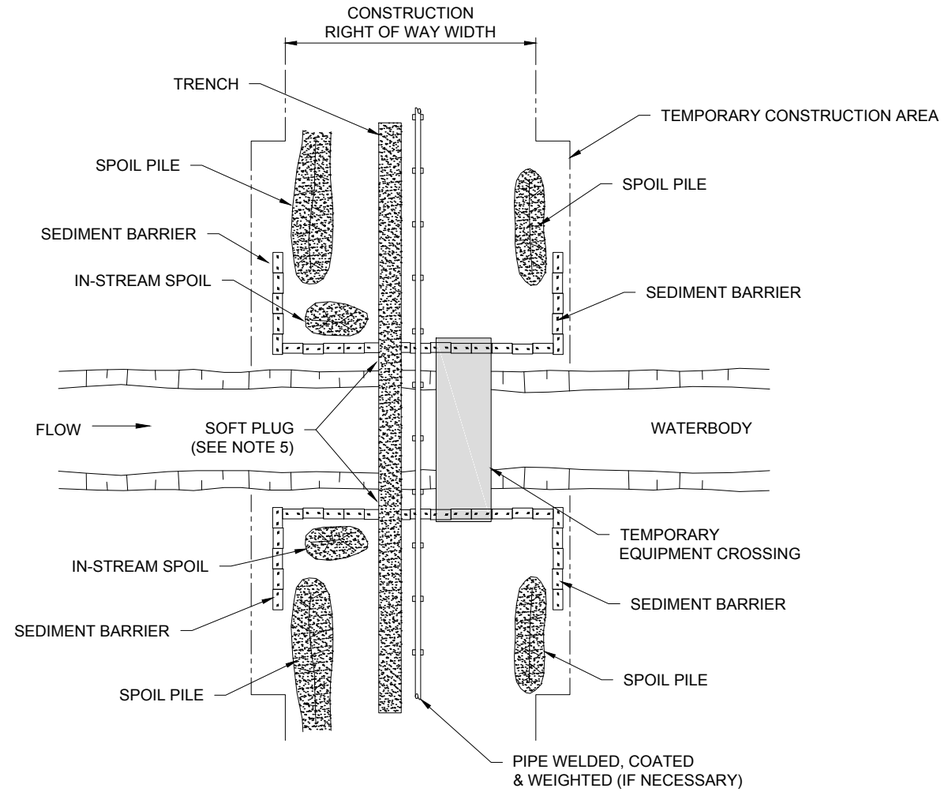


A / 146T **TYPICAL FLOWING WATERBODY CROSSING OPEN-CUT**
N.T.S.

NOTES:

1. METHOD APPLIES TO WATERBODIES THAT ARE NOT STATE DESIGNATED FISHERIES WHERE FLUME CROSSINGS ARE NOT REQUIRED. IF TOPOGRAPHY PERMITS TEMPORARY EQUIPMENT BRIDGE INSTALLATION, THE CONTRACTOR SHALL TRENCH, STRING, WELD, COAT, WEIGHT (IF NECESSARY). LOWER IN AND BACKFILL UTILIZING THE MAIN LINE CREW TRAVELING OVER THE BRIDGE. IF TOPOGRAPHY PROHIBITS INSTALLATION OF A TEMPORARY EQUIPMENT BRIDGE, CONTRACTOR SHALL TRENCH UP TO BOTH SIDES OF CROSSING; STRING, WELD, COAT AND WEIGHT (IF NECESSARY) USING THE MAINLINE CREW. IN STREAM EXCAVATION, LOWER IN, AND BACKFILL WILL UTILIZE A CLAM OR HOES WORKING FROM THE BANKS.
2. SCHEDULE CROSSING DURING LOW FLOW PERIOD IF POSSIBLE.
3. CONSTRUCT SEDIMENT BARRIERS ALONG THE SIDES OF STOCKPILES AND ACROSS THE ENTIRE CONSTRUCTION R.O.W. TO PREVENT SILT LADEN WATER AND SPOIL FROM FLOWING BACK INTO WATERBODY.
4. IN-STREAM SPOIL TO BE STORED OUT OF THE STREAM CHANNEL.
5. INSTALL TEMPORARY (SOFT) PLUGS AT THE EDGE OF STREAM BANKS UNTIL JUST PRIOR TO PIPE INSTALLATION TO CONTROL WATER FLOW & TRENCH SLOUGHING.
6. TRENCH THROUGH WATERBODY USING MAINLINE EXCAVATION EQUIPMENT WHERE PRACTICAL.
7. MAINTAIN STREAM FLOW THROUGHOUT CROSSING CONSTRUCTION.
8. RESTORE WATERBODY CHANNEL TO APPROXIMATE PRE-CONSTRUCTION PROFILE AND SUBSTRATE.
9. RESTORE STREAM BANKS TO APPROPRIATE ORIGINAL CONDITION AND STABILIZE, AS REQUIRED.

