ANNEX D

GUIDELINES FOR GEODETIC CONTROL POINT DESIGNATIONS

A geodetic control point is a monumented or otherwise marked, survey point, established for the purpose of providing geodetic reference for mapping and charting activities and for a wide variety of engineering and scientific applications. A control point is normally identified by a number, an alphanumeric symbol, or a concise, intelligible name which is usually stamped on the disk marker. In principle, the designation by which a control point is identified should closely resemble the stamping that appears on the respective marker. However, extraneous information is frequently present which should not be included as part of the designation. In every case, the designation assigned to a control point for processing purposes must be identical to the designation that appears in the heading of the station description.

These guidelines have been established to provide consistent control point designations and facilitate automated processing of the data. Implementation of these guidelines may sometimes result in two or more control points having the same designation. In such cases it will be necessary to refer to other information in the description to completely identify the control point. Sample formats for the various designations are given in this annex.

GUIDELINES

1. A control point designation must not exceed 25 alphanumeric characters for vertical control and 30 alphanumeric characters for GNSS control surveys, including all embedded blanks. When necessary, abbreviate and/or edit an existing designation to conform to this limit.

2. The year the mark was set is considered extraneous information and is not to be carried as part of a control point designation. For marks whose designations have not been altered when they were reset, the word RESET must be appended to the original designations. This also holds true for control points which have been reset more than once. In such cases the year given in the "year set" field will be used to distinguish the marks.

Monument	Stamped	Designation
USGS BM Disk	TT 8 RESET 1965	TT 8 RESET
CGS BM Disk	LAKE WASHINGTON RESET 1970	LAKE WASHINGTON RESET
CGS Tri Sta Disk	BRADY 1951	BRADY
CGS BM Disk	ONEAL 1 1954	ONEAL 1
CGS BM Disk	DE KALB 1934	DEKALB
NCGS Trav Sta Disk	MC CALL 1968	MCCALL
CGS Tri Sta Disk	DODGE 2 1969	DODGE 2
CGS Tri Sta Disk	SPIT 1953 1983	SPIT RESET
USGS Survey Disk	PRIM TRAV STA NO 185 1915	PTS 185

3. The acronym or abbreviation of the agency or organization whose name is precast
or sometimes stamped in the survey marker is considered extraneous information and
should not be included in the control point designation.

Monument	Stamped	Designation
FLGS BM Disk	203 RESET 1950	203 RESET
FLGS BM Disk	203 RESET 1967	203 RESET
FLGS BM Disk	203 RESET 1967 MAY	203 RESET MAY
USGS BM Disk	2903	2903
MORC Gaging Sta	GAGING STA	GAGING STA
RIRR Disk	RV 16	RV 16
USGS Chis Square	*no stamping*	WO 23 RM=148 RM
USGS Survey Disk	WO 23 1933	WO 23
USGS Survey Disk	WO 23 1933 RESET 1962	WO 23 RESET
PP+L Survey Disk	P 11 PPL RESET 1976	P 11 RESET

4. In the past, NGS systems could not handle special characters. That is no
longer the case.

4.1 Most alpha and numeric character groupings in a designation should be
separated by a single blank ( ). Following are examples of traditional use of
special characters in designations.

Monument	Stamped	Designation
USGS Survey Disk	TT17B	TT 17 B
USGS Survey Disk	TT-17B	TT 17 B
USGS Survey Disk	TT-1 7B	TT 1 7 B

Monument	Stamped	Designation
AZDT Disk	STATION 11+14	ROUTE 244 STA 11+14
Highway Disk	2623 + 00	I95 STA 2623+00

Monument	Stamped	Designation
USGS Nail (Tag)	-227.10 5-23-55	-227.10
CGS BM Disk	-193.097 F 70 1928	F 70
USGS BM Disk	ELEV -7.325 FT	-7.325

Monument	Stamped		Designation
USGS Chis Square	*no stamping*		WO 23 RM=148 RM
CADH Survey Disk	CH 1174	297+00 (A)	CH 1174=297+00 A
Unk Survey Disk	STA. NO. 3	MI. 182.5	STA 3=MI 182.5
CGS Ref Mark Disk	LEE NO 1 1932	R 13	LEE RM 1=R 13
CGS Tri Sta Disk	68.399 B 22	ATKINSON 1918	ATKINSON=B 22
USGS Cap	U 276 1942	VA 45 1917	45=U 276

NOTE: In situations where there are multiple designations that either do not appear stamped on the mark or are too long to be accommodated by the allowable character limit for the designation, the secondary designation may be given as a separate data item and carried as an alias in the appropriate field.

Monument	Stamped	Designation
USGLO Survey Disk	T1N R3E S35 S36 1/4 1943	T1N R3E SECS 35 36 1/4 COR

Monument	Stamped	Designation
MADPW Survey Disk	ELEV. B.M. NO. F 40	F 40
CGS Ref Mark Disk	W. BASE NO 4 1965	CHARLESTON W BASE RM 4
CADWR Survey Disk	MI. 0.9 1967	AMERICAN CANAL MI 0.9 CGS
Tri Sta Disk	PALMER N.E. BASE	PALMER NE BASE
CGS BM Disk	MT. MORRIS 1941	MT MORRIS

5. Nonspecific descriptive terms are not to be treated as "double designations" and are not to be carried as aliases.

Published as	Stamped	Designation
BENCH MARK 2	*no stamping*	2
114.3, Chis Square	*no stamping*	114.3
C 1, Bolt	*no stamping*	C 1

6. The characters "BM", "BENCH MARK", and "PBM", even when stamped on a disk, are not to be included in a designation unless the control point has no other stamping (e.g., BM USGS) or the characters "BM" do not represent the words "BENCH MARK."

7. The elevation stamped on the disk marker on the monument is not to be carried as a part of the respective designation. The exception is when the elevation is the only means of identifying the survey mark.

Monument	Stamped	Designation
CGS BM Disk	H 325 230.695FT	H 325
MORC Disk	140B ELEV 95.3 FT	140 B
USGS BM Disk	-9.825 FT	-9.825
BOR Survey Disk	ELEV. 101.6	101.6

8. The characters "NO" or "No.", when used as an abbreviation for the word "number", should not be included in the designation, even when they are stamped in the disk.

Monument	Stamped	Designation
CGS Ref Mark Disk	MONROE NO 1 1944	MONROE RM 1
CGS BM Disk	BENCH MARK No. 6	6

9. The designation for a reference mark disk should be formed by appending the symbols RM 1, RM 2, ..., RM 13, etc. to the name of the horizontal control point for reference marks stamped NO 1, NO 2, ..., NO 13, etc., respectively.

Monument	Stamped	Designation
CGS Ref Mark Disk	CHARLOTTE NO. 1 1945	CHARLOTTE RM 1
CGS Ref Mark Disk	BOULDER 1935 NO 6 1968	BOULDER RM 6
CGS Ref Mark Disk	CHICO 1948 NO 3 RESET 1971	CHICO RM 3 RESET

10. The designation for an azimuth mark disk is formed by appending the characters "AZ MK" to the name of the respective horizontal control point. In the case of multiple azimuth marks, the numbers "2", "3", etc. are added for azimuth marks stamped NO 2, NO 3, etc.

