DRIVE & PARKING LOT IMPROVEMENTS

FOR SOUTHLAKES PARK, LOCATED EAST OF MERIDIAN AVE., BETWEEN 47TH ST. S. & 55TH ST. S., WICHITA, KANSAS

PROJECT NO.: 472 83603 (785028),

PARKS AND RECREATION DEPARTMENT

CITY OF WICHITA, KANSAS

MIKE LINDEBAK, P.E., CITY ENGINEER

JULY 2002

GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE BASED ON CITY OF WICHITA DATUM. (USGS-1187.4= CITY DATUM)

2. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA IS NOT TO BE CARRIED THROUGH CONSTRUCTION. LOCAL RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA IS TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.

3. UTILITY SERVICE LINES, POLES, VALVE BOXES, METERS, ECT. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE PLAN LOCATIONS ARE NOT GUARANTEED AND ADDITIONAL UTILITIES MAY ALSO BE ENCOUNTERED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

4. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS, THAT IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIALS DUMPED IN WATERS OF THE UNITED STATE OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

5. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT(48)HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE CALL	1-800-344-7233 OR 687-2470(LOCAL WICHITA)

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

Cox Cable	262-4270 or 263-2061
Southwestern Bell Telephone	1-571-2611
Kansas Gas Service	832-3168
KG&E-Electric	268-4555
Peoples Natural Gas	942-8811
City of Wichita(Water & Sewer)	268-4555

THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.

6. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEERS APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO REESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE REESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

8. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN(10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

9. THE CONTRACTOR SHALL ADJUST WATER VALVE BOXES, WATER METER BOXES AND FIRE HYDRANTS AS NOTED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR THE ADJUSTMENT OF WATER METER AND VALVE BOXES AND FIRE HYDRANTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS OF WORK IN THE CONTRACT. THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER VALVE BOXES, OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

10. THE CONTRACTOR MUST EXAMINE THE CONSTRUCTION SITE PRIOR TO BIDDING AND BE SATISFIED AS TO THE WORK SHOWN FOR COMPLETION. AFTER BIDS HAVE BEEN RECEIVED, THE CONTRACTOR SHALL NOT ASSERT THAT THERE WAS A MISUNDERSTANDING OF THE QUANTITIES OF WORK OR OF THE NATURE FOR THE WORK TO BE COMPLETED.

11. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.

12. THE CONTRACTOR SHALL FERTILIZE, SEED, AND MULCH ALL AREAS WHICH ARE DISTURBED AS A RESULT OF THIS PROJECT. ALL COST TO BE SUBSIDIARY TO "SITE RESTORATION".

13. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE CURRENT ADDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) TO ENSURE A SAFE WORK ZONE FOR THE TRAVELING PUBLIC.

14. PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE SQUARE FOOT BASIS REGARDLESS OF PAVEMENT TYPE AND/OR PAVEMENT THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, EXCEPT WHEN SUCH LIMITS OF REMOVAL ARE WITHIN THREE(3) FEET OF AN EXISTING JOINT. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.

15. ALL DRIVEWAY ENTRANCE AND CROSS ROAD PIPE WITHIN THE PROJECT LIMITS SHALL BE REMOVED BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS. REMOVAL OF SUCH PIPES SHALL CONFORM TO THE APPLICABLE SECTION OF THE STANDARD SPECIFICATIONS.

16. ALL FENCE LOCATED WITHIN THE RIGHT-OF-WAY WILL BE REMOVED AND SALVAGED BY THE CONTRACTOR. ALL MATERIALS SHALL BE SALVAGED FOR THE PROPERTY OWNER. FENCE OUTSIDE THE RIGHT-OF-WAY WHICH IS REMOVED FOR CONSTRUCTION SHALL BE REPAIRED IN A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL, AT NO ADDITIONAL COST TO THE OWNER, UNLESS OTHERWISE SPECIFIED ON THE PLANS. MATERIALS NOT SALVAGED BY THE PROPERTY OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.

17. CONTRACTOR SHALL GIVE PROPERTY OWNERS ABUTTING THIS PROJECT, WHOSE YARDS WILL BE LOWER THAN THE NEW FINISHED GRADE ELEVATION AT THE RIGHT-OF-WAY LINE, AN OPPORTUNITY TO UTILIZE EXCESS EXCAVATED MATERIAL FROM THE PROJECT TO REGRADE THEIR YARDS TO DRAIN TO THE NEW PAVEMENT. CONTRACTOR WILL BE REQUIRED TO DUMP AND SPREAD THE EXCESS MATERIAL AS REQUIRED BY THE SPECIFICATIONS WHEN REQUESTED BY THE PROPERTY OWNER. THE CONTRACTOR SHALL ASCERTAIN THAT A DIRT ORDER HAS BEEN PROPERLY EXECUTED BY THE PROPERTY OWNER BEFORE ANY SUCH EXCESS MATERIAL IS DELIVERED TO SUCH PROPERTIES.

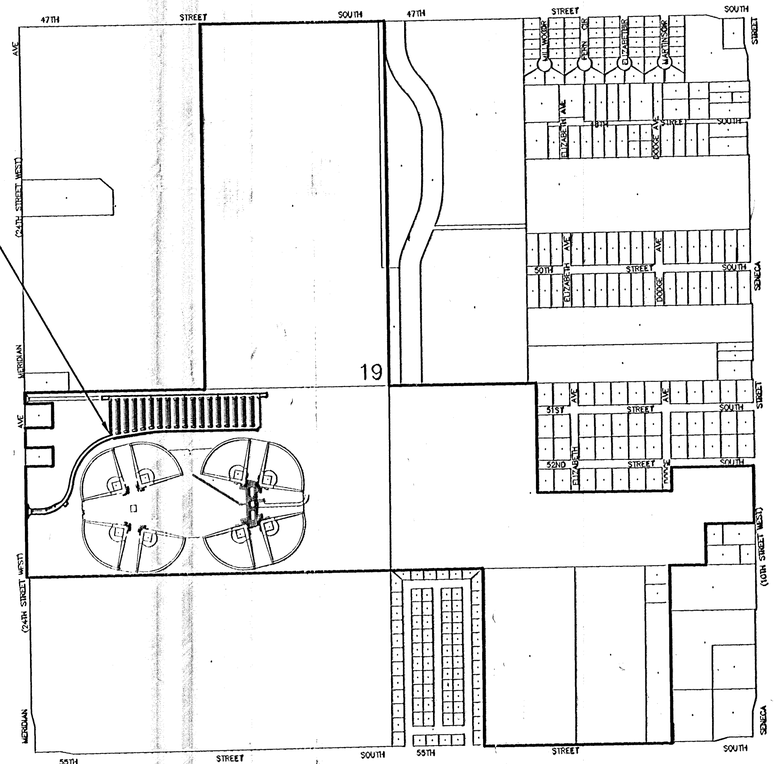
18. THE CONTRACTOR SHALL ADJUST SANITARY SEWER MANHOLES AND STORM SEWER MANHOLES FOR ELEVATION AND SLOPE AS REQUIRED TO FIT PROPOSED FINISH GRADES.

19. THE CITY OF WICHITA'S DEPARTMENT OF OPERATIONS AND MAINTENANCE WILL REMOVE AND REPLACE EXISTING STREET SIGNING AT THE BEGINNING AND END OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE DEPARTMENT OF OPERATIONS AND MAINTENANCE FOR TEMPORARY TRAFFIC SIGNALIZATION AND REMOVAL OF INSTALLATION OF STREET SIGNING.

20. ALL CONSTRUCTION AND MATERIALS, UNLESS OTHERWISE NOTED, TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.

21. THE COST OF CONCRETE DRIVEWAY REMOVAL SHALL INCLUDE A SAW CUT OF A MINIMUM DEPTH OF ONE FOURTH OF THE PAVEMENT THICKNESS. THE SAW CUT SHALL BE AT THE PROPERTY LINE OR THE NEAREST JOINT. THE EXACT LOCATION SHALL BE DETERMINED BY THE FIELD ENGINEER.

PROPOSED IMPROVEMENTS



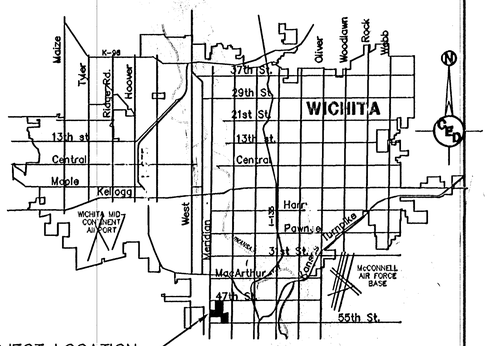
SURVEY CONTROL MONUMENTS

CM #1	N-20000.000 E-20000.000	1/2" Rebar W/ Savoy Cap
CM #2	N-19970.731 E-20778.738	1/2" Rebar W/ Savoy Cap
CM #3	N-19284.293 E-20225.224	1/2" Rebar W/ Savoy Cap
CM #4	N-19768.532 E-21362.240	1/2" Rebar W/ Savoy Cap
CM #5	N-20108.150 E-21914.570	1/2" Rebar W/ Savoy Cap

BENCHMARK #1:
City of Wichita Std. Disg 30' W. & 44' N. of Intersection of Meridian & 51st St. S.
Elev.=88.62(City Datum)

BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds.
Elev.=87.52(City Datum)

INDEX OF SHEETS



LOCATION MAP

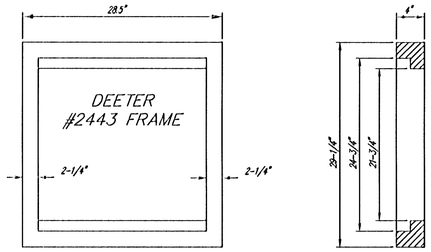
PROJECT LOCATED IN THE S.W.1/4, SEC. 19, T.28S., R.1E. SEDGWICK COUNTY, KANSAS

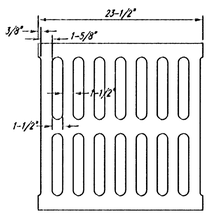
HAROLD DALE FORMELL LICENSED 10891 KANSAS PROFESSIONAL ENGINEER
7.24.02

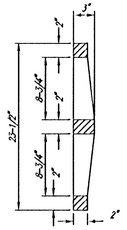
C.O.W. PROJ. NO.: 472 83603 (785028)

CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH: (316) 262-8808
FAX: (316) 262-1869

SHEET 1
TOTAL 16



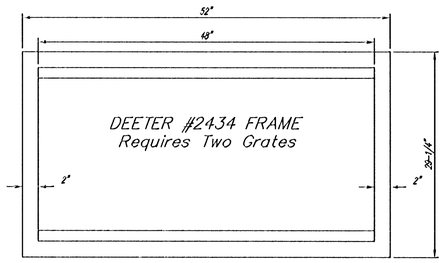


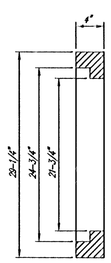


DEETER #2433 GRATE

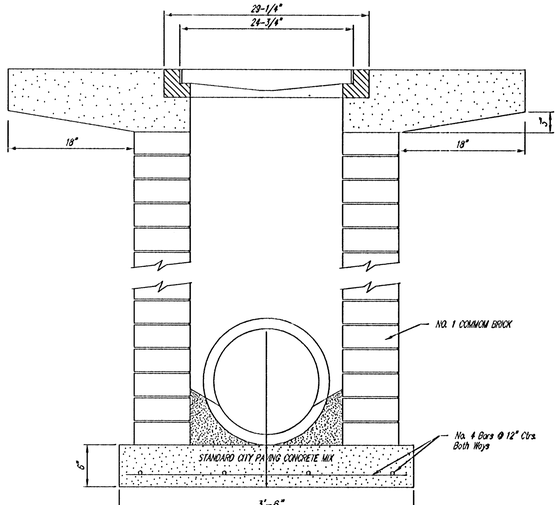
NOTE: Grates shall be imprinted on the top surface with "CITY OF WICHITA" using letters at least 1" in height. Other marking methods may be approved by the engineer.

24" x 24" Frame and Grate Detail

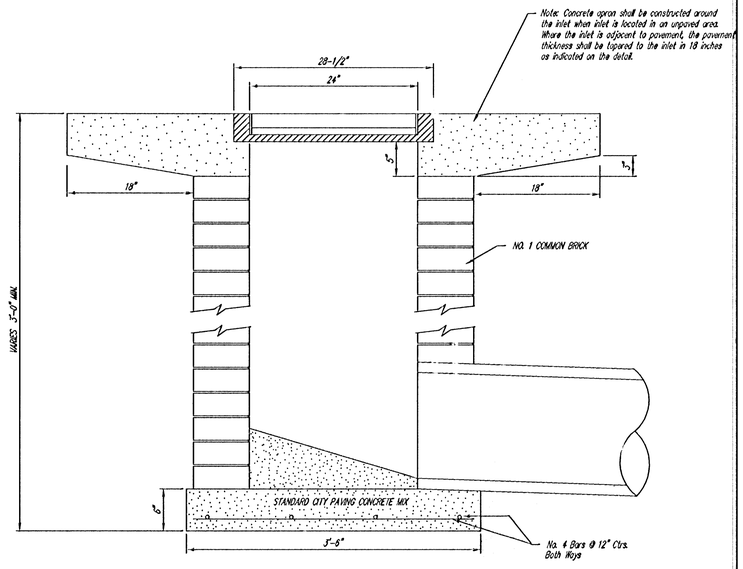


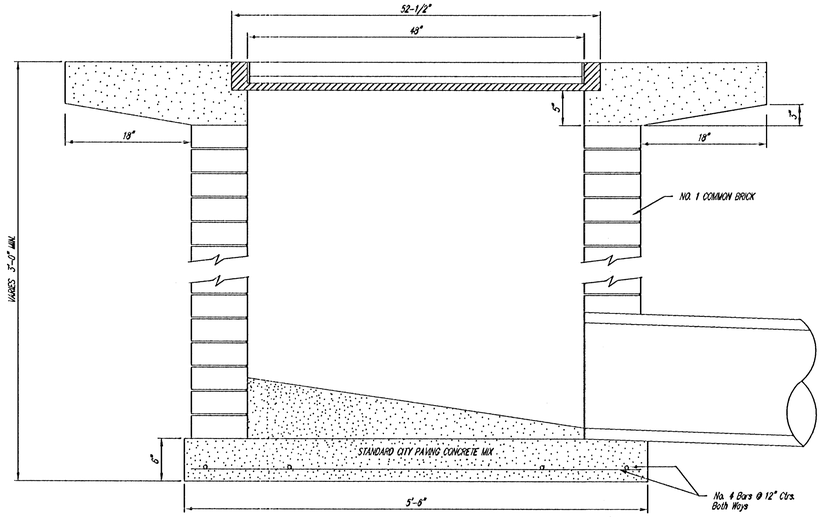


Double 24" x 24" Frame Detail



5'-0" fpr drop inlet @ Sta. 4+61.54 & Sta. 5+68.54





SOUTHLAKES PARK IMPROVEMENTS

AREA INLET DETAILS

WICHITA, KANSAS

CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.

CED

810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: NTS	SHEET 10
DRAWN: COW	DATE: 2/02	
CHECKED: HDF	CED FILE: areaInlet.dwg	TOTAL 16

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)

1 inch = 60 ft.

N

CED

MERIDIAN AVENUE

Install 1 "STOP" Sign(R1-1) 30"x30" in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.

139.50 L.F. of 4" White Thermoplastic Pavement Marking

Alternate Bid
Finish 24' Drive to Meridian St.
(Approx 540 L.F.)

Base Bid

Project Extents

N88°51'32"E 2636.62' REC

1081'

50'

539.05'

S83°13'
N 83°53'02" E

503 L.F. of 4" Double Yellow Thermoplastic Pavement Marking

1181 L.F. of 4" Double Yellow Thermoplastic Pavement Marking

384 L.F. of 4" White Thermoplastic Pavement Marking

950 L.F. of 4" White Thermoplastic Pavement Marking

995 L.F. of 4" White Thermoplastic Pavement Marking

1,040 L.F. of 4" White Thermoplastic Pavement Marking

905 L.F. of 4" White Thermoplastic Pavement Marking

860 L.F. of 4" White Thermoplastic Pavement Marking

860 L.F. of 4" White Thermoplastic Pavement Marking

844 L.F. of 4" White Thermoplastic Pavement Marking, 8 Handicap Symbols, 4-9.5'x38' Access Aisles

844 L.F. of 4" White Thermoplastic Pavement Marking, 8 Handicap Symbols, 4-9.5'x38' Access Aisles

860 L.F. of 4" White Thermoplastic Pavement Marking

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860 L.F. of 4" White Thermoplastic Pavement Marking

25 48 46 44 42 40 40 40 40 36 36 40 40 40 40 40 40 22

(Existing Gravel Parking Lot)
Proposed Asphalt Parking Lot
775 Total Spaces
16 Handicap Accessable Spaces

231'

336 L.F. of 4" White Thermoplastic Pavement Marking

243'

1,305 L.F. of 4" Double Yellow Thermoplastic Pavement Marking

POND

BALL DIAMOND

BALL DIAMOND

Existing Exit Drive

Existing Exit Drive

Existing Roof Drive

CURVE NO. 1
N=19420.71
E=20129.44

CURVE NO. 2
N=19353.58
E=20750.82

CURVE NO. 3,
Ctr. of radius
N=18792.10
E=21041.38

Install 1 "STOP" Sign(R1-1) 30"x30" in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.

170.50 L.F. of 4" White Thermoplastic Pavement Marking

CURVE TABLE (CL DRIVE DATA)

CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	326.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'06"	441.75
C3	137.05	1000.00	7°51'10"	136.95

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 535 S. EMPORIA, SUITE 104, WICHITA, KS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

SURVEY CONTROL MONUMENTS

CM #1	N-20000.000 E-20000.000	1/2" Rebar W/ Savoy Cap
CM #2	N-19970.731 E-20778.736	1/2" Rebar W/ Savoy Cap
CM #3	N-19284.293 E-20225.224	1/2" Rebar W/ Savoy Cap
CM #4	N-19768.532 E-21362.240	1/2" Rebar W/ Savoy Cap
CM #5	N-20106.150 E-21914.570	1/2" Rebar W/ Savoy Cap

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S.
Elev.=88.62(City Datum)

BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds.
Elev.=87.52(City Datum)

LEGEND

W = WATER MAIN
SS = SANITARY SEWER
SWS = STORM WATER SEWER
UGE = UNDER GROUND ELECTRIC

B.M. ..... BENCH MARK
E.B. ..... ELECTRIC BOX
F.H. ..... FIRE HYDRANT
G.P. ..... GUARD POST
..... HIGH LINE POLE
L.P. ..... LIGHT POLE
..... GATE POST
..... POWER POLE
..... SIGN
..... TELEPHONE POLE
XFMR ..... ELECTRIC TRANSFORMER
SS M.H. ..... SANITARY SEWER MANHOLE
D.I. ..... 2' x 2' Area Inlet

SOUTHLAKES PARK

PAVEMENT MARKING PLAN

SOUTHLAKES PARK, WICHITA, SEDGWICK CO., KANSAS

CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

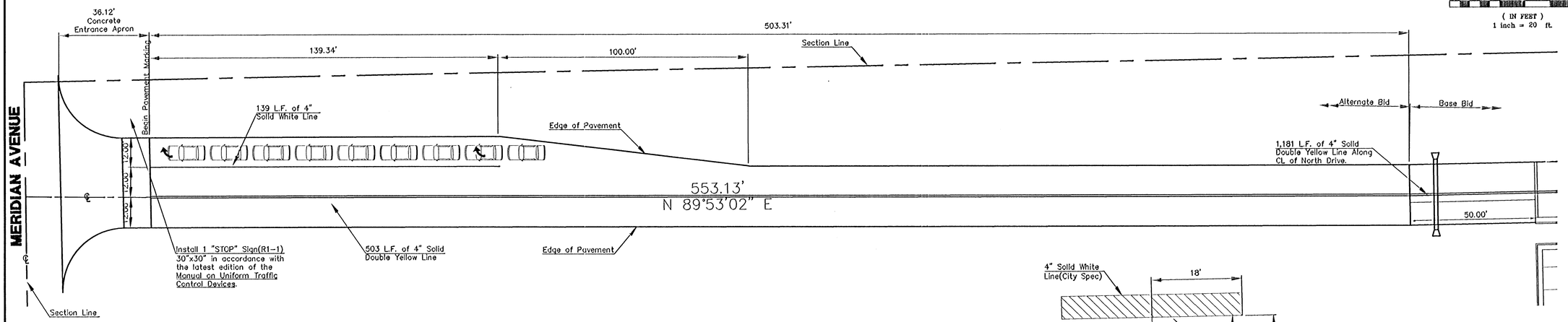
DESIGNED: HDF	SCALE: 1"=60'	SHEET 11
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base.dwg	TOTAL 16

GRAPHIC SCALE

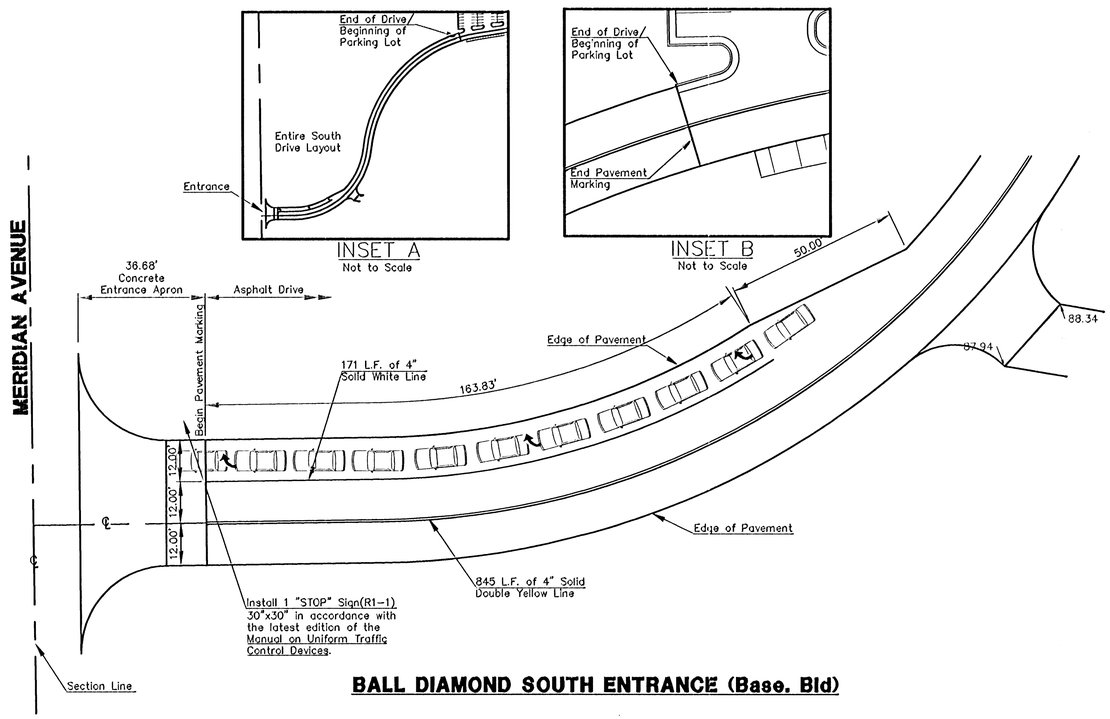
20 0 10 20 40

(IN FEET)

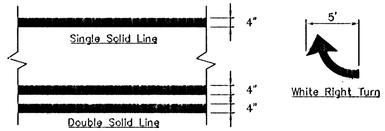
1 inch = 20 ft.