Associated Engineering Drawings

P01C-TYWC-03.DWG (BAKER) OCT 2013

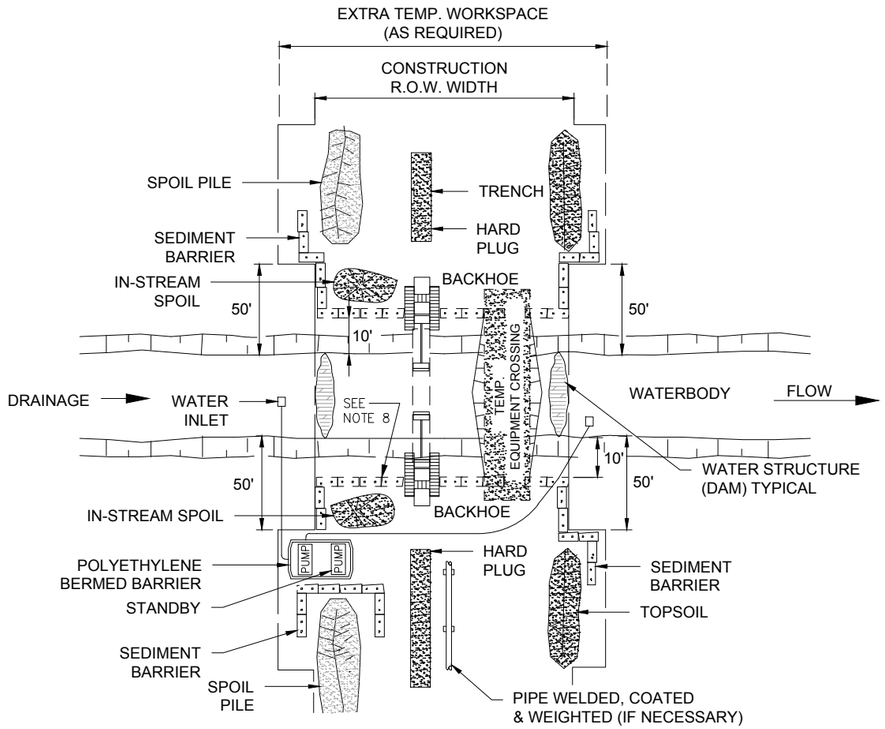
DONLIN GOLD PROJECT
APPLICANT: Donlin Gold, LLC
4720 Business Park Blvd., Suite G-25
Anchorage, Alaska 99503

SCALE: AS SHOWN
DATE: 10/23/2015

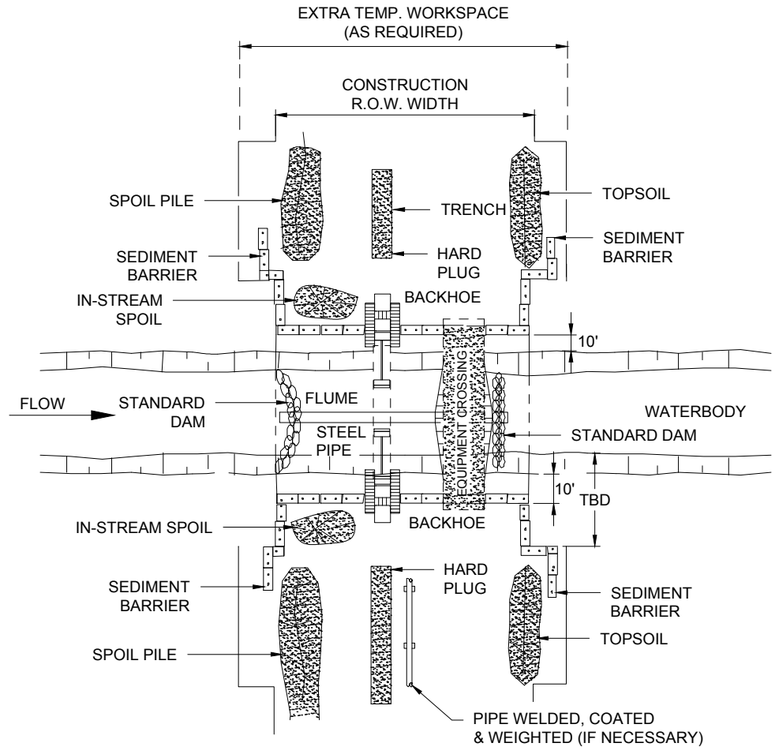
DRAWING TITLE:
TYPICAL FLOWING WATERBODY CROSSING OPEN-CUT DETAIL

FIGURE NO. **PA-146T**
FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_Waterbody_Crossings.dwg



A 147T **TYPICAL FLOWING WATERBODY CROSSING OPEN-CUT DAM & PUMP**
N.T.S.



