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OF  
TRANSPORTATION**



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*Revision History:*

*First Release: March, 2001  
Revised: January, 2004  
Revised: August, 2005  
Revised: October, 2006*



# **Survey Field Note Standards**

**October, 2006**



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# Purpose and Intended Use

The purpose of this document is to provide standards for recording survey field notes and supporting electronic data on Oregon Department of Transportation (ODOT) projects.

These standards are to be adhered to by all ODOT surveyors and private surveyors doing work for ODOT under contract.

As with any ODOT survey policy, deviation from the standards shall only be permitted in unusual situations, where logic and reason so dictate. Any deviation from the standards requires that the ODOT Chief of Surveys be notified and the deviation documented in the field survey narrative.

This is a living document, it may be updated often to adapt to new procedures developed in response to rapidly changing technology. For the most current version go to Geometrics Web Site.

There are sections of the document that are void of information. In those situations, there are no specific requirements beyond those that are described in "Elements Common To All Survey Field Notes". Those sections will be revised as specific needs arise.

Suggested changes and any errors discovered in the document should be forwarded to the ODOT Chief of Surveys for consideration.

## How to use this document

Read and follow all items described in "Elements Common to All Survey Field Notes"

and

Read and follow all items described in the section specific to the survey task being performed.

## What Constitutes Original Survey Field Notes?

Field Notes are generally considered to be one of the most important aspects of a survey. In many cases it may be the only remaining evidence that we have of the conditions at the time of the survey. All field notes must be recorded at the time the work is being done. A surveyor's (and thus ODOT's) competency and credibility may be judged by the quality of the field notes.

In the case of electronic data collection, ODOT considers "original field notes" to be the combination of the original electronically collected data and supporting hand written field notes.

All original field notes should be done in pencil and cannot contain CAD drawings, transcribed voice recordings, or any processed or 'resultant' data. However, processed data such as digital photos may be attached to the field notes as supporting information.

## Elements Common to All Survey Field Notes

- Field notes must be recorded at the time of the survey.
- Field notes will be recorded on official ODOT forms.
- Field notes will be recorded using pencil, with lead appropriate for the conditions.
- Each Electronic Data Collection File shall be accompanied by its own set of field notes.
- If corrections to the notes are necessary, a line will be drawn through the error (without obscuring it) and the correct value or information written adjacent to it. Any entries made to the field notes subsequent to the actual survey should be shown in RED.
- Each set of field notes shall have a title sheet. Use the same form as required by the specific task, except in the case of electronic data collection, where Form #734-2135A is to be used.

- The full names of all crew members, who participated in the survey described in the field notes, will be recorded on the title sheet. It is acceptable to use crew member initials on individual pages.
- The instrument operator, rod person and note keeper will be identified on each page of the field notes.
- Page numbering will be in normal “book” format. The Title page will be “1”, the next left page “2”, the next right page “3”...
- A “special notes” or “legend” page will be used if notes contain non-standard abbreviations or symbols.
- Code information will not be recorded in the notes as numeric values. Instead, the intent of the code will be described in plain language.
- It is acceptable to record approximate Latitude/Longitude positions for Control Points, or other objects, in the field notes as an aid to future surveyors attempting to find the item. These positions will not substitute for a vicinity sketch, where required. Typically, the position would be attained through the use of a handheld navigation grade GPS receiver. If this option is used, the field note title sheet must contain a statement describing the accuracy of the Latitude/Longitude positions shown.
- Additionally, all electronic data collection notes will also include the following:

Each time the instrument is set up the field note will contain a “Setup Line”. This will include: Instrument @ Point (#), height of instrument, description of occupied point, Backsight @ Point (#), description of backsight point, and height of backsight target.