Monument	Stamped	Designation
CGS Az Mark Disk	CHARLOTTE 1934	CHARLOTTE AZ MK
CGS Az Mark Disk	BOULDER 1935 NO. 3	BOULDER AZ MK 3
CGS Az Mark Disk	NORWASH AZI 1932	NORWASH AZ MK
CGS Az Mark Disk	PARK AZ RESET 1965	PARK AZ MK RESET

11. A temporary bench mark (TBM) must carry the letters "TBM" as the first three characters of the designation.

Monument	Stamped	Designation
Spike	*no stamping*	TBM 1 A
Sidewalk	*no stamping*	TBM 14

12. The National Ocean Service (NOS) has instituted a standard system of designations for all tidal and water level stations operated by NOS. The system provides for the unique identification of all disks, staffs, etc., located at such stations (e.g., see Formats in this annex).

Tidal and water level bench mark designations must conform to standard designations adopted by the National Ocean Service. For information concerning specific tide gage bench marks, etc., communicate with:

        User Services Section, N/OES232
        National Ocean Service, NOAA
        1305 East-West Highway
        Silver Spring, MD 20910
        Telephone: 1-301-713-2877

Whenever the need arises for a guideline to deal with a situation not covered herein, the user is encouraged to contact the Chief, Observation and Analysis Division, NGS.

A list of standard abbreviations has been adopted for use in designating geodetic control points. These abbreviations are for terms that commonly occur in designations and are the only accepted forms of abbreviation. This list may be extended as the need arises.

Geodetic control point abbreviations

A POINT	A PT
ACADEMY	ACAD
ADMINISTRATION	ADM
AGENCY	AGY
AGRICULTURE	AGRI
AHEAD	AHD
AIRCRAFT	ARCFT
AIRPORT	APT
AIRWAY	AWY
AIR FORCE BASE	AFB
ALLEGHENY	ALGHNY
AMBASSADOR	AMB
AMENDED	AMD
AMENDED MONUMENT (AM)	AMD MON
AMERICAN	AMER
ANGLE	ANG
ANGLE POINT (AP)	ANG PT
ANTENNA	ANT
APPALACHIAN	APLCN
APPROXIMATELY	APPROX
ASSOCIATION	ASSOC
ASTRONOMICAL	ASTRO
ASYLUM	ASY
ATLANTIC	AT
AUTHORITY	AUTH
AUXILIARY	AUX
AUXILIARY MEANDER CORNER (AMC)	AUX MDR COR
AVENUE	AVE

Notes:

1. Abbreviations listed with () are used by the Bureau of Land Management.
2. The cardinal directions (E, S, W, N, NE, SE, SW, and NW) are to be abbreviated only when they are not the first word of the designation.

Geodetic control point abbreviations (Continued)

AVIATION	AVN
AZIMUTH	AZ
BACK	BCK

```
BANK                          BK
BANKING                       BKG
BAPTIST                       BAP
BATTERY                       BTRY
BEACON                        BCN
BEARING                       BRG
BEARING OBJECT (BO)           BRG OBJ
BEARING TREE (BT)             BRG TREE
BELFRY                        BFRY
BETWEEN                       BET
BOULEVARD                     BLVD
BOUNDARY                      BDRY
BREAKWATER                    BRKWTR
BRICK                         BR
BROADCASTING                  BCSTG
BROTHER                       BRO
BROTHERS                      BROS
BUILDING                      BLDG
BUREAU                        BUR
CAPITOL                       CAP
CATHEDRAL                     CATHL
CATHOLIC                      CATH
CEMETERY                      CEM
CENTER (C)                    CEN
CENTERLINE                    CL
CERAMIC                       CERAM
CHEMICAL                      CHEM
CHIMNEY                       CHIM
CHURCH                        CH
CLOCK                         CLK
CLOSING CORNER (CC)           CC
COLLEGE                       COLL
COMMERCE                      COM
COMMERCIAL                    COML
COMMISSION                    COMM
COMPANY                       CO
COMPRESS                      COMP
CONCENTRATION                 CONCN
CONCEPTION                    CON
CONCRETE                      CONC
CONGREGATIONAL                CONG
```

_____

_____

Geodetic control point abbreviations (Continued)
_____

```
CONSOLIDATED                  CONSOL
CONSTRUCTION                  CONSTR
CONTINENTAL                   CONTL
```

CONTROL	CTRL
COOPERATIVE	COOP
CORNER	COR
CORPORATION	CORP
CORRECTIONAL	CORR
COUNTRY	CTRY
COUNTY	CNTY
COURTHOUSE	CTHSE
CUPOLA	CUP
DAYBEACON	DBCN
DEFENSE	DEF
DEPARTMENT	DEPT
DISTRIBUTOR	DISTR
DIVISION	DIV
DOMESTIC	DOM
DORMITORY	DORM
DRAWBRIDGE	DBRIDGE
EAST	E
ECCENTRIC	ECC
EDUCATION	EDUC
ELECTRIC	ELEC
ELEMENTARY	ELEM
ELEVATION	ELEV
ELEVATED	ELEVD
ELEVATOR	ELEVR
ENGINEERING	ENG
ENGRAVING	ENGR
ENTRANCE	ENTR
EPISCOPAL	EPIS
EQUIPMENT	EQPT
EVANGELICAL	EVAN
EXCHANGE	EXCH
EXPERIMENTAL	EXPTL
FEDERAL	FED
FINIAL	FIN
FIRST	1ST
FLAGPOLE	FP
FLAGSTAFF	FS
FOURTH	4TH
FRONT RANGE	FRGE
FURNITURE	FURN

_____

_____

Geodetic control point abbreviations (Continued)
_____

GABLE	GAB
GENERAL	GEN
GEODETIC	GEOD
GEOGRAPHIC	GEOG

```
           GEOLOGICAL                      GEOL
           GOVERNMENT                      GOVT
           GROWERS                         GROS
           HARBOR                          HBR
           HARDWARE                        HDWE
           HEADQUARTERS                    HQ
           HEIGHTS                         HTS
           HIGHWAY                         HWY
           HISTORICAL                      HIST
           HOSPITAL                        HOSP
           HOUSE                           HSE
           HYDRO                           HYD
           IMMACULATE                      IMM
           IMPLEMENT                       IMPL
           IMPORT                          IMP
           INCINERATOR                     INCIN
           INCORPORATED                    INC
           INDEPENDENT                     IND
           INDUSTRIAL                      INDL
           INDUSTRY                        INDY
           INFIRMARY                       INFIRM
           INSTITUTE                       INST
           INSTITUTION                     INSTN
           INSURANCE                       INS
           INTERNATIONAL                   INTL
           INTERSTATE                      INTST
           INTERSECT                       INT
           INVESTMENT                      INVT
           IRRIGATION                      IRRIG
           ISLAND                          IS
           JUNCTION                        JCT
           LABORATORY                      LAB
           LANDING                         LDG
           LATITUDE                        LAT
           LATTER DAY SAINTS               LDS
           LEATHER                         LEA
           LEFT                            LT **
```

