18	715229.56	2122361.82
19	715188.80	2122321.07
20	715188.80	2122218.45
21	715229.56	2122177.69
22	715676.24	2122177.69

HORIZONTAL 1" = 50'-0"
VERTICAL 1" = 5'-0"

REVISIONS:	DATE:

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	4/17/10	AS SHOWN	34 OF 95

NORTH POND CROSS SECTIONS

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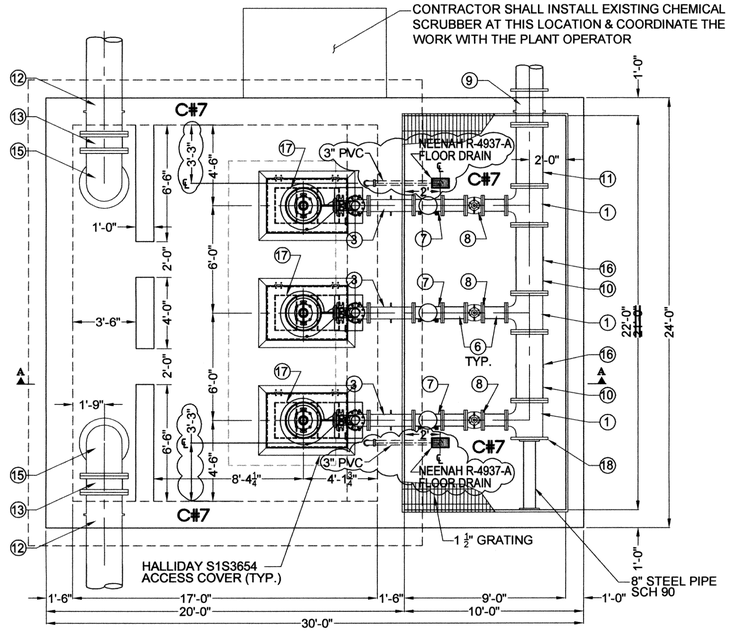
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

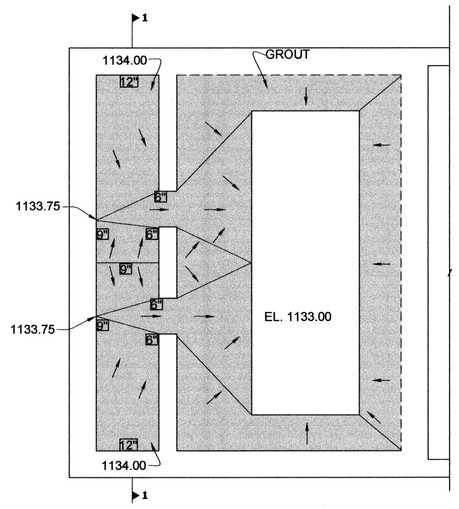
REGISTERED PROFESSIONAL ENGINEER SATISH DASHARATHI 11456 5-17-2010 OKLAHOMA

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

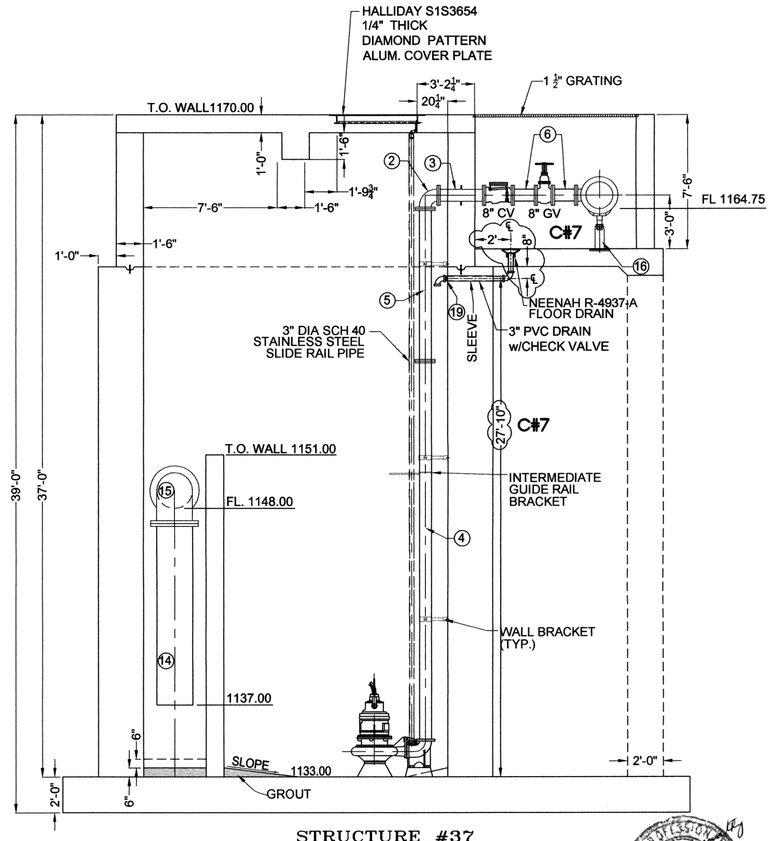
O:\DRAWINGS\MOORE\WORK\Process\North Pond\cross-sections-NORTH.dwg



