

Government of Alberta ■

Transportation

DRAFTING GUIDELINES

FOR

- AGGREGATES TESTING PLAN
- PIT PLAN & OPERATING PLAN
- DEVELOPMENT AND RECLAMATION PLANS
- DEVELOPMENT AND RECLAMATION CROSS-SECTIONS
- RESERVATION BOUNDARY PLAN
- PROCEDURE FOR EDITING THE TESTING AND PIT PLAN
FOLLOWING CONTRACT COMPLETION

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Introduction

These guidelines have been developed to ensure delivery of consistent digital Plans to and from Alberta Transportation and its consulting partners. In this guideline “Plan” refers to Testing, Operating, Crown Reservation, Pre-Development and Reclamation Plans, and Pre-Development and Reclamation Cross-Sections as they relate to aggregate pits, stockpile sites and haul roads.

Users shall familiarize themselves with these guidelines prior to completing any drafting. All users are expected to be fully trained Micro station users in order to set up and understand the drafting requirements.

All department Plans are maintained as MicroStation .dgn files. Files are available from the Regional Aggregate Co-ordinators and the Aggregate Administrator listed in the Appendix. Also available are the required Font Library, Cell Library, Color Tables, Seed File and satellite imagery, Parcel Maps and SRD’s DID’s mapping. On completion of a drafting project the digital file shall be forwarded to the appropriate Regional Office for review.

Procedures for updating the Aggregate Testing and Pit Plan following completion of a construction project are outlined in Section 13.

CHANGES TO GUIDELINES

The 2010 guidelines reflect significant changes since the last guidelines were last published in 2003. Drafting and editing requirements particularly in the description and use of the “levels” have been incorporated into the new seed file. The department logo has been updated on all forms in the cell library.

The level symbology, font resource file and color tables remain unchanged.

SEED FILE

Obtain and store the “hesseed2d2010.dgn” as the default seed file in the appropriate directory. All new plans shall be based on this file. This file establishes the level symbology, dimensions, azimuth and other features required for all plans.

MICRO STATION SET UP

Before starting drafting projects, the following steps must be completed to ensure all setting will be correct each time a new file is created from the seed file.

- Save the ‘zatufont.rsc’ font library into the appropriate directory
- Save the cell file ‘hes2010.cel’ to the appropriate directory
- Open the seed file

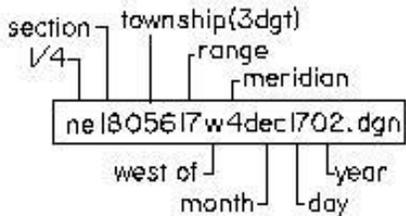
- attach the cell library
- Save setting and close seed file
- Open Micro station and select the File New dialog. Then Select to set the default seed file to hesseed2d2010.dgn

Thereafter, all new files will be created through the File New dialog box. The seed file should never need to be opened again.

FILE NAMING CONVENTION

The file name shall consist of the legal land description followed by the date drafted or updated. Letters shall be in lowercase and spaces and commas shall not be used.

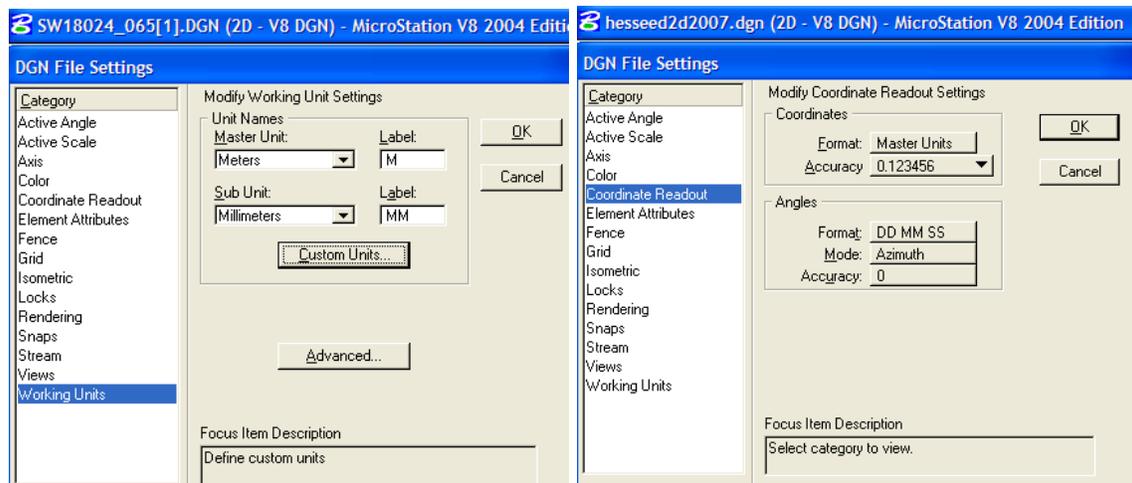
Example of Plan File Name:



Note; to preserve an original .dgn file, the file must be renamed *prior to any changes being made*. Files shall be renamed by using the “File” “Save As” function from the menu.