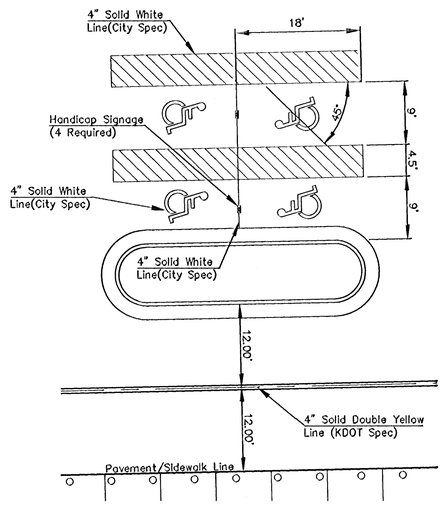


BALL DIAMOND NORTH ENTRANCE (Alt. Bld)



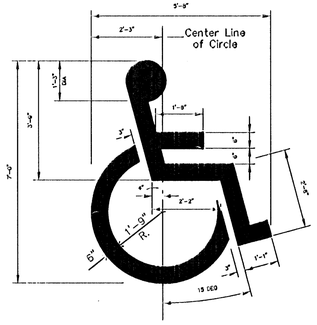
BALL DIAMOND SOUTH ENTRANCE (Base. Bid)





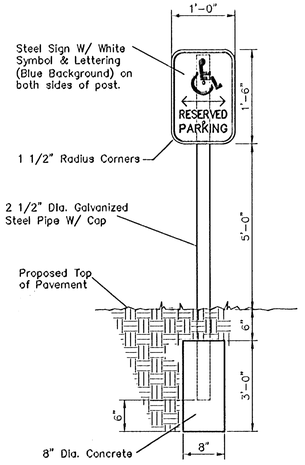
PARKING LOT PAVEMENT MARKING

Not to Scale



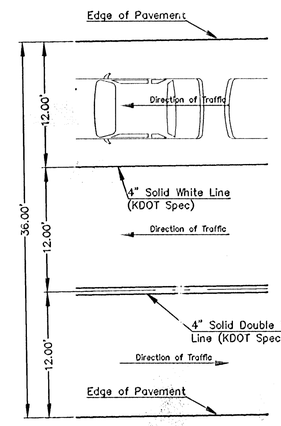
HANDICAP PAVEMENT MARKING

Not to Scale



HANDICAP SIGNAGE

Not to Scale



NO-PASSING (TWO DIRECTIONS)

Not to Scale

RECAPITULATION OF BASE BID QUANTITIES
(For Information Only)

ITEM*	QUANTITY	UNITS
4" White	15,530	LIN. FT.
4" Yellow (CL Drive)	6,172	LIN. FT.
Yellow Handicap Marker	16	EACH
Yellow 4.5' x 18' Access Aisle	16	EACH
Right Turn Arrow (White)	3	EACH
Handicap Parking Signs w/Posts	4	EACH
Stop Sign(R1-1)30"x30"	1	EACH

*All Pavement Markings Shall Be Thermoplastic(90 mil) in Accordance with 1990 KDOT Standard Specifications.

RECAPITULATION OF ALTERNATE BID QUANTITIES
(For Information Only)

ITEM*	QUANTITY	UNITS
4" White (Turning Lane)	140	LIN. FT.
4" Yellow (CL Drive)	1006	LIN. FT.
White Right Arrow	2	EACH
Stop Sign(R1-1)30"x30"	1	EACH

*All Pavement Markings Shall Be Thermoplastic(90 mil) in Accordance with 1990 KDOT Standard Specifications.

SOUTH LAKES PARK

PAVEMENT MARKING DETAILS

WICHITA, SEDGWICK CO., KANSAS

CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.

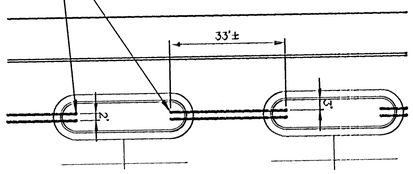
810 WEST DOUGLAS, SUITE C

WICHITA, KANSAS 67203

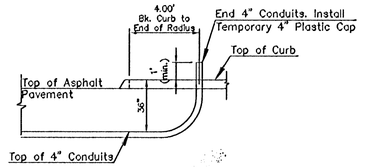
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=20'	SHEET 12
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base	TOTAL 16

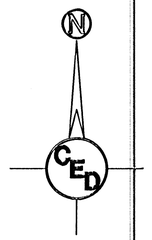
Start and stop conduit at the end of curb radius.



PLAN



ELEVATION



GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

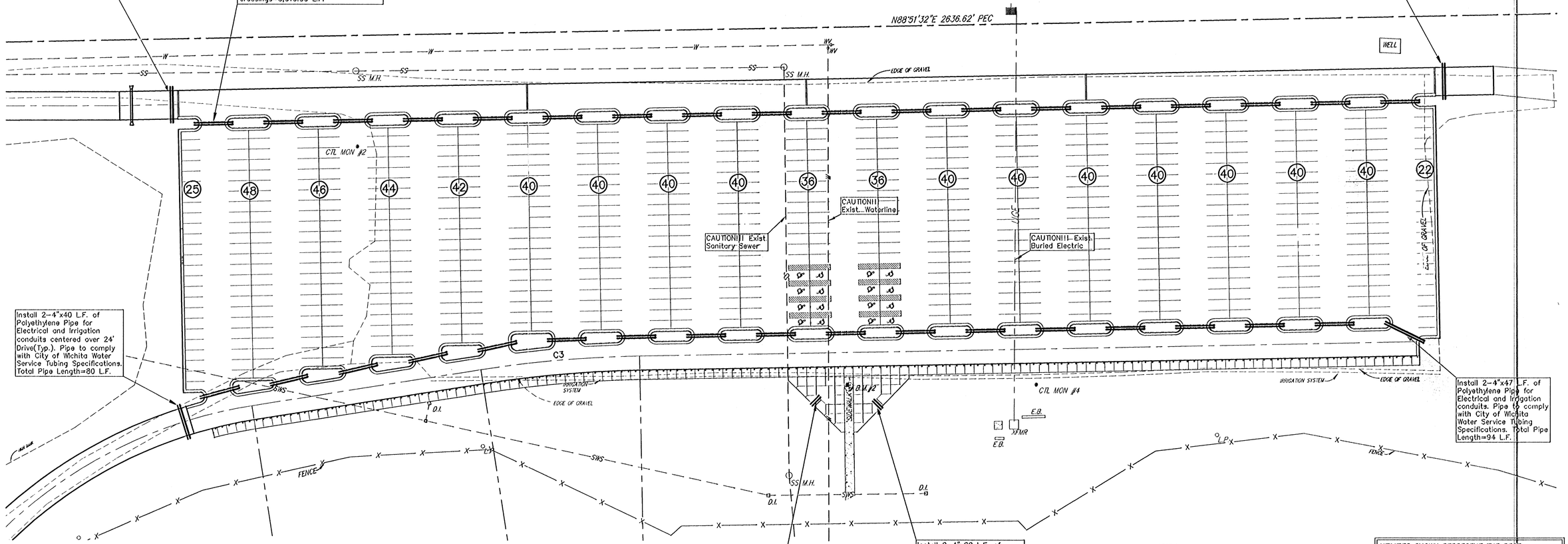
IRRIGATION LAYOUT DETAILS

NOTE: FOR CONDUIT LOCATIONS, SEE SURVEY CONTROL PLAN SHEETS 7-8.

Install 2-4"x40 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits centered over 24' Drive(Typ.). Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length=80 L.F.

Install 2-4"x43 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits between Curbed Islands(Typ.). Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length per crossing=86 L.F. Total Pipe Length for all 35 Island crossings=3,010.00 L.F.

Install 2-4"x40 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits centered over 24' Drive(Typ.). Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length=80 L.F.



Install 2-4"x40 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits centered over 24' Drive(Typ.). Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length=80 L.F.

Install 2-4"x47 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits. Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length=94 L.F.

Install 2-4"x20 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits centered over 8' Walk(Typ.). Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length=40 L.F.

Install 2-4"x20 L.F. of Polyethylene Pipe for Electrical and Irrigation conduits centered over 8' Walk(Typ.). Pipe to comply with City of Wichita Water Service Tubing Specifications. Total Pipe Length=40 L.F.

CURVE TABLE (CL DRIVE DATA)				
CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	326.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'06"	441.75
C3	137.05	1000.00	7°51'10"	136.95

LEGEND

W = WATER MAIN
SS = SANITARY SEWER
SWS = STORM WATER SEWER
UGE = UNDER GROUND ELECTRIC

- B.M. . . . . BENCH MARK
- E.B. . . . . ELECTRIC BOX
- F.H. . . . . FIRE HYDRANT
- WV . . . . . WATER VALVE
- G.P. . . . . GUARD POST
- . . . . . HIGH LINE POLE
- D.I. . . . . 2' x 2' Area Inlet
- L.P. . . . . LIGHT POLE
- . . . . . GATE POST
- . . . . . POWER POLE
- . . . . . SIGN
- . . . . . TELEPHONE POLE
- XFMR . . . . . ELECTRIC TRANSFORMER
- SS M.H. . . . SANITARY SEWER MANHOLE

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

RECAPITULATION OF BASE BID QUANTITIES (For Information Only)		
ITEM	QUANTITY	UNITS
4" Polyethylene Pipe	3,425	LIN. FT.
4" Temporary Plastic Caps	164	EACH

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S.
Elev.=88.62(City Datum)

BENCHMARK #2:
"L" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds.
Elev.=87.52(City Datum)

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TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 535 S. EMPORIA, SUITE 104, WICHITA, KS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

SOUTH LAKES PARK

IRRIGATION SLEEVE LAYOUT

WICHITA, SEDGWICK CO., KANSAS

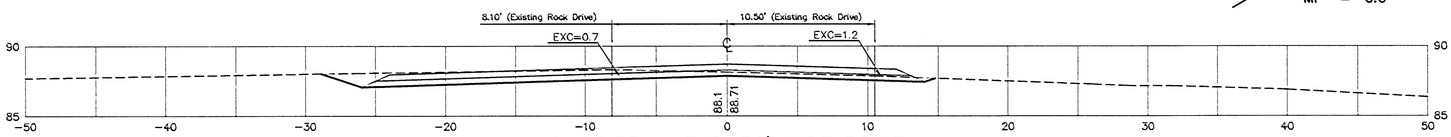
CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=40'	SHEET 13
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CAD FILE: SthLakes-Base.dwg	TOTAL 16

52.91'

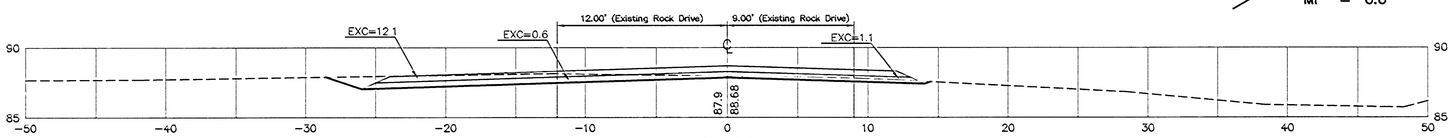
EXC = 8.7
LF = 0.0
CF = 0.0
MF = 0.0



2+27.33 – END 36' WIDE DRIVE

27.33'

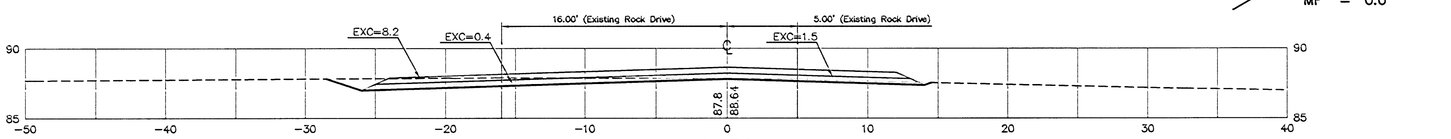
EXC = 7.9
LF = 0.0
CF = 0.0
MF = 0.0



2+00

50'

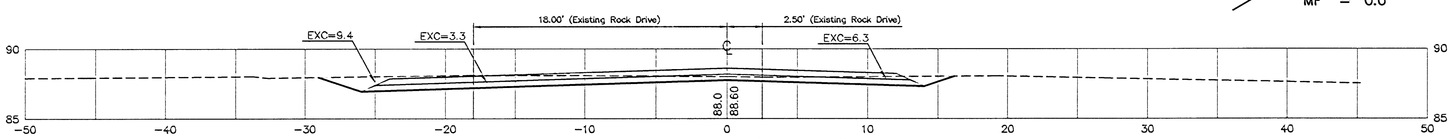
EXC = 22.1
LF = 0.0
CF = 0.0
MF = 0.0



1+50

49.23'

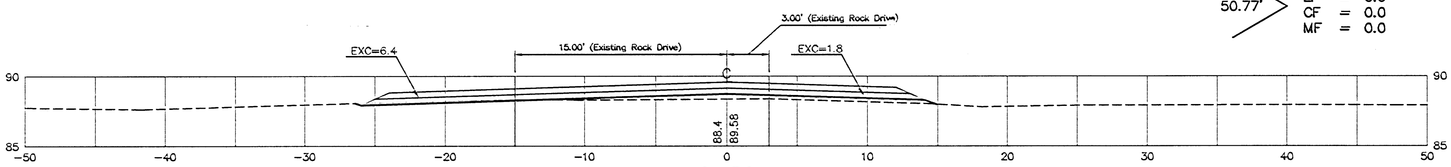
EXC = 26.5
LF = 0.0
CF = 0.0
MF = 0.0



1+00.77 – PC CURVE

50.77'

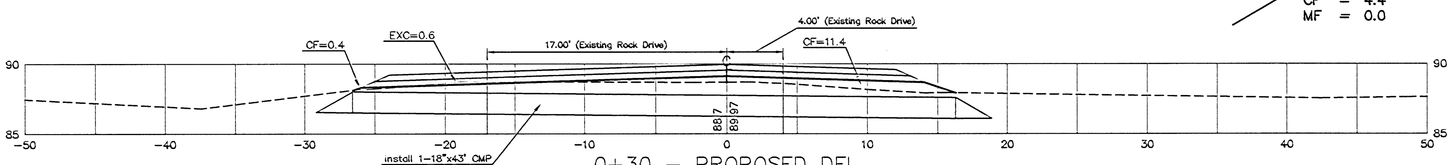
EXC = 25.6
LF = 0.0
CF = 0.0
MF = 0.0



0+50

20'

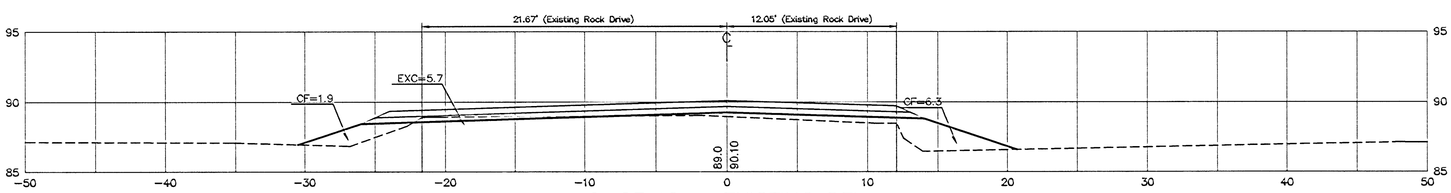
EXC = 3.3
LF = 0.0
CF = 4.4
MF = 0.0



0+30 – PROPOSED DFL

6.58'

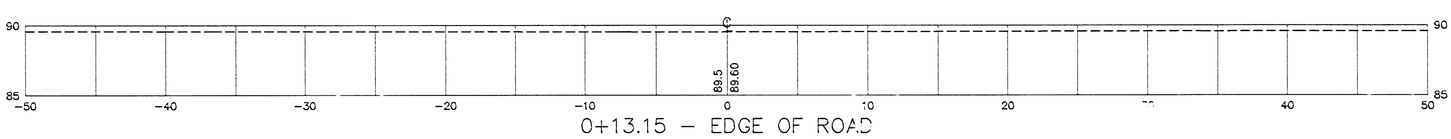
EXC = 0.8
LF = 0.0
CF = 2.4
MF = 0.0



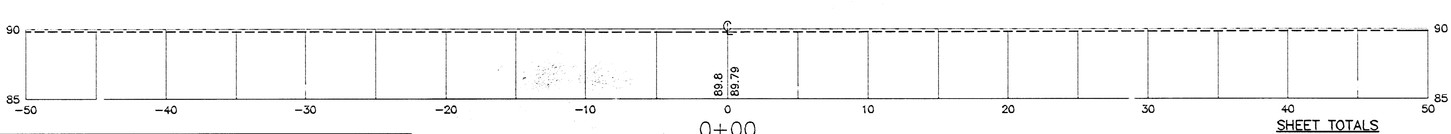
0+23.42 – EXISTING DFL

10.27'

EXC = 1.0
LF = 0.0
CF = 1.5
MF = 0.0



0+13.15 – EDGE OF ROAD



0+00

SHEET TOTALS

EXCAVATION = 95.9
LOOSE FILL = 0.0
COMPACTED FILL = 8.3
MANIPULATED FILL = 0.0

24' DRIVE

CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.