## Survey Tasks

### Horizontal Control Networks

Form Number	Point Number Range	Example on Page
734-2135	1 - 499	16 & 17

Horizontal control network notes will include:

- A Sketch for each instrument setup showing the network points and lines of observation.
- A vicinity sketch for each point in the network. The sketch is only necessary the first time the point is referenced in the notes. The sketch should have just enough detail to help future surveyors find the point, and should not be a time consuming task.
- North arrow (up or to the left of the page).
- Detailed descriptions of monuments.
- The last page(s) of network notes may have an overall schematic of the entire network.
- No electronically captured measurement data (Horizontal Angles, Vertical Angles or Slope Distances) should be recorded in the field notes.
- Form #734-3185 "Report on Survey Mark" will be filled out and submitted to Geometronics reporting the condition of all HARN, Triangulation Station, PLSS, and other found government survey control monuments. This is done so that Geometronics can update it's records and/or forward the information to the responsible agency.
- Form #734-2298 "Project Notification to County Surveyors" will be filled out and submitted to the appropriate County Surveyor providing a list of all the PLSS monuments within the project limits. A copy of the form will also be included in the Location packet to be eventually forwarded to the Construction Project Manager.

## Vertical Control Networks

Form Number	Point Number Range	Example on Page
734-2135 (Digital)	9,000 – 9,999	
734-3034 (Optical)	TP1, TP2, TP3 . . . .	19

Vertical control notes will include:

- Detailed descriptions for benchmarks and temporary benchmarks.
- Rubbings, sketches, or photographs of the benchmark monument will be included in the last page(s) of the notes.
- The record elevations of benchmarks shown.
- Digital level notes will not include measurement data.
- Closure information (permitted and actual)
- Form #734-3185 "Report on Survey Mark" will be filled out and submitted to Geometrics reporting the condition of the benchmark.
- When Leveling through existing points use the numbers previously assigned to those points.

## Mapping (Planimetric and DTM)

Form Number	Point Number Range	Example on Page
734-2135	50,000 and Up	20

Field notes for the mapping of Planimetric and DTM features will include:

- An entry, including the running Topo point number, if the associated code is not completely self explanatory. This reduction in note keeping requires appropriate field communication/verification procedures to minimize data entry errors.
- Any standard ODOT survey abbreviation. Any non-standard abbreviation used shall be noted in a "special notes" page attached to the field notes.
- Running point number and target height for each Backsight/Elevation Check-in measurement.
- No electronically captured measurement data should be recorded in the field notes.

- All changes in rod height noted with a brief HR=(new rod height)
- Any point or line not having a predetermined code, typically entered as a Generic Point or Line.
- Descriptions or details about items that are not fully described by the associated code.
- The following routinely collected features will require recording additional data as shown :

Approaches: type

Barriers: type, condition

Bents: if required, note dimensions, construction, condition

Box Culverts: note dimensions, condition, and any other important characteristics of culvert such as end treatments

Curb: type, condition, construction

Fences: construction, height, condition

Gates: construction, dimensions, condition

Guardrails: type, condition, exposure

Inlets: size, invert, condition, type of pipe

Manholes: invert, pipe location, cone rotation

Pipes: size, construction, condition

Poles: owner, number, construction, transformers, where wires go

Signs: post, size, condition, legend, construction, direction facing

Trees: species (or common name), size (diameter at breast height)

Walls: width, construction, condition

Water flow: if practical, note flow direction of open water channels

Other specific circumstances may require such additional information as: doorway elevations, water valve depths, wire heights, etc.

The additional data listed above does not need to be recorded if it had been previously collected as part of the project's Roadside Inventory, Sign Log, or Drainage Study.

- Any complex coding such as Template Definitions must be recorded in the field notes.

## Strategic Points

Form Number	Point Number Range	Example on Page
734-2135	500 - 799	

Field Notes for Strategic Points will include:

- Point number and target height.
- Detailed descriptions of points.

## Controlled Strategic Points

Form Number	Point Number Range	Example on Page
734-2135	800 - 999	

Field Notes for Strategic Points will include:

- Point number and target height.
- Detailed descriptions of points.