WORKING UNITS

Standard Working Units for all Plans have been established as part of the seed file. As shown below:



PLAN TYPE AND LEVEL USAGE

The noted plans are composed of data that is stored on different levels as displayed below. The same Levels must be turned on when plotting a Plan. Though not covered here, use of a Pen Table will enhance color printing.

<u>Plan</u>	<u>Level</u>
Aggregate Testing	1, 2, 3, 4,5
Pit	4, 6 ,5
Pit (with Operating Conditions)	4, 6, 7, 5
Development	14, 15,5
Reclamation	11, 13,5
Development X-Sec.	20, 22, 24,5
Reclamation X-Sec.	21, 22, 25,5
Reservation Boundary	9,10,17,28, 35,40, (33)

LEVEL COMPOSITION

The following describes the information required on each level when producing, updating or editing a Plan:

LEVEL	DESCRIPTION
1	<ul style="list-style-type: none"> • Aggregates Testing Form from Cell Library (AC= AGG) • Title Block Info (Pit Name, Land Location, Date tested or updated)
2	<ul style="list-style-type: none"> • Test hole data using log cells from the Cell library (AC=LOGXX). • Hole number & log descriptions • Aggregate deposit boundary (dashed line) • Area calculation identifiers; A, B, C, D etc.
3	<p>All line work, which includes:</p> <ul style="list-style-type: none"> • Quarter Section boundaries copied from level 62 LSD lines • AT Boundary (Reservation/Ownership/Agreement) • Open Pit Boundary, Surface Contours and Features • Buildings and Improvements • Water Bodies, Streams and Rivers • Fence Lines (linear pattern =FENCE) • Utility Right of Ways (surface and underground) • Highway and Local Road Right of Ways • Tree Lines, Cut Lines and Trails • Symbols as required from Cell Library e.g. 2x2's, muskeg, pins etc.
4	<ul style="list-style-type: none"> • All Text, Lines and Arrows to describe pit features • Legal sub-division (LSD) numbers from the Cell library • Stockpile Legend from the Cell Library (AC=STOCKP) and information.
5	<ul style="list-style-type: none"> • Pit name and Legal land description from Cell Library (AC=NAME)
6	<ul style="list-style-type: none"> • Pit Plan Form from Cell Library. Boundary of tested aggregate. Trace from Level 2 and edit as required. • All features. Copy from Level 3 and edit as required.
7	<ul style="list-style-type: none"> • Project specific details (areas to be cleared, stripped, mined, reclaimed; stockpile and plant sites)
9	<ul style="list-style-type: none"> • RESV plan: Property, r/w, and adjacent dispositions, ATS line work for unaffected ¼ sections
10	<ul style="list-style-type: none"> • RESV plan: Text for activity names, leaders and arrows
11	<ul style="list-style-type: none"> • Reclamation Plan Form from Cell Library (AC=REC); • Text for title block • ¼ Sec. Lines from level 62
13	<ul style="list-style-type: none"> • Reclamation Plan features; reclaimed pit boundary, water bodies, tree lines, Cross-Sections Indicators, Text, pre-Dec 78' disturbance.

14	<ul style="list-style-type: none"> • Development Plan Form from Cell Library (AC=DEV) • Text for title block • ¼ Sec. Lines from level 62
15	<ul style="list-style-type: none"> • Development features. Copy from level 6 and edit as required
17	<ul style="list-style-type: none"> • RESV plan: ATS unbroken lines of for affected ¼ sections
20	<ul style="list-style-type: none"> • Reclamation Cross-section Form from Cell Library (AC=RECX). • elevations, scale etc.)
21	<ul style="list-style-type: none"> • Development Cross-section Form from Cell Library (AC=DEVX). • elevations, scale etc.
22	<ul style="list-style-type: none"> • Elevation and Scale for x-sections
24	<ul style="list-style-type: none"> • Reclamation cross-section features, lines, text, etc.
25	<ul style="list-style-type: none"> • Pre-development cross-section features, lines, stockpiles, and text.
28	<ul style="list-style-type: none"> • RESV plan: Disposition Boundary lines only
33	<ul style="list-style-type: none"> • Reservation form from Cell library (AC=RES, RES1, RES2 or PNTLARGE). • Most data previously on level 33 has been moved to meet SRD document entitled “Content Requirements for Disposition Application Plans” now uses levels 9,10,17,28,35,40.
35	<ul style="list-style-type: none"> • RESV plan: Place cell AC=RP at a surveyed pin location.
40	<ul style="list-style-type: none"> • RESV plan: Surface activity text label (PNT, DRS)place inside boundary
60	<ul style="list-style-type: none"> • Other base mapping (1-20000 tellus base) contour map
61	<ul style="list-style-type: none"> • Other base mapping (1=250,000)
62	<ul style="list-style-type: none"> • Current Cadastral Mapping (Parcel Map).
63	<ul style="list-style-type: none"> • Current GPS / Survey data.