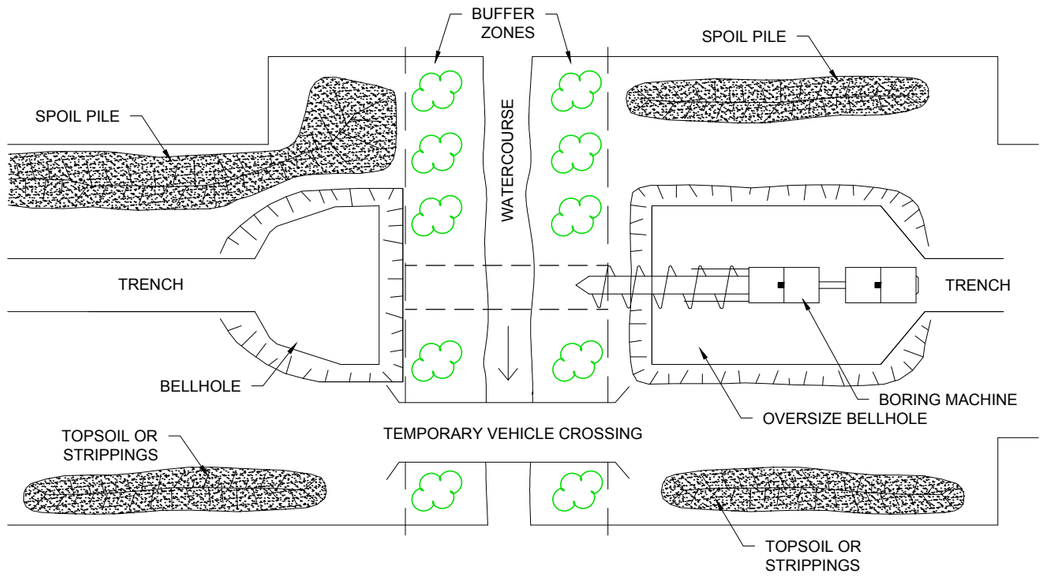
B 147T **TYPICAL WATERBODY CROSSING OPEN-CUT DRY FLUME**
N.T.S.

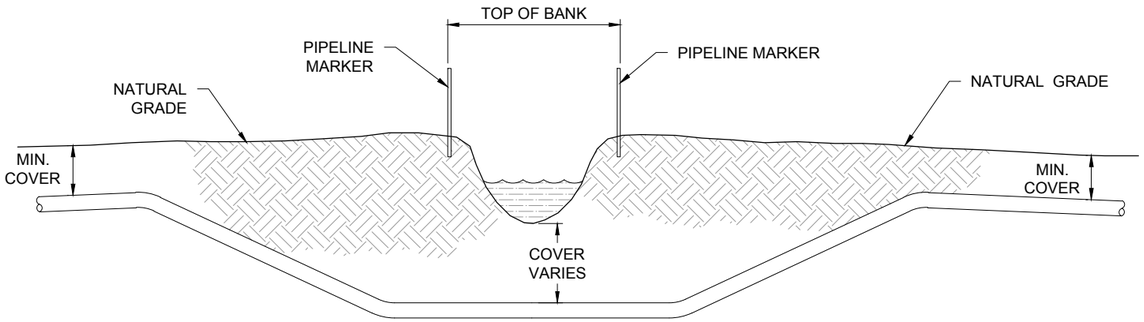
NOTES:

1. THIS METHOD APPLIES TO SWALES, DRAINS, SMALL STREAMS OR CREEKS WITH LIMITED FLOW AT TIME OF CONSTRUCTION WHERE DOWNSTREAM SILTATION MUST BE AVOIDED AND THE CROSSING WIDTH IS NOT PROHIBITIVE.
2. SCHEDULE CROSSING DURING LOW FLOW PERIOD IF POSSIBLE.
3. COMPLETE ALL IN-STREAM ACTIVITIES AS EXPEDIENTLY AS POSSIBLE.
4. INSTALL TEMPORARY VEHICLE CROSSING, IF REQUIRED.
5. IN-STREAM SPOIL TO BE STORED OUT OF THE STREAM CHANNEL AND WITHIN THE CONSTRUCTION R.O.W. UNLESS DEPICTED OTHERWISE IN THE SITE SPECIFIC CROSSING PLANS.
6. CONSTRUCT SEDIMENT BARRIERS TO PREVENT SILT LADEN WATER AND SPOIL FROM FLOWING INTO WATERBODY. CONSTRUCTED SEDIMENT BARRIERS SHALL EXTEND ALONG THE SIDES OF THE SPOIL AND TOPSOIL STOCKPILES AND ACROSS THE ENTIRE CONSTRUCTION R.O.W. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY.
7. CONSTRUCT UPSTREAM STRUCTURE (DAM) FOLLOWED BY DOWNSTREAM STRUCTURE (DAM). WATER STRUCTURES' (AQUA DAM, JERSEY BARRIERS, SAND BAGS, STEEL PLATE, POLYETHYLENE LINER, ETC.) FINAL LOCATION WILL BE APPROVED BY THE COMPANY INSPECTOR.
8. SIZE PUMPS FOR DIVERSION OF ENTIRE STREAM FLOW. CONTRACTOR SHALL MAINTAIN 100% SPARE PUMPING CAPACITY ON SITE. PUMPS SHALL BE INSTALLED ON POLYETHYLENE BARRIERS FOR FUEL/OIL SPILL CONTAINMENT. PUMP INTAKES WILL BE SCREENED TO PREVENT ENTRAPMENT OF FISH. CONTRACTOR SHALL MONITOR PUMPS AND WATER STRUCTURES ON A 24 HOUR BASIS UNTIL THE CROSSING INSTALLATION IS COMPLETE. SHOULD LEAKAGE AT THE DAM STRUCTURES OCCUR, CONTRACTOR SHALL DEWATER BETWEEN THE STRUCTURES THROUGH AN APPROPRIATE FILTER AND ONTO A WELL VEGETATED UPLAND AREA.
9. LEAVE HARD PLUGS AT STREAM BANK EDGE UNTIL JUST PRIOR TO PIPE INSTALLATION.
10. COMPLETE CONSTRUCTION OF IN-STREAM PIPE SECTION. WEIGHT PIPE AS NECESSARY PRIOR TO COMMENCEMENT OF IN-STREAM ACTIVITY.
11. TRENCH THROUGH WATERBODY AS EXPEDIENTLY AS PRACTICAL. INSTALL TEMPORARY (SOFT) PLUGS, IF NECESSARY, TO CONTROL WATER FLOW AND TRENCH SLOUGHING.
12. MAINTAIN STREAM FLOW THROUGHOUT CROSSING CONSTRUCTION.
13. LOWER-IN PIPE, INSTALL TRENCH PLUG AND BACKFILL IMMEDIATELY.
14. RESTORE WATERBODY CHANNEL TO APPROXIMATE PRE-CONSTRUCTION PROFILE AND SUBSTRATE.
15. DISMANTLE DOWNSTREAM WATER STRUCTURE (DAM) AND UPSTREAM WATER STRUCTURE (DAM) AFTER TRENCH BACKFILL.
16. RESTORE STREAM BANKS TO APPROXIMATE ORIGINAL CONDITION. STABILIZE WATERBODY BANKS AND INSTALL TEMPORARY BARRIERS.

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **TYPICAL WATERBODY CROSSING OPEN-CUT DETAIL**
P01C-TYWC-04.DWG, P01C-TYWC-05.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-147T** FILE NO. **POA-1995-120**

PATH: C:\Users\mengiewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_A\PA_Waterbody_Crossings.dwg

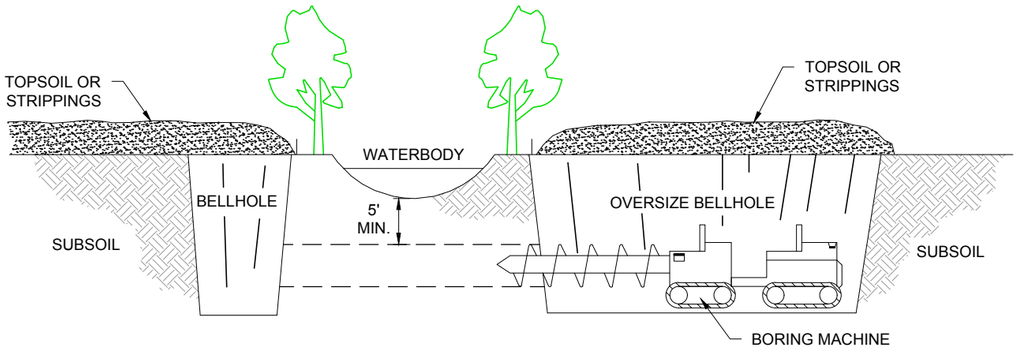




B / 148T **TYPICAL SMALL CREEK CROSSING SECTION**
N.T.S.