_____

**The abbreviations R, T, LT, and RT must be
adjacent to at least one numeric character.

_____
  Geodetic control point abbreviations (Continued)
_____

```
           LIGHT                           LT
           LIGHTHOUSE                      LH
           LOCAL                           LCL
           LOCATION                        LOC
           LOCATION MONUMENT (LM)          LOC MON
           LOOKOUT                         LO
```

```
LOOKOUT HOUSE                  LOH
LOOKOUT TOWER                  LOT
LONGITUDE                      LON
LUMBER                         LUM
LUTHERAN                       LUTH
MACHINERY                      MACH
MAGAZINE                       MAGZ
MAGNETIC                       MAG
MAINTENANCE                    MAINT
MANUFACTURED                   MFD
MANUFACTURING                  MFG
MARK                           MK
MARKET                         MKT
MAST                           MST
MEANDER                        MDR
MEANDER CORNER (MC)            MDR COR
MERCHANDISE                    MDSE
MERCANTILE                     MERC
METHODIST                      METH
METROPOLITAN                   MET
MICROWAVE                      MV
MILE or MILES                  MI
MILEPOST                       MP
MILITARY                       MIL
MILLING                        MILL
MONUMENT                       MON
MOUNT                          MT
MOUNTAIN                       MTN
MUNICIPAL                      MUN
MUSEUM                         MUS
NATIONAL                       NAT
NAVIGATION                     NAV
NEAR                           NR
NORTH                          N
NORTHEAST                      NE
NORTHWEST                      NW
OBJECT                         OBJ
OBSERVATION                    OBS
```
_____

_____

Geodetic control point abbreviations (Continued)
_____

```
OBSERVATORY                    OBSY
OBSTRUCTION                    OBSTR
OFFICE                         OFF
ORDNANCE                       ORD
ORGANIZATION                   ORG
ORTHODOX                       ORTH
```

```
PEAK                          PK
PENINSULA                     PEN
PETROLEUM                     PET
PINNACLE                      PCLE
PLANT                         PLT
POINT                         PT
POINT A                       PTA
POINT OF CURVE                POC
POINT OF INTERSECTION         PI
POINT OF TANGENT              POT
POLICE                        POL
POWER                         PWR
POWERHOUSE                    PHSE
PRESBYTERIAN                  PRESB
PRIMARY                       PRIM
PRIMARY TRAVERSE STATION      PTS
PRINTING                      PTG
PROCESS                       PRCS
PRODUCING                     PRODG
PRODUCT                       PROD
PROPERTIES                    PROP
PROTESTANT                    PROT
PUBLIC                        PUB
PUBLISHING                    PUBG
QUARTER                       QTR
RADIO                         RAD
RAILROAD                      RR
RAILWAY                       RWY
RANGE                         RGE
RANGE (Township)              R **
REAR RANGE                    RRGE
REFERENCE                     REF
REFERENCE MARK                RM
REFERENCE MONUMENT (RM)       REF MON
REFERENCE POINT               RP
```

**The abbreviations R, T, LT, and RT must be
adjacent to at least one numeric character.

Geodetic control point abbreviations (Continued)

```
REFINING                      REFG
REFORMED                      REFM
REFRIGERATING                 REFRIG
RESET                         RST
RIGHT                         RT **
RIGHT OF WAY                  ROW
```

```
ROAD                          RD
ROMAN                         ROM
ROUTE                         RTE
RUNWAY                        RNWY
SAINT                         ST
SANITARY                      SANIT
SANITORIUM                    SAN
SAVINGS                       SVGS
SCHOOL                        SCH
SCHOOLHOUSE                   SCHSE
SCIENTIFIC                    SCI
SECOND                        2ND
SECTION                       SEC
SECTIONS                      SECS
SEMINARY                      SEM
SERVICE                       SERV
SOCIETY                       SOC
SOUTH                         S
SOUTHEAST                     SE
SOUTHWEST                     SW
SPECIAL                       SPL
SPECIAL MEANDER CORNER (SMC)  SPL MDR COR
SPIRE                         SP
SQUARE                        SQ
STACK                         STK
STANDARD                      STD
STANDARD CORNER (SC)          SC
STANDPIPE                     SPIPE
STATION                       STA
STEEPLE                       STPE
STORAGE                       STGE
STREET                        STR
SUBURBAN                      SUBR
SUPERINTENDENT                SUPT
TANK                          TK
```

_____

**The abbreviations R, T, LT, and RT must be
adjacent to at least one numeric character.

_____

  Geodetic control point abbreviations (Continued)
_____

```
TANGENT                       TAN
TANGENT OFFSET                TOS
TECHNICAL                     TECH
TELEGRAPH                     TELG
TELEPHONE                     TEL
TELEVISION                    TV
```

```
          TEMP POINT A                      TP A
          TERMINAL                          TERM
          TERRITORY                         TERR
          THEOLOGICAL                       THEO
          THIRD                             3RD
          TOWER                             TWR
          TOWNSHIP                          TWP
          TOWNSHIP (Tier)                   T **
          TRACT                             TR
          TRANSCONTINENTAL                  TRANSCON
          TRANSMISSION                      TRANSM
          TRANSPORTATION                    TRANSP
          TRAVERSE                          TRAV
          TRAVERSE STATION                  TS
          TRIANGLE                          TRI
          TURNPIKE                          TPK
          UNITARIAN                         UNIT
          UNIVERSITY                        UNIV
          VACUUM                            VAC
          VERTEX                            VTX
          VILLAGE                           VIL
          WATER                             WT
          WEST                              W
          WAREHOUSE                         WHSE
          WINDMILL                          WMILL
          WITNESS CORNER (WC)               WC
          WITNESS POST (WP), wood           WP
          WITNESS POST, metal               MWP
          WITNESS POST, fiberglass          FWP
     _____
     **The abbreviations R, T, LT, and RT must be
     adjacent to at least one numeric character.
```

<div align="center">

FORMATS

</div>

Only NGS employees and agents may set brass disks and aluminum flanges precast with NGS logo. Such marks must be stamped with designations supplied by the agency. Each geodetic control point designation should be unique among all the designations located within a defined region.

```
     Format
     _____
```

_____

Figures

_____
_____

Geodetic control points

_____

                    FORMAT: NAME   SPECIAL

_____

1. NAME

    A. The following method is generally used for naming vertical control
        points (bench marks). The first mark established in a state is
        designated "A", then "B" and so on through the alphabet, except the
        letters "I" and "O" which are not used because they are too easily
        confused with the numbers "1" and "O". The next series of marks is
        identified as "A 1", "B 1", etc.; then "A 2", "B 2", etc., and so on
        through the alphabet. In some cases, more than one letter is used
        to distinguish between bench marks that have accidentally been given
        the same name in the same state.