The above levels names and descriptions/usages have been added to the seed file. This information will serve as a quick reference when drafting new plans. It can be viewed by opening the Level Display dialog box.

There are also filters established that will turn on only those levels associated to each plan. Select the plan filter from the level display dialog box.

TEST LOG

Gravel Test Hole Numbers and Logs are placed on level 2 using the ‘log cell’  from the Cell Library. Choose the log cell that has the required number of lines and spaces for the data to be entered.

This data is crucial to the accuracy of the Plan. Care shall be taken when placing or editing the field or existing information.

LINE TYPES AND WEIGHT

The line code type - dash, dot, solid, etc., and weight shall correspond to the following:

AGGREGATE TESTING PLAN AND PIT PLAN

Feature	Level	Line Types	Line Weight
¼ section Lines	3 ▼		
LSD Lines	3 ▼		
Aggregate Deposit Boundary	2 ▼		
Aggregate Deposit Boundary	6 ▼		
AT Res. or Ownership Boundary	3 ▼		
Buffer Zone	3 ▼		
Bush/Tree Line	3 ▼	{ Tree Line	
Creek, Stream, Pond	3 ▼		
River, Lake	3 ▼		
Trails/Cutlines	3 ▼		
Fence lines (from cell library)	3 ▼		
Roadways, Utilities, R.O.W.	3 ▼		
Open pit boundary (top of slope)	3 ▼		
Open pit boundary (toe of slope)	3 ▼		
Stockpile (base)	3 ▼		

CROSS SECTION LINE WORK:

Ground Surface line	24,25		
Topsoil/Subsoil line	24,25		
Gravel line	24,25		
Stockpiles	24,25		

TEXT

All title block entries are Single-Entry Data Fields, which presets the size, weight and font type. To view the data fields turn on the Data Field from the View Attributes dialog box. Select the field for entry.

The font type used for all other text descriptions and normally stored as Font 5 from the 'zatufont.rsc' is specific to aggregate plan drafting and must be obtained from the department and added to the font library.

The line spacing may vary from 3.8 to 1.0, depending on the space available.

With the exception of the Level 33 DRS Plan, the 8.0 text size shall be used. The text size shall only be changed to avoid overlap or to increase clarity of a plan.

On level 33 text sizes shall conform to the following:

Size of activity	Text Size
For reservation within a ¼ section	8.0
For reservation within 2 ¼ sections	15.00
For reservation beyond 2 ¼ sections	30.00

Using the larger text will allow the plan to be printed on a paper size not to exceed 11"x17".

COLOR TABLES

All colors required for viewing drafting of Plans are contained in the "HEScolor.tbl" Color Table. No other color table shall be used. Ensure the approved color table is attached.

Plans shall be drawn in black (253) or in 0, not in white. Note: color "0" is in the top left hand corner of the table. To select or change the background color double click on the square marked capital "B

CELLS

All standard plans and features for drafting of Plans are available from the "HES2010.cel" Cell Library. No other cell library(s) shall be used. To ensure the cells are placed on the proper level, refer to the cell's description or Section 6 Level Composition for details.

The approved "HES2010.cel" Cell library contains several new cells from previous cell library called HES.cel, which should be deleted. The changes are noted in the chart below

The cell origins for all Plan templates are located in the north east corner of the ¼ section boundary.