NOTES:

1. NORMAL FLOW OF DRAINAGE NOT TO BE CHANGED FOLLOWING PIPELINE CONSTRUCTION OPERATIONS.
2. CONSTRUCT ALL CROSSINGS IN ACCORDANCE WITH ENVIRONMENTAL PERMIT REQUIREMENTS AND CONDITIONS.
3. PIPELINE TO BE INSTALLED BY OPEN-CUT METHOD.

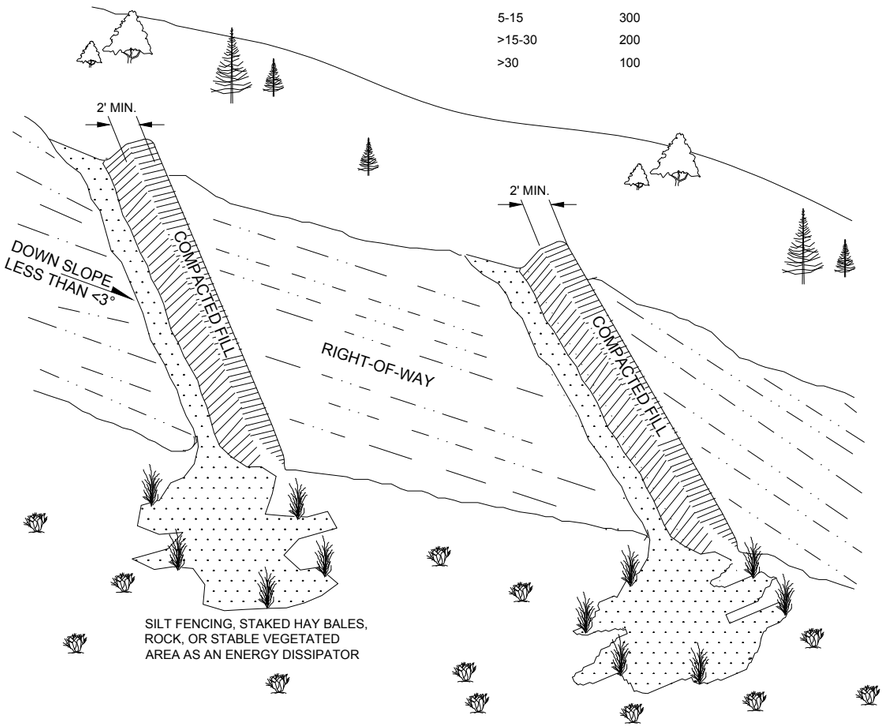


A / 148T **TYPICAL WATERBODY CROSSING HORIZONTAL BORE PLAN AND SECTION**
N.T.S.

Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYWC-06.DWG, P01C-TYWC-07.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**TYPICAL WATERBODY CROSSING DETAIL**
	SCALE: AS SHOWN — DATE: 9/21/2015	FIGURE NO. **PA-148T** — FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_A\PA_Waterbody_Crossings.dwg