    B. The following method is generally used for naming a horizontal

control point (triangulation or traverse). The name should serve
not only to identify the station but to suggest the local geographic
location or feature. The name should be used only once within a
county and preferably a given state. Therefore, use sufficient
variety to avoid duplication. A short name is desirable, but if a
longer name is required to properly serve the purpose, it should be
used. In those cases where a well-known geographical feature in the
vicinity is used, or the name of a local landowner, the name should
be spelled correctly.

2. SPECIAL USE

   A. These terms are used with vertical control points to distinguish
       between names used more than once in a state or to indicate
       disturbance of the original bench mark (e.g., "RESET").

   B. These terms are used with horizontal control points to explain a
       local use or disturbance to the original mark or its designation.

_____

Examples:

Geodetic control points

NAME   SPECIAL

Station	Number	Use
A		
L	690	
L	690	RESET
YY	1150	
C	1244	X
LEON		
LEON		ECC
LEON		RESET
LEON	RM 1	
LEON	RM 2	
LEON	AZ MK	
LEON	AZ MK	RESET
LEON	AZ MK	PTA
LEON	AZ MK 2	
LEON 2		
LEON 2	RM 3	
LEON 2	RM 4	

D-14

```
        LEON 2                | AZ MK     |
        LEON 2                | AZ MK 2   |
        -------------------------------------------
```

Tide station bench marks

_____

FORMAT: LOCATION   OBJECT   SPECIAL

_____

1. LOCATION Code and Station

    A. The location has two parts, the first part, the CODE, is a 3-digit
        State code given for each geographical region.
    B. The second part of the location, the STATION NUMBER, is an unique
        4-digit number assigned to a particular tide station within a given
        geographical area.

2. OBJECT Identification

    A. The MARK USE gives information on the nature of the object which was
        used.
    B. The PUBLICATION NAME is used to give the proper identification of the
        object. In most cases, this field should be based on the stamping. If
        there is no stamping, use the name given in the tidal publication. In
        either case, this field is subject to the guidelines given in this Annex.

3. SPECIAL Use

    This term is used to explain a local use or disturbance to the original mark.

NOTE: If other types of marks are used in tidal surveys, see other format rules for their primary designations; and add aliases according to the following examples:

```
        Mark type              DS (Triangulation Station Mark)
        Stamping               BREACH 1963
        Primary designation    BREACH
        Alias                  866 5552 TIDAL

        Mark type              DB (Bench Mark Disk)
        Stamping               V 163 RESET 1984
        Primary designation    V 163 RESET
        Alias                  872 9871 TIDAL
```

_____

Examples

Tide station bench marks set before or about 1976

```
-----------------------------------------------------------------
     LOCATION                OBJECT                      SPECIAL
-----------------------------------------------------------------
 Code   | Station   | Mark  | Identification       | Use
 State  | No.       | use   | Publication name     |
--------+-----------+-------+----------------------+--------
 866    | 1684      | TIDAL | HB 1                 |
 857    | 4680      | TIDAL | BASIC                |
 872    | 0030      | TIDAL | 37                   | RESET
 944    | 0886      | TIDAL | USE 5                |
-----------------------------------------------------------------
```


Tide station bench marks set after about 1976

```
-----------------------------------------------------------------
     LOCATION                OBJECT                      SPECIAL
-----------------------------------------------------------------
 Code   | Station   | Identification       | Mark   | Use
 State  | No.       | Publication name     | use    |
-----------------------------------------------------------------
 872    | 0051      | D                    | TIDAL  |
 872    | 9554      | C                    | TIDAL  | RESET
-----------------------------------------------------------------
```

Staffs or electric tape gage (ETG) reading marks
at tide or water-level stations

_____

FORMAT: TEMPORAL LOCATION OBJECT SPECIAL

_____

1. TEMPORAL Reference

    The Temporal Reference is identified by setting the term "TBM" in front of the
    location.

2. LOCATION Code and Station

    A. The location has two parts, the first, the CODE, is either a 3-digit
        STATE number code for a State or a 3-digit CUTTER code for defining a
        part of a lake or channel.
    B. The second part of the location, the STATION NUMBER, is an unique
        4-digit number assigned to a particular tide or water level station
        within a given geographical area.

3. OBJECT Identification

    The Object Identification gives information on the nature of the object
    that was used.

4. SPECIAL Use
   These terms are used to indicate the graduation of the tide or water
   level staff on which the level rod was placed.

_____

Examples

Staffs located at tide stations

TEMPORAL	LOCATION		OBJECT	SPECIAL
Reference	Code State	Station No.	Identification	Use
TBM	872	2029	STAFF	6 FT

Electric (or "zero electric") tape gage reading marks at tide stations

TEMPORAL	LOCATION		OBJECT	SPECIAL
Reference	Code State	Station No.	Identification	Use
TBM	872	9678	ETG READ MK	

Staffs located at water level stations

TEMPORAL	LOCATION		OBJECT	SPECIAL
Reference	Code Cutter	Station No.	Identification	Use
TBM	906	3000	STAFF	6 FT

Electric tape gage (ETG) reading marks at water level stations

TEMPORAL	LOCATION		OBJECT	SPECIAL
Reference	Code Cutter	Station No.	Identification	Use
TBM	907	5099	ETG READ MK	

Water level station bench marks

_____

                 FORMAT: LOCATION   OBJECT   SPECIAL
_____

1. LOCATION Code and Station

    A. The first part of the location is the 3-digit code for defining a
        part of a lake or channel within the CUTTER Code System.
    B. The second part of the location, the STATION NUMBER, is a unique
        4-digit number assigned to the water level station within a given
        geographical area.

2. OBJECT Identification

    In most cases, this field should be based on the stamping. If there
    is no stamping, use the name given in the water level publication.
    In either case, this field is subject to the guidelines given in this
    annex.

3. SPECIAL Use

    These character strings are used to explain some local use or
    disturbance to the original mark.

NOTE: If other types of marks are used in water level surveys, see other
format rules for their primary designation and add an alias according
to the following example:

```
    Mark type              F               (flange-encased rod)
    Stamping               C 234 1980      (on logo cap)
    Primary designation C 234
    Alias                  906 3087
```

Examples

Water level station bench marks set before or about 1976

LOCATION		OBJECT	SPECIAL
Code Cutter	Station No	Identification	Use
907	5098	ROAD A	
907	5098	ROAD A	RESET

Water level station bench marks set after about 1976

LOCATION		OBJECT	SPECIAL
Code Cutter	Station No.	Identification	Use
907	5085	F	
907	5085	F	RESET

Airport runways
_____

              FORMAT: ALIGNMENT   OBJECT   LOCATION   SPECIAL
_____

1.   ALIGNMENT Survey Name

     Use the proper NAME of the town, city, or a geographic location within the area
     for the airport.