## Monument Ties

Form Number	Point Number Range	Example on Page
734-2135	1000 - 2999	18

Field Notes for Monument Ties will include:

- A sketch for each Setup showing the Occupied Point, Backsight and Monuments tied.
- Point numbers.
- A detailed description of Monuments.

## Cross-Sections

Form Number	Point Number Range	Example on Page
734-3032	N/A	22

Field Notes for Cross Sections using traditional methods with a level & tape will:

- Be recorded with centerline going from the bottom to the top of the page. Terrain to the right of centerline will be recorded on the right page, and left of the centerline on the left page.
- The Station for the cross-section will be recorded in the appropriate column on both (left and right) pages.
- Elevations may be recorded in plus or minus values from centerline, or in elevations relative to the project datum.
- Record all topographic information encountered along the cross-section in the row above the cross-section data.
- For cross-sections that are not perpendicular to the centerline, the skew angle must be noted.

## Profiles

Form Number	Point Number Range	Example on Page
734-3034	N/A	21

Field Notes for Profiles using Mechanical/Optical levels will:

- Be recorded from top to bottom of the page. The direction of the profile may, or may not, be ahead on centerline.
- The left page will contain six columns (from left to right); Station, Backsight, Height of Instrument, Foresight, Profile Elevation, and BM Elevation.
- The right page will contain description of points as needed.

## Culvert Staking

Form Number	Point Number Range	Example on Page
734-3427	N/A	24 & 26

(culvert data sheet)

## Alignment Staking

Form Number	Point Number Range	Example on Page
734-3033	N/A	

Field Notes for Alignment Staking using traditional methods without on-board programs will:

- Be recorded from the bottom to the top of the page (with centerline going up the page).
- The left page will contain four columns (from left to right); Station, Deflection, Long Chord, and Description.
- The right page will contain a diagram of the alignment segment detailed in the left page.

## Construction Feature Staking

Form Number	Point Number Range	Example on Page
734-3033	N/A	

( for traditional methods without on-board programs)

## Referencing (points & lines)

Form Number	Point Number Range	Example on Page
734-3033	N/A	23

## Slope Staking

Form Number	Point Number Range	Example on Page
734-3032	N/A	

(for traditional methods without on-board programs)

## Re-measure / pay quantities

Form Number	Point Number Range	Example on Page

734-3033	N/A	
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## Stockpiles

Form Number	Point Number Range	Example on Page
734-3033	N/A	

(for traditional methods without electronic data collection)

## Log Files

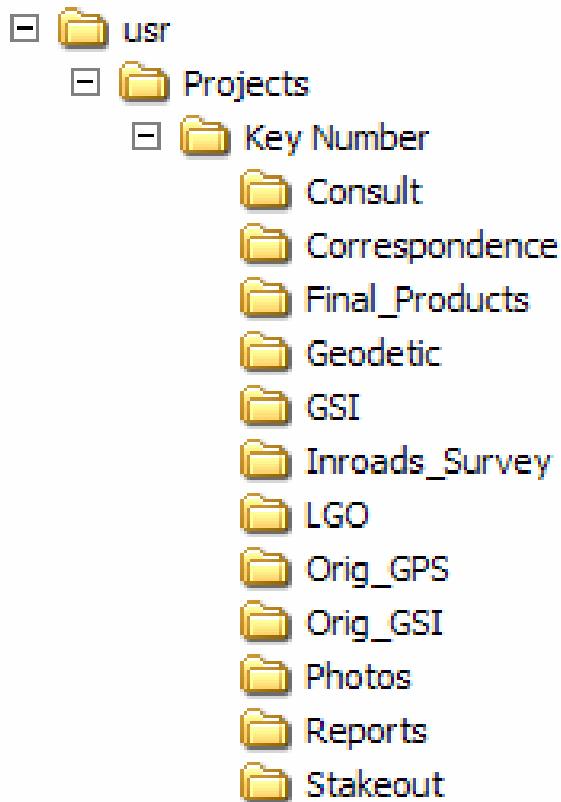
Most on-board instrument programs currently in use by ODOT survey crews generate a log file that records information about the particular activity being performed.