SLOPE(%)	SPACING (FEET)
5-15	300
>15-30	200
>30	100

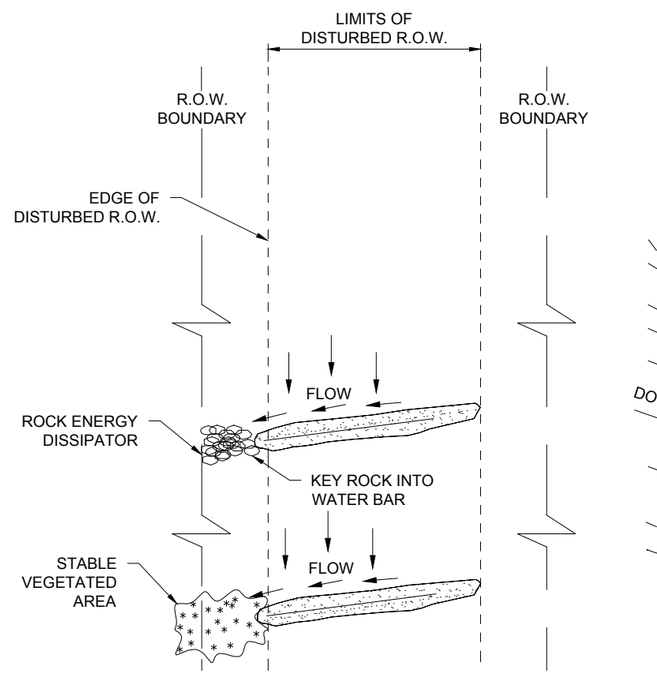


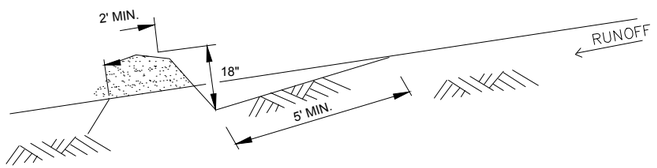
A 149T **TYPICAL SLOPE BREAKER WITH LONGITUDINAL CROSS SLOPES**
N.T.S.

SLOPE BREAKER NOTES:

1. SLOPE BREAKERS SHALL BE CONSTRUCTED OF NATIVE SOIL AND INSTALLED AT LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS, OR AS REQUIRED.
2. SLOPE BREAKER SHALL BE ORIENTED AS SHOWN OR OTHER PATTERN AS REQUIRED.
3. SLOPE BREAKERS SHALL BE CONSTRUCTED AT A 2-8% GRADIENT ACROSS THE SLOPE.
4. THE SLOPE BREAKERS SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER). THE TROUGH WILL BE A MINIMUM OF 5' WIDE ACROSS THE WIDTH OF THE RIGHT-OF-WAY.
5. THE OUTLET OF THE SLOPE BREAKER MUST FREELY DISCHARGE ALL RUNOFF OFF THE DISTURBED R.O.W. INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATOR.
6. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION R.O.W. TO DIRECT RUNOFF INTO STABLE, WELL VEGETATED AREAS, THESE LOCATIONS MUST BE APPROVED.

SLOPE(%)	SPACING (FEET)
5-15	300
>15-30	200
>30	100





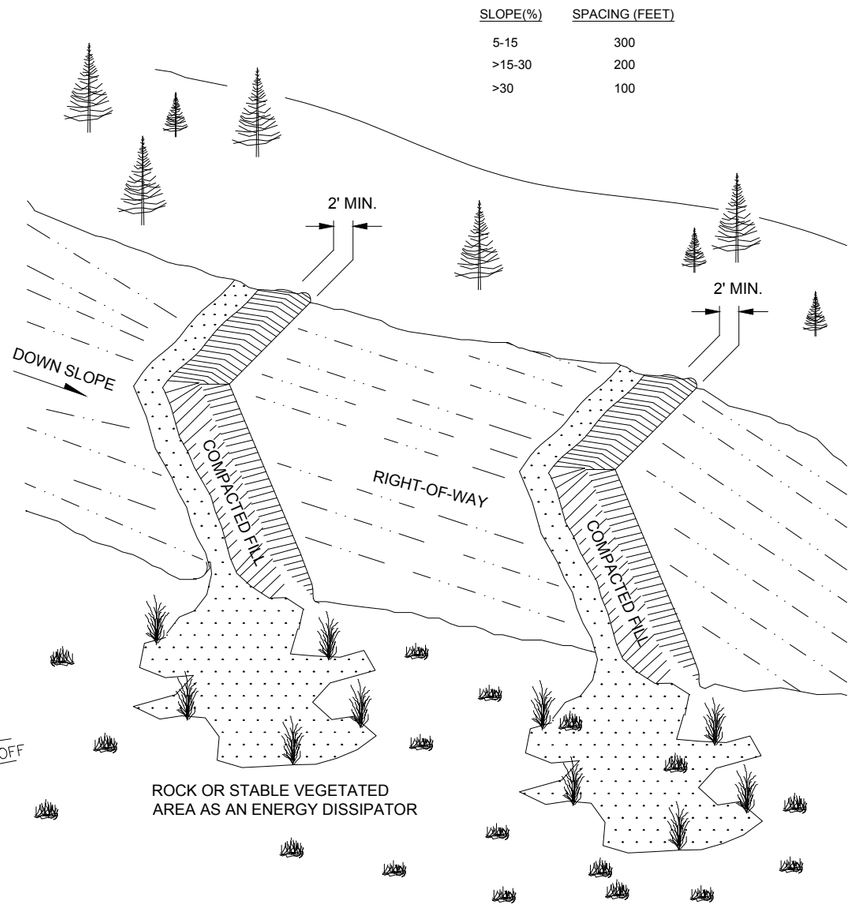
B 149T **TYPICAL SLOPE BREAKER WITH LONGITUDINAL CROSS SLOPES**
N.T.S.