2.   OBJECT Identification

     Enter the type of alignment object, in this case it is the airport RUNWAY.

3.   LOCATION Station (Runway Number) and Tangent Offset (TOS)

     A.   The location has two parts, the first part is called the runway
          number and should be a 2-digit numerical value. These two digits
          are taken from the first two digits of the 3-digit runway (measured
          from north) azimuth, i.e., 01, 13, 22, or 34 which were taken from the
          azimuths of 010, 130, 220, and 340 respectively.

     B.   The second part of the location, the tangent offset (TOS), is the
          location of the control point in question with respect to the center
          of the alignment, that is, the distance (in meters/feet) either left

or right.

4. SPECIAL Use
    Terms such as A PT, ECC, HUB, PTA, RESET, and TP A are used to explain a local
    use or disturbance to the original mark.
_____

                                 Examples

                              Airport runways

ALIGNMENT   OBJECT   LOCATION   SPECIAL

Survey name | Identification | Station | TOS | Use
--------------------+----------------+---------+---------+--------------
KENNEWICK AIRPORT | | | |
KENNEWICK AIRPORT | | | | ECC
KENNEWICK AIRPORT | | | | RESET
KENNEWICK APT AZ MK | | | |
KENNEWICK APT | RUNWAY | 00 | OFFSET | HUB
KENNEWICK APT | RUNWAY | 36 | CL |
KENNEWICK APT | RNWY | 02 | CL |
KENNEWICK APT | RNWY | 20 | CL |

                            Political boundaries
_____

        FORMAT: ALIGNMENT OBJECT DESIGNATE POLITICAL SPECIAL
_____

1. ALIGNMENT Survey

    The term BOUNDARY is used when two or more participants are in common
    or adjacent to an alignment.

2. OBJECT Identification

    Enter the type of alignment object, such as name, station, miles,
    mileposts, monuments, reference points, etc.

3. DESIGNATE Reference

    The designate reference is used to identify the unique number, letters, or
    symbols that describe the control point.

4. POLITICAL Participants

    A. All participants in common or adjacent to the alignment boundary
        are listed in alphabetical order.
    B. The political participants to be selected and entered first will

be by the following order: international, federal, reservations, state, county, municipal, and private.
  C. The selection order will provide the correct entries for the country/state and county fields used within the NGS data base.

5. SPECIAL Use

    Terms such as A PT, ECC, HUB, PTA, RESET, and TP A are used to explain a local use or disturbance to the original mark.
_____

Examples

Political boundaries

ALIGNMENT   OBJECT   DESIGNATE   POLITICAL   SPECIAL

Survey	Identification	Reference	Participants	Use
BOUNDARY	MONUMENT	84 A	MX US	RESET
BOUNDARY	MILEPOST	360	ND SD
BOUNDARY	TRAVERSE STATION	110 A	CD US	ECC
BOUNDARY	ARC STONE	14	DE PA	RESET
BOUNDARY	CORNER STONE	2	MD PA
BOUNDARY	TANGENT STONE	1	DE MD
BOUNDARY	INTERSECT STONE	OFFSET	DE PA
BOUNDARY	POINT	24	CD US
BOUNDARY	REFERENCE POINT	22	AZ CA

Highways and roads
_____

        FORMAT: ALIGNMENT   OBJECT   LOCATION   SPECIAL
_____

1. ALIGNMENT Survey Name

    A. Use the term Ixxx for all Interstate highways.
    B. Use the term HIGHWAY for all Federal highways.
    C. Use the term ROUTE for all State highways.
    D. Use the term ROAD for all county roads.
    E. Use the municipality name for all local streets, avenues, boulevards, pikes, roads, etc.

2. OBJECT Identification

    A. Enter the type of alignment object, such as the name and station, miles, mileposts, monuments, reference points, etc.
    B. Or enter the proper name of the alignment, such as the name of the city street.

3. LOCATION Station and Tangent Offset

    A. The location uses two parts, the first part is called the stationing. This part should be, for most cases, a numeric value.

B. The second part of the location, the tangent offset (TOS), is the
    location of the point in question with respect to the center of
    the alignment, that is, the distance (in meters/feet) either left
    or right.

4. SPECIAL Use

    Terms such as A PT, ECC, HUB, PTA, RESET, and TP A are used to explain a local
    use or disturbance to the original mark.

_____

                                Examples
                           Highways and roads

ALIGNMENT   OBJECT   LOCATION   SPECIAL

Survey name	Identification	Station	TOS	Use
I495	MILEPOST	99.387		ECC
HIGHWAY 50	STATION	1234+00	CL
ROUTE 355	STATION MARK	233+16	50LT
ROUTE 193	REFERENCE POINT	21+00	POC
ROAD 2786	MILEPOST	37.3		RESET
ROCKVILLE	MAPLE AVE STA	1+32	39RT
ROCKVILLE	MAPLE AVE STA	2+50	POT
PASCO	MAIN STREET	PI 9	

                      Railroads, canals and rivers
_____

        FORMAT: ALIGNMENT   OBJECT   LOCATION   SPECIAL
_____

1. ALIGNMENT Survey

    A. The terms RAILROAD or RAILWAY for alignments which follow these
        right-of-ways.
    B. Use the characters CANAL or REACH for those man made waterways.
    C. Use the characters RIVER for all natural waterways.

2. OBJECT Identification

    Enter the type of alignment object, such as name, station, miles,
    mileposts, monuments, reference points, etc.

3. LOCATION Station and Tangent Offset

    A. The location uses two parts, the first part is called the
        stationing. This part should be, for most cases, a numeric value.

    B. The second part of the location, the tangent offset (TOS), is the
        location of the point in question with respect to the center of
        the alignment, that is, the distance (in meters/feet) either left

or right.

4. SPECIAL Use

    Terms such as A PT, ECC, HUB, PTA, RESET, and TP A are used to explain
    a local use or disturbance to the original mark.

_____

                            Examples

                  Railroads, canals and rivers

ALIGNMENT   OBJECT   LOCATION   SPECIAL

Survey	Identification	Station	TOS	Use
RAILROAD	MILEPOST	347.8	CL	RESET
RAILWAY	MILEPOST	216.455	OFFSET
REACH	1	22+00	400LT	ECC
REACH	1	PI 2	
REACH	3	295+00	400LT
RIVER	SNAKE MILEPOST	37.3	

                            Landmarks
_____

        FORMAT: LOCATION   OWNERSHIP   OBJECT   SPECIAL
_____

1. LOCATION

    A. The general area in which the landmark is located should be used,
        such as the nearest city, town, or local geographic area.
    B. However, some landmarks by the nature of their name alone will be
        enough to give a general location, e.g. STATUE OF LIBERTY (New York),
        SEARS TOWER (Chicago), and SEATTLE SPACE NEEDLE (Seattle).

2. OWNERSHIP

    A. The ownership should be the proper name of the existing owner at the
        time the landmark was positioned. Later recovery information will
        reflect the changes of ownership.
    B. If the ownership is a political group, such as a state or county, do
        not include the name of the state or county.