Some of the on-board programs record data to both the program's log file, and to the raw data "gsi" file when pressing the "store" button on the instrument. The log file contains resultant and/or reformatted data, along with other pertinent data such as; program name, date, equipment number, etc., while the "gsi" file contains only the actual raw measurements.

A complete and proper record of the survey would include the log file, raw data, and in some cases the supporting hand written field notes.

An electronic copy of any log file generated will be saved in the "reports" subfolder and handled similarly to other electronic data associated with field notes described in this document.

# Electronic Data Handling



The diagram above shows the standard file and folder organization structure for each project. Each project will have a primary folder named xxxxx (where xxxxx is the 5 digit key number)

- The folder named “Consult” will contain all survey data delivered by any consultants working on the project.
- The folder named “Correspondence” will contain all correspondence sent or received by the surveyors involved in this project.
- The folder named “Final\_Products” will contain all the final project products.  
These include the Key#e.dgn, Key#.dtm and Key#.alg.
- The folder named “Geodetic” will contain all data related to Geodetic Control. This folder is only necessary if the project involved Geodetic Control.
- The folder named “GSI” will contain edited gsi files.

- The folder named “InRoads\_Survey” will contain all working files. These include: .rwk, .fwd, .dtm, .alg, .dgn and .xin.
- The folder named “LGO” will contain all the LGO (GPS) project files.
- The folder named “Orig\_GPS” will contain all the original DBX data files. These files are to be created, and placed in this folder, when LGO prompts the user to ‘Create a backup’ after importing DBX data.
- The folder named “Orig\_GSI” will contain “write protected” or “Read-only” original raw data files.
- The folder named “Photos” will contain Digital Photographs.
- The folder named “Reports” will contain log files, Sets Summaries, Least Squares, Confidence Point, and other survey related reports.
- The folder named “Stakeout” will contain layout data.
- Any of these folders may have sub-folders under them as need to the specific for the project.

## **Survey Data Backups**

The survey crew chief is responsible for the organization, storage, and backups of survey related data.

Data Backup technology and related processes are constantly evolving. Refer to the appropriate document that describes the current procedures for backing up project data.

# File Naming Standards

The following table describes ODOT's File Naming standards for survey data:

File Name	For Survey Task
xxxxx <del>t</del> yy.zzz	Mapping (Topography)
xxxxx <del>n</del> yy.zzz	Horizontal Control Networks
xxxxx <del>m</del> yy.zzz	Monument Ties
xxxxx <del>e</del> yy.zzz	Levels (Elevations)
xxxxx <del>c</del> yy.zzz	Controlled Strategic Points

Where (xxxxx) = 5 digit project key number  
(yy) = 2 digit serial number  
(zzz) = 3 digit extension (from table below)

Extension	For
.gsi	Raw Data Files (downloaded from collector)
.sav	"Write protected" or "Read-only" original Raw Data Files (downloaded from collector)
.lev	Digilev Reports
.cpg	Confidence Point Ground Elevation Reports
.cpm	Confidence Point Model Elevation Reports
.cpa	Confidence Point Analysis Reports

# Point Numbering Standards

The following table describes ODOT's Point Numbering standards for survey data:

Item	Starting Number	Ending Number
Geodetic Control Monuments	Alphanumeric Name	
Horizontal Control Network Points	1	499
Strategic Points	500	799
Controlled Strategic Points	800	999
Found Monuments	1,000	2,999
Photo Pre-Marks (Pre-2003, Do Not Use)	3,000	4,999
Set Monuments	5,000	6,999
Photo Pre-Marks (w/GPS Elevations)	7,000	7,999
Photo Pre-Marks (w/Differential Elevations)	8,000	8,999
Differential Leveling Turn Points	9,000	9,999
Miscellaneous Points for Construction	10,000	14,999
Reserved for Future Use	15,000	49,999
Topographic Features	50,000	None

These are the Point Numbers to be written on stakes, recorded in the field data, and written in the field notes at the time of the survey. After processing the data in CAiCE (ODOT's current survey software), the feature name will be added to the Point Number (as a prefix) to create a Point Name. This Point Name will only be used within CAiCE.