FLOW ENERGY DISSIPATOR NOTES:

1. THE OUTLET SHALL CONTAIN AN ENERGY DISSIPATOR IF THE COMPANY DETERMINES EXISTING VEGETATION IS NOT SUFFICIENTLY STABLE TO PREVENT EROSION. THE ENERGY DISSIPATOR SHALL BE CONSTRUCTED AS FOLLOWS:

- OUTFALL END OF DISSIPATOR SHOULD BE LOWER THAN SLOPE BREAKER END.
- SILT FENCE, STRAW BALE OR ROCK DISSIPATORS SHOULD BE KEYED INTO THE END OF THE SLOPE
- BREAKER. PROVIDE ENOUGH AREA INSIDE "L" TO CAPTURE AND HOLD SEDIMENT.

SLOPE(%)	SPACING (FEET)
5-15	300
>15-30	200
>30	100



C 149T **TYPICAL SLOPE BREAKER WITH LONGITUDINAL CROSS SLOPES**
N.T.S.

Associated Engineering Drawings
P01W-TYEC-10.DWG, P01W-TYEC-11.DWG, P01W-TYEC-12.DWG (BAKER) OCT 2013

DONLIN GOLD PROJECT
APPLICANT: Donlin Gold, LLC
4720 Business Park Blvd., Suite G-25
Anchorage, Alaska 99503