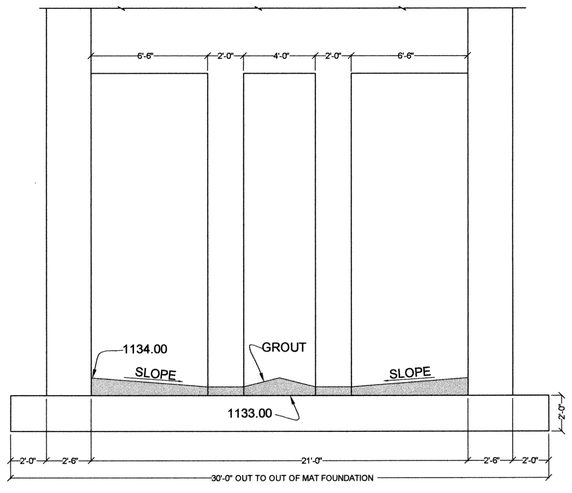
STRUCTURE #37
RETURN LIFT STATION
PLAN
SCALE: 1/4" = 1'-0"



WET WELL GROUT PLAN
PER OAC 252: 656 – 7 –1
SCALE: 1/4" = 1'-0"



STRUCTURE #37
RETURN LIFT STATION
SECTION A–A
SCALE: 1/4" = 1'-0"



SECTION 1

LIFT STATION EQUIPMENT SCHEDULE

No.	ITEM	Qty.	DESCRIPTION
①	18"x8" REDUCING TEE	3	
②	8" FLGxMJ 90° BEND	3	WITH RESTRAINT GLAND
③	8" WALL SLEEVE	3	2'-6"
④	8" DIP FLGxFLG	3	20'-0"
⑤	8" DIP FLGxPE	3	8'-3"
⑥	8" DIP FLGxFLG	6	1'-1 1/2"
⑦	8" CHECK VALVE	3	37CV01-03
⑧	8" GATE VALVE	3	37GV01-03
⑨	18" WALL SLEEVE	1	2'-6"
⑩	18" DIP FLGxFLG	2	3'-6"
⑪	18" DIP FLGxFLG	1	3'-2"
⑫	24" WALL SLEEVE FLGxPE	2	4'-0"
⑬	24" DIP FLGxFLG	2	11"
⑭	24" DIP FLGxPE	2	10'-2"
⑮	24" 90° BEND	2	
⑯	PIPE STANDS	2	
⑰	SUBMERSIBLE PUMP	3	37P01-03
⑱	BLIND FLANGE	1	
⑲	3" CHECK VALVE	1	37CV04

REVISIONS:	DATE:
C#7 – CLARIFICATION NO. 7	2/14/2011

STRUCTURE No. 37
WET WEATHER RETURN LIFT STATION

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	4/15/2010	AS SHOWN	35 OF 95