# Archiving

## Hardcopies of Field Notes

When a project is completed, the original field notes and hard copies of any electronic data dealing with project control and monument ties will be sent to:

Oregon Department of Transportation  
Geometronics Unit - Maps and Plans Center  
Transportation Building, Room 29  
Salem, OR 97310  
Contact:      Lloyd Bledsoe  
                  (503) 986-3792  
                  [lloyd.bledsoe@odot.state.or.us](mailto:lloyd.bledsoe@odot.state.or.us)

*Verify Contact before sending packet*

Copies of the archived notes (described above) and the remaining original Location survey notes for the project will be sent to the Construction Project Manager's office, where it will be stored for 5 years after the completion of construction before being destroyed.

## Electronic Data

When a project is completed or shelved for a lengthy period, all associated data related to the project should be archived. The survey crew chief is responsible for assuring that all survey related data is organized and archived.

Archiving technology and related processes are constantly evolving. Refer to the appropriate document that describes the current procedures for archiving project data. This information is available on the Geometronics Web site.

# Examples

The Oregon Department of Transportation

**ELECTRONIC DATA TITLE SHEET**  
Page | of 20

**METRIC**

PROJECT MCVEY AVENUE - BURNHAM ROAD  
HIGHWAY OSWEGO HIGHWAY  
COUNTY CLACKAMAS KEY# 06130  
FILE NAME 06130N01  
POINT NO. RANGE 1 TO 17  
TO \_\_\_\_\_  
DESCRIPTION HORIZONTAL CONTROL  
NETWORK

DATE 10,3,98 TO 10,10,98

EQUIPMENT: TCA 1800 96-TS05 CREW #: 1810  
PCMCIA CARD 96-TS05 NAMES:  
RON HAMILTON  
RANDY TALLMAN  
RICHARD LATHROP

734-2135A(2-01)

Electronic Data Title Sheet (form #734-2135A)

## Example 2

Page 2 of 20 Date 10/3/98 Crew RH T  
RT DR, M

Project MCVEY AVENUE-BURNHAM ROAD

POINT NUMBER	DESCRIPTION
△@A#2	h.i.=2.036 FD, 1" IRON PIPE IN MONUMENT BOX; DOWN 0.3; NEAR CENTER OF ROADWAY INTO GEORGE ROGERS PARK; APPROX. 100 E. FROM HWY. 43 / MCVEY AVE. INTERSECTION
BS@A#1	h.t.=1.698 SET 5/8" IRON ROD W/ RED PLASTIC CAP STAMPED "ODOT CONTROL" IN S.E. CORNER OF LAWN; 2.7 N.W. OF E.P. OF A.C. WALK; 1.5 W. OF CENTER OF INLET
FS@A#3	h.t.=1.664 SET 5/8" IRON ROD W/ RED PLASTIC CAP STAMPED "ODOT CONTROL" @ EDGE OF PLANTER BED; 5.0 N. OF E.P. OF ACCESS ROAD TO GEORGE ROGERS PARK; APPROX. 30 E. FROM HWY. 43/MCVEY AVE. INTERSECTION

Oregon Department of Transportation  
**ELECTRONIC DATA COLLECTION NOTES**  
File Name: 06130n01 Weather: 65°F, 763mmHg ppm: +4  
Page 3 of 20 CEAR

NOT TO SCALE

734-2135(2-01)

Example Network Notes (form #734-2135)

## Example 3

Oregon Department of Transportation

**ELECTRONIC DATA COLLECTION NOTES**

Page 3 of 16

File Name : 06130M02 Weather CLEAR 61° ppm: +6

NOT TO SCALE

HWY #3 #5

#1000

#1001

#401 ASH.