The following is the list of cells in the hes2010.cel library file:

KEY-IN (AC=)	DESCRIPTION	CHANGES
2X2	2 BY 2 SURVEY STAKE or TREE TAG SHOWING TESTHOLE NUMBER	
ABLOGO2010	ALBERTA TRANSPORTATION LOGO	New for 2010
AGG	AGGREGATE TESTING PLAN lv1	Updated logo 2010
ARR	ARROWHEAD TERMINATOR	
ARRS	SMALL ARROWHEAD TERMINATOR	
DEV	DEVELOPMENT PLAN FORM lv14	Updated logo 2010
DEVX	DEVELOPMENT CROSS SECTION FORM lv21	Updated logo 2010
FENCE	FENCELINE	
IP	IRON PIN OR POINT	
LOG00	TESTHOLE LOG NUMBER ONLY	
LOG03	3 LINES	
LOG05	5 LINES	
LOG08	8 LINES	
LOG10	10 LINES	
LOG12	12 LINES	
LOG14	14 LINES	
LOG3S	3 LINES SMALLER TEXT	
LOG5S	5 LINES, SMALLER TEXT	
LSDNE	LSD'S IN NE ¼	
LSDNW	LSD'S IN NW ¼	
LSDSE	LSD'S IN SE ¼	
LSDSEC	LSD'S IN SECTION	
LSDSW	LSD'S IN SW ¼	
MUSKEG	MUSKEG SYMBOL	
NE	NORTH EAST CORNER INDICATOR	
NORTH	NORTH ARROW	
PIT	PIT PLAN FORM lv6	
PNT LARGE	PNT TEMPLATE FOR PLAN AREA OF A TOWNSHIP lv33	NEW FOR 2010
REC	RECLAMATION PLAN FORM lv11	Moved from level 10 to 11
RECX	RECLAMATION CROSS SECTION FORM lv20	Updated logo 2010
RES	RESERVATION BOUNDARY FORM FOR A ¼ SECTION lv33	Updated format and logo 2010
RES1	RESERVATION BOUNDARY FORM FOR PLANS LESS THAN 1 SECTION IN SIZE lv33	Updated format and logo 2010
RES2	RESERVATION BOUNDARY FORM FOR PLANS MORE THAN 1 SECTION IN SIZE lv33	Updated format and logo 2010
RP RIGHT	REFERENCE POINT RIGHT JUSTIFIED lv35	NEW FOR 2010
RP LEFT	REFERENCE POINT LEFT JUSTIFIED lv35	NEW FOR 2010
STOCKP	STOCKPILE LEGEND lv4	

IMPORTING OF GPS, SURVEY DATA AND MAPS

All new Plans must be developed by first importing the most current satellite imagery followed by the cadastral (parcel map) and DID's mapping provided by the department to ensure that the coordinate system is set to Nad83, 10tm projection. Legal subdivision (LSD) lines, if necessary, shall be placed in accordance with the Surveys Act. LSD lines are not required for the reservation plans in unsurveyed territory.

All old plans were drafted at co-ordinate 0,0. When updating an existing Plan, the data shall be referenced to the most current parcel mapping. Although is ok to rotate the **View** to facilitate drafting. The elements from maps and survey data shall not be rotated, as this will change their coordinates.

The most recent GPS or Survey data line work shall be placed on level 63. A copy of the .SSF shall be submitted with the .dgn file.

PROCEDURE FOR EDITING THE AGGREGATE TESTING PLAN AND PIT PLAN FOLLOWING CONTRACT COMPLETION

It is recommended that the Regional Aggregate Consultant be engaged directly for all plan updates. Contact the department for contact information.

The general steps to complete a plan update are as follows:

- Ensure file is properly geo-referenced
- Use "Save As" from the File menu to rename the file prior to editing.
- Activate level 63. Delete original GPS or Survey data and import new data.
- Display levels 1-4; activate level 3.
- Trace the new GPS/Survey lines to level 3.
- Use partial delete line  to edit lines and features as required. Update the stockpile legend if necessary. Copy edited level 3 to level 6; activate level 6 and edit as required.
- Activate level 2. Delete  test logs obliterated by mining. Place new test hole logs using the 'log cell' .
- Activate level 4. Place text  to describe new or edited features and all new stockpiles. Ensure text does not overlap lines on levels 1,2 & 3.
- Activate level 1. Update Title Block amendment field (date, purpose, and name of consultant).
- On completion of the update, the digital file shall be forwarded to the appropriate Regional Aggregate Co-ordinator.

ADDITIONAL NOTES:

- Prior to submission of any drafting project the Delete Duplicate file utility shall be run to clean up the file.
- All dimension and notes shall be set to use filled arrowheads.
- All plan updates must have the new color table and level symbology attached.
- All new plans shall use the new seed file, color table, font file, and cell library.
- Plans updated or created in AutoCAD and then exported to Micro station will result in additional level being created for individual elements. All elements must be changed to the appropriate levels, weight and style. All non-standard levels shall be deleted.

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