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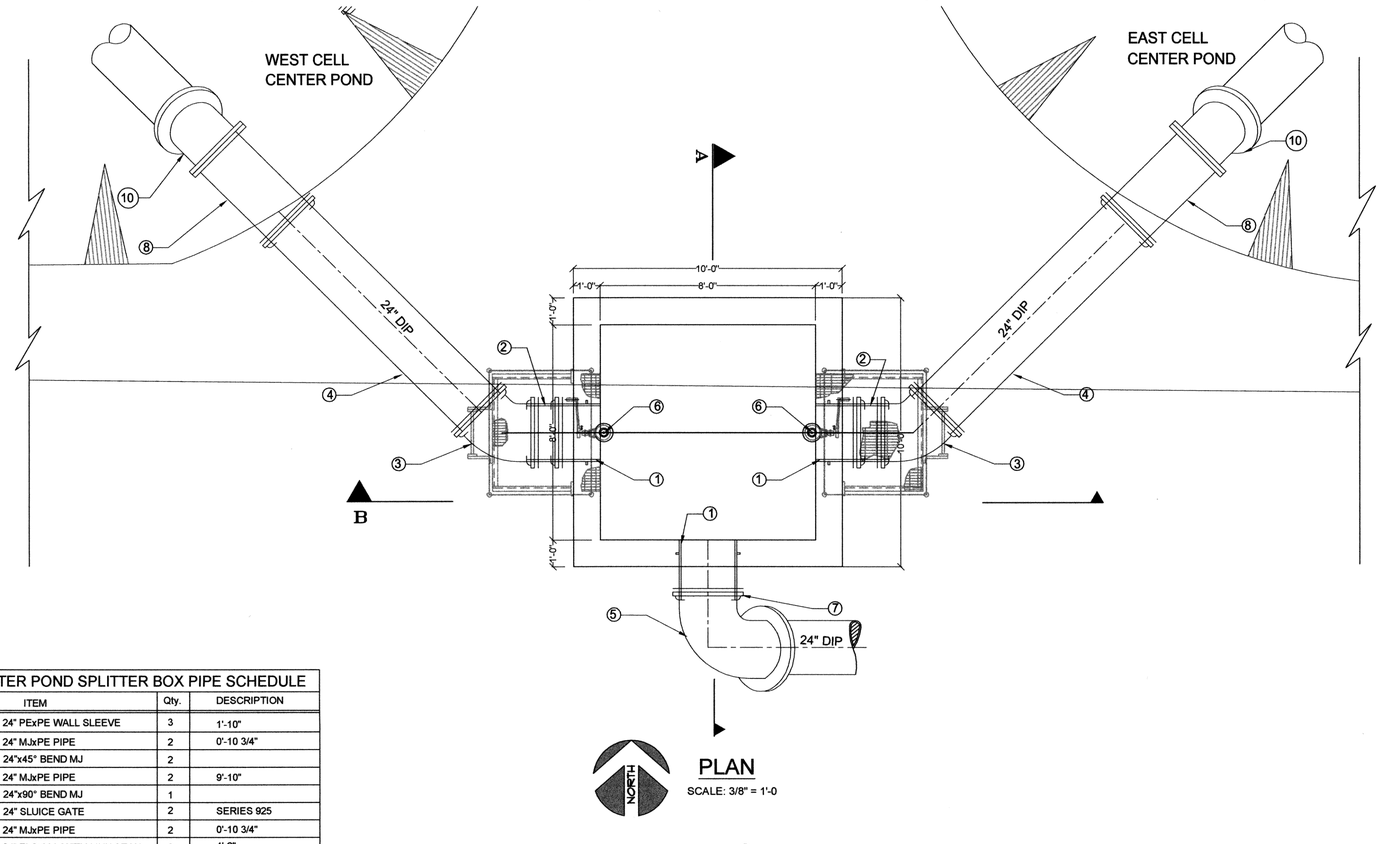
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
SATISH DASHARATHY
11456
2-17-2011
OKLAHOMA