#7 ASH. ST.

## Example Monument Tie Note (form #734-2135)

## Example 4

2/6	Line	Date	9/13/98	Crew	RH T.
Project McVEY AVENUE-BURNHAM ROAD RT 22, 1					
OREGON DEPARTMENT OF TRANSPORTATION LEVEL SHEETS					
3/6					
STATION	BS(+)	T	FS(-)	ELEV.	RECORD ELEV.
X211	0.529				44.238
					44.767
10000	0.234		3.613	41.154	
					41.388
10001	0.175		2.949	38.439	
					38.614
10002	0.518		3.142	35.472	
					35.990
4	0.009		2.600	33.390	
					33.399
10003	0.565		2.263	31.136	
					31.701
500	0.930		3.083	28.618	
					29.548
15	1.406		1.558	27.990	
					29.396
14			0.957	28.439	

(00-0)MOC-NOT

734-3034(8-93)

FD. 3½" BRASS DISK IN N. END OF BOTTOM STEP OF "LAKEWOOD PUBLIC SCHOOL"; STEPS FACING STATE ST.; SCHOOL LOCATED @ MIDDLECREST ST.
NAIL
NAIL
BRASS TACK & WASHER
NAIL
PK NAIL
BRASS TACK & WASHER
BRASS TACK & WASHER

Example Optical Level Circuit (form #734-3034)

## Example 5

POINT NUMBER	DESCRIPTION
	X@ #500; PREV. SET PK NAIL h.i. = 1.713
	BS @ A#3; PREV. SET ROD & CAP h.t. = 1.640
	h.t. = 2,000
50000	E.P.
50022	SIGN: "GEORGE ROGERS PARK"
50023	BACK OF WALK
50047	CYCLONE FENCE (1.83 HIGH)
50051	h.t. = 1.500
50051	PGE POLE #5048
50052	0.30 FIR
50053	TYPE "D" INLET (0.685 x 0.810)
50054	SANITARY MH
50055	TERRAIN BREAKLINE (TOE OF SLOPE)
50067	TERRAIN POINTS
50079	TYPE 2A GUARDRAIL
50090	FACE OF CONCRETE BARRIER
50101	FACE OF TYPE "D" MOUNTABLE CURB
50114	CONF. PTS. - SURFACED
50124	BS ✓ h.t. 1.640

## Example Topo Notes (form #734-3025)

# Example 6

2/4 "L" Line Date 10/12/98 Crew RH T  
 Project MCVEY AVENUE-BURNHAM ROAD RT MM.

STA.	BS(+)	T	FS(-)	ELEV.	BM ELEV.
X211	1.756				44.238
				45.994	
10007	1.612			1.146	44.848
				46.460	
10008	2.405			0.649	45.811
				48.216	
10009	2.502			1.259	46.957
				49.459	
O+215 P.S.				0.841	48.618
O+220				0.975	48.484
O+240				1.402	48.057
O+260				1.768	47.691
O+280				2.103	47.356
O+300				2.195	47.264
O+315 P.C.				3.018	46.441
Y211				2.009	47.450 47.454
				MISCLOSURE=0.004	
ALLOWABLE				MISCLOSURE=0.006	

3/4

OREGON DEPARTMENT OF TRANSPORTATION  
 LEVEL SHEETS  
 RAINY 55°F

FD. 3 1/2" BRASS DISK (FOR COMPLETE  
 DESCRIPTION SEE MAIN LEVEL CIRCUIT  
 NOTES DATED 9/13/98)

PK NAIL

HIGH PT. ON ROCK

GINNIE

H & T

GINNIE

GINNIE

GINNIE

GINNIE

GINNIE

H & T

FD. 3 1/2" BRASS DISK (FOR COMPLETE  
 DESCRIPTION SEE MAIN LEVEL  
 CIRCUIT NOTES DATED 9/13/98)