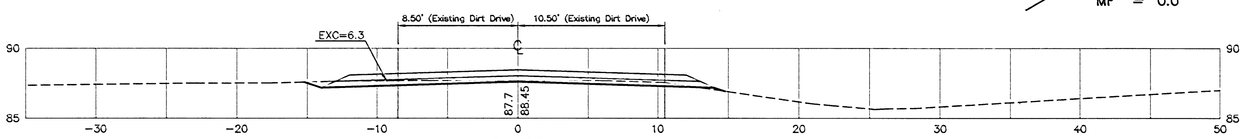
CED

810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH: (316) 262-8808
FAX: (316) 262-1669

SHEET 14

TOTAL 16

50°
EXC = 13.1
LF = 0.0
CF = 0.0
MF = 0.0



6+50

50°
EXC = 10.8
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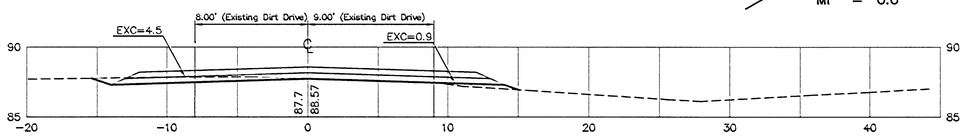
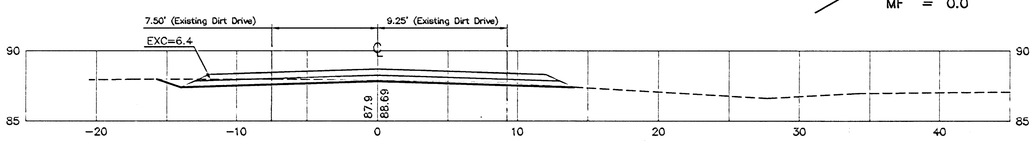
CF = 0.0
MF = 0.0



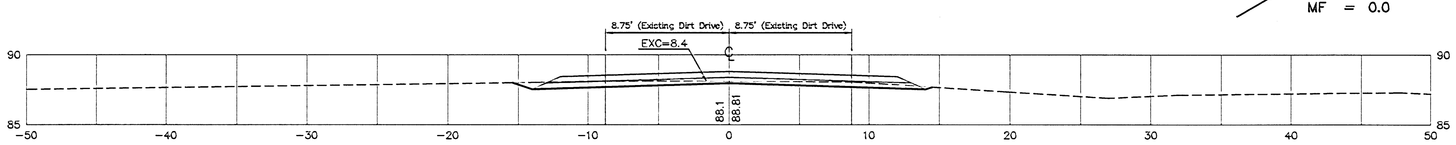
6+00

50°
EXC = 10.9
LF = 0.0
CF = 0.0
MF = 0.0



5+50

50°
EXC = 13.7
LF = 0.0
CF = 0.0
MF = 0.0



5+00

50°
EXC = 17.9
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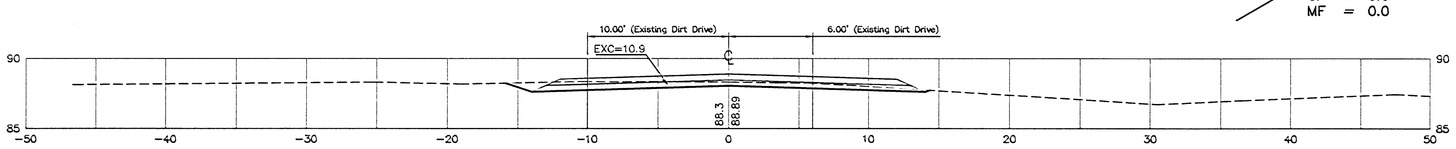
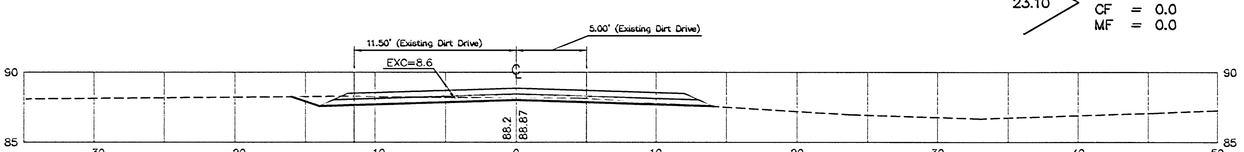
CF = 0.0
MF = 0.0



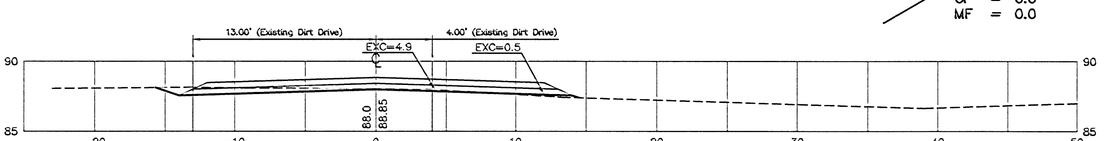
4+50

23.10°
EXC = 8.3
LF = 0.0
CF = 0.0
MF = 0.0



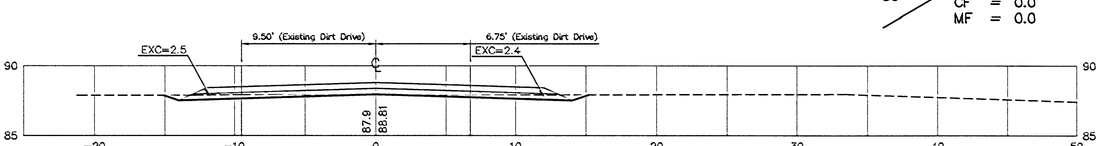
4+26.90 – PRC

26.90°
EXC = 7.0
LF = 0.0
CF = 0.0
MF = 0.0



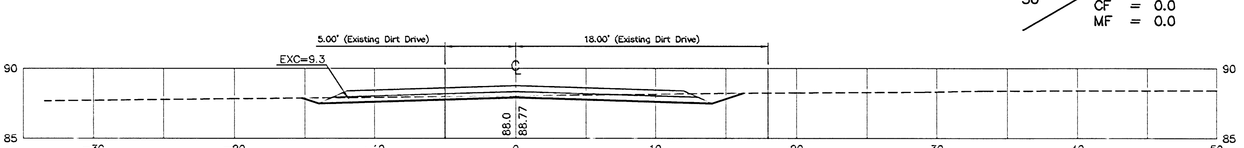
4+00

50°
EXC = 9.5
LF = 0.0
CF = 0.0
MF = 0.0



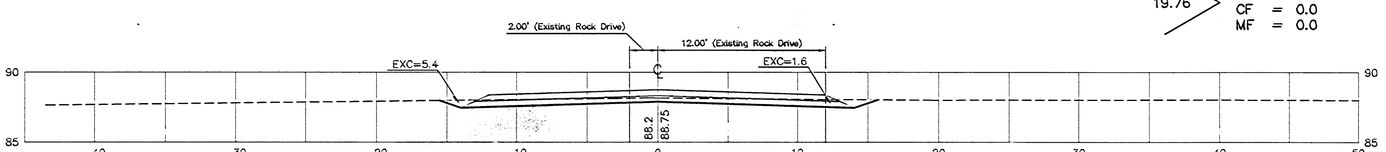
3+50

50°
EXC = 13.1
LF = 0.0
CF = 0.0
MF = 0.0



3+00

19.76°
EXC = 6.0
LF = 0.0
CF = 0.0
MF = 0.0



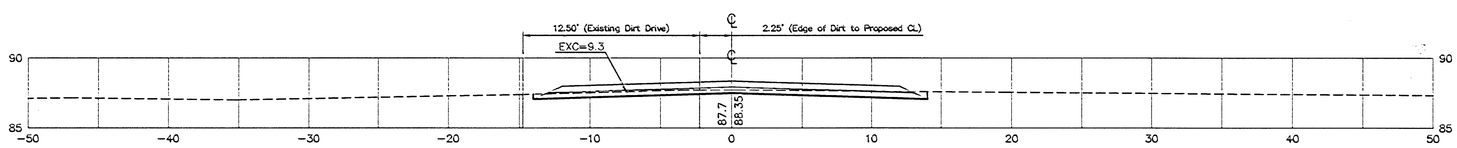
2+80.24 – BEGIN 24' WIDE DRIVE

SHEET TOTALS

EXCAVATION = 110.3
LOOSE FILL = 0.0
COMPACTED FILL = 0.0
MANIPULATED FILL = 0.0

24' DRIVE

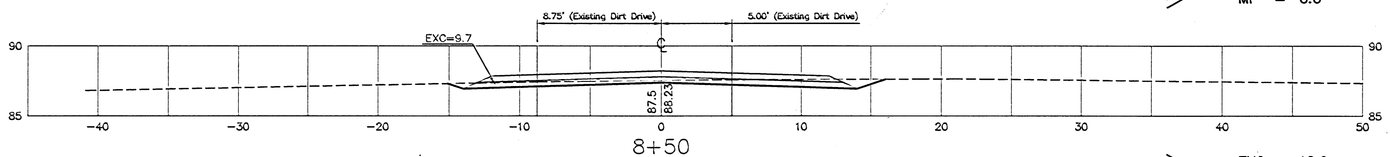
CED PROJ. NO.: 20020900
CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH: (316) 262-8808
FAX: (316) 262-1669



8+94.89 – END 24' DRIVE/BEGIN PARKING LOT

44.89'

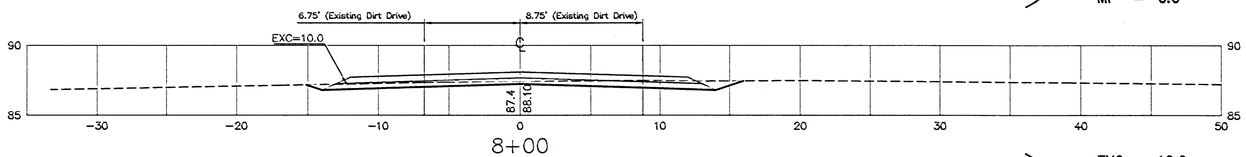
EXC = 15.8
LF = 0.0
CF = 0.0
MF = 0.0



8+50

50'

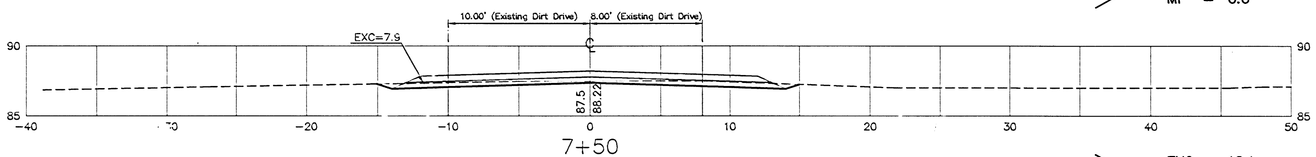
EXC = 18.2
LF = 0.0
CF = 0.0
MF = 0.0



8+00

50'

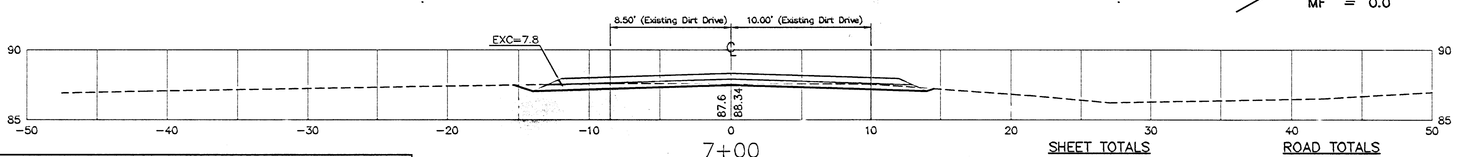
EXC = 16.6
LF = 0.0
CF = 0.0
MF = 0.0



7+50

50'

EXC = 18.1
LF = 0.0
CF = 0.0
MF = 0.0



7+00

SHEET TOTALS

EXCAVATION	= 68.7
LOOSE FILL	= 0.0
COMPACTED FILL	= 0.0
MANIPULATED FILL	= 0.0

24' DRIVE

ROAD TOTALS

EXCAVATION	= 274.9
LOOSE FILL	= 0.0
COMPACTED FILL	= 8.3
MANIPULATED FILL	= 0.0

24' DRIVE

CED PROJ. NO.: 20020900
CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH: (316) 262-8808
FAX: (316) 262-1669

SHEET 16
TOTAL 16

20-10-14-18

PLAN LABELS DEFINITION TABLE

PVI = POINT OF VERTICAL INTERSECTION

Removed existing crushed rock base (Approx. 433 S.Y.) outside crushed rock base limits for new drive. (This work will not be paid for seperately but will be considered subsidiary to other items in the contract.)

Alternate #1 Bld

Finish 24' Drive to Meridian St. (Approx 540 L.F.)

Base Bld

Sta. 1+89.51 Begin Taper to 24' Wide Drive. N=20028.29 E=20210.55

Sta. 2+89.51 End Taper N=20016.49 E=20310.97

CAUTION!!! SS MH Top=89.29 N 20023.97 E 20065.18 Contractor Shall Lower MH Top elevation as necessary to match top of pavement grade of 89.11.

Sta. 0+00.00 CL MERIDIAN AVENUE

Sta. 0+50.00 EDGE OF ASPHALT

Sta. 0+50.00 PVI Station

Sta. 1+00.00

Sta. 1+50.00

Sta. 2+00.00

Sta. 2+50.00

Sta. 3+00.00

Sta. 3+50.00 PVI Station

Sta. 4+00.00

Sta. 4+50.00

Sta. 5+00.00 PVI Station

Sta. 5+50.00 N=20033.13 E=20574.17 End Construction

-2.09% 0.29% -0.34% 0.92%

CAUTION!!! SS MH Top=89.55 N 20030.53 E 20417.34

B.M. #1

N.W. Cor SW1/4 Sec. 13-28S-1E

50' 36.12'

Install 210 S.Y. of 6" reinforced crushed rock base

Sign to remain

Remove 61 S.Y. of Exist. Asphalt Apron. Construct 175 S.Y. of 8" Concrete Entrance on 5" Reinforced Crushed Rock Base. Install 130 S.Y. of Additional Crushed Rock. (No Entrance Pipe Req'd)

CL Intersection of Meridian & Proposed Ballpark Drive N=20003.93 E=20021.09

CAUTION!!! Existing 12" Waterline

Sta. 0+39.07 CL @ End of Radius N=20004.01 E=20160.16

Sign to remain

Install 600 S.Y. of 6" reinforced crushed rock base

Sta. 5+56.05, CL Drive End Alt. #1 Drive Construction N=20005.05 E=20574.21

Construct 1595 S.Y. of 5" A.C. Pavement (3" Bit. Base) on existing and proposed Reinforced Crushed Rock Base.

Contractor Shall Remove and Discard of Guard Posts (3) on Sides of Existing Drive.

MERIDIAN AVENUE

POND

BALL DIAMOND

CURVE NO. 1 N=19420.71 E=20129.44

CURVE NO. 2 N=19353.58 E=20750.82

CURVE NO. 3, Ctr. of Radius N=18792.10 E=21041.38

Existing Rock Side

Existing Dirt Side

Ditch

Base Bld

Project Extents

1081'

N88°51'32"E 2638.62' REC

(Existing Gravel Parking Lot)

Proposed Asphalt Parking Lot

739 Total Spaces

16 Handicap Accessable Spaces

CONCRETE SIDEWALK

CURB & GUTTER

EDGE OF GRAVEL

FENCE

SS M.H.

D.I.

B.M.

CTL MON #2

CTL MON #4

NORTH DRIVE

SURVEY CONTROL MONUMENTS

CM #1	N-20000.000 E-20000.000	1/2" Rebar W/ Savoy Cap
CM #2	N-19970.731 E-20778.736	1/2" Rebar W/ Savoy Cap
CM #3	N-19284.293 E-20225.224	1/2" Rebar W/ Savoy Cap
CM #4	N-19768.532 E-21362.240	1/2" Rebar W/ Savoy Cap
CM #5	N-20106.150 E-21914.570	1/2" Rebar W/ Savoy Cap

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S. Elev.=88.62(City Datum)

BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds. Elev.=87.52(City Datum)

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GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 inch = 60 ft.

CURVE TABLE (CL DRIVE DATA)

CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	328.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'06"	441.75
C3	137.05	1000.00	7°51'10"	136.95

CAUTION!!! 8" Gate Valve #30215

Existing 8" Water Main

WV

SS M.H.

Proposed Edge of Pavement

CAUTION!!! 8" Gate Valve #30214

*NOTE:
Valve box locations appear to be out of proposed improvements. Contractor shall verify locations and notify Engineer of any discrepancies.

*CAUTION!!! 12" Butterfly Valve #30203 Located 58.5' N & 3' E of Fire Hydrant #09125. (Approx. 18' East of 12" Line.)

CAUTION!!* 8" Gate Valve #30205 Located 57' N & 4.5' E. of Fire Hydrant #09125. (Approx. Located 3' E. of 12" Water Main on 8" line)

N.W. Cor SW1/4 Sec. 13-28S-1E (Iron Pin)

MERIDIAN AVENUE

Existing 8" Water Main

SIGN

SS M.H.

CAUTION!!* 12" Butterfly Valve #30204 Located 55' N & 3' E. of Fire Hydrant #09125. (Approx. 18' East of 12" Line.)

CAUTION!!* 12" Valve Located 2' E. of Fire Hydrant on 12" Water Main. Valve #30206. FH #09125

F.H.

SIGN

NORTH DRIVE

LEGEND

W = WATER MAIN
SS = SANITARY SEWER
SWS = STORM WATER SEWER
UGE = UNDER GROUND ELECTRIC

- B.M. ..... BENCH MARK
- E.B. ..... ELECTRIC BOX
- F.H. ..... FIRE HYDRANT
- WV ..... WATER VALVE
- G.P. ..... GUARD POST
- ..... HIGH LINE POLE
- L.P. ..... LIGHT POLE
- ..... GATE POST
- ..... POWER POLE
- ..... SIGN
- ..... TELEPHONE POLE
- XFMR ..... ELECTRIC TRANSFORMER
- SS M.H. ..... SANITARY SEWER MANHOLE
- D.I. ..... 2' x 2' Area Inlet
- ..... EXISTING DIRT DRIVE
- ..... EXISTING CRUSHED ROCK BASE

OVERALL SITE PLAN

SOUTHLAKES PARK

SOUTHLAKES PARK, WICHITA, SEDGWICK CO., KANSAS

CED PROJ. NO.: 20020900

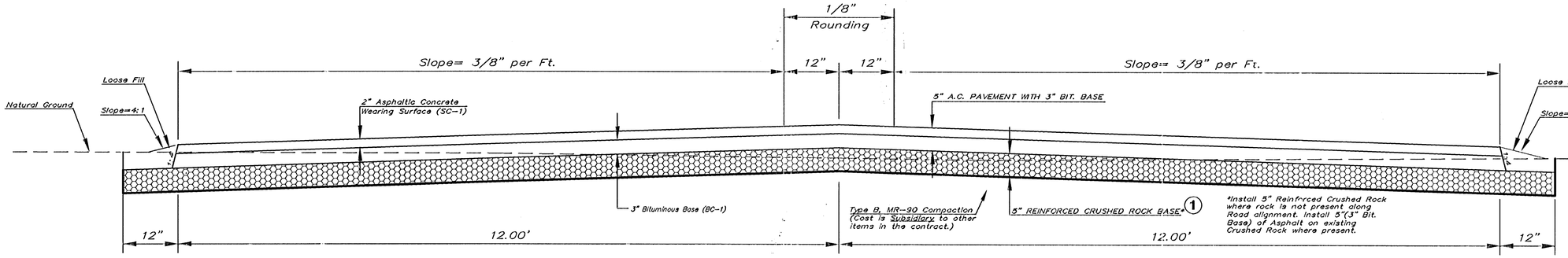
CERTIFIED ENGINEERING DESIGN, P.A.

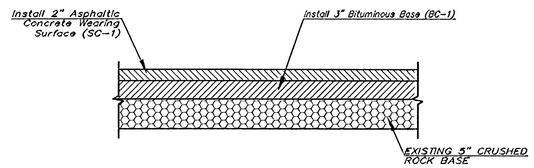
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=60'	SHEET 2
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base.dwg	TOTAL 16

TYPICAL PAVEMENT DETAILS

TRANSVERSE SECTION





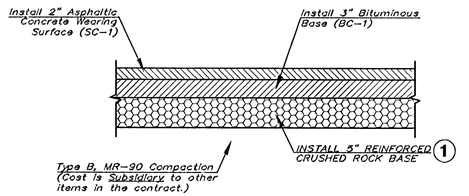
PARKING LOT ASPHALT PAVEMENT DETAIL

(FOR AREAS WITH EXISTING CRUSHED ROCK)

24' DRIVE PAVEMENT DETAIL

Sta. 0+13.15 to Sta. 8+94.89(Base Bid)
Sta. 0+14.06 to Sta. 5+53.13 (Alternate #1 Bid) (1)

(1) NOTE: EXCAVATION HAS NOT BEEN COMPUTED FOR INSTALLATION OF 5" REINFORCED CRUSHED ROCK BASE IN THE AREAS OF PROPOSED PARKING LOT AND DRIVE ALTERNATE #1 WHERE CRUSHED ROCK BASE DOES NOT CURRENTLY EXIST. EXCAVATION IN THESE AREAS WILL NOT BE PAID FOR SEPARATELY. COST FOR EXCAVATION IN THESE AREAS SHALL BE CONSIDERED "SUBSIDIARY" TO THE UNIT PRICE BID FOR "5" REINFORCED CRUSHED ROCK BASE" WITHIN THESE AREAS.



PARKING LOT ASPHALT PAVEMENT DETAIL

(FOR AREAS WITH NO EXISTING CRUSHED ROCK)

General Notes

FABRIC BASE REINFORCEMENT SHALL BE 8 X 1100 GEOGRID AS MANUFACTURED BY TENSAR CORPORATION OR APPROVED EQUAL. FABRIC BASE REINFORCEMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CRUSHED ROCK SHALL BE UNIFORMLY GRADED FROM 1-1/2" MAXIMUM SIZE TO NOT MORE THAN 10% PASSING A NO. 200 SIEVE. ROCK QUALITY SHALL BE THE SAME AS SPECIFIED FOR COARSE AGGREGATE FOR CONCRETE MIXES.