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

O:\DRAWINGS\MOORE\WORK\Process\ReturnLiftStation.dwg

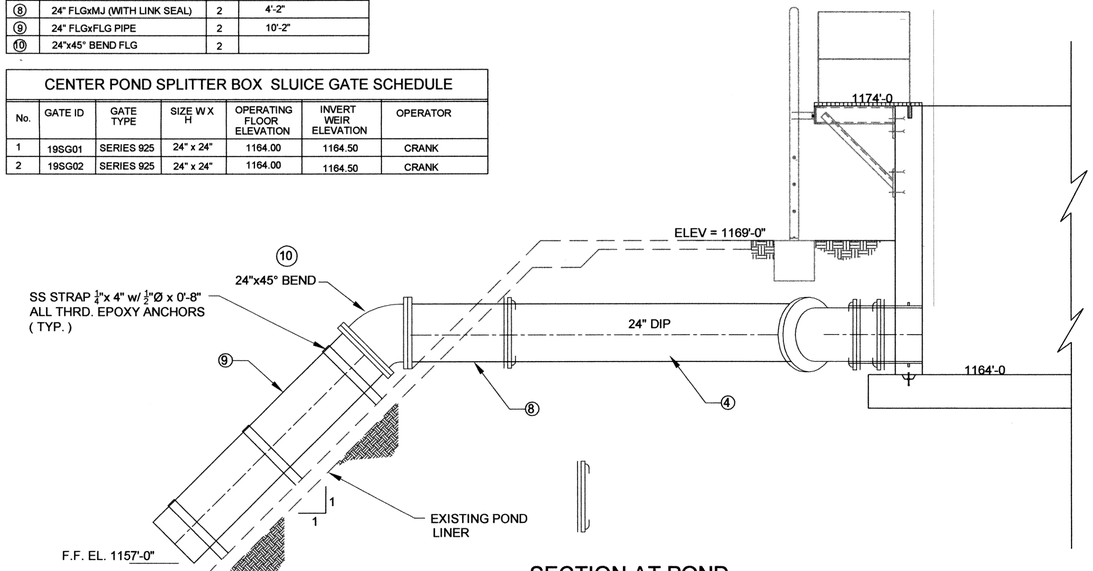


PLAN

SCALE: 3/8" = 1'-0

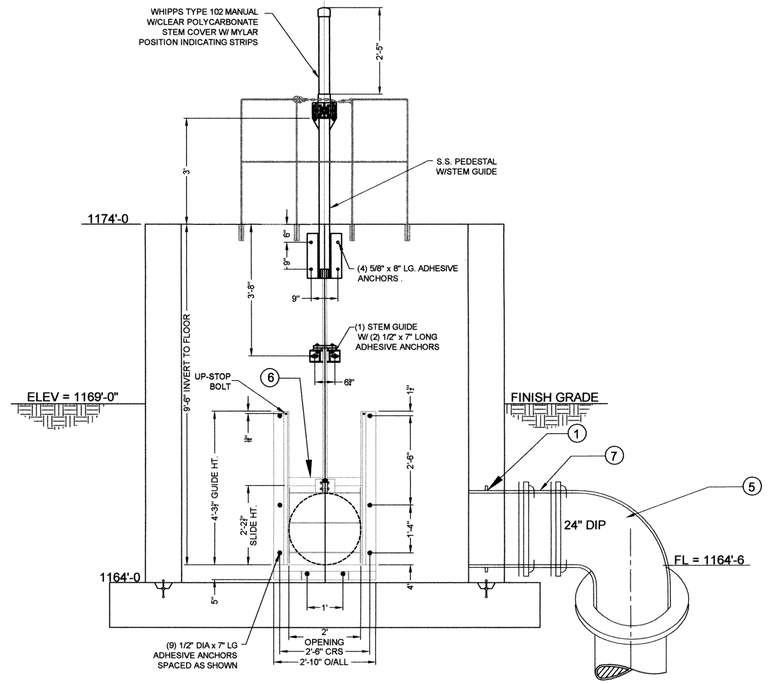
CENTER POND SPLITTER BOX PIPE SCHEDULE			
No.	ITEM	Qty.	DESCRIPTION
①	24" PExPE WALL SLEEVE	3	1'-10"
②	24" MJxPE PIPE	2	0'-10 3/4"
③	24"x45° BEND MJ	2	
④	24" MJxPE PIPE	2	9'-10"
⑤	24"x90° BEND MJ	1	
⑥	24" SLUICE GATE	2	SERIES 925
⑦	24" MJxPE PIPE	2	0'-10 3/4"
⑧	24" FLGxMJ (WITH LINK SEAL)	2	4'-2"
⑨	24" FLGxFLG PIPE	2	10'-2"
⑩	24"x45° BEND FLG	2	

CENTER POND SPLITTER BOX SLUICE GATE SCHEDULE						
No.	GATE ID	GATE TYPE	SIZE W X H	OPERATING FLOOR ELEVATION	INVERT WEIR ELEVATION	OPERATOR
1	19SG01	SERIES 925	24" x 24"	1164.00	1164.50	CRANK
2	19SG02	SERIES 925	24" x 24"	1164.00	1164.50	CRANK



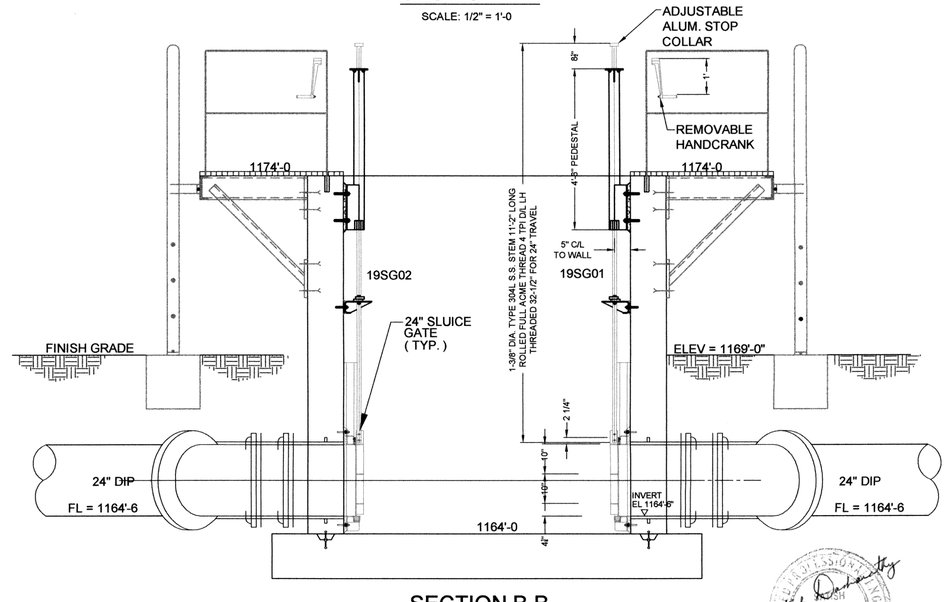
SECTION AT POND

SCALE: 3/8" = 1'-0



SECTION A-A

SCALE: 1/2" = 1'-0



SECTION B-B

SCALE: 1/2" = 1'-0

PROFESSIONAL ENGINEER
Sathish Dasharathy
DASHARATHY
11456
7-16-2010
STATE OF OKLAHOMA

REVISIONS:	DATE:
ADDENDUM 1	7/14/2010

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	7/16/10	AS SHOWN	36 OF 95

CENTER POND SPLITTER BOX STRUCTURE # 19

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NORTH WASTE SLUDGE PUMP STATION

NORTH SBR GENERATOR PAD

NORTH SBR TRANSFORMER PAD

NORTH ELECTRICAL CONTROL BUILDING

NORTH SBR BLOWER PAD

NORTH SBR PIPE VAULT BUILDING (TYP.)