3. OBJECT Identification
    For a landmark, enter a general name in order to identify it.

4. SPECIAL Target

The special target is used to uniquely identify the exact object sighted as the landmark.

_____

Examples
Landmarks

```
-------------------------------------------------------------------------
LOCATION   | OWNERSHIP             |      OBJECT          | SPECIAL
           |                       +----------------------+-------------
           |                       |    Identification    | Target
-------------+---------------------+----------------------+-------------
ASHLAND     | MUNICIPAL            | AIRPORT              | BEACON
BETHESDA    | GREEK ORTHODOX       | CHURCH               | CROSS
CARSON CITY | STATE POLICE         | RADIO STATION        | MAST
FRANKLIN    | COUNTY               | HOSPITAL             | FLAGPOLE
KEY WEST    | FORT MONROE          | BATTERY              | RED LIGHT
LAS VEGAS   |                      | TV STATION KLAS      | MAST
LOVELOCK    |                      | RADIO STATION KOB 893| MAST
NEW YORK    | PORT AUTHORITY       | BUILDING             | FLAGPOLE
PASCO       | COUNTY               | COURTHOUSE           | DOME
POTOMAC     | ST MARKS CATHOLIC    | CHURCH               | SPIRE
ROCKVILLE   | HUGHES AIRCRAFT      | BUILDING             | APEX
ROCKVILLE   | MUNICIPAL            | GAS TANK             | FINIAL
ROCKVILLE   | MUNICIPAL            | WATER TANK           | BALL
ROCKVILLE   | MUNICIPAL            | STANDPIPE            | FINIAL
SALEM       | 1ST METHODIST        | CHURCH               | WEST SPIRE
SALEM       | STATE                | HOSPITAL CLOCK       | APEX
WINNEMUCCA  |                      | RADIO STATION KWNA   | MAST
-------------------------------------------------------------------------
```

Township and range control point information

_____

FORMAT: TOWNSHIP   RANGE   SECTION   LOCATION

_____

Department of Interior, Bureau of Land Management disks are always marked by stamping them so as to be read looking north while standing on the south side. This relationship gives the viewer a pictorial or graphical representation of the physical relationship of the existing subdivision of the land under survey.

The south and east boundaries of each township, for the most part, are the controlling sides, whereas north and west township boundaries will close onto the controlling standard parallel to the north and the guide meridian to the west of it respectively.

1. TOWNSHIP

    A. One Township #
        Indicate the Township containing the identified survey monument.
    B. Two Townships ## (read from south to north)
        (1) List southernmost FIRST (one with lowest latitude)
        (2) List northernmost SECOND (one with higher latitude)

2. RANGE

A. One Range #
        Indicate the Range containing the identified survey monument.
    B. Two Ranges ## (read from west to east)
        (1) List Range on the left FIRST (western most)
        (2) List Range on the right SECOND (eastern most)

3. SECTION

    A. Arrange and list all sections to be included, in a string of increasing
        section numbers.
    B. For Township surveys which are incomplete, show the identification (see
        part 4) as a Cardinal Corner of the "One" lowest section where the
        subdivision survey has been completed.

4. LOCATION - Identification of a Subdivision Survey Point

    A. Standard Corner   S C
    B. Closing Corner   C C
    C. Meander Corner   M C
    D. Quarter-Section Corner   1/4 COR
    E. Location Monument   L M
    F. Angle Point   A P
    G. Witness Corner   W C
    H. Cardinal Corner   ***
    I. Identification as Found   NIR S180 MP31
_____
***Use Lowest Section Number Completed.


```
    |    |    |    |    |    |                           |
    |   4TH STD PARALLEL NORTH (96 miles)                |
    + -- + -- + -- + -- + -- +-------------------------+------
N |    |    |    |    |    |       |       |       |     |
O |    F    S    3    4    5|      |       |       | T16N |6
R |    I    E    R    T    T|      |       |       | R24E |T
T |    R    C    D    H    H|      |       |       |     |H
H |    S    O         |------ |------ |------ |------|
  |    T    N    |    | G|      |       |       |     |G
  |         D    |    | U|      |       |     | T15N |U
  |         |    |    | I|      |       |     | R24E |I
P |    |    |    |    | D|      |       |       |     |D
R |              E|------ |------+******+------|E
I |              |       |     *       *     |
N |              M|      |     * T14N * T14N |M
C |              E|      |     * R23E * R24E |E
I |              R|      |     *       *     |R
P |              I|------ |------+******+------|I
A |              D|      |       |       |     |D
L |              I| T13N | T13N | T13N | T13N |I
  |    |    |    |    | A| R21E | R22E | R23E | R24E |A
  |    |    |    |    | N|      |       |       |     |N
M + -- + -- + -- + -- + -- +-------------------------+------
E |   3RD STD PARALLEL NORTH (72 miles)                |
R |                        |                           |
I |
```

```
    D + -- + -- + --
    I |   SECOND STD PARALLEL NORTH (48 miles)
    A |
    N |
      + -- + -- + --
      |   FIRST STD PARALLEL NORTH (24 miles)
      |
      |
      + -- + -- BASE LINE
      |\
    S |  \ (INITIAL POINT)
    O |
    U |
    T |   FIRST STD PARALLEL SOUTH (24 miles)
    H + -- + -- + --
      |
```