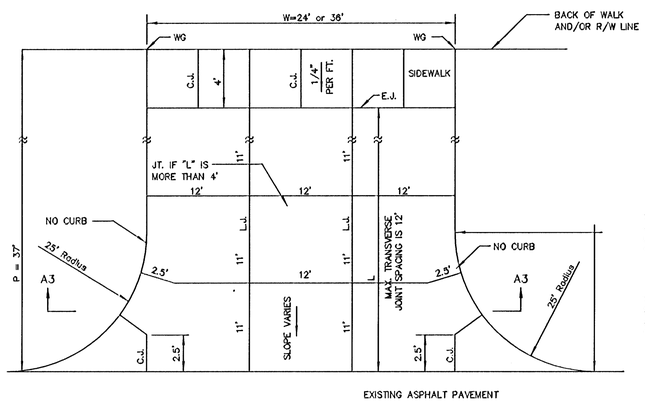
ROCK BASE IS TO BE COMPACTED AND SMOOTHED WITH A STEEL FACED ROLLER PROIR TO PLACEMENT OF ASPHALT. TACK COAT WILL NOT BE APPLIED TO ROCK BASE.

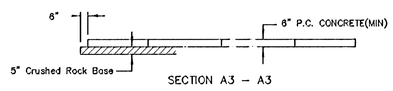
A TACK COAT OF EMULSIFIED ASPHALT (SC-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.

BITUMINOUS BASE AND ASPHALTIC CONCRETE WEARING SURFACE SHALL BE PLACED WITH A LAYDOWN MACHINE HAVING AUTOMATIC CONTROLS FOR LINE AND GRADE.

CONSTRUCTION JOINTS IN EACH LIFT SHALL BE STAGGERED A MINIMUM DISTANCE OF ONE (1) FOOT FROM JOINTS IN PRECEDING LIFTS AND PLACED SO THAT A JOINT WILL BE CONSTRUCTED ON THE CENTERLINE OF THE TOP LIFT.

THE ASPHALTIC CONCRETE PAVEMENT BETWEEN THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 5" ASPHALTIC CONCRETE (3" BITUMINOUS BASE.)





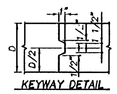
SECTION A3 – A3

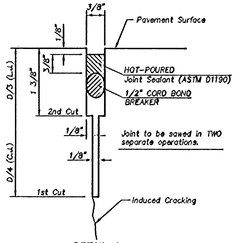
CONCRETE ENTRANCE DETAILS

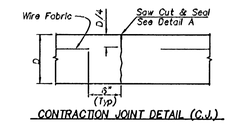
MAIN SOUTH ENTRANCE(W=36', D=6")

ENTRANCE @ STA. 2+86.45(W=24', D=6")

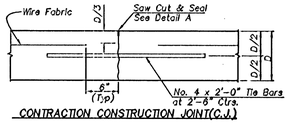
ALTERNATE #1 NORTH ENTRANCE(W=36', D=6")



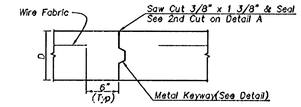




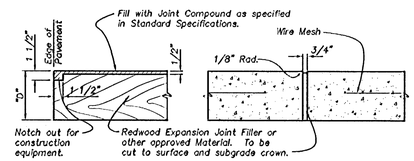
CONTRACTION JOINT DETAIL (C.J.)



CONTRACTION CONSTRUCTION JOINT(C.J.)



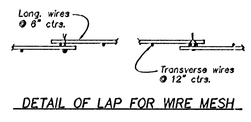
OPTIONAL CONTRACTION CONSTRUCTION JOINT (C.J.)
(ALTERNATE C.J.)



PART LONG. SECTION TRANSVERSE SECTION

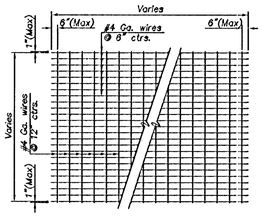
EXPANSION JOINT DETAIL

NOTE: Expansion Joint Material must be securely held in place by using Metal Stakes, Metal Pins, or by other approved methods so that when the pavement is completed the Expansion Material will be Perpendicular to the surface of the completed pavement. Concrete shall be Hand Placed on each side of the Expansion Joint Material in a manner that will preclude displacement of the Expansion Joint Material.

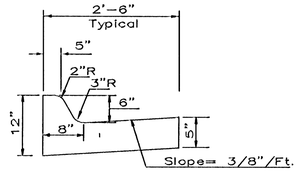


DETAIL OF LAP FOR WIRE MESH

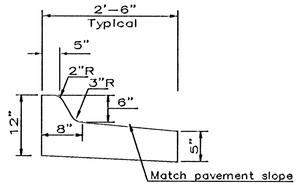
NOTE: The lap shall extend beyond the first transverse wire of each sheet.
The sheets shall be wired securely at the edges and at intervals not to exceed 2'-6" for the full width of the street. Approximate weight of wire mesh = 44 lbs. per 100 sq. ft.
Other methods for fastening the sheets of wire mesh at the laps may be used with the approval of the Engineer.



TYPICAL SHEET OF WELDED WIRE MESH



CURB & GUTTER DETAIL



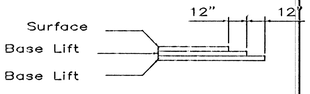
CURB & GUTTER DETAIL

(INVERTED GUTTER, DRAIN AWAY)

CRUSHED ROCK GRADATION REQUIREMENTS
Percent of Aggregate Retained

1 1/2"	0
3/4"	15-60
# 4	40-80
#10	74-92
P-200	4-12

Rock Quality Shall Be The Same As Specified For Coarse Aggregate For Asphalt Concrete Mixes.



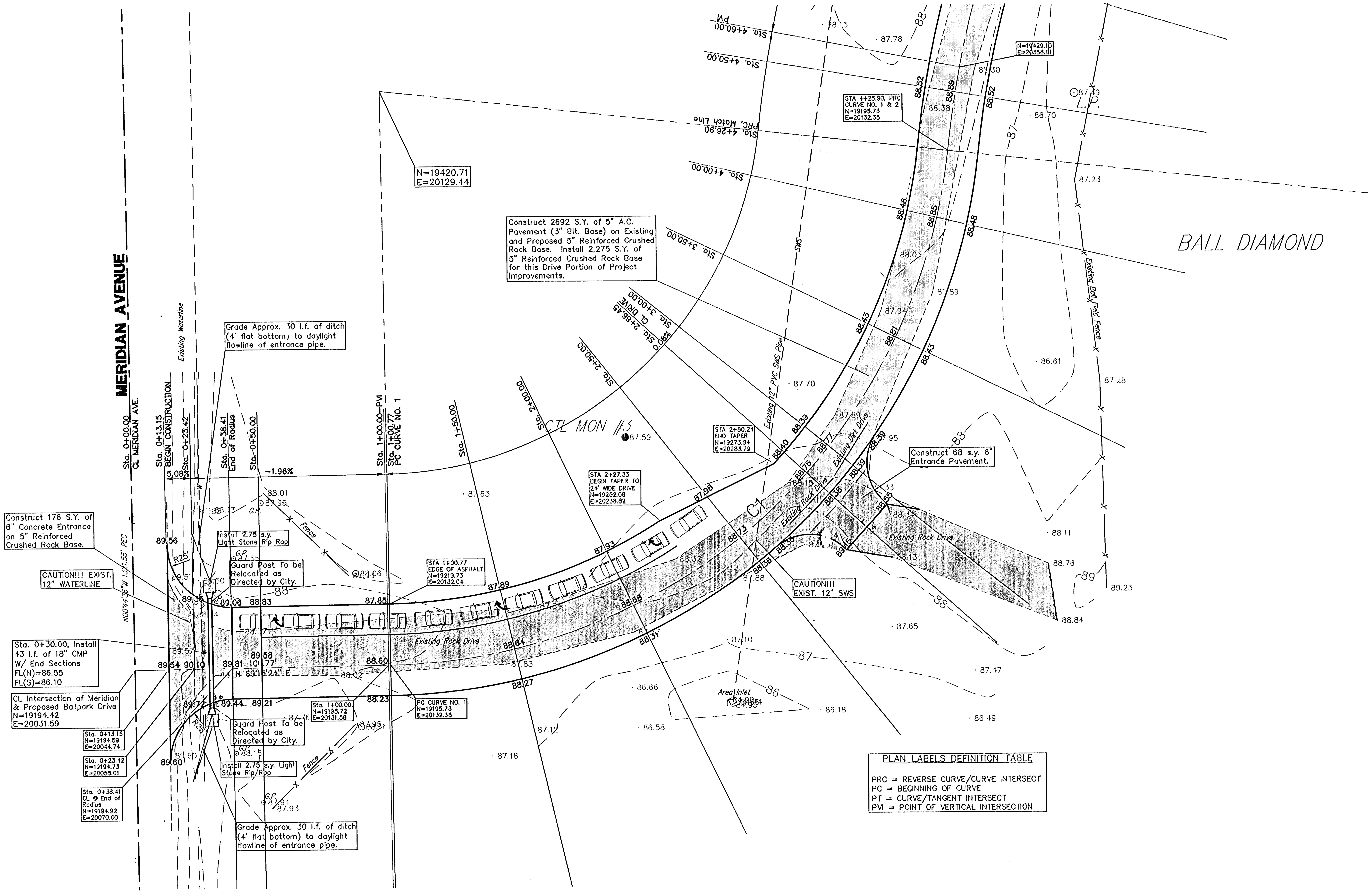
TRANSVERSE CONSTRUCTION JOINTS

Transverse construction joints shall be constructed in flexible base pavements at locations where pavement joins existing flexible base pavement as shown by the detail. All costs associated with the construction of the transverse joint shall be included in the bid price for Square Yards 5" ASPHALTIC CONCRETE (3" BITUMINOUS BASE).

CITY OF WICHITA
TYPICAL PAVEMENT DETAIL
SOUTHLAKES PARK
CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.
310 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: NTS	SHEET 3
DRAWN: HDF	DATE: 7/02	
CHECKED: HDF	CED FILE: 24Typ.dwg	TOTAL 16



CURVE TABLE (CL DRIVE DATA)				
CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	326.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'06"	441.75
C3	137.05	1000.00	7°51'10"	136.95

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 535 S. EMPORIA, SUITE 104, WICHITA, KS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

PLAN LABELS DEFINITION TABLE

PRC = REVERSE CURVE/CURVE INTERSECT
PC = BEGINNING OF CURVE
PT = CURVE/TANGENT INTERSECT
PVI = POINT OF VERTICAL INTERSECTION

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

LEGEND

W = WATER MAIN
SS = SANITARY SEWER
SWS = STORM WATER SEWER
UGE = UNDER GROUND ELECTRIC

B.M. . . . . . BENCH MARK
E.B. . . . . . . ELECTRIC BOX
F.H. . . . . . FIRE HYDRANT
WV . . . . . WATER VALVE
G.P. . . . . . GUARD POST
. . . . HIGH LINE POLE
L.P. . . . . . . LIGHT POLE
. . . . GATE POST
. . . . POWER POLE
. . . . SIGN
. . . . TELEPHONE POLE
XFMR . . . . . ELECTRIC TRANSFORMER
SS M.H. . . . SANITARY SEWER MANHOLE
D.I. . . . . . . 2' x 2' AREA INLET
. . . . EXISTING DIRT DRIVE
. . . . EXISTING CRUSHED ROCK BASE

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S. Elev.=88.62(City Datum)

BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds. Elev.=87.52(City Datum)

SURVEY CONTROL MONUMENTS

CM #1	N-20000.000 E-20000.000	1/2" Rebar W/ Savoy Cap
CM #2	N-19970.731 E-20778.736	1/2" Rebar W/ Savoy Cap
CM #3	N-19284.293 E-20225.224	1/2" Rebar W/ Savoy Cap
CM #4	N-19768.532 E-21362.240	1/2" Rebar W/ Savoy Cap
CM #5	N-20106.150 E-21914.570	1/2" Rebar W/ Savoy Cap

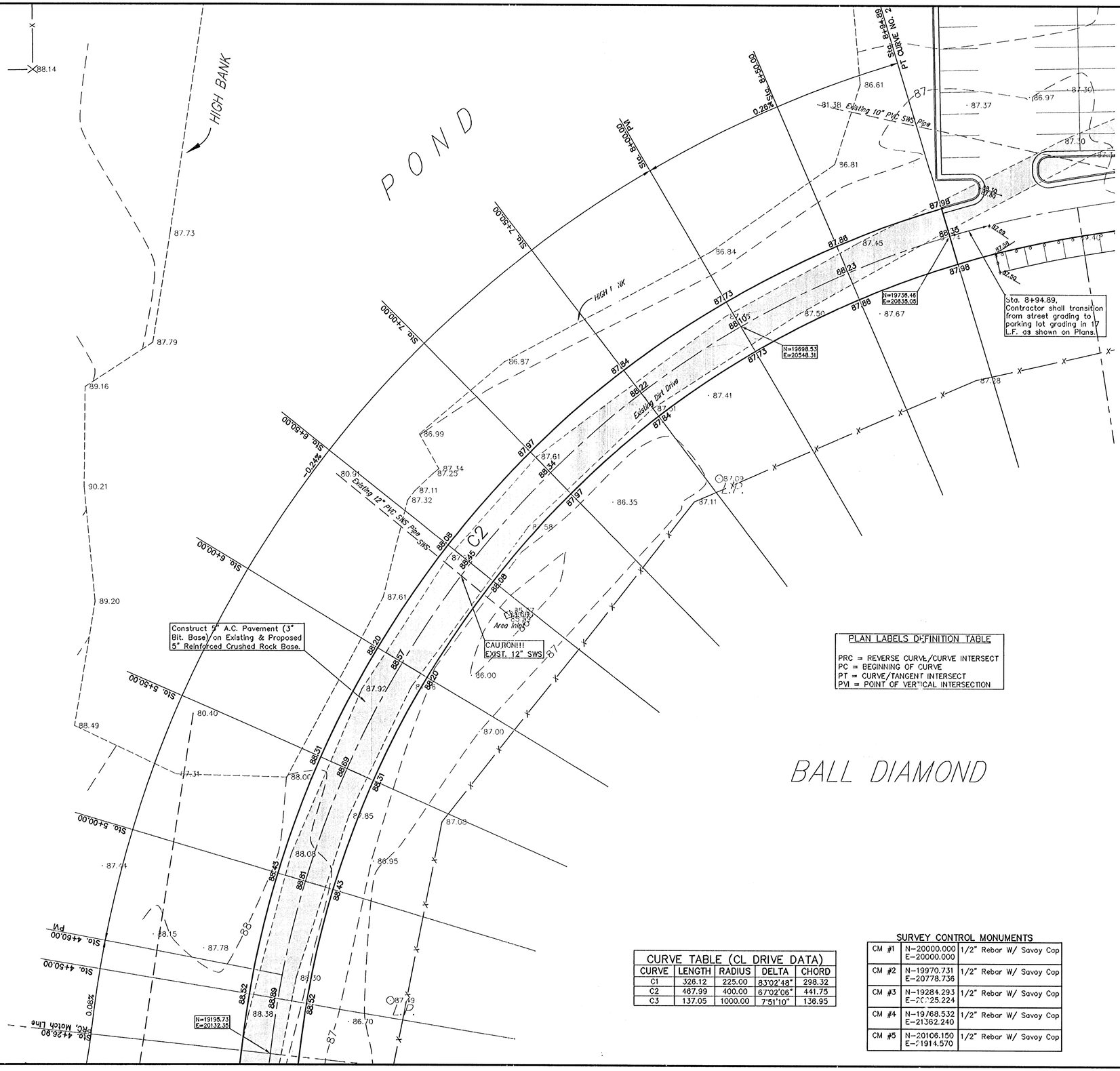
UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

STREET PLAN & PROFILE FOR
SOUTHLAKES PARK
WICHITA, SEDGWICK CO., KANSAS

CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.
CED
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=20'	SHEET 4
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base	TOTAL 16



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GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

LEGEND

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- B.M. . . . . BENCH MARK
- E.B. . . . . ELECTRIC BOX
- F.H. . . . . FIRE HYDRANT
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- . . . . EXISTING DIRT DRIVE
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City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S.
Elev.=88.62(City Datum)

BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds.
Elev.=87.52(City Datum)

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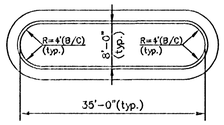
STREET PLAN & PROFILE FOR
SOUTHLAKES PARK
WICHITA, SEDGWICK CO., KANSAS
CED PROJ. NO.: 20020900

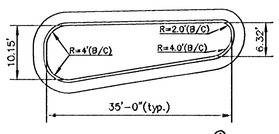
CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=20'	SHEET 5
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base	TOTAL 16



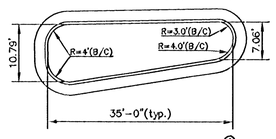
Type 1 Island Detail ①

28 REQUIRED
28 x 82.27 L.F. of Curb
=2,303.56 L.F. Total



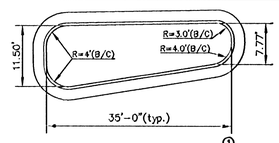
Type 2 Island Detail ①

1 REQUIRED
83.97 L.F. of Curb



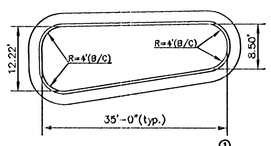
Type 3 Island Detail ①

1 REQUIRED
84.94 L.F. of Curb



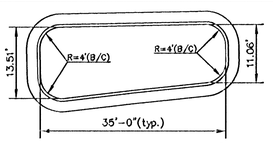
Type 4 Island Detail ①

1 REQUIRED
88.31 L.F. of Curb



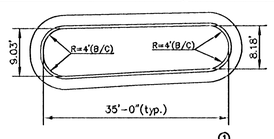
Type 5 Island Detail ①

1 REQUIRED
87.33 L.F. of Curb



Type 6 Island Detail ①

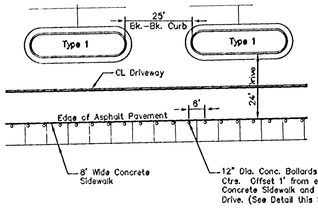
1 REQUIRED
90.99 L.F. of Curb



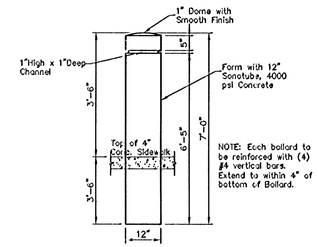
Type 7 Island Detail ①

1 REQUIRED
83.50 L.F. of Curb

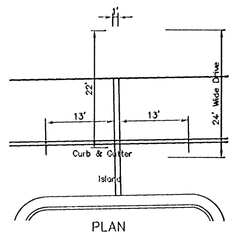
① Curb & Gutter for Island Shall be Constructed with the Gutter inverted to Ensure Drainage away from the Curb.



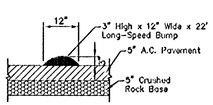
Typical Drive/Sidewalk Layout



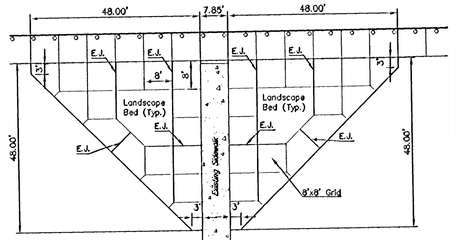
Concrete Pipe Bollard Detail
APPROX. 177 REQUIRED



Speed Bump Detail
5 REQUIRED



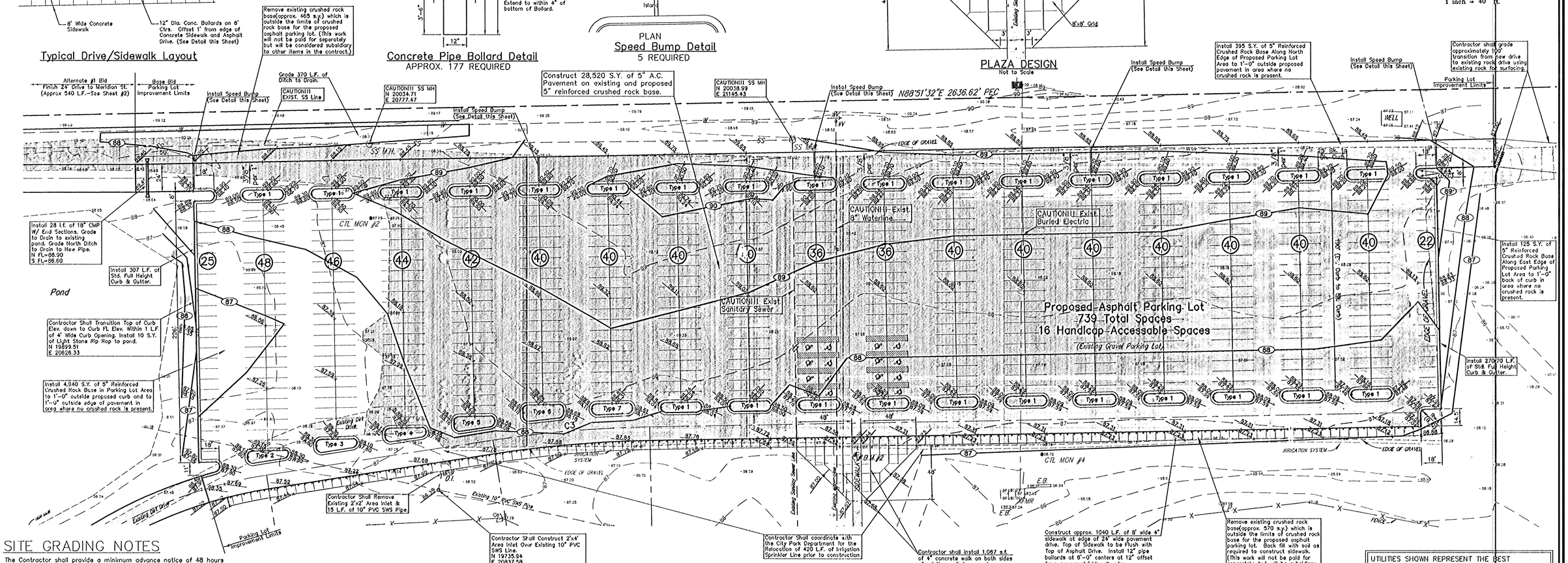
ELEVATION



PLAZA DESIGN
Not to Scale

NOTE:
Proposed top of pavement grades are approximately 5" above the existing crushed rock base. Contractor shall fine grade existing rock base and ensure positive sheet flow surface drainage in conformance to the grades and contours shown on this plan. Fine grading shall not be paid for separately but shall be considered Subsidiary to other items in the contract.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.