NORTH SCUM WELL

NORTH SBR EFFLUENT FLOW EQUALIZATION TANK

NORTH SBR TANK 1 STR # N 6 - 1

NORTH SBR TANK 2 STR # N 6 - 2

NORTH SBR TANK 3 STR # N 6 - 3

FUTURE SBR TANK 4 STR # N 6 - 4

SBR EFFLUENT FLOW EQ. BASIN METER VAULT

SBR ODOR CONTROL SYSTEM

SBR FLOW SPLITTER

SOUTH SBR EFFLUENT FLOW EQUALIZATION TANK

SOUTH SBR TANK 1 STR # S 6 - 1

SOUTH SBR TANK 2 STR # S 6 - 2

SOUTH SBR TANK 3 STR # S 6 - 3

FUTURE SBR TANK 4 STR # S 6 - 4

ODOR CONTROL TRANSFORMER PAD

SOUTH SCUM WELL

ODOR CONTROL SYSTEM GENERATOR PAD

SBR CHEMICAL FEED BUILDING

SOUTH WASTE SLUDGE PUMP STATION

SOUTH SBR GENERATOR PAD

SOUTH SBR TRANSFORMER PAD

SOUTH ELECRICAL. CONTROL BUILDING

SOUTH SBR BLOWER PAD

SOUTH SBR PIPE VAULT BUILDING (TYP.)

24" OVERFLOW

30" DIP INFLUENT LINE

OVERALL PLAN VIEW

(SCALE: 1" = 20'-0")

REVISIONS:	DATE:
ADDENDUM 1	7/14/2010

SEQUENTIAL BATCH REACTOR
OVERALL PLAN

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	8-1-2008	AS SHOWN	37 OF 95

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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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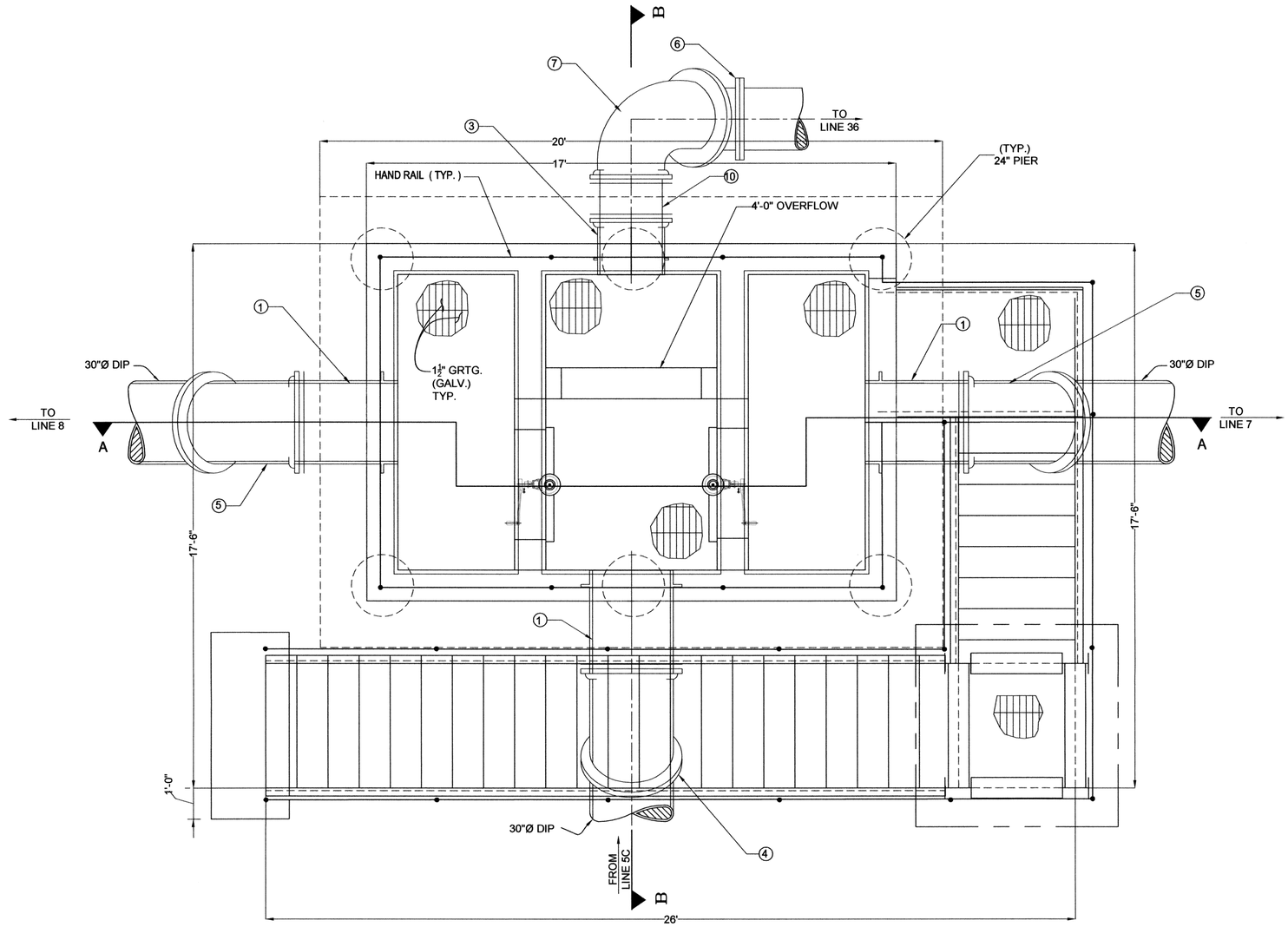