Figure D.1 - Layout of Standard Parallels and Guide Meridians.

```
T15N R22E |                    T15N R23E                    | T15N R24E
     36   | 31  | 32  | 33  | 34  | 35  | 36  |    3
          |     |     |     |     |     |     |
--------- +******+******+******+******+******+******+ ----------
          *     |     |     |     |     |     *
          *     |     |     |     |     |     *
     1    *  6  |  5  |  4  |  3  |  2  |  1  *    6
          *     |     |     |     |     |     *
          *     |     |     |     |     |     *
     -- +------+------+------+------+------+------+ --
          *     |     |     |     |     |     *
          *     |     |     |     |     |     *
     12   *  7  |  8  |  9  | 10  | 11  | 12  *    7
          *     |     |     |     |     |     *
          *     |     |     |     |     |     *
     -- +------+------+------+------+------+------+ --
          *     |     |     |     |     |     *
          *     |     |     |     |     |     *
     13   * 18  | 17  | 16  | 15  | 14  | 13  *   18
          *     |     |     |     |     |     *
T14N      *     |     | T14N      |     |     *       T14N
R22E -- +------+------+--- R23E ----+------+------+ --  R24E
          *     |     |     |     |     |     *
          *     |     |     |     |     |     *
     24   * 19  | 20  | 21  | 22  | 23  | 24  *   19
          *     |     |     |     |     |     *
                              D-28
```

```
       *       |      |      |      |      |       *
   -- +------+------+------+------+------+------+ --
       *       |      |      |      |      |       *
       *       |      |      |      |      |       *
   25  *   30  |  29  |  28  |  27  |  26  |  25   *   30
       *       |      |      |      |      |       *
       *       |      |      |      |      |       *
   -- +------+------+------+------+------+------+ --
       *       |      |      |      |      |       *
       *       |      |      |      |      |       *
   36  *   31  |  32  |  33  |  34  |  35  |  36   *   31
       *       |      |      |      |      |       *
       *       |      |      |      |      |       *
   ---------+******+******+******+******+******+******+-----------
            |      |      |      |      |      |      |
       1    |   6      5      4      3      2      1  |    6
   T13N R22E |                  T13N R23E             |  T13N R24E
```
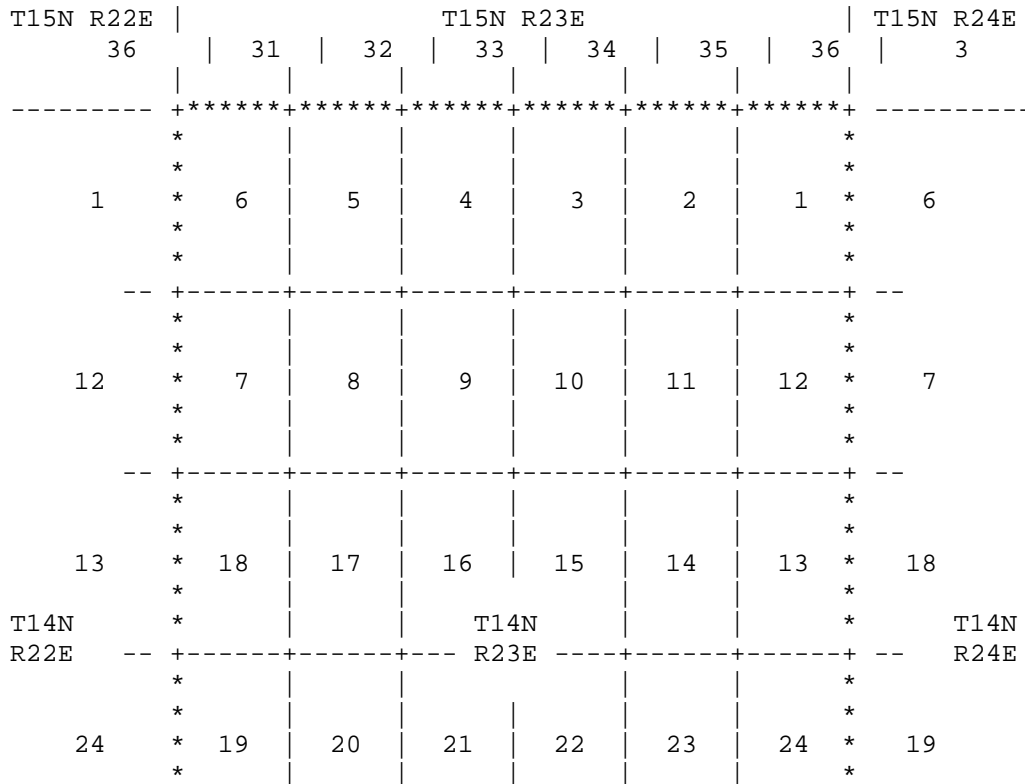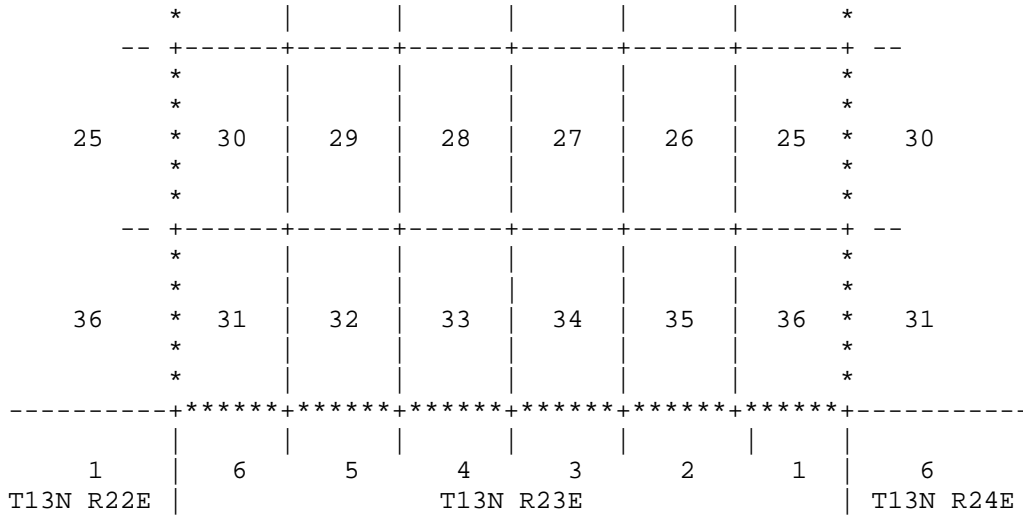
Figure D.2 - T14N R23E SECS (1 - 36) as shown in Figure D.1.

```
                        T14N R23E

       SEC 33 |           SEC 34        |  SEC 35
              |                         |
     --------(A)---------(B)---------(C)--------
              |                         |
       SEC 4  |           SEC 3         |  SEC 2

                        T13N R23E
```

```
                        T13N R23E

       SEC 33 |           SEC 34        |  SEC 35
              |                         |
     -----+-(D)---------(E)-------+-(F)---- 3RD STD PARALLEL NORTH
          (X)                     (Y)
       SEC 4  |           SEC 3         | SEC 2

                        T12N R23E
```
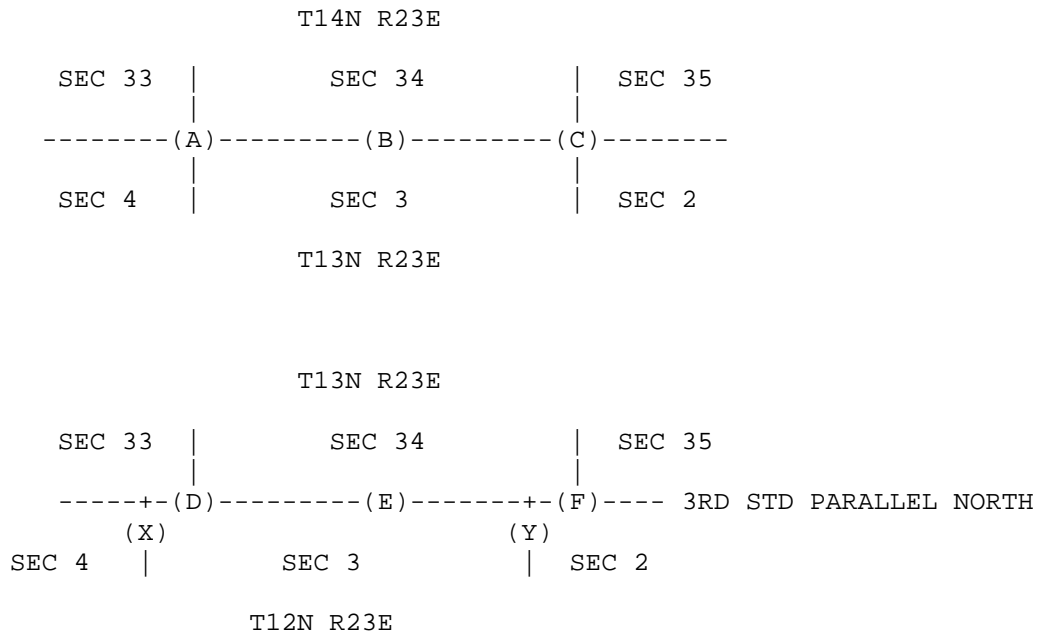
Figure D.3 - Designations for East/West Boundary Corners.