SITE GRADING NOTES

The Contractor shall provide a minimum advance notice of 48 hours to utility companies prior to starting construction as follows:

KANSAS ONE CALL 1-800-344-7233 or 687-2470(LOCAL WICHITA)

The Contractor must notify the following in the event of an emergency:

Cox Cable	262-4270 or 263-2061
Southwestern Bell Telephone	1-571-2611
Kansas Gas Service	832-3168
KG&E-Electric	268-4555
Peoples Natural Gas	942-8811
City of Wichita(Water & Sewer)	268-4555

The contractor shall notify pipeline companies at least 24 hours in advance of any work being performed across and/or adjacent to pipelines.

1. Pavement grades shown are to the top of pavement.

2. Existing elevations were provided by others. Contractor shall verify existing grades and notify Engineer of any discrepancies. Elevations are based on City Datum.

3. Contractor shall be responsible for establishing and protecting Benchmarks throughout construction.

4. Contractor shall strip site of topsoil(6" min.) and stockpile this material to be used in grassed areas.

5. Curb at East and West ends of Parking Lot and all Landscape Islands are City of Wichita Standard Combined Curb & Gutter.

6. Compaction of fill material and subgrade stablization shall comply with Geotechnical Engineering Report.

7. All soil used for overexcavation and for backfilling of excavations for basement, tank removal etc. shall be tested for compaction as required by an independent Soils Engineer's recommendations.

8. The Contractor shall examine the construction site before bidding and be satisfied as to the work shown for completion. After bids have been received, the Contractor shall not assert that there was a misunderstanding of the quantities of work or of the nature of work to be completed.

9. All proposed slopes and grades shall be in accordance with ADA Sec. 4.1.3(8)(a)(ii).

G SITE GRADING PLAN

GRADING LEGEND

- 87.23 — Existing Elevation
- 86 — Existing Contour Elevation
- 86.45x / 86.15+ — Proposed Spot Elevation
- 85 — Proposed Contour Elevation
- — Proposed Drainage Flow Direction
- — Proposed Ridge Line

CURVE TABLE (CL DRIVE DATA)				
CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	326.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'08"	441.75
C3	137.05	1000.00	7°51'10"	136.95

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 31st St. S. Elev.=88.62(City Datum)

BENCHMARK #2:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds. Elev.=87.52(City Datum)

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 535 S. EMPORIA, SUITE 104, WICHITA, KS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

LEGEND

W = WATER MAIN	L.P. . . . . LIGHT POLE
SS = SANITARY SEWER	. . . . . GATE POST
SWS = STORM WATER SEWER	. . . . . POWER POLE
UGE = UNDER GROUND ELECTRIC	. . . . . SIGN
B.M. . . . . BENCH MARK	. . . . . TELEPHONE POLE
E.B. . . . . ELECTRIC BOX	XFMR . . . . . ELECTRIC TRANSFORMER
F.H. . . . . FIRE HYDRANT	SS M.H. . . . SANITARY SEWER MANHOLE
W.V. . . . . WATER VALVE	. . . . . EXISTING DIRT DRIVE
G.P. . . . . GUARD POST	. . . . . EXISTING CRUSHED ROCK BASE
. . . . . HIGH LINE POLE	
D.I. . . . . 2' x 2' Area Inlet	

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

SOUTHLAKES PARK
PARKING LOT IMPROVEMENTS
WICHITA, SEDGWICK CO., KANSAS
CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=40'	SHEET 6
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base.dwg	TOTAL 16

Number	Northing	Easting	Elevation	Description
6000	20017.03	20573.98	89.45	EOP
6001	19993.04	20574.45	89.45	EOP
6002	19994.03	20624.44	88.7[illegible]	EOP-FC
6003	19993.53	20624.45	[illegible].20	BC-END
6004	19993.81	20638.45	0.00	BC-RP
6005	19989.89	20642.53	88.90	BC-RP
6006	19985.81	20638.61	0.00	BC-RP
6007	19989.81	20638.53	0.00	CP
6008	19985.53	20624.61	88.80	BC-COR
6009	19872.56	20626.86	86.85	BC-LP
6010	19759.58	20629.11	87.85	BC-COR
6011	19759.87	20643.61	0.00	BC-RP
6012	19756.44	20647.18	0.00	BC-RP
6013	19756.22	20647.18	88.30	BC
6014	19756.01	20647.19	0.00	BC-RP
6015	19752.07	20644.22	0.00	BC-RP
6016	19756.37	20643.68	0.00	CP
6017	19755.93	20643.19	0.00	CP
6018	19748.42	20631.43	88.48	BC-END
6019	19747.94	20631.58	87.98	EOP/FC
6020	19736.46	20635.05	88.35	CTR-DR
6021	19724.96	20638.49	87.98	EOP/SW
6022	19729.33	20654.11	87.58	EOP/SW
6023	19721.58	20656.10	87.5[illegible]	SW-COR
6024	19736.81	20690.16	87.54	EOP-RP
6025	19728.90	20691.41	87.46	SW-RP
6026	19759.38	20676.77	0.00	BC-RP
6027	19763.74	20703.59	0.0[illegible]	BC-RP
6028	19767.77	20706.97	0.0[illegible]	BC-RP
6029	19767.95	20706.96	88.30	BC
6030	19768.13	20706.96	0.00	BC-RP
6031	19770.09	20704.92	0.00	BC-RP
6032	19768.09	20704.96	0.00	CP
6033	19767.69	20702.97	0.00	CP
6034	19769.78	20689.42	88.15	BC
6035	19769.51	20675.93	0.00	BC-RP
6036	19765.43	20672.01	0.00	BC-RP
6037	19764.33	20672.03	88.10	BC
6038	19763.23	20672.05	0.00	BC-RP
6039	19765.51	20676.00	0.00	CP
6040	19763.31	20676.05	0.00	CP
6041	19768.93	20736.39	0.00	BC-RP
6042	19773.19	20763.34	0.00	BC-RP
6043	19777.22	20766.71	0.00	BC-RP
6044	19777.27	20766.71	88.10	BC
6045	19777.32	20766.71	0.00	BC-RP
6046	19780.26	20763.65	0.00	BC-RP
6047	19777.14	20762.71	0.00	CP
6048	19777.26	20763.71	0.00	CP
6049	19779.98	20749.64	87.80	BC
6050	19779.70	20735.62	0.00	BC-RP
6051	19775.62	20731.71	0.00	BC-RP
6052	19774.21	20731.73	88.30	BC
6053	19772.80	20731.76	0.00	BC-RP
6054	19775.70	20735.70	0.00	CP
6055	19772.88	20735.76	0.00	CP
6056	19778.41	20796.32	[illegible]	BC-RP
6057	19782.67	20823.24	0.00	BC-RP
6058	19786.70	20826.61	0.00	BC-RP
6059	19787.52	20826.60	0.00	BC-RP
6060	19787.11	20826.60	88.46	BC
6061	19790.46	20823.54	0.00	BC-RP
6062	19787.46	20823.60	0.00	CP
6063	19786.62	20822.61	0.00	CP
6064	19790.18	20809.54	88.30	BC
6065	19789.90	20795.54	0.00	BC-RP
6066	19785.82	20791.62	0.00	BC-RP
6067	19782.28	20791.69	0.00	BC-RP
6068	19784.05	20791.66	88.12	BC
6069	19785.90	20795.62	0.00	CP
6070	19782.36	20795.69	0.00	CP
6071	19787.88	20856.14	0.00	BC-RP
6072	19792.14	20883.06	0.00	BC-RP
6073	19796.17	20886.44	0.00	BC-RP
6074	19796.71	20886.43	0.00	BC-RP
6075	19796.44	20886.43	88.56	BC
6076	19800.63	20882.35	0.00	BC-RP
6077	19796.63	20882.43	0.00	CP
6078	19796.09	20882.44	0.00	CP
6079	19800.36	20868.85	88.7[illegible]	BC
6080	19800.09	20855.35	0.0[illegible]	BC-RP
6081	19796.01	20851.43	0.00	BC-RP
6082	19791.75	20851.52	0.00	BC-RP
6083	19793.88	20851.47	88.56	BC
6084	19796.09	20855.43	0.00	CP
6085	19791.83	20855.52	0.00	CP
6086	19767.95	20886.93	87.78	EOP/SW
6087	19760.05	20888.18	87.70	SW-RP
6088	19796.78	20915.85	0.00	BC-RP
6089	19799.77	20942.69	0.00	BC-RP
6090	19803.84	20946.30	0.00	BC-RP
6091	19806.90	20946.23	0.00	BC-RP
6092	19810.82	20942.16	0.00	BC-RP
6093	19805.37	20946.26	88.68	BC
6094	19803.76	20942.30	0.00	CP
6095	19806.82	20942.23	0.00	CP
6096	19810.55	20928.66	88.88	BC
6097	19810.28	20915.16	0.00	BC-RP
6098	19806.21	20911.24	0.00	BC-RP
6099	19800.67	20911.35	0.00	BC-RP
6100	19803.44	20911.30	88.68	BC
6101	19806.29	20915.24	0.00	CP
6102	19800.75	20915.35	0.00	CP
6103	19802.45	20975.51	0.00	BC-RP
6104	19803.84	21002.38	0.00	BC-RP
6105	19807.92	21006.23	0.00	BC-RP
6106	19808.10	21006.22	0.00	BC-RP
6107	19812.02	21002.14	0.00	BC-RP
6108	19808.01	21006.22	88.61	BC
6109	19808.02	21002.22	0.00	CP
6110	19807.84	21002.23	0.00	CP
6111	19811.75	20988.65	88.81	BC
6112	19811.48	20975.15	0.00	BC-RP
6113	19807.40	20971.23	0.00	BC-RP
6114	19806.36	20971.25	0.00	BC-RP
6115	19806.88	20971.24	88.61	BC
6116	19779.90	21021.70	87.81	EOP/SW
6117	19771.90	21021.86	87.73	SW-RP
6118	19748.66	20688.29	0.00	CTR DR
6119	19779.80	20885.05	0.00	CTR DR
6120	19791.90	21021.46	0.00	CTR DR
6121	19804.68	21035.30	0.00	BC-RP
6122	19805.21	21062.29	0.00	BC-RP
6123	19809.29	21066.21	88.54	BC-RP
6124	19813.21	21062.13	0.00	BC-RP
6125	19809.21	21062.21	0.00	CP
6126	19812.94	21048.63	88.74	BC
6127	19812.67	21035.14	0.00	BC-RP
6128	19808.60	21031.22	88.54	BC-RP
6129	19808.68	21035.22	0.00	CP
6130	19805.87	21095.28	0.00	BC-RP
6131	19806.41	21122.28	0.00	BC-RP
6132	19810.49	21126.20	88.5[illegible]	BC-RP
6133	19814.41	21122.12	0.00	BC-RP
6134	19810.41	21122.20	0.00	CP
6135	19814.14	21108.62	88.70	BC
6136	19813.87	21095.12	0.00	BC-RP
6137	19809.79	21091.21	88.50	BC-RP
6138	19809.87	21095.20	0.00	CP
6139	19774.44	21149.29	87.56	SW-COR
6140	19771.44	21149.35	0.00	SW-COR
6141	19749.39	21172.13	87.00	SW
6142	19727.34	21194.91	0.00	SW-COR
6143	19727.40	21197.91	87.57	SW-COR
6144	19766.92	21173.40	0.00	SW-COR
6145	19767.24	21189.39	0.00	SW-COR
6146	19751.24	21189.66	0.00	SW-COR
6147	19751.08	21181.60	0.00	SW-COR
6148	19758.92	21173.50	0.00	SW-COR
6149	19775.40	21197.28	87.36	SW
6150	19775.55	21205.13	87.44	SW
6151	19767.71	21213.24	0.00	SW-COR
6152	19768.03	21229.24	0.00	SW-COR
6153	19760.03	21229.35	0.00	SW-COR
6154	19751.87	21221.46	0.00	SW-COR

Number	Northing	Easting	Elevation	Description
6155	19751.71	21213.51	0.00	SW-COR
6156	19727.56	21205.79	87.65	SW-COR
6157	19727.62	21208.79	0.00	SW-COR
6158	19750.56	21230.99	87.08	SW
6159	19773.51	21253.[illegible]	0.00	SW-COR
6160	19776.51	21253.[illegible]	87.23	SW-COR
6161	19807.07	21155.[illegible]	0.00	BC-RP
6162	19807.60	21182.27	0.00	BC-RP
6163	19811.68	21186.19	88.28	BC-RP
6164	19815.60	21182.11	0.00	BC-RP
6165	19811.60	21182.19	0.00	CP
6166	19815.33	21168.61	88.48	BC
6167	19815.06	21155.11	0.00	BC-RP
6168	19810.99	21151.19	88.28	BC-RP
6169	19811.07	21155.19	0.00	CP
6170	19808.26	21215.26	0.00	BC-RP
6171	19808.80	21242.26	0.00	BC-RP
6172	19816.80	21242.10	0.00	BC-RP
6173	19812.88	21246.17	88.09	BC-RP
6174	19812.80	21242.18	0.00	CP
6175	19816.53	21228.60	88.29	BC
6176	19816.26	21215.10	0.00	BC-RP
6177	19812.18	21211.18	88.09	BC-RP
6178	19812.26	21215.18	0.00	CP
6179	19809.46	21275.25	0.00	BC-RP
6180	19809.99	21302.24	0.00	BC-RP
6181	19817.99	21302.08	0.00	BC-RP
6182	19814.07	21306.16	88.09	BC-RP
6183	19813.99	21[illegible]02.16	0.00	CP
6184	19817.72	21[illegible]88.59	88.29	BC
6185	19817.45	21[illegible]75.09	0.00	BC-RP
6186	19813.38	21[illegible]71.[illegible]	88.09	BC-RP
6187	19813.45	21[illegible]75.17	0.00	CP
6188	19810.65	21[illegible]35.24	0.00	BC-RP
6189	19811.19	21362.23	0.00	BC-RP
6190	19815.27	21366.15	88.09	BC-RP
6191	19819.19	21362.07	88.09	BC-RP
6192	19815.19	21362.15	0.00	CP
6193	19818.92	21348.57	88.29	BC
6194	19818.65	21335.08	0.00	BC-RP
6195	19814.57	21331.16	88.09	BC-RP
6196	19814.65	21335.16	0.00	CP
6197	19811.85	21395.22	0.00	BC-RP
6198	19812.38	21422.22	0.00	BC-RP
6199	19816.46	21426.14	88.09	BC-RP
6200	19820.38	21422.06	0.00	BC-RP
6201	19816.38	21422.14	0.00	CP
6202	19820.11	21408.56	88.29	BC
6203	19819.84	21395.07	0.00	BC-RP
6204	19815.77	21391.15	88.09	BC-RP
6205	19815.84	21395.15	0.00	CP
6206	19813.04	21455.21	0.00	BC-RP
6207	19813.58	21482.21	0.00	CP
6208	19817.66	21486.13	88.09	BC-RP
6209	19821.58	21482.05	0.00	BC-RP
6210	19817.58	21482.13	0.00	CP
6211	19821.31	21468.55	88.29	BC
6212	19821.04	21455.[illegible]	0.00	BC-RP
6213	19816.96	21451.[illegible]	88.09	BC-RP
6214	19817.04	21455.13	0.00	CP
6215	19814.24	21515.20	0.00	BC-RP
6216	19814.77	21542.20	0.00	BC-RP
6217	19818.85	21546.12	88.09	BC-RP
6218	19822.77	21542.04	0.00	BC-RP
6219	19818.77	21542.12	0.00	CP
6220	19822.50	21528.54	88.29	BC
6221	19822.23	21515.04	0.00	BC-RP
6222	19818.16	21511.12	88.09	BC-RP
6223	19818.23	21515.12	0.00	CP
6224	19815.43	21575.19	0.00	BC-RP
6225	19815.97	21602.18	0.00	BC-RP
6226	19823.97	21602.02	0.00	BC-RP
6227	19820.05	21606.10	88.09	BC-RP
6228	19819.97	21602.10	0.00	CP
6229	19823.70	21588.53	88.29	BC
6230	19823.43	21575.03	0.00	BC-RP
6231	19819.35	21571.11	88.09	BC-RP
6232	19819.43	21575.11	0.00	CP
6233	19816.63	21635.18	0.00	BC-RP
6234	19817.16	21662.17	0.00	BC-RP
6235	19825.16	21662.01	0.00	BC-RP
6236	19821.24	21[illegible]66.09	87.96	BC-RP
6237	19821.16	21[illegible]62.09	0.00	CP
6238	19824.89	21648.52	87.16	BC
6239	19824.62	21[illegible]35.02	0.00	BC-RP
6240	19820.55	21[illegible]31.10	87.96	BC-RP
6241	19820.62	21[illegible]35.10	0.00	CP
6242	19785.25	21691.81	86.88	SW-COR
6243	19793.25	21691.65	87.54	BC/SW
6244	19793.24	21691.15	87.04	FC/SW
6245	19803.74	21691.44	0.00	BC-RP
6246	19807.82	21695.36	0.00	BC-RP
6247	19806.59	21692.56	87.76	BC-RP
6248	19803.82	21695.44	0.00	CP
6249	19808.10	21709.36	87.96	BC-COR
6250	19916.58	21707.20	88.83	BC
6251	20007.06	21705.40	89.56	BC-COR
6252	20006.78	21691.40	0.00	BC-RP
6253	20014.78	21691.24	0.00	BC-RP
6254	20010.70	21687.32	89.36	BC-RP
6255	20010.78	21691.32	0.00	CP
6256	20015.06	21705.24	89.20	BC-END
6257	20015.56	21705.23	88.70	EOP/FC
6258	20039.56	21704.75	87.95	EOP/SB
6259	20016.56	21755.22	87.60	EOP
6260	20040.55	21754.74	87.00	EOP
6261	20039.19	21686.25	88.12	EOP
6262	20038.35	21644.26	88.45	EOP
6263	20013.86	21644.75	89.70	BC
6264	20014.12	21658.[illegible]	0.00	BC-RP
6265	20010.20	21662.[illegible]	89.50	BC-RP
6266	20006.13	21658.[illegible]	0.00	BC-RP
6267	20010.12	21658.33	0.00	CP
6268	20005.86	21644.91	89.70	BC
6269	20005.59	21631.41	0.00	BC-RP
6270	20009.51	21627.33	89.70	BC-RP
6271	20013.59	21631.25	0.00	BC-RP
6272	20009.59	21631.33	0.00	CP
6273	20037.16	21584.27	88.65	EOP
6274	20012.66	21584.76	89.90	BC
6275	20012.93	21598.26	0.00	BC-RP
6276	20004.93	21598.42	0.00	BC-RP
6277	20009.01	21602.34	89.70	BC-RP
6278	20008.93	21598.34	0.00	CP
6279	20004.66	21584.92	89.64	BC
6280	20004.39	21571.42	0.00	BC-RP
6281	20012.39	21571.27	0.00	BC-RP
6282	20008.31	21567.35	89.70	BC-RP
6283	20008.39	21571.35	0.00	CP
6284	20035.96	21524.29	88.75	EOP
6285	20011.47	21524.77	90.00	BC
6286	20011.73	21538.27	0.00	BC-RP
6287	20003.74	21538.43	0.00	BC-RP
6288	20007.81	21542.35	89.80	BC-RP
6289	20007.74	21[illegible]38.35	0.00	CP
6290	20003.47	21[illegible]24.93	89.72	BC
6291	20003.20	21511.44	0.00	BC-RP
6292	20011.20	21[illegible]11.28	0.00	BC-RP
6293	20007.12	21[illegible]07.36	89.80	BC-RP
6294	20007.20	21511.36	0.00	CP
6295	20034.77	21464.30	88.85	EOP
6296	20010.27	21464.79	90.10	BC
6297	20002.27	21464.95	89.84	BC
6298	20010.54	21478.28	0.00	BC-RP
6299	20002.54	21478.44	0.00	BC-RP
6300	20006.62	21482.36	89.90	BC-RP
6301	20006.54	21478.36	0.00	CP
6302	20002.00	21451.45	0.00	BC-RP
6303	20010.00	21451.29	0.00	BC-RP
6304	20005.92	21447.37	89.90	BC-RP
6305	20006.00	21451.37	0.00	CP
6306	20033.57	21404.31	88.85	EOP/SB
6307	20009.08	21404.80	90.10	BC
6308	20001.08	21404.96	89.84	BC
6309	20009.34	21418.30	0.00	BC-RP