PLAN
1/2" = 1'-0"

REVISIONS:	DATE:
ADDENDUM 1	7/14/2010

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	7/16/2010	AS SHOWN	38 OF 95

STRUCTURE No. 63
SBR INFLUENT SPLITTER BOX

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EDMOND, OK. 73013
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FAX. (405) 844-3600

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CERTIFICATE OF AUTHORIZATION NO. CA2088

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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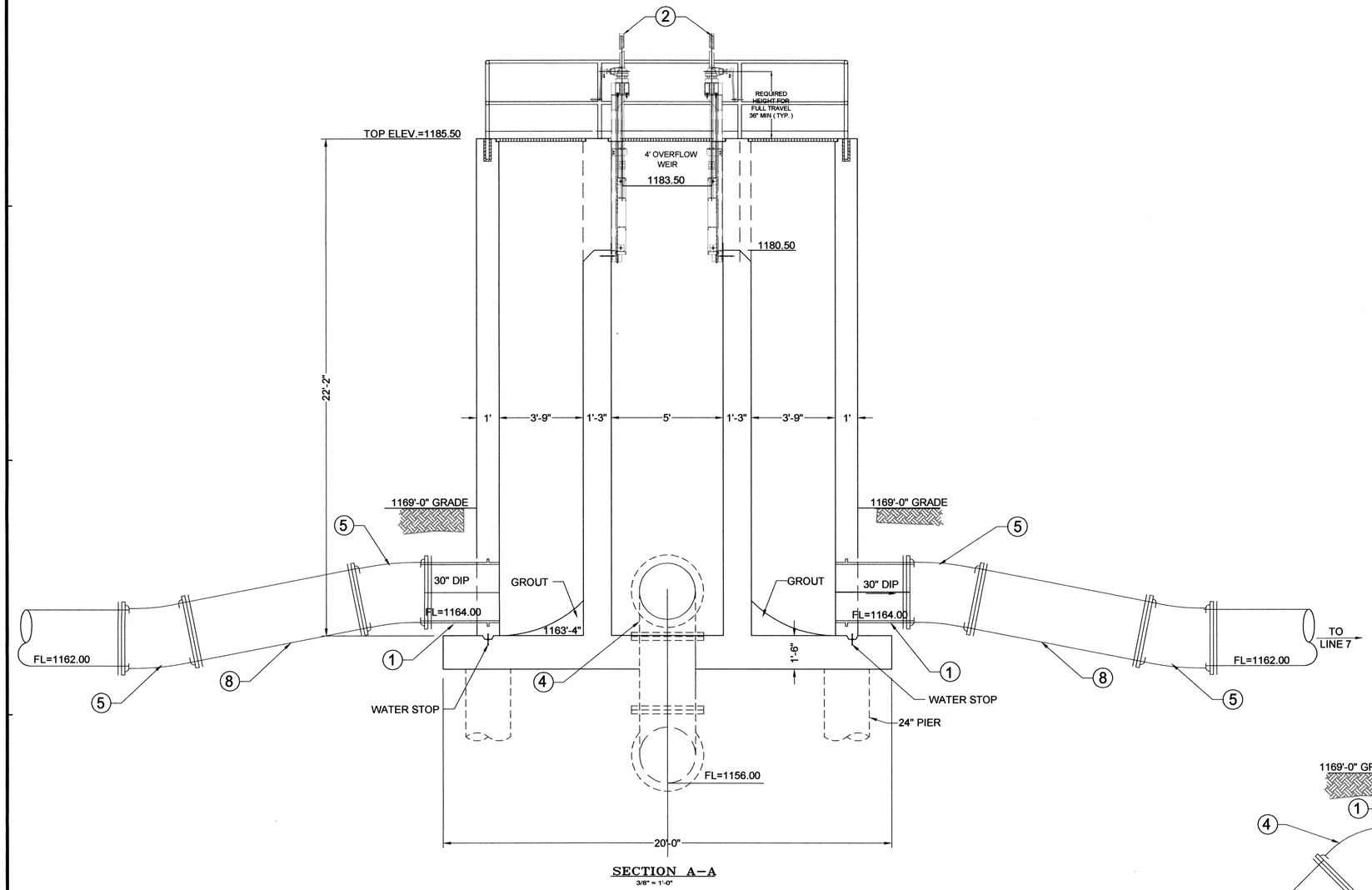
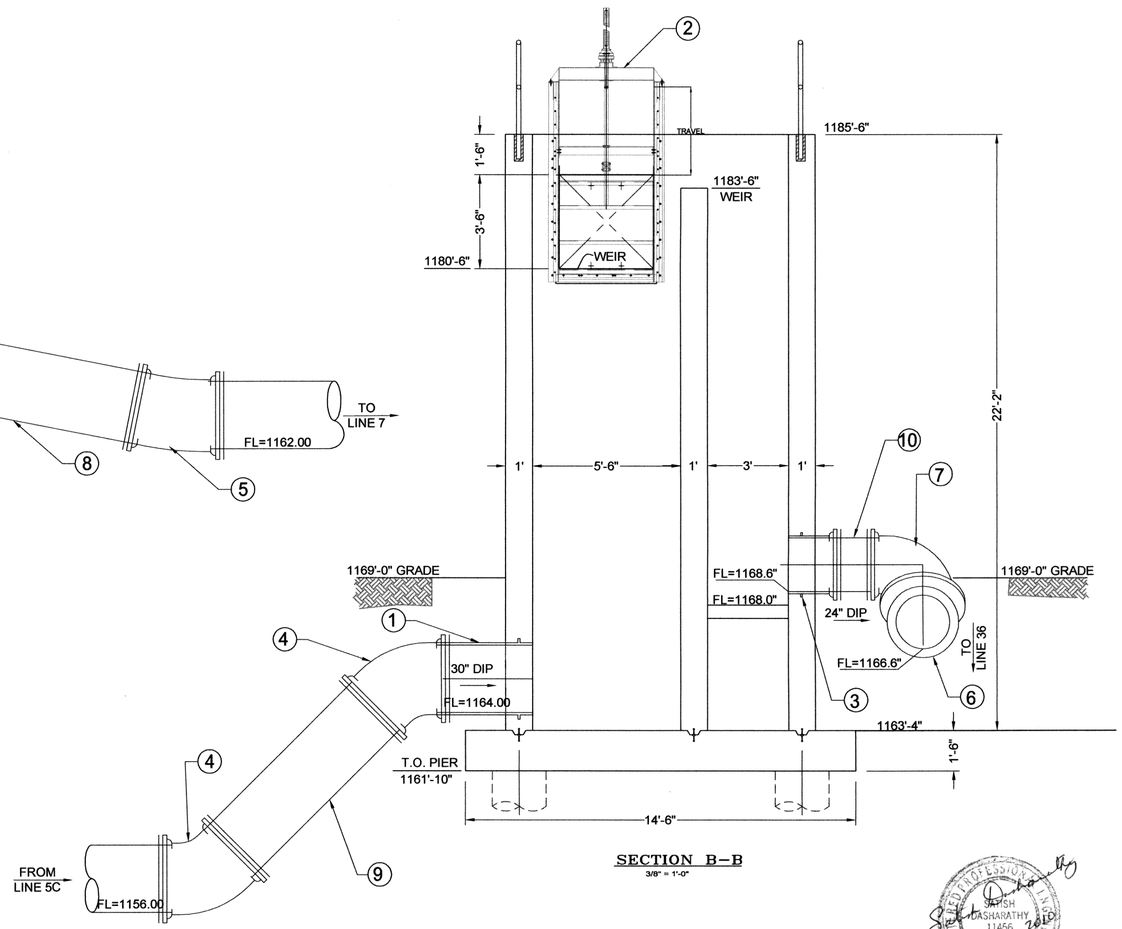