Examples

```
-----------------------------------------------------------------
         TOWNSHIP  RANGE           SECTION           LOCATION
-----------------------------------------------------------------
      A    T13 14N  | R23E      | SECS 3 4 33 34  |
      B    T13 14N  | R23E      | SECS 3 34       | 1/4 COR
      C    T13 14N  | R23E      | SECS 2 3 34 35  |
       D   T13N     | R23E      | SECS 33 34      | SC
 or D      T13N     | R23E      | SEC 33          | SE COR
      E    T13N     | R23E      | SEC 34          | 1/4 COR
      F    T13N     | R23E      | SECS 34 35      | SC
 or F      T13N     | R23E      | SEC 34          | SE COR
      X    T12N     | R23E      | SECS 3 4        | CC
      Y    T12N     | R23E      | SECS 2 3        | CC
-----------------------------------------------------------------
```

```
        T17N R24E                 |               T17N R25SE
                              S 36  |  S 31
--- 4TH STD PARALLEL NORTH  ------+---(L)----
                             (Y)
                           S 1  |  S 6
                            --(K)-
                           S 12 |  S 7
                            --(J)-
        T16N R24E                 |               T16N R25E
                     --------(I)--------
        T15N R24E                 |               T15N R25E
                     --------(H)--------
        T14N R24E                 |               T14N R25E
                     --------(G)--------
                           S 1  |  S 6
                            --(F)-
                           S 12 |  S 7
                            --(E)-
                           S 13 |  S 18
        T13N R24E           --(D)-         T13N R25E
                           S 24 |  S 19
                            --(C)-
                           S 25 |  S 30
                            --(B)-
                           S 36 |  S 31
--- 3RD STD PARALLEL NORTH ---+--(A)--------
                             D-30
```
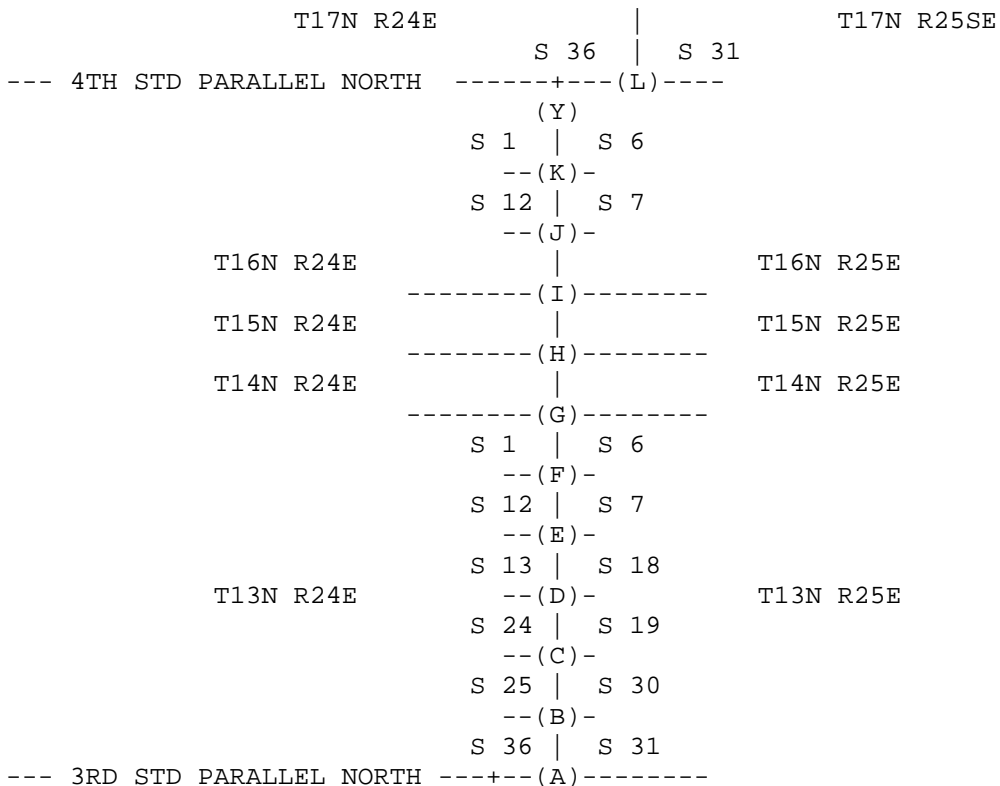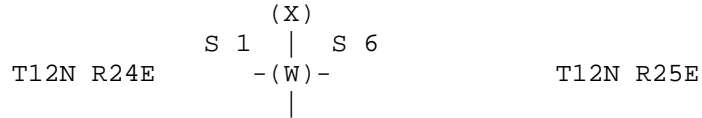
```
                    (X)
             S 1  |  S 6
   T12N R24E        -(W)-                 T12N R25E
                     |

Figure D-4 - Designations for North/South Boundary Corners.

                        Examples

     ---------------------------------------------------------
           TOWNSHIP      RANGE        SECTION        LOCATION
     ---------------------------------------------------------
     W        T12N    | R24 25E  | SECS 1 6 7 12   |
     X        T12N    | R24 25E  | SECS 1 6        | CC
     A        T13N    | R24 25E  | SECS 31 36      | SC
     B        T13N    | R24 25E  | SECS 25 30 31 36|
     C        T13N    | R24 25E  | SECS 19 24 25 30|
     D        T13N    | R24 25E  | SECS 13 18 19 24|
     E        T13N    | R24 25E  | SECS 7 12 13 18 |
     F        T13N    | R24 25E  | SECS 1 6 7 12   |
     G        T13 14N | R24 25E  | SECS 1 6 31 36  |
     H        T14 15N | R24 25E  | SECS 1 6 31 36  |
     I        T15 16N | R24 25E  | SECS 1 6 31 36  |
     J        T16N    | R24 25E  | SECS 7 12 13 18 |
     K        T16N    | R24 25E  | SECS 1 6 7 12   |
     Y        T16N    | R24 25E  | SECS 1 6        | CC
     L        T17N    | R24 25E  | SECS 31 36      | SC
     ---------------------------------------------------------
```