Number	Northing	Easting	Elevation	Description
6310	20001.35	21418.46	0.00	BC-RP
6311	20005.42	21422.37	89.90	BC-RP
6312	20005.35	21418.38	0.00	CP
6313	20000.81	21391.46	0.00	BC-RP
6314	20008.81	21391.30	0.00	BC-RP
6315	20004.73	21387.38	89.90	BC-RP
6316	20004.81	21391.38	0.00	CP
6317	20032.38	21344.32	88.85	EOP
6318	20007.88	21344.81	90.10	BC
6319	19999.88	21344.97	89.84	BC
6320	20008.15	21358.31	0.00	BC-RP
6321	20000.15	21358.47	0.00	BC-RP
6322	20004.23	21362.39	89.90	BC-RP
6323	19999.61	21331.47	0.00	BC-RP
6324	20007.61	21331.31	0.00	BC-RP
6325	20003.53	21327.39	89.90	BC-RP
6326	20003.61	21331.39	0.00	CP
6327	20004.15	21358.39	0.00	CP
6328	20031.18	21284.33	88.85	EOP
6329	20006.69	21284.82	90.10	BC
6330	19998.69	21284.98	89.84	BC
6331	19998.96	21298.48	0.00	BC-RP
6332	20006.95	21298.32	0.00	BC-RP
6333	20003.03	21302.40	89.90	BC-RP
6334	20002.96	21298.40	0.00	CP
6335	20002.42	21271.40	0.00	CP
6336	19998.42	21271.48	0.00	BC-RP
6337	20006.42	21271.33	0.00	BC-RP
6338	20002.34	21267.41	89.90	BC-RP
6339	20029.99	21224.35	88.95	EOP
6340	20005.49	21224.83	90.20	BC
6341	19997.49	21224.99	89.94	BC
6342	19997.76	21238.49	0.00	BC-RP
6343	20005.76	21238.33	0.00	BC-RP
6344	20001.84	21242.41	90.00	BC-RP
6345	20001.76	21238.41	0.00	CP
6346	20001.22	21211.42	0.00	CP
6347	19997.22	21211.50	0.00	BC-RP
6348	20005.22	21211.34	0.00	BC-RP
6349	20001.14	21207.42	90.00	BC-RP
6350	20028.79	21164.36	89.35	EOP/SB
6351	20004.30	21164.85	90.60	BC
6352	19996.30	21165.01	90.36	BC
6353	19996.57	21178.50	0.00	BC-RP
6354	20004.56	21178.34	0.00	BC-RP
6355	20000.64	21182.42	90.40	BC-RP
6356	20000.57	21178.42	0.00	CP
6357	20004.03	21151.35	0.00	BC-RP
6358	19996.03	21151.51	0.00	BC-RP
6359	19999.95	21147.43	90.40	BC-RP
6360	20000.03	21151.43	0.00	CP
6361	20027.60	21104.37	89.65	EOP
6362	20003.10	21104.86	90.90	BC
6363	19995.10	21105.02	90.60	BC
6364	19995.37	21118.51	0.00	BC-RP
6365	20003.37	21118.36	0.00	BC-RP
6366	19999.45	21122.43	90.70	BC-RP
6367	19999.37	21118.44	0.00	CP
6368	19998.83	21091.44	0.00	CP
6369	19994.83	21091.52	0.00	BC-RP
6370	20002.83	21091.36	0.00	BC-RP
6371	19998.75	21087.44	90.70	BC-RP
6372	20026.40	21044.38	89.75	EOP
6373	20001.91	21044.87	91.00	BC
6374	19993.91	21045.03	90.74	BC
6375	19994.18	21058.53	0.00	BC-RP
6376	20002.17	21058.37	0.00	BC-RP
6377	19998.26	21062.45	90.80	BC-RP
6378	19998.18	21058.45	0.00	CP
6379	19997.64	21031.45	0.00	CP
6380	20001.64	21031.37	0.00	BC-RP
6381	19993.64	21031.53	0.00	BC-RP
6382	19997.56	21027.45	90.80	BC-RP
6383	20025.21	20984.39	89.45	EOP
6384	20001.21	20984.87	90.70	BC
6385	19992.71	20985.04	90.44	BC
6386	19992.98	20998.54	0.00	BC-RP
6387	20000.98	20998.38	0.00	BC-RP
6388	19997.06	21002.46	90.50	BC-RP
6389	19996.98	20998.46	0.00	CP
6390	19996.44	20971.46	0.00	CP
6391	19992.44	20971.54	0.00	BC-RP
6392	20000.44	20971.38	0.00	BC-RP
6393	19996.36	20967.47	90.50	BC-RP
6394	20024.01	20924.41	89.15	EOP/SB
6395	19999.52	20924.89	90.40	BC
6396	19991.52	20925.05	90.08	BC
6397	19991.79	20938.55	0.00	BC-RP
6398	19999.78	20938.39	0.00	BC-RP
6399	19995.87	20942.47	90.20	BC-RP
6400	19995.79	20938.47	0.00	CP
6401	19999.25	20911.40	0.00	BC-RP
6402	19991.25	20911.56	0.00	BC-RP
6403	19995.17	20907.48	90.20	BC-RP
6404	19995.25	20911.48	0.00	CP
6405	20022.82	20864.42	88.75	EOP
6406	19998.32	20864.91	90.00	BC
6407	19990.32	20865.07	90.00	BC
6408	19990.59	20878.56	0.00	BC-RP
6409	19998.59	20878.40	0.00	BC-RP
6410	19994.67	20882.48	90.10	BC-RP
6411	19994.59	20878.48	0.00	CP
6412	19994.05	20851.49	0.00	CP
6413	19998.05	20851.41	0.00	BC-RP
6414	19990.05	20851.57	0.00	BC-RP
6415	19993.97	20847.49	89.90	BC-RP
6416	20021.62	20804.43	88.45	EOP
6417	19997.13	20804.92	89.70	BC
6418	19989.13	20805.08	89.70	BC
6419	19989.40	20818.57	0.00	BC-RP
6420	19997.39	20818.41	0.00	BC-RP
6421	19993.48	20822.49	89.80	BC-RP
6422	19996.86	20791.42	0.00	BC-RP
6423	19988.86	20791.58	0.00	BC-RP
6424	19992.78	20787.50	89.60	BC-RP
6425	19992.86	20791.50	0.00	CP
6426	19993.40	20818.49	0.00	CP
6427	20020.43	20744.44	88.15	EOP
6428	19995.93	20744.93	89.40	BC
6429	19987.93	20745.09	89.40	BC
6430	19988.20	20758.59	0.00	BC-RP
6431	19996.20	20758.43	0.00	BC-RP
6432	19995.66	20731.43	0.00	BC-RP
6433	19987.66	20731.59	0.00	BC-RP
6434	19992.28	20762.51	89.50	BC-RP
6435	19991.58	20727.51	89.30	BC-RP
6436	19992.20	20758.51	0.00	CP
6437	19991.66	20731.51	0.00	CP
6438	20019.23	20684.45	88.05	EOP
6439	19994.74	20684.94	89.30	BC
6440	19986.74	20685.10	89.10	BC
6441	19987.01	20698.60	0.00	BC-RP
6442	19995.00	20698.44	0.00	BC-RP
6443	19991.09	20702.52	89.20	BC-RP
6444	19991.01	20698.52	0.00	CP
6445	20033.40	21695.70	88.56	EG
6446	19972.91	21695.89	87.91	EG
6447	19906.95	21701.99	87.90	EG
6448	19836.49	21706.73	87.27	EG
6449	19780.41	21709.47	86.29	EG
6450	19746.76	21689.68	85.95	G
6451	20054.55	21700.93	86.87	G
6452	20082.96	21686.83	87.58	G
6453	19709.11	21688.65	87.03	FNC
6454	19695.29	21759.22	87.67	FNC
6455	19672.46	21835.30	87.22	FNC
6456	19738.77	21742.91	86.18	G
6457	19791.87	21738.19	86.12	G
6458	19845.17	21736.17	86.35	G
6459	19802.68	21836.01	85.59	FL
6460	19837.68	21799.71	85.69	FL
6461	19906.90	21729.51	86.08	FL
6462	19952.47	21729.31	86.59	FL
6463	19955.69	21742.30	86.56	G
6464	19980.16	21740.42	86.48	G

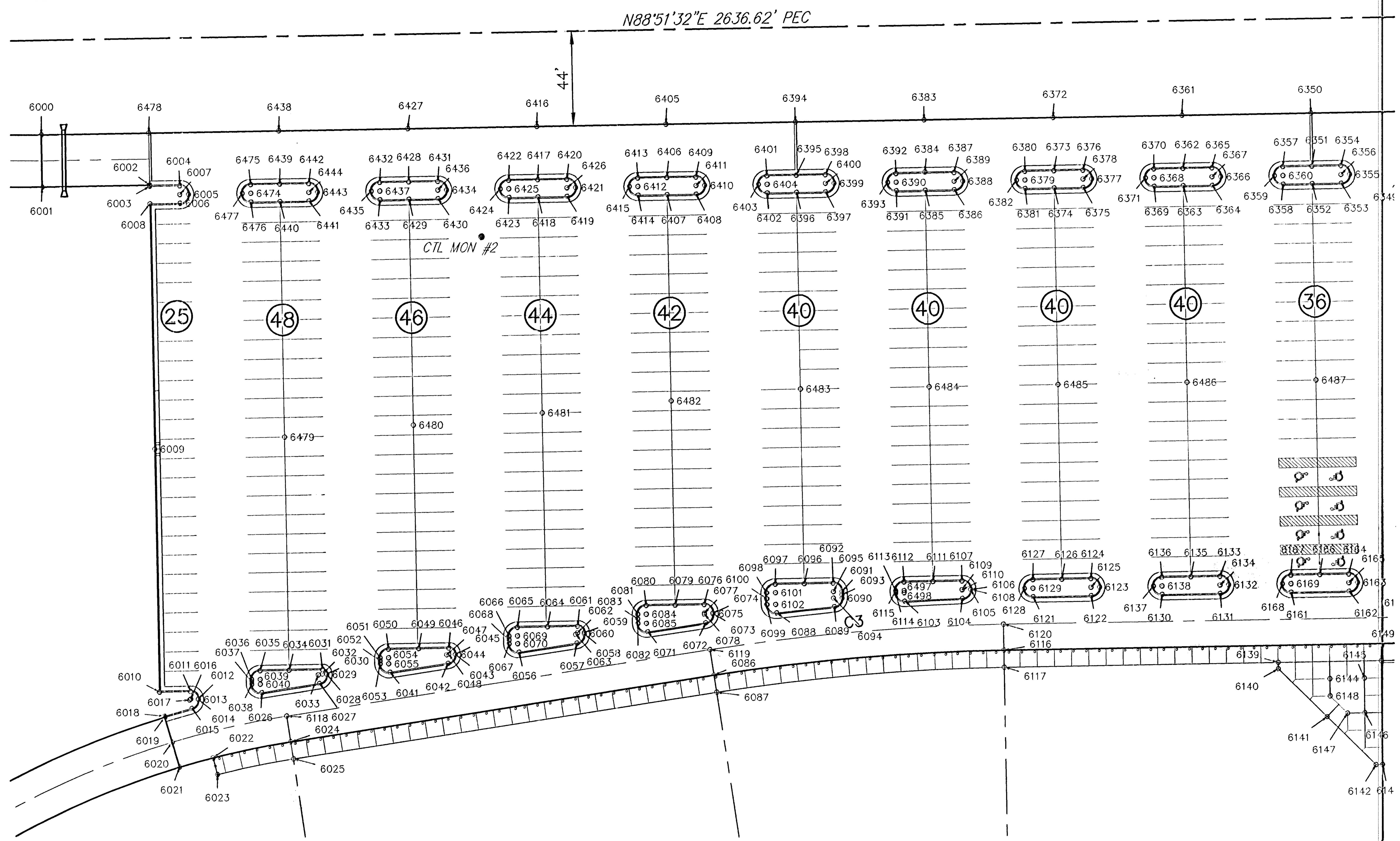
Number	Northing	Easting	Elevation	Description
6465	19985.37	21754.99	86.57	G
6466	20054.03	21750.89	86.50	G
6467	20054.49	21807.30	86.35	G
6468	19982.79	21809.24	86.38	G
6469	19954.98	21805.89	86.59	G
6470	19955.81	21779.18	86.40	G
6471	19916.48	21745.73	86.30	G
6472	19813.14	21754.05	86.31	G
6473	19759.56	21754.84	86.28	G
6474	19990.47	20671.52	0.00	CP
6475	19994.47	20671.44	0.00	BC-RP
6476	19986.47	20671.60	0.00	BC-RP
6477	19990.39	20667.52	89.00	BC-RP
6478	20018.03	20623.97	87.95	EOP/SB
6479	19878.26	20687.26	86.86	TOP
6480	19883.95	20747.16	87.38	TOP
6481	19889.65	20807.06	88.18	TOP
6482	19895.34	20866.96	88.50	TOP
6483	19901.04	20926.86	88.96	TOP
6484	19902.23	20986.84	89.32	TOP
6485	19903.43	21046.83	89.11	TOP
6486	19904.62	21106.82	89.02	TOP
6487	19905.82	21166.81	88.60	TOP
6488	19907.01	21226.80	88.60	TOP
6489	19908.21	21286.78	88.60	TOP
6490	19909.40	21346.77	88.60	TOP
6491	19910.60	21406.76	88.60	TOP
6492	19911.79	21466.75	88.60	TOP
6493	19912.98	21526.74	88.60	TOP
6494	19914.18	21586.72	88.60	TOP
6495	19915.37	21646.71	88.60	TOP
6496	19916.21	21688.70	88.13	TOP

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 535 S. EMPORIA, SUITE 104, WICHITA, KS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S.
Elev.=88.62(City Datum)
BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds.
Elev.=87.52(City Datum)

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.



BC=Back of Curb
BC-COR=Back of Curb @ Corner
BC-END=End Back of Curb
BC-RP=Back of curb @ Radius Point
BC/SW=Back of Curb @ Sidewalk
CP=Center Point of Radius
CTR-DR=Center of Drive
EOP/FC=Edge of Pavement @ Face of Curb
EOP/SB=Edge of Pavement @ Speed Bump
EOP-RP=Edge of Pavement Radius Point
EOP/SW=Edge of Pavement @ Sidewalk
FC/EOP=Face of Curb @ Edge of Pavement
TOP=Top of Pavement
SW-COR=Corner of Sidewalk
SW-RP=Sidewalk Radius Point
SW=Sidewalk

NOTE:
Points with an elevation of 0.00 have not been assigned an elevation on the grading plan. Utilize elevation on nearest point. If required, interpolate elevation between next nearest points as shown on the grading plan.

CURVE TABLE (CL DRIVE DATA)

CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	326.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'06"	441.75
C3	137.05	1000.00	7°51'10"	136.95

SURVEY CONTROL MONUMENTS

CM #1	N–20000.000 E–20000.000	1/2" Rebar W/ Savoy Cap
CM #2	N–19970.731 E–20778.736	1/2" Rebar W/ Savoy Cap
CM #3	N–19284.293 E–20225.224	1/2" Rebar W/ Savoy Cap
CM #4	N–19768.532 E–21362.240	1/2" Rebar W/ Savoy Cap
CM #5	N–20106.150 E–21914.570	1/2" Rebar W/ Savoy Cap

SOUTHLAKES PARK
PARKING LOT CONTROL PLAN
WICHITA, SEDGWICK CO., KANSAS
CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.
CED
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=30'	SHEET 7
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base.dwg	TOTAL 16

Number	Northing	Easting	Elevation	Description
6000	20017.03	20573.98	89.45	EOP
6001	19993.04	20574.45	89.45	EOP
6002	19994.03	20624.44	88.70	EOP-FC
6003	19993.53	20624.45	89.20	BC-END
6004	19993.81	20638.45	0.00	BC-RP
6005	19989.89	20642.53	88.90	BC-RP
6006	19985.81	20638.61	0.00	BC-RP
6007	19989.81	20638.53	0.00	CP
6008	19985.53	20624.61	88.80	BC-COR
6009	19872.56	20626.86	86.85	BC-LP
6010	19759.58	20629.11	87.85	BC-COR
6011	19759.87	20643.61	0.00	BC-RP
6012	19756.44	20647.18	0.00	BC-RP
6013	19756.22	20647.18	88.30	BC
6014	19756.01	20647.19	0.00	BC-RP
6015	19752.07	20644.22	0.00	BC-RP
6016	19756.37	20643.68	0.00	CP
6017	19755.93	20643.19	0.00	CP
6018	19748.42	20631.43	88.48	BC-END
6019	19747.94	20631.58	87.98	EOP/FC
6020	19736.46	20635.05	88.35	CTR-DR
6021	19724.96	20638.49	87.98	EOP/SW
6022	19729.33	20654.11	87.58	EOP/SW
6023	19721.58	20656.10	87.50	SW-COR
6024	19736.81	20690.16	87.54	EOP-RP
6025	19728.90	20691.41	87.46	SW-RP
6026	19759.38	20676.77	0.00	BC-RP
6027	19763.74	20703.59	0.00	BC-RP
6028	19767.77	20706.97	0.00	BC-RP
6029	19767.95	20706.96	88.30	BC
6030	19768.13	20706.96	0.00	BC-RP
6031	19770.09	20704.92	0.00	BC-RP
6032	19768.09	20704.96	0.00	CP
6033	19767.69	20702.97	0.00	CP
6034	19769.78	20689.42	88.15	BC
6035	19769.51	20675.93	0.00	BC-RP
6036	19765.43	20672.01	0.00	BC-RP
6037	19764.33	20672.03	88.10	BC
6038	19763.23	20672.05	0.00	BC-RP
6039	19765.51	20676.00	0.00	CP
6040	19763.31	20676.05	0.00	CP
6041	19768.93	20736.39	0.00	BC-RP
6042	19773.19	20763.34	0.00	BC-RP
6043	19777.22	20766.71	0.00	BC-RP
6044	19777.27	20766.71	88.10	BC
6045	19777.32	20766.71	0.00	BC-RP
6046	19780.26	20763.65	0.00	BC-RP
6047	19777.14	20762.71	0.00	CP
6048	19777.26	20763.71	0.00	CP
6049	19779.98	20749.64	87.80	BC
6050	19779.70	20735.62	0.00	BC-RP
6051	19775.62	20731.71	0.00	BC-RP
6052	19774.21	20731.73	88.30	BC
6053	19772.80	20731.76	0.00	BC-RP
6054	19775.70	20735.70	0.00	CP
6055	19772.88	20735.76	0.00	CP
6056	19778.41	20796.32	0.00	BC-RP
6057	19782.67	20823.24	0.00	BC-RP
6058	19786.70	20826.61	0.00	BC-RP
6059	19787.52	20826.60	0.00	BC-RP
6060	19787.11	20826.60	88.46	BC
6061	19790.46	20823.54	0.00	BC-RP
6062	19787.46	20823.60	0.00	CP
6063	19786.62	20822.61	0.00	CP
6064	19790.18	20809.54	88.30	BC
6065	19789.90	20795.54	0.00	BC-RP
6066	19785.82	20791.62	0.00	BC-RP
6067	19782.28	20791.69	0.00	BC-RP
6068	19784.05	20791.66	88.12	BC
6069	19785.90	20795.62	0.00	CP
6070	19782.36	20795.69	0.00	CP
6071	19787.88	20856.14	0.00	BC-RP
6072	19792.14	20883.06	0.00	BC-RP
6073	19796.17	20886.44	0.00	BC-RP
6074	19796.71	20886.43	0.00	BC-RP
6075	19796.44	20886.43	88.56	BC
6076	19800.63	20882.35	0.00	BC-RP
6077	19796.63	20882.43	0.00	CP
6078	19796.09	20882.44	0.00	CP
6079	19800.36	20868.85	88.76	BC
6080	19800.09	20855.35	0.00	BC-RP
6081	19796.01	20851.43	0.00	BC-RP
6082	19791.75	20851.52	0.00	BC-RP
6083	19793.88	20851.47	88.56	BC
6084	19796.09	20855.43	0.00	CP
6085	19791.83	20855.52	0.00	CP
6086	19767.95	20886.93	87.78	EOP/SW
6087	19760.05	20888.18	87.70	SW-RP
6088	19796.78	20915.85	0.00	BC-RP
6089	19799.77	20942.69	0.00	BC-RP
6090	19803.84	20946.30	0.00	BC-RP
6091	19806.90	20946.23	0.00	BC-RP
6092	19810.82	20942.16	0.00	BC-RP
6093	19805.37	20946.26	88.68	BC
6094	19803.76	20942.30	0.00	CP
6095	19806.82	20942.23	0.00	CP
6096	19810.55	20928.66	88.88	BC
6097	19810.28	20915.16	0.00	BC-RP
6098	19806.21	20911.[illegible]	0.00	BC-RP
6099	19800.67	20911.35	0.00	BC-RP
6100	19803.44	20911.30	88.68	BC
6101	19806.29	20915.24	0.00	CP
6102	19800.75	20915.35	0.00	CP
6103	19802.45	20975.51	0.00	BC-RP
6104	19803.84	21002.38	0.00	BC-RP
6105	19807.92	21006.23	0.00	BC-RP
6106	19808.10	21006.22	0.00	BC-RP
6107	19812.02	21002.14	0.00	BC-RP
6108	19808.01	21006.22	88.61	BC
6109	19808.02	21002.22	0.00	CP
6110	19807.84	21002.23	0.00	CP
6111	19811.75	20988.65	88.81	BC
6112	19811.48	20975.15	0.00	BC-RP
6113	19807.40	20971.23	0.00	BC-RP
6114	19806.36	20971.25	0.00	BC-RP
6115	19806.88	20971.24	88.61	BC
6116	19779.90	21021.70	87.81	EOP/SW
6117	19771.90	21021.86	87.73	SW-RP
6118	19748.66	20688.29	0.00	CTR DR
6119	19779.80	20885.05	0.00	CTR DR
6120	19791.90	21021.46	0.00	CTR DR
6121	19804.68	21035.30	0.00	BC-RP
6122	19805.21	21062.29	0.00	BC-RP
6123	19809.29	21066.21	88.54	BC-RP
6124	19813.21	21062.13	0.00	BC-RP
6125	19809.21	21062.21	0.00	CP
6126	19812.94	21048.63	88.74	BC
6127	19812.67	21035.14	0.00	BC-RP
6128	19808.60	21031.22	88.54	BC-RP
6129	19808.68	21035.22	0.00	CP
6130	19805.87	21095.28	0.00	BC-RP
6131	19806.41	21122.28	0.00	BC-RP
6132	19810.49	21126.20	88.50	BC-RP
6133	19814.41	21122.12	0.00	BC-RP
6134	19810.41	21122.20	0.00	CP
6135	19814.14	21108.62	88.70	BC
6136	19813.87	21095.12	0.00	BC-RP
6137	19809.79	21091.21	88.50	BC-RP
6138	19809.87	21095.20	0.00	CP
6139	19774.44	21149.29	87.56	SW-COR
6140	19771.44	21149.35	0.00	SW-COR
6141	19749.39	21172.13	87.00	SW
6142	19727.34	21194.91	0.00	SW-COR
6143	19727.40	21197.91	87.57	SW-COR
6144	19766.92	21173.40	0.00	SW-COR
6145	19767.24	21189.39	0.00	SW-COR
6146	19751.24	21189.66	0.00	SW-COR
6147	19751.08	21181.60	0.00	SW-COR
6148	19758.92	21173.50	0.00	SW-COR
6149	19775.40	21197.28	87.36	SW
6150	19775.55	21205.13	87.44	SW
6151	19767.71	21213.24	0.00	SW-COR
6152	19768.03	21229.24	0.00	SW-COR
6153	19760.03	21229.35	0.00	SW-COR
6154	19751.87	21221.46	0.00	SW-COR