SECTION A–A

3/8" = 1'-0"



SECTION B–B

3/8" = 1'-0"

SBR INFLUENT SPLITTER BOX SCHEDULE

No.	ITEM	Qty.	DESCRIPTION
①	30" PIPExPIPE WALL SLEEVE	3	3'-6"
②	42"x42" WEIR GATE	2	
③	24" MJxPIPE WALL SLEEVE	1	1'-6"
④	30"x45° BEND MJ	2	
⑤	30"x11.25° BEND MJ	4	
⑥	24"x45° BEND MJ	1	
⑦	24"x90° BEND MJ	1	
⑧	30" PExPE	2	8'-2"
⑨	24"xPExPE	1	7'-10"
⑩	24" PExPE	1	1'-10"

INFLUENT SPLITTER BOX DOWNWARD OPENING WEIR GATE SCHEDULE

No.	GATE ID	GATE ID	GATE TYPE	SIZE W X H	OPERATING FLOOR ELEVATION	INVERT WEIR ELEVATION	OPERATOR
1	63WG01	63WG01	SERIES 40	42" x 42"	1185.50	1180.50	CRANK
2	63WG02	63WG02	SERIES 40	42" x 42"	1185.50	1180.50	CRANK

REVISIONS:	DATE:
ADDENDUM 1	7/14/2010

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	7/16/2010	AS SHOWN	39 OF 95

