STRUCTURAL ABBREVIATIONS

ADDM	Addendum
ADDL	Additional
ALT	Alternate
ALUM	Aluminum
AB	Anchor Bolt
ANCH	Anchorage
L	Angle
APPROX	Approximate(ly)
ARCH	Architectural
ASTM	American Society for Testing & Materials
@	At
AVG	Average
B/B	Back to Back
BAL	Balance
BF	Back Face
B PL	Base Plate
BSMT	Basement
BM	Beam or Bench Mark
BRG	Bearing
BRG PL	Bearing Plate
BTWN	Between
BITUM	Bituminous
BLK	Block
BLKG	Blocking
BD BM	Bond Beam
BS	Both Sides
BOT	Bottom
BFE	Bottom of Footing Elevation
BPE	Bottom of Plate Elevation
BRCG	Bracing
BRKT	Bracket
BRK	Brick
BRDG	Bridging
BLDG	Building
X	By
CPTY	Capacity
CIP	Cast in Place
CTR	Center
℄	Centerline
C/C	Center to Center
C	Channel
CLR	Clear/Clearance
COL	Column
COMP	Composite
CONC	Concrete
CMU	Concrete Masonry Unit
CONN	Connection
CONSTR	Construction
CONSTR JT	Construction Joint
CONT	Continuous
CONTR	Contractor
CJ	Control Joint
COORD	Coordinate
DL	Dead Load
DEG	Degree
DEMO	Demolition
DET	Detail
DIAG	Diagonal
DIA or Ø	Diameter
DIM	Dimension
DIP	Ductile Iron Pipe
DBL	Double
DT	Double Tee
DWL	Dowel
DN	Down
DRWG	Drawing
EA	Each
EE	Each End
EF	Each Face
ES	Each Side
EW	Each Way
ELEC	Electrical
EL	Elevation
EMB	Embedment
ENGR	Engineer
EQ	Equal
EQUIP	Equipment
EXCAV	Excavate
EX	Existing
EXP	Expansion
EXP BT	Expansion Bolt
EXP JT	Expansion Joint
EXT	Exterior
FAB	Fabricate(d)
F/F	Face to Face
FS	Far Side
FT	Foot/Feet
FIN	Finish
FLG	Flange
FLR	Floor
FTG	Footing
FDN	Foundation
FRMG	Framing
FRP	Fiber Reinforced Polyester
FF	Front Face
GALV	Galvanized
GA	Gauge
GL LAM	Glue Laminated
GR	Grade
GRTG	Grating
GT	Grout
HS	Headed Studs
HDR	Header
HGT	Height
HP	High Point
HK	Hook/Hooked
HORIZ	Horizontal
HD GALV	Hot Dipped Galvanized

IN	Inch
INCH	Include
INFO	Information
ID	Inside Diameter
IF	Inside Face
INSUL	Insulation
INT	Interior
INV	Invert
JT	Joint
JST	Joist
KO	Knockout
LAM	Laminate/Lamination
LG	Long/Length
LWGT	Light Weight
LIN	Lineal/Linear
LL	Live Load
LD BRG	Load Bearing
LOC	Location
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LONGIT	Longitudinal
LP	Low Point
MFR	Manufacturer
MK	Mark
MAS	Masonry
MO	Masonry Opening
MATL	Material
MAX	Maximum
MECH	Mechanical
MED	Medium
MH	Manhole
MTL	Metal
MEZZ	Mezzanine
MID	Middle
MIN	Minimum
MISC	Miscellaneous
MOD	Module/Modular
MTR	Mortar
MTD	Mounted
NS	Near Side
NOM	Nominal
NA	Not Applicable
NIC	Not in Contract
NTS	Not to Scale
NO or #	Number
OC	On Center
OPNG	Opening
OPP	Opposite
O/O	Out to Out
OD	Outside Diameter
OF	Outside Face
OH	Overhead
PNL	Panel
PAR	Parallel
PERP	Perpendicular
PT	Point
PL	Plate
PREF	Preformed
LB	Pound/Pounds
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
P.T.	Pressure Treated
PROC	Process
PROJ	Projection
PVC	Polyvinyl Chloride
QTY	Quantity
QUAD	Quadrant
R	Radius
REF	Reference
REINF	Reinforcing/Reinforcement
RCP	Reinforced Concrete Pipe
REQD	Required
REQMT	Requirement
REV	Revise/Revision
RO	Rough Opening
SCH	Schedule
SECT	Section
SHT	Sheet
SIM	Similar
SL	Snow Load
SP	Space/Spacing
SPEC	Specification
SQ	Square
STAG	Staggered
SS	Stainless Steel (preceded by type 304, 316, etc.)
STD	Standard
STA	Station
STL	Steel
STL JST	Steel Joist
STIF	Stiffener
STIR	Stirrup
STRUCT	Structure/Structural
SYMM	Symmetrical
TEMP	Temporary
THK	Thickness
KIP	Thousand Pounds
T&B	Top & Bottom
TBE	Top of Beam Elevation
TCE	Top of Concrete Elevation
TDE	Top of Deck Elevation
TFE	Top of Footing Elevation
TGE	Top of Grout Elevation
TPE	Top of Pier Elevation
TPLE	Top of Plank Elevation

TSE	Top of Slab Elevation
TRANSV	Transverse
TYP	Typical
UNEXCAV	Unexcavated
UON	Unless Otherwise Noted
VB	Vapor Barrier
VERT	Vertical
WGT	Weight
WWM	Welded Wire Mesh
WF	Wide Flange
WL	Wind Load
W/	With
W/O	Without
WP	Working Point
YD	Yard

STRUCTURAL NOTES

1. REINFORCEMENT DETAILS SHALL CONFORM TO THE REQUIREMENTS OF "THE ACI MANUAL OF STANDARD PRACTICE (ACI 315)". SPLICES AND EMBEDMENT LENGTHS NOT GIVEN ON THE CONTRACT DRAWINGS SHALL BE PRESUMED TO BE IN TENSION AND SHALL CONFORM TO THOSE REQUIREMENTS. UNLESS OTHERWISE SHOWN SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES AS DEFINED IN ACI 318.

2. MINIMUM CLEAR CONCRETE COVER FOR REINFORCING BARS, UNLESS SHOWN OTHERWISE SHALL BE 3" WHEN CAST AGANIST EARTH AND 2" WHEN NOT CAST AGANIST EARTH.

3. SPACING OF REINFORCING BARS SHOWN ON THE DRAWINGS SHALL BE A MAXIMUM.

4. EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" BY 3/4" UNLESS NOTED OTHERWISE.

5. CONSTRUCTION JOINTS AND REINFORCING STEEL BAR SPLICES SHALL BE WHERE SHOWN ON DRAWINGS. OPTIONAL CONSTRUCTION JOINTS MAY BE PROPOSED BY THE CONTRACTOR SUBJECT TO REVIEW AND APPROVAL BY STRUCTURAL ENGINEER.

6. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS ASTM A615, GRADE 60.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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REVISIONS

DATE	DESCRIPTION

DESIGNED DLC
CHECKED LJL
DRAWN TB
GRAPHIC SCALE
0 HORIZ 4
0 VERT. 4

CITY OF ELK RIVER
WASTEWATER TREATMENT FACILITIES
STRUCTURAL NOTES & ABBREVIATIONS

DATE DEC. 1993 | SHEET 8 OF 41 SHEETS | PROJECT NO. 230-151

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