734-3034(8-93)

Example Profile Notes (form #734-3034)

## Example 7

<p>2/4 LINE "L" DATE 10/13/98 CREW RH T RT DR, I</p> <p>PROJECT McVEY AVENUE-BURNHAM ROAD</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">GROUND ELEV.</td><td style="width: 10%;">4</td></tr> <tr><td>GRADE ELEV.</td><td>4.0 LF</td></tr> <tr><td>STATION</td><td></td></tr> </table> <p>OPEN FIELD</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr><td style="width: 10%;">48 48 48</td><td style="width: 10%;">0 + 220</td><td style="width: 10%;">E.G. E.P. 4</td></tr> <tr><td>36 27</td><td>36 94</td><td>37 65</td></tr> <tr><td>77 11</td><td>80 43</td><td>89 51</td></tr> <tr><td>100 00</td><td></td><td></td></tr> <tr><td>38 19</td><td>40 66</td><td>44 96</td></tr> <tr><td>68 53</td><td>55 71</td><td>48 18</td></tr> <tr><td>35 14</td><td>21 68</td><td>99 78</td></tr> <tr><td>100 00</td><td></td><td>0 00</td></tr> </table> <p>PS</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr><td style="width: 10%;">48 48 48</td><td style="width: 10%;">0 + 215,000</td><td style="width: 10%;">E.G. E.P. 4</td></tr> <tr><td>44 21</td><td>41 18</td><td>39 24</td></tr> <tr><td>58 15</td><td>65 89</td><td>71 86</td></tr> <tr><td>82 01</td><td>100 00</td><td></td></tr> <tr><td>46 92</td><td>46 14</td><td>45 61</td></tr> <tr><td>50 13</td><td>41 78</td><td>32 46</td></tr> <tr><td>27 84</td><td>21 63</td><td>9 18</td></tr> <tr><td>7 30</td><td>0 00</td><td></td></tr> </table>	GROUND ELEV.	4	GRADE ELEV.	4.0 LF	STATION		48 48 48	0 + 220	E.G. E.P. 4	36 27	36 94	37 65	77 11	80 43	89 51	100 00			38 19	40 66	44 96	68 53	55 71	48 18	35 14	21 68	99 78	100 00		0 00	48 48 48	0 + 215,000	E.G. E.P. 4	44 21	41 18	39 24	58 15	65 89	71 86	82 01	100 00		46 92	46 14	45 61	50 13	41 78	32 46	27 84	21 63	9 18	7 30	0 00		<p>CROSS SECTION NOTES</p> <p>3/4 STATION</p> <p>CLOUDY 50°F</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr><td style="width: 10%;">TOE SLOPE</td><td style="width: 10%;">EDGE CREEK</td><td style="width: 10%;">BOTTOM CREEK</td><td style="width: 10%;">TOP CREEK</td></tr> <tr><td>40 78</td><td>37 77</td><td>38 49</td><td>40 28</td></tr> <tr><td>100 00</td><td>87 74</td><td>78 15</td><td>37 77</td></tr> <tr><td></td><td></td><td>67 11</td><td>39 42</td></tr> <tr><td></td><td></td><td>54 11</td><td>41 84</td></tr> <tr><td></td><td></td><td>43 78</td><td>35 59</td></tr> <tr><td>E.P. E.G.</td><td>EDGEE CREEK</td><td>BOTTOM CREEK</td><td>TOP CREEK</td></tr> <tr><td>48 92</td><td>48 11</td><td>46 28</td><td>42 75</td></tr> <tr><td>74 10</td><td>9 60</td><td>15 45</td><td>42 68</td></tr> <tr><td></td><td></td><td>21 94</td><td>43 21</td></tr> <tr><td></td><td></td><td>25 46</td><td>43 35</td></tr> <tr><td></td><td></td><td>25 60</td><td>28 97</td></tr> <tr><td></td><td></td><td>28 53</td><td>28 53</td></tr> <tr><td>41 74</td><td>43 29</td><td>45 21</td><td>46 18</td></tr> <tr><td>100 00</td><td>90 47</td><td>82 17</td><td>7 82</td></tr> <tr><td></td><td></td><td>7 82</td><td>47 23</td></tr> <tr><td></td><td></td><td>61 78</td><td></td></tr> <tr><td>E.P. E.G.</td><td></td><td></td><td></td></tr> <tr><td>48 41 8</td><td>48 31</td><td>44 21</td><td>44 65</td></tr> <tr><td>7 20</td><td>9 10</td><td>18 70</td><td>40 76</td></tr> <tr><td></td><td></td><td>24 25</td><td>42 14</td></tr> <tr><td></td><td></td><td>33 63</td><td>44 34</td></tr> <tr><td></td><td></td><td>41 82</td><td>50 31</td></tr> <tr><td></td><td></td><td>55 74</td><td></td></tr> </table> <p>0 + 215,000 PS</p>	TOE SLOPE	EDGE CREEK	BOTTOM CREEK	TOP CREEK	40 78	37 77	38 49	40 28	100 00	87 74	78 15	37 77			67 11	39 42			54 11	41 84			43 78	35 59	E.P. E.G.	EDGEE CREEK	BOTTOM CREEK	TOP CREEK	48 92	48 11	46 28	42 75	74 10	9 60	15 45	42 68			21 94	43 21			25 46	43 35			25 60	28 97			28 53	28 53	41 74	43 29	45 21	46 18	100 00	90 47	82 17	7 82			7 82	47 23			61 78		E.P. E.G.				48 41 8	48 31	44 21	44 65	7 20	9 10	18 70	40 76			24 25	42 14			33 63	44 34			41 82	50 31			55 74		<p>3/4 STATION</p>
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## Example Cross Section Note (form #734-3032)