STRUCTURE No. 63
SBR INFLUENT SPLITTER BOX

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2803 SOUTH BRYANT
EDMOND, OK. 73013
PH. (405) 844-3900
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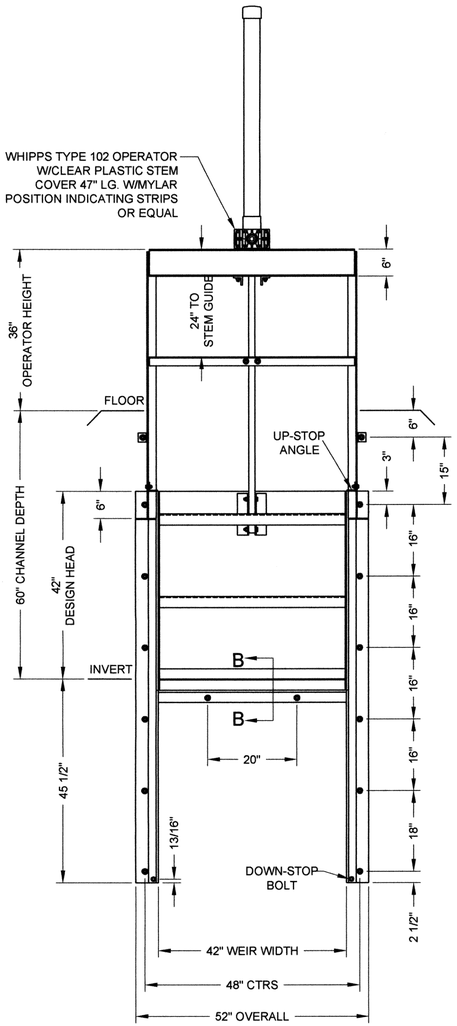
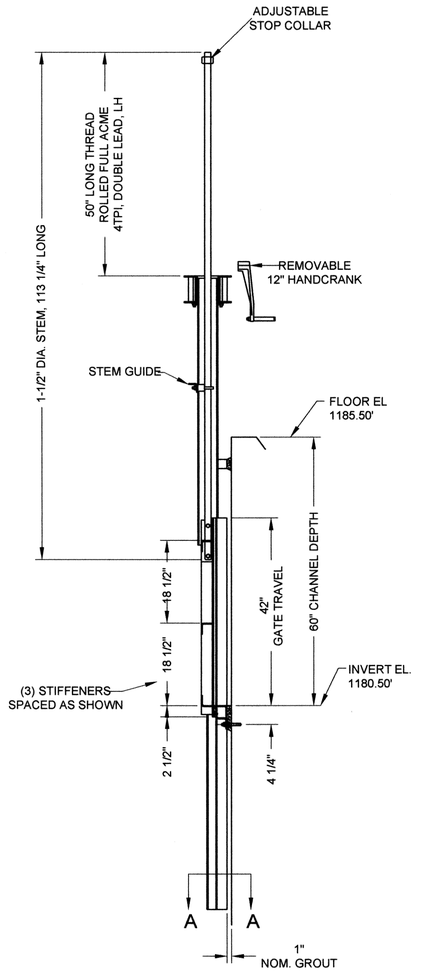
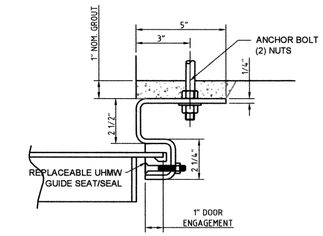
EAGLE CONSULTANTS, INC.
CIVIL AND ENVIRONMENTAL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. CA2088

REGISTERED PROFESSIONAL ENGINEER
SATISH
KRISHNA
SASHARATHY
11456
1-16-2010
OKLAHOMA

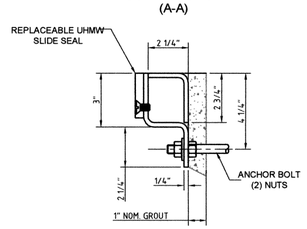
O:\DRAWINGS\MOORE\WORK\Process\splitter box-SBR.dwg



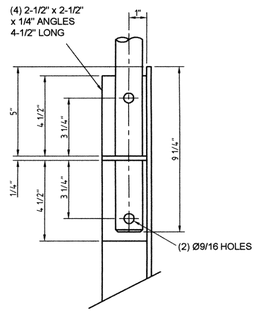




FACE MOUNTED GUIDE SECTION (A-A)



INVERT SEAL SECTION (B-B)



STEM CONNECTOR DETAIL

42" x 42" SERIES 923D (TYP.)
WEIR GATE
63WG01
63WG02

NOTE:
CONTRACTOR SHALL SUBMIT DETAIL FOR EACH INDIVIDUAL GATE

DESIGNED BY:	CAD OPERATOR:	CHECKED:	APPROVED:	PLOT DATE:	DWG. SCALE:	SHEET:
S.D.		S.D.	S.D.	2/10/10	AS SHOWN	40 OF 95

REVISIONS:	DATE:

WEIR GATE DETAILS

EAGLE OFFICE CENTER
2803 SOUTH BRYANT
EDMOND, OK. 73013
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11456
OKLAHOMA

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS, MOORE, OK

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