Number	Northing	Easting	Elevation	Description
6155	19751.71	21213.51	0.00	SW-COR
6156	19727.56	21205.79	87.65	SW-COR
6157	19727.62	21208.79	0.00	SW-COR
6158	19750.56	21230.99	87.08	SW
6159	19773.51	21253.18	0.00	SW-COR
6160	19776.51	21253.12	87.23	SW-COR
6161	19807.07	21155.27	0.00	BC-RP
6162	19807.60	21182.27	0.00	BC-RP
6163	19811.68	21186.19	88.28	BC-RP
6164	19815.60	21182.11	0.00	BC-RP
6165	19811.60	21182.19	0.00	CP
6166	19815.33	21168.61	88.48	BC
6167	19815.06	21155.11	0.00	BC-RP
6168	19810.99	21151.19	88.28	BC-RP
6169	19811.07	21155.19	0.00	CP
6170	19808.26	21215.26	0.00	BC-RP
6171	19808.80	21242.26	0.00	BC-RP
6172	19816.80	21242.10	0.00	BC-RP
6173	19812.83	21246.17	88.09	BC-RP
6174	19812.80	21242.18	0.00	CP
6175	19816.53	21228.60	88.29	BC
6176	19816.25	21215.10	0.00	BC-RP
6177	19812.[illegible]	21211.18	88.09	BC-RP
6178	19812.26	21215.18	0.00	CP
6179	19809.46	21275.25	0.00	BC-RP
6180	19809.99	21302.24	0.00	BC-RP
6181	19817.99	21302.08	0.00	BC-RP
6182	19814.07	21306.16	88.09	BC-RP
6183	19813.99	21302.16	0.00	CP
6184	19817.72	21288.59	88.29	BC
6185	19817.45	21275.09	0.00	BC-RP
6186	19813.38	21271.17	88.09	BC-RP
6187	19813.45	21275.17	0.00	CP
6188	19810.65	21335.24	0.00	BC-RP
6189	19811.19	21362.23	0.00	BC-RP
6190	19815.27	21366.15	88.09	BC-RP
6191	19819.19	21362.07	88.09	BC-RP
6192	19815.19	21362.15	0.00	CP
6193	19818.92	21348.57	88.29	BC
6194	19818.65	21335.08	0.00	BC-RP
6195	19814.57	21331.16	88.09	BC-RP
6196	19814.65	21335.16	0.00	CP
6197	19811.85	21395.22	0.00	BC-RP
6198	19812.38	21422.22	0.00	BC-RP
6199	19816.46	21426.14	88.09	BC-RP
6200	19820.38	21422.06	0.00	BC-RP
6201	19816.38	21422.14	0.00	CP
6202	19820.11	21408.56	88.29	BC
6203	19819.84	21395.07	0.00	BC-RP
6204	19815.77	21391.15	88.09	BC-RP
6205	19815.84	21395.15	0.00	CP
6206	19813.04	21455.21	0.00	BC-RP
6207	19813.58	21482.21	0.00	BC-RP
6208	19817.66	21486.13	88.09	BC-RP
6209	19821.58	21482.05	0.00	BC-RP
6210	19817.58	21482.13	0.00	CP
6211	19821.31	21468.55	88.29	BC
6212	19821.04	21455.05	0.00	BC-RP
6213	19816.96	21451.13	88.09	BC-RP
6214	19817.04	21455.13	0.00	CP
6215	19814.24	21515.20	0.00	BC-RP
6216	19814.77	21542.20	0.00	BC-RP
6217	19818.85	21546.12	88.09	BC-RP
6218	19822.77	21542.04	0.00	BC-RP
6219	19818.77	21542.12	0.00	CP
6220	19822.50	21528.54	88.29	BC
6221	19822.23	21515.04	0.00	BC-RP
6222	19818.16	21511.12	88.09	BC-RP
6223	19818.23	21515.12	0.00	CP
6224	19815.43	21575.19	0.00	BC-RP
6225	19815.97	21602.18	0.00	BC-RP
6226	19823.97	21602.02	0.00	BC-RP
6227	19820.05	21606.10	88.09	BC-RP
6228	19819.97	21602.10	0.00	CP
6229	19823.[illegible]	21588.53	88.29	BC
6230	19823.[illegible]	21575.03	0.00	BC-RP
6231	19819.35	21571.11	88.09	BC-RP
6232	19819.43	21575.11	0.00	CP
6233	19816.63	21635.18	0.00	BC-RP
6234	19817.16	21662.17	0.00	BC-RP
6235	19825.16	21662.01	0.00	BC-RP
6236	19821.24	21666.09	87.96	BC-RP
6237	19821.16	21662.09	0.00	CP
6238	19824.89	21648.52	87.16	BC
6239	19824.62	21635.02	0.00	BC-RP
6240	19820.55	21631.10	87.96	BC-RP
6241	19820.62	21635.10	0.00	CP
6242	19785.25	21691.81	86.88	SW-COR
6243	19793.25	21691.65	87.54	BC/SW
6244	19793.24	21691.15	87.04	FC/SW
6245	19803.74	21691.44	0.00	BC-RP
6246	19807.82	21695.36	0.00	BC-RP
6247	19806.59	21692.56	87.76	BC-RP
6248	19803.82	21695.44	0.00	CP
6249	19808.10	21709.36	87.96	BC-COR
6250	19916.58	21707.20	88.83	BC
6251	20007.06	21705.40	89.56	BC-COR
6252	20006.78	21691.40	0.00	BC-RP
6253	20014.78	21691.24	0.00	BC-RP
6254	20010.70	21687.32	89.36	BC-RP
6255	20010.78	21691.32	0.00	CP
6256	20015.06	21705.24	89.20	BC-END
6257	20015.56	21705.23	88.70	EOP/FC
6258	20039.56	21704.75	87.95	EOP/SB
6259	20016.56	21755.22	87.60	EOP
6260	20040.55	21754.74	87.00	EOP
6261	20039.19	21686.25	88.12	EOP
6262	20038.35	21644.26	88.45	EOP
6263	20013.86	21644.75	89.70	BC
6264	20014.12	21658.25	0.00	BC-RP
6265	20010.20	21662.33	89.50	BC-RP
6266	20006.13	21658.41	0.00	BC-RP
6267	20010.12	21658.33	0.00	CP
6268	20005.86	21644.91	89.70	BC
6269	20005.59	21631.41	0.00	BC-RP
6270	20009.51	21627.33	89.70	BC-RP
6271	20013.59	21631.25	0.00	BC-RP
6272	20009.59	21631.33	0.00	CP
6273	20037.16	21584.27	88.65	EOP
6274	20012.66	21584.76	89.90	BC
6275	20012.93	21598.26	0.00	BC-RP
6276	20004.93	21598.42	0.00	BC-RP
6277	20009.01	21602.34	89.70	BC-RP
6278	20008.93	21598.34	0.00	CP
6279	20004.66	21584.92	89.64	BC
6280	20004.39	21571.42	0.00	BC-RP
6281	20012.39	21571.27	0.00	BC-RP
6282	20008.[illegible]	21567.35	89.70	BC-RP
6283	20008.[illegible]	21571.35	0.00	CP
6284	20035.96	21524.29	88.75	EOP
6285	20011.47	21524.77	90.00	BC
6286	20011.73	21538.27	0.00	BC-RP
6287	20003.74	21538.43	0.00	BC-RP
6288	20007.81	21542.35	89.80	BC-RP
6289	20007.74	21538.35	0.00	CP
6290	20003.47	21524.93	89.72	BC
6291	20003.20	21511.44	0.00	BC-RP
6292	20011.20	21511.28	0.00	BC-RP
6293	20007.12	21507.36	89.80	BC-RP
6294	20007.20	21511.36	0.00	CP
6295	20034.77	21464.30	88.85	EOP
6296	20010.27	21464.79	90.10	BC
6297	20002.27	21464.95	89.84	BC
6298	20010.54	21478.28	0.00	BC-RP
6299	20002.54	21478.44	0.00	BC-RP
6300	20006.62	21482.36	89.90	BC-RP
6301	20006.54	21478.36	0.00	CP
6302	20002.00	21451.45	0.00	BC-RP
6303	20010.00	21451.29	0.00	BC-RP
6304	20005.92	21447.37	89.90	BC-RP
6305	20006.00	21451.37	0.00	CP
6306	20033.57	21404.31	88.85	EOP/SB
6307	20009.08	21404.80	90.10	BC
6308	20001.08	21404.96	89.84	BC
6309	20009.34	21418.30	0.00	BC-RP

Number	Northing	Easting	Elevation	Description
6310	20001.35	21418.46	0.00	BC-RP
6311	20005.42	21422.37	89.90	BC-RP
6312	20005.35	21418.38	0.00	CP
6313	20000.81	21391.46	0.00	BC-RP
6314	20008.81	21391.30	0.00	BC-RP
6315	20004.73	21387.38	89.90	BC-RP
6316	20004.81	21391.38	0.00	CP
6317	20032.38	21344.32	88.85	EOP
6318	20007.88	21344.81	90.10	BC
6319	19999.88	21344.97	89.84	BC
6320	20008.15	21358.31	0.00	BC-RP
6321	20000.15	21358.47	0.00	BC-RP
6322	20004.23	21362.39	89.90	BC-RP
6323	19999.61	21331.47	0.00	BC-RP
6324	20007.61	21331.31	0.00	BC-RP
6325	20003.53	21327.39	89.90	BC-RP
6326	20003.61	21331.39	0.00	CP
6327	20004.15	21358.39	0.00	CP
6328	20031.18	21284.33	88.85	EOP
6329	20006.69	21284.82	90.10	BC
6330	19998.69	21284.98	89.84	BC
6331	19998.96	21298.48	0.00	BC-RP
6332	20006.95	21298.32	0.00	BC-RP
6333	20003.03	21302.40	89.90	BC-RP
6334	20002.96	21298.40	0.00	CP
6335	20002.42	21271.40	0.00	CP
6336	19998.42	21271.48	0.00	BC-RP
6337	20006.42	21271.33	0.00	BC-RP
6338	20002.34	21267.41	89.90	BC-RP
6339	20029.99	21224.35	88.95	EOP
6340	20005.49	21224.83	90.20	BC
6341	19997.49	21224.99	89.94	BC
6342	19997.76	21238.49	0.00	BC-RP
6343	20005.76	21238.33	0.00	BC-RP
6344	20001.84	21242.41	90.00	BC-RP
6345	20001.76	21238.41	0.00	CP
6346	20001.22	21211.42	0.00	CP
6347	19997.22	21211.50	0.00	BC-RP
6348	20005.22	21211.34	0.00	BC-RP
6349	20001.14	21207.42	90.00	BC-RP
6350	20028.79	21164.36	89.35	EOP/SB
6351	20004.30	21164.85	90.60	BC
6352	19996.30	21165.01	90.36	BC
6353	19996.57	21178.50	0.00	BC-RP
6354	20004.56	21178.34	0.00	BC-RP
6355	20000.64	21182.42	90.40	BC-RP
6356	20000.57	21178.42	0.00	CP
6357	20004.03	21151.35	0.00	BC-RP
6358	19996.03	21151.51	0.00	BC-RP
6359	19999.95	21147.43	90.40	BC-RP
6360	20000.03	21151.43	0.00	CP
6361	20027.60	21104.37	89.65	EOP
6362	20003.10	21104.86	90.90	BC
6363	19995.10	21105.02	90.60	BC
6364	19995.37	21118.51	0.00	BC-RP
6365	20003.37	21118.36	0.00	BC-RP
6366	19999.45	21122.43	90.70	BC-RP
6367	19999.37	21118.44	0.00	CP
6368	19998.83	21091.44	0.00	CP
6369	19994.83	21091.52	0.00	BC-RP
6370	20002.83	21091.36	0.00	BC-RP
6371	19998.75	21087.44	90.70	BC-RP
6372	20026.40	21044.38	89.75	EOP
6373	20001.91	21044.87	91.00	BC
6374	19993.91	21045.03	90.74	BC
6375	19994.18	21058.53	0.00	BC-RP
6376	20002.17	21058.37	0.00	BC-RP
6377	19998.26	21062.45	90.80	BC-RP
6378	19998.18	21058.45	0.00	CP
6379	19997.64	21031.45	0.00	CP
6380	20001.64	21031.37	0.00	BC-RP
6381	19993.64	21031.53	0.00	BC-RP
6382	19997.56	21027.45	90.80	BC-RP
6383	20025.21	20984.39	89.45	EOP
6384	20001.21	20984.87	90.70	BC
6385	19992.71	20985.04	90.44	BC
6386	19992.98	20998.54	0.00	BC-RP
6387	20000.98	20998.38	0.00	BC-RP
6388	19997.06	21002.46	90.50	BC-RP
6389	19996.98	20998.46	0.00	CP
6390	19996.44	20971.46	0.00	CP
6391	19992.44	20971.54	0.00	BC-RP
6392	20000.44	20971.38	0.00	BC-RP
6393	19996.36	20967.47	90.50	BC-RP
6394	20024.01	20924.41	89.15	EOP/SB
6395	19999.52	20924.89	90.40	BC
6396	19991.52	20925.05	90.08	BC
6397	19991.79	20938.55	0.00	BC-RP
6398	19999.78	20938.39	0.00	BC-RP
6399	19995.87	20942.47	90.20	BC-RP
6400	19995.79	20938.47	0.00	CP
6401	19999.25	20911.40	0.00	BC-RP
6402	19991.25	20911.56	0.00	BC-RP
6403	19995.17	20907.48	90.20	BC-RP
6404	19995.25	20911.48	0.00	CP
6405	20022.82	20864.42	88.75	EOP
6406	19998.32	20864.91	90.00	BC
6407	19990.32	20865.07	90.00	BC
6408	19990.59	20878.56	0.00	BC-RP
6409	19998.59	20878.40	0.00	BC-RP
6410	19994.67	20882.48	90.10	BC-RP
6411	19994.59	20878.48	0.00	CP
6412	19994.05	20851.49	0.00	CP
6413	19998.05	20851.41	0.00	BC-RP
6414	19990.05	20851.57	0.00	BC-RP
6415	19993.97	20847.49	89.90	BC-RP
6416	20021.62	20804.43	88.45	EOP
6417	19997.13	20804.92	89.70	BC
6418	19989.13	20805.08	89.70	BC
6419	19989.40	20818.57	0.00	BC-RP
6420	19997.39	20818.41	0.00	BC-RP
6421	19993.48	20822.49	89.80	BC-RP
6422	19996.86	20791.42	0.00	BC-RP
6423	19988.86	20791.58	0.00	BC-RP
6424	19992.78	20787.50	89.60	BC-RP
6425	19992.86	20791.50	0.00	CP
6426	19993.40	20818.49	0.00	CP
6427	20020.43	20744.44	88.15	EOP
6428	19995.93	20744.93	89.40	BC
6429	19987.93	20745.09	89.40	BC
6430	19988.20	20758.59	0.00	BC-RP
6431	19996.20	20758.43	0.00	BC-RP
6432	19995.66	20731.43	0.00	BC-RP
6433	19987.66	20731.59	0.00	BC-RP
6434	19992.28	20762.51	89.50	BC-RP
6435	19991.58	20727.51	89.30	BC-RP
6436	19992.20	20758.51	0.00	CP
6437	19991.66	20731.51	0.00	CP
6438	20019.23	20684.45	88.05	EOP
6439	19994.74	20684.94	89.30	BC
6440	19986.74	20685.10	89.10	BC
6441	19987.01	20698.60	0.00	BC-RP
6442	19995.00	20698.44	0.00	BC-RP
6443	19991.09	20702.52	89.20	BC-RP
6444	19991.01	20698.52	0.00	CP
6445	20033.40	21695.70	88.56	EG
6446	19972.91	21695.89	87.91	EG
6447	19906.95	21701.99	87.90	EG
6448	19836.49	21706.73	87.27	EG
6449	19780.41	21709.47	86.29	EG
6450	19746.76	21689.68	85.95	G
6451	20054.55	21700.93	86.87	G
6452	20082.96	21686.83	87.58	G
6453	19709.11	21688.65	87.03	FNC
6454	19695.29	21759.22	87.67	FNC
6455	19672.46	21835.30	87.22	FNC
6456	19738.77	21742.91	86.18	G
6457	19791.87	21738.19	86.12	G
6458	19845.17	21736.17	86.35	G
6459	19802.68	21836.01	85.59	FL
6460	19837.68	21799.71	85.69	FL
6461	19906.90	21729.51	86.08	FL
6462	19952.47	21729.31	86.59	FL
6463	19955.69	21742.30	86.56	G
6464	19980.16	21740.42	86.48	G