## Example 8

DATA BLOCK	POINT NUMBER	DESCRIPTION
		$\pi$ @ #1019; FD. BRASS DISK IN MONUMENT BOX @ STA 1+000.000 P.O.T.
		BS @ #1018; FD. BRASS DISK IN MONUMENT BOX @ STA 1+200.000 P.S.
		$\pi$ @ #1018 BS @ #1019

Page 2 of 10 Date 10/24/98 Crew RT RT RT,

Project MCVEY AVENUE - BURNHAM ROAD

Oregon Department of Transportation

**ELECTRONIC DATA COLLECTION NOTES**

Page 3 of 10

File name: Weather: 52°F, 763mm Hg ppm: -1

DATA BLOCK	POINT NUMBER	DESCRIPTION
		Hwy. 43
		22.308
		SET 5/8", I.R. W/GREEN PLASTIC CAP "ODOT"
		RP
		1019
		90° 00' 00" ← ↑ → 90° 00' 00"
		20.729
		SET 5/8", I.R. W/GREEN PLASTIC CAP "ODOT"
		RP
		1019
		90° 00' 00" ← ↑ → 90° 00' 00"
		NOT TO SCALE
		21.741
		SET 5/8", I.R. W/GREEN PLASTIC CAP "ODOT"
		RP
		1018
		90° 00' 00" ← ↑ → 90° 00' 00"
		25.865
		SET 5/8", I.R. W/GREEN PLASTIC CAP "ODOT"
		RP
		1018
		90° 00' 00" ← ↑ → 90° 00' 00"

E 18

### Example Reference Point Notes (should be on form 734-3033)

## Example 9

## Example Culvert Staking Note (this is a non standard form)

## Example 10

## Culvert Data Note (form 734-3247M)

## Rubbings & photos

There are several methods for providing an accurate image of monument details in field notes. Sketches and or rubbings will still be done, though the use of digital photos as additional information is becoming more commonplace.



Digital photo of ODOT station "09294-5"



Rubbing of ODOT Station "Billy"