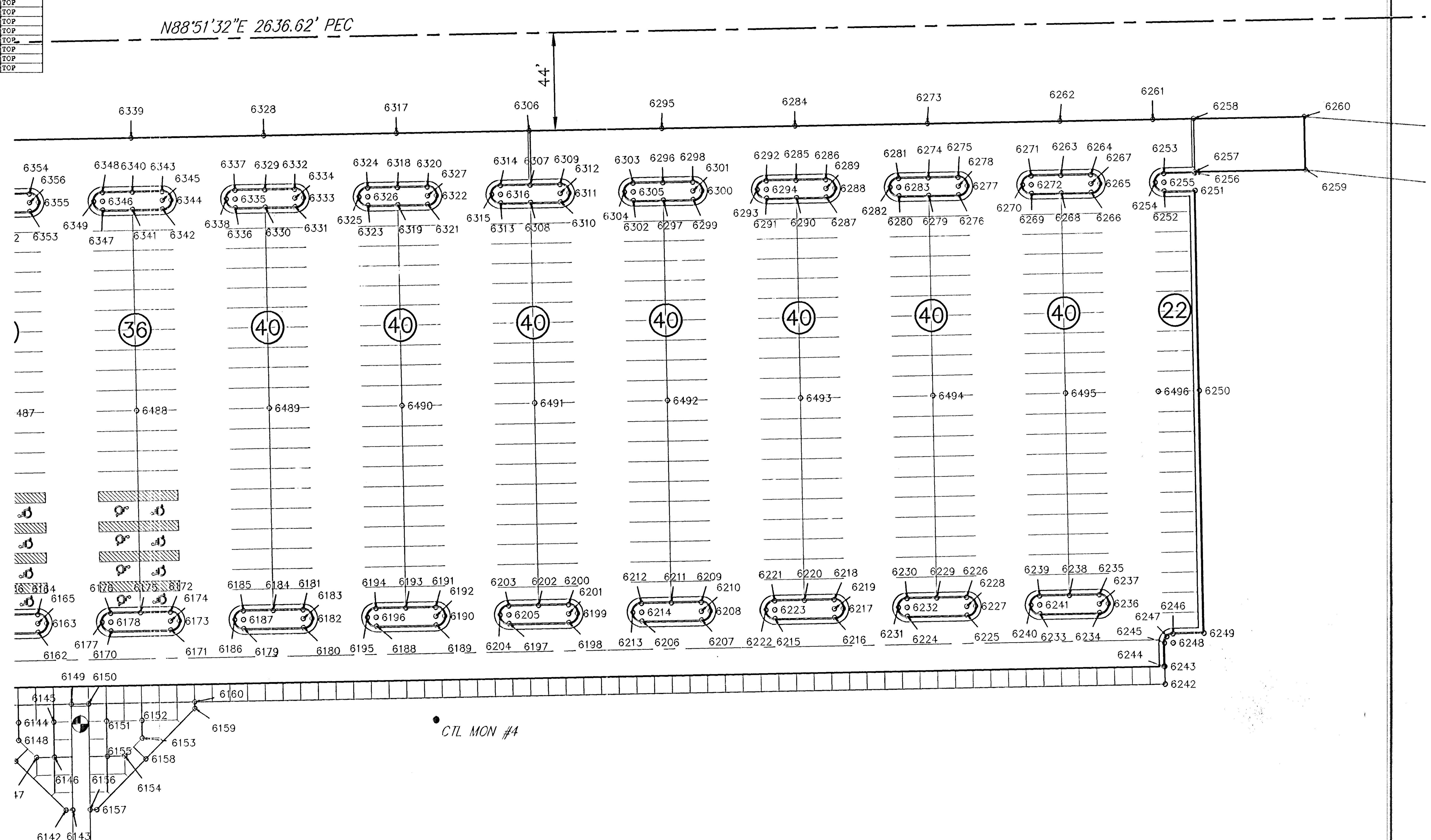
Number	Northing	Easting	Elevation	Description
6465	19985.37	21754.99	86.57	G
6466	20054.03	21750.89	86.50	G
6467	20054.49	21807.30	86.35	G
6468	19982.79	21809.24	86.38	G
6469	19954.98	21805.89	86.59	G
6470	19955.81	21779.18	86.40	G
6471	19916.48	21745.73	86.30	G
6472	19813.14	21754.05	86.31	G
6473	19759.56	21754.84	86.28	G
6474	19990.47	20671.52	0.00	CP
6475	19994.47	20671.44	0.00	BC-RP
6476	19986.47	20671.60	0.00	BC-RP
6477	19990.39	20667.52	89.00	BC-RP
6478	20018.03	20623.97	87.95	EOP/SB
6479	19878.26	20687.26	86.86	TOP
6480	19883.95	20747.16	87.38	TOP
6481	19889.65	20807.06	88.18	TOP
6482	19895.34	20866.96	88.50	TOP
6483	19901.04	20926.86	88.96	TOP
6484	19902.23	20986.84	89.32	TOP
6485	19903.43	21046.83	89.11	TOP
6486	19904.62	21106.82	89.02	TOP
6487	19905.82	21166.81	88.60	TOP
6488	19907.01	21226.80	88.60	TOP
6489	19908.21	21286.78	88.60	TOP
6490	19909.40	21346.77	88.60	TOP
6491	19910.60	21406.76	88.60	TOP
6492	19911.79	21466.75	88.60	TOP
6493	19912.98	21526.74	88.60	TOP
6494	19914.18	21586.72	88.60	TOP
6495	19915.37	21646.71	88.60	TOP
6496	19916.21	21688.70	88.13	TOP

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY SAVOY COMPANY, P.A., 535 S. EMPORIA, SUITE 104, WICHITA, KS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

BENCHMARK #1:
City of Wichita Std. Disc 30' W. & 44' N. of Intersection of Meridian & 51st St. S.
Elev.=88.62(City Datum)
BENCHMARK #1:
"□" Cut Center of Walk 9' S. of North Edge of Walk Between Ball Diamonds.
Elev.=87.52(City Datum)

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.



BC=Back of Curb
BC-COR=Back of Curb @ Corner
BC-END=End Back of Curb
BC-RP=Back of curb @ Radius Point
BC/SW=Back of Curb @ Sidewalk
CP=Center Point of Radius
CTR-DR=Center of Drive
EOP/FC=Edge of Pavement @ Face of Curb
EOP/SB=Edge of Pavement @ Speed Bump
EOP-RP=Edge of Pavement Radius Point
EOP/SW=Edge of Pavement @ Sidewalk
FC/EOP=Face of Curb @ Edge of Pavement
TOP=Top of Pavement
SW-COR=Corner of Sidewalk
SW-RP=Sidewalk Radius Point
SW=Sidewalk

NOTE:
Points with an elevation of 0.00 have not been assigned an elevation on the grading plan. Utilize elevation on nearest point. If required, interpolate elevation between next nearest points as shown on the grading plan.

CURVE TABLE (CL DRIVE DATA)

CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	326.12	225.00	83°02'48"	298.32
C2	467.99	400.00	67°02'06"	441.75
C3	137.05	1000.00	7°51'10"	136.95

SURVEY CONTROL MONUMENTS

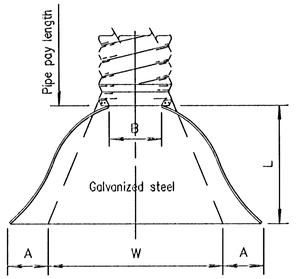
CM #1	N-20000.000 E-20000.000	1/2" Rebar W/ Savoy Cap
CM #2	N-19970.731 E-20778.736	1/2" Rebar W/ Savoy Cap
CM #3	N-19284.293 E-20225.224	1/2" Rebar W/ Savoy Cap
CM #4	N-19768.532 E-21362.240	1/2" Rebar W/ Savoy Cap
CM #5	N-20106.150 E-21914.570	1/2" Rebar W/ Savoy Cap

SOUTHLAKES PARK
PARKING LOT CONTROL PLAN
WICHITA, SEDGWICK CO., KANSAS
CED PROJ. NO.: 20020900

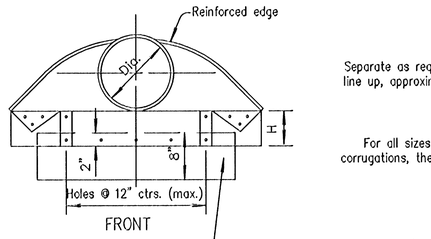
CERTIFIED ENGINEERING DESIGN, P.A.
CED
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: 1"=30'	SHEET 8
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: SthLakes-Base.dwg	TOTAL 16

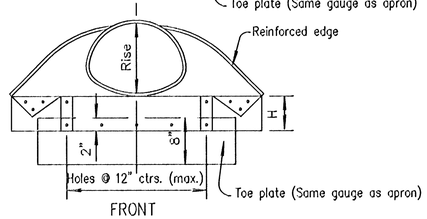
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
CED PROJ NO. 20020900	2002	9	16



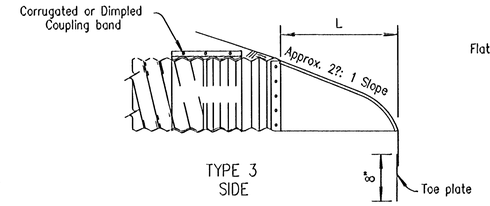
PLAN
(illustrated with Type #3 Connection)



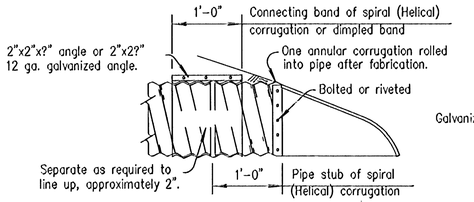
FRONT



FRONT

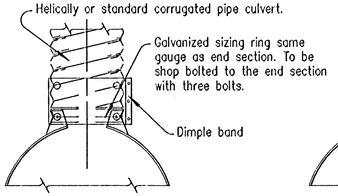


TYPE 3
SIDE



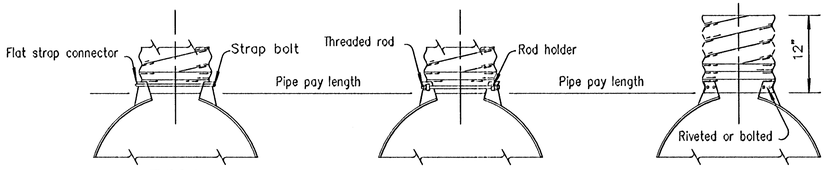
SPIRAL (HELICAL) CORRUGATION

For all sizes of round and arch culvert pipes having Spiral (Helical) corrugations, the end sections and connecting bands shall be as shown above.



ALTERNATE TYPE D CONNECTION
with Sizing Ring

Available in sizes 12" through 36" and 17"x13" through 57"x38" Pipe-Arches.

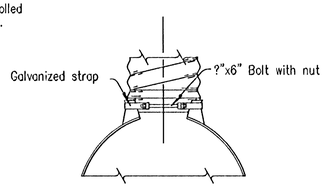


TYPE 1
Available in sizes 12" through 24" only.

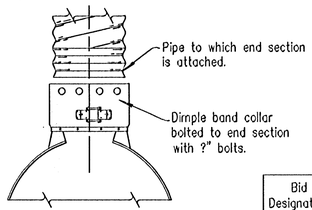
TYPE 2
Available in sizes 30" and 36" Round and 17"x13" through 57"x38" Pipe-Arches.

TYPE 3
Available in sizes 42" through 96" Round and 60"x46" through 81"x59" Pipe-Arches.

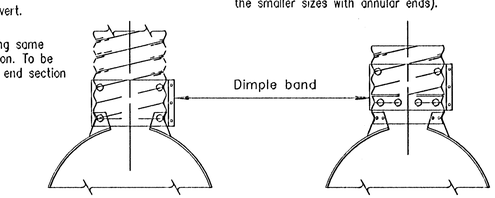
Note: Type #3 connection may be furnished instead of Types #1 & #2 for smaller sizes of pipe and pipe arches.



ALTERNATE TYPE 1
For 12" through 24" only.



TYPE 5
Available for all Round and equivalent Pipe-Arch sizes, (Type 1 and Type 2 connections are recommended for the smaller sizes with annular ends).



TYPE D
Available in sizes 12" through 36" and 17"x13" through 57"x38" Pipe-Arches.

TYPE 3
Available in sizes 42" and 96" Round and 60"x46" through 81"x59" Pipe-Arches.

NOTE: Toe plate, where specified, to be punched to match holes in apron lip. ?" Dia. galvanized bolts to be furnished. The length of toe plate to be as follows:

W + 10" for 12" to 30" diameter pipes inclusive.
W + 20" for 36" to 84" diameter pipes inclusive.
W + 10" for pipe-arches with a rise of 13" to 29" inclusive.
W + 20" for pipe-arches with a rise of 33" to 59" inclusive.

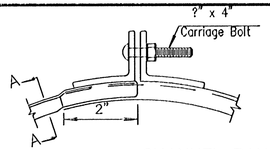
Apron section for 12" to 24" diameter pipe inclusive, and pipe-arches with rise of 13" to 24" inclusive, to be made from one sheet. Apron sections for 30" to 42" diameter pipe inclusive, and pipe-arches with rise of 29" to 33" inclusive, may be made from up to two sheets joined by riveting or bolting on the centerline apron section. Apron section for 48" to 72" diameter pipe inclusive, and pipe -arches with rise of 38" to 63" inclusive, may be made from up to three sheets joined by riveting or bolting at equal distances from centerline. Apron sections for 78" diameter pipe and above and pipe-arches with rise 67" and above may be made from up to four sheets joined by riveting or bolting.

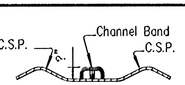
Corner sections, corner plate and toe plate to be same gauge as apron and each to be galvanized in accordance with the specifications.

Other approved designs may be used in lieu of type shown.

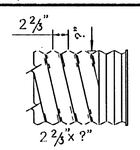
Bid Designation Sq. Ft.	Nom. W.W. Area Sq. Ft.	Pipe Arch Span (In.)	Pipe Arch Rise (In.)	Min. Gauge End Sect.	Dimensions in Inches A 1" Tol.	B Max.	H 1" Tol.	L 1?" Tol.	W 2" Tol.	No. Apron Panels	Slope
1.0	1.1	17	13	16	7	9	6	19	30	1	2?: 1
1.5	1.6	21	15	16	7	10	6	23	36	1	2?: 1
2.0	2.2	24	18	16	8	12	6	28	42	1	2?: 1
2.5	2.8	28	20	16	9	14	6	32	48	1	2?: 1
Sizes below with alternate dimensions											
3.0 or 4.0	4.4	35	24	14	10	16	6 & 8	39	60	1	2?: 1
5.0 or 6.0	6.4	42	29	14	12	18	8 & 9	46	75	2	2?: 1
7.0 or 8.5	8.7	49	33	12	13	21	9 &12	53	85	2	2?: 1
10.0 or 11.0	11.4	57	38	12	18	26	12	63	90	2	2?: 1
12.5 or 14.0	15.6	60	46	12	18	30 &34	12	70	102	2	2 : 1
16.5	19.3	66	51	12 &10	18	33	12	77	114 &116	3	1?: 1
21.0	23.2	73	55	12 &10	18	36	12	77	126	3	1?: 1
25.0	27.4	81	59	12 &10	18	39	12	77	138	3	1?: 1
32.0	32.1	87	63	12 &10	22	38	12	77	148	3	1?: 1
36.0	37.0	95	67	12 &10	22	34	12	77	162	3	1?: 1
42.0	42.4	103	71	12 &10	22	38	12	77	174	3	1?: 1
47.0	48.0	112	75	12 &10	24	40	12	77	174	3	1?: 1

Pipe Dia. (In.)	Min. Gauge Ends	Dimensions in Inches A 1" Tol.	B Max.	H 1" Tol.	L 1?" Tol.	W 2" Tol.	No. Apron Panels	Slope
12"	16	6	6	6	21	24	1	2?: 1
15"	16	7	8	6	26	30	1	2?: 1
18"	16	8	10	6	31	36	1	2?: 1
21"	16	9	12	6	36	42	1	2?: 1
24"	16	10	13	6	41	48	1	2?: 1
30"	14	12	16	8	51	60	1	2?: 1
36"	14	14	19	9	60	72	2	2?: 1
42"	12	16	22	11	69	84	2	2?: 1
48"	12	18	27	12	78	90	2	2?: 1
54"	12	18	30	12	84	102	2	2?: 1
60"	12 &10	18	33	12	87	114	3	2: 1
66"	12 &10	18	36	12	87	120	3	2: 1
72"	12 &10	18	39	12	87	126	3	2: 1
78"	12 &10	18	42	12	87	132	3	1?: 1
84"	12 &10	18	45	12	87	138	3	1?: 1
90"	12 &10	18 &24	37 &45	11 &12	87	138 &144	3	1?: 1
96"	12 &10	18 &25	35 &45	12	87	138 &150	3	1?: 1





SECTION
"A-A"

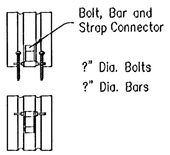


Reformed to accept Channel, Annular, Dimple and Hugger Bands .

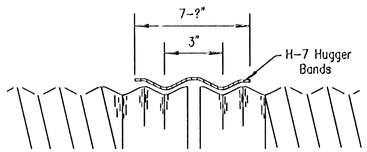
CHANNEL BAND DETAILS

Channel band couplers shall:

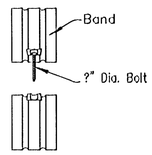
1. Be of two piece design.
2. Be fabricated from galvanized steel stock.
3. Be 14 ga. thickness for pipe 12 ga. or lighter. (A= ?")
4. Be 12 ga. thickness for pipe 10 ga. or heavier. (A= 1")
5. Have 2" x 2" x ?" angles securely fastened to the band ends to allow for proper tightening.



ALTERNATE CONNECTION DETAIL

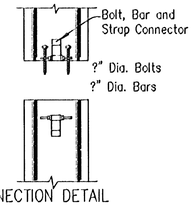


UNIVERSAL REFORMED END with H-7 HUGGER BAND

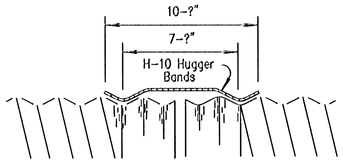


STANDARD CONNECTION DETAIL

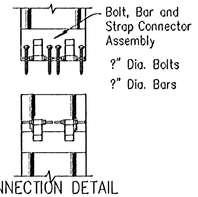
DETAILS FOR H-7 HUGGER BANDS (16 ga.)



CONNECTION DETAIL
SINGLE HARNESS



UNIVERSAL REFORMED END with
H-10 HUGGER BAND



CONNECTION DETAIL
DOUBLE HARNESS

DETAILS FOR H-10 HUGGER BANDS (16 ga.)

Pipe Dia. Inches	⁂ Minimum Gauge of Pipe 2 2/3"x ?" Corr. Steel	Alum.	3"x 1" ▲ Corr. Steel	6"x 2" Corr. Steel	6"x 1" Corr. Alum.
12"	16	16			
15"	16	16			
18"	16	16			
21"	16	16			
24"	14	14			
30"	14	12			
36"	14	12			16
42"	12	12	14		16
48"	12	10	14		16
54"	12	10	14		16
60"	10	8	14	12	16
66"	10	8	14	12	16
72"	10	6	14	12	14
78"	8		14	12	12
84"			12	12	12
90"			12	12	
96"			12	12	
102"			12	12	
108"			10	12	
114"			10	12	
120"			10	12	

Bid Designation Sq. Ft.	Pipe Dimension Span & Rise	Sq. Ft.	⁂ Min. Gauge of Pipe 2 2/3"x ?" Corr. Steel	Alum.	3"x 1" ▲ Corr Steel
1.0	17" x 13"	1.1	16	16	
1.5	21" x 15"	1.6	16	16	
2.0	24" x 18"	2.2	16	16	
2.5	28" x 20"	2.8	14	14	
3.0 or 4.0	35" x 24"	4.4	14	12	
5.0 or 6.0	42" x 29"	6.4	14	12	
7.0 or 8.5	49" x 33"	8.7	12	12	
10.0 or 11.0	57" x 38"	11.4	12	10	
12.5 or 14.0	60" x 46"	15.6		10	14
16.5	66" x 51"	19.3		8	14
21.0	73" x 56"	23.2			12
25.0	81" x 59"	27.4			12
32.0	87" x 63"	32.1			12
36.0	96" x 67"	37.0			12
42.0	103" x 71"	42.4			12
47.0	112" x 75"	48.0			12
54.0	117" x 79"	54.2			10
60.0	128" x 83"	60.5			10
67.0	137" x 87"	67.4			10
74.0	142" x 91"	74.5			10

▲ Note: At the Contractor's option, 5"x1" corrugated steel pipe of equal gauge may be substituted for the 3"x1" corrugated steel pipe listed in the table with the following restrictions:

1. Fill height over top of pipe shall be less than 25 ft.
2. Pipe shall be fabricated with helical corrugations and lock seams or continuous welded seams.

Note: The culverts listed on this sheet may not indicate that the culvert installed will be steel, aluminum or reinforced concrete.

⁂ For gauge above minimum requirements see summary of culverts.

Connection of end sections by welding will not be permitted.

All 3 piece apron sections shall have 12 gauge sides and 10 gauge center panels. Multiple panel apron sections shall have lap seams which are to be tightly jointed by galvanized rivets or bolts at equal distances from center line.

For 60" to 120" diameter pipe apron sections, reinforced edges to be supplemented by hot dipped galvanized stiffener angles. The angles to be attached by galvanized nuts and bolts.

For 73"x55" and larger pipe-arch sections, reinforced edges to be supplemented by hot dipped galvanized stiffener angles. The angles to be attached by galvanized bolts and nuts.

Angle reinforcement shall be placed under the center panel seams on 73"x55" and larger pipe arch apron sections.

All references to galvanized metal refer to steel only.

Gain in pipe length due to fit of pipe at connecting band shall not be paid for.

When Hugger Bands are used the H-7 Hugger Band may be used on circular pipes 36" diameter and smaller and pipe arches 42"x29" and smaller. The H-10 Hugger Band is required for larger size pipes.

PIPE CULVERT SUMMARY

Station	Location	Type	Size or Bid Designation Sq. Ft.	Crown Grade Elev.	Flow Line Lt.	Flow Line Rt.	Horizontal Roadway Lt.	Horizontal Roadway Rt.	Degree of Rotation	Length of Pipe Lt.	Length of Pipe Rt.	Lin. Ft. of Pipe	End Sections Type I Lt.	End Sections Type I Rt.	End Sections Type III Lt.	End Sections Type III Rt.
0+30.00	CL	CMP	18"	–	86.55	86.10	–	–	–	26.5'	16.5'	43'	1	1	–	–
NW Corner of Parking Lot	CL	CMP	18"	–	86.90(N)	86.60(S)	–	–	–	14'	14'	28'	1	1	–	–

METAL END SECTIONS

CED PROJ. NO.: 20020900

CERTIFIED ENGINEERING DESIGN, P.A.

CED

810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF	SCALE: NTS	SHEET 9
DRAWN: CKW	DATE: 7/02	
CHECKED: HDF	CED FILE: CMPdetails.dwg	TOTAL 16