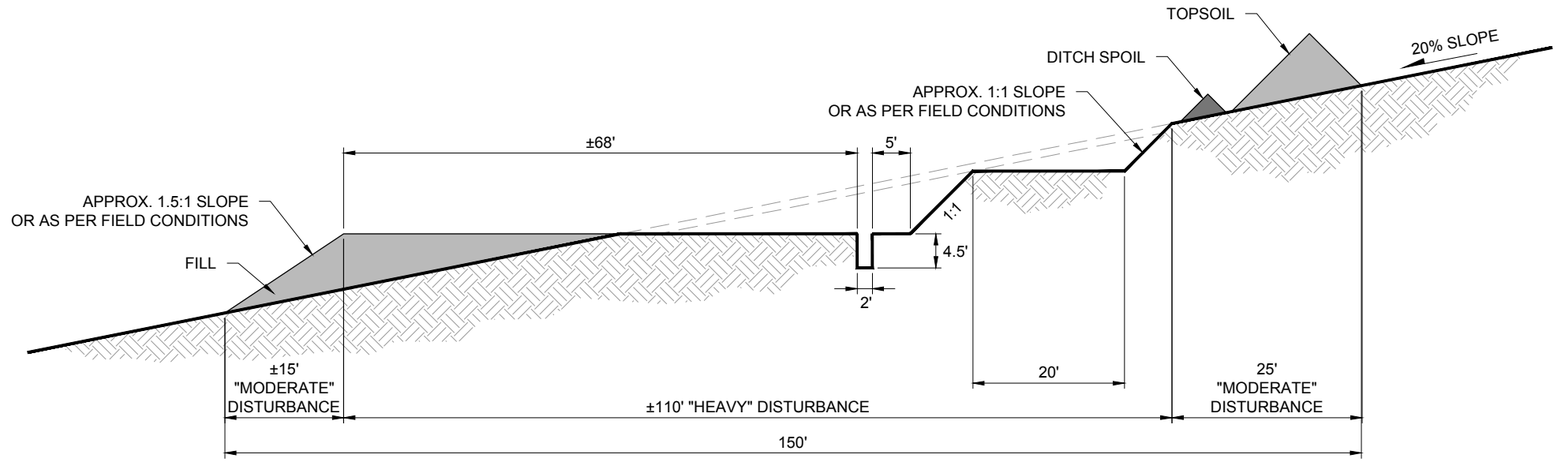
SCALE: AS SHOWN DATE: 9/21/2015

DRAWING TITLE:
TYPICAL SLOPE BREAKER WITH LONGITUDINAL CROSS SLOPES DETAIL

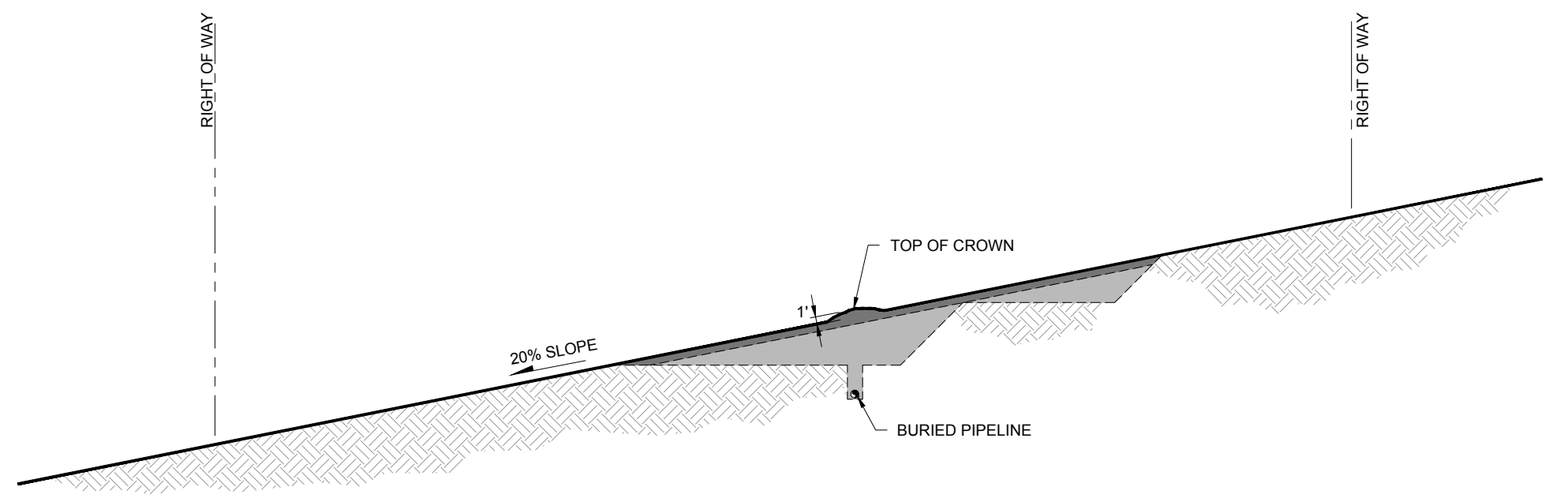
FIGURE NO. **PA-149T**

FILE NO. **POA-1995-120**

PATH: C:\Users\mlenglewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_A\PA_Slope_Breaker.dwg



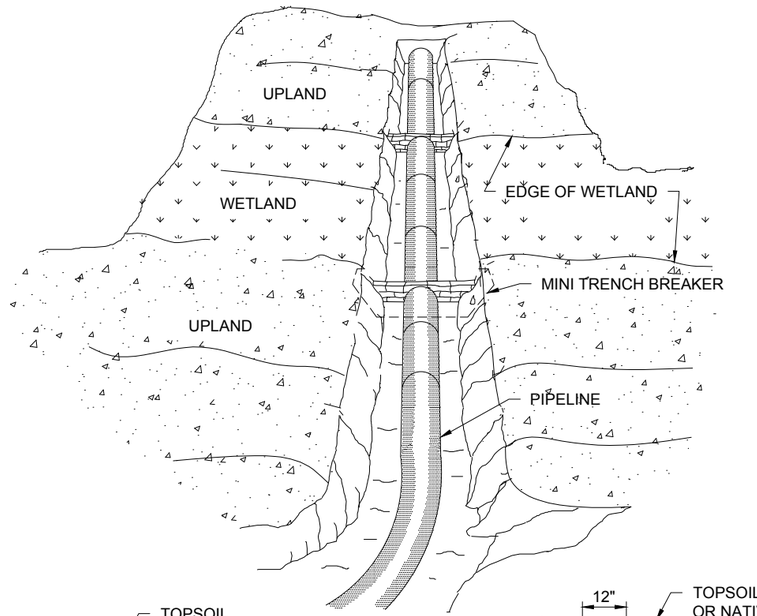
A / 150T **ACTIVE CONSTRUCTION RIGHT OF WAY**
N.T.S.



B / 150T **RECLAIMED RIGHT OF WAY**
N.T.S.

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: TYPICAL SIDE SLOPE SECTION - TWO TONED DETAIL
P01W-TYRW-01.DWG, P01W-TYRW-02.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. PA-150T FILE NO. POA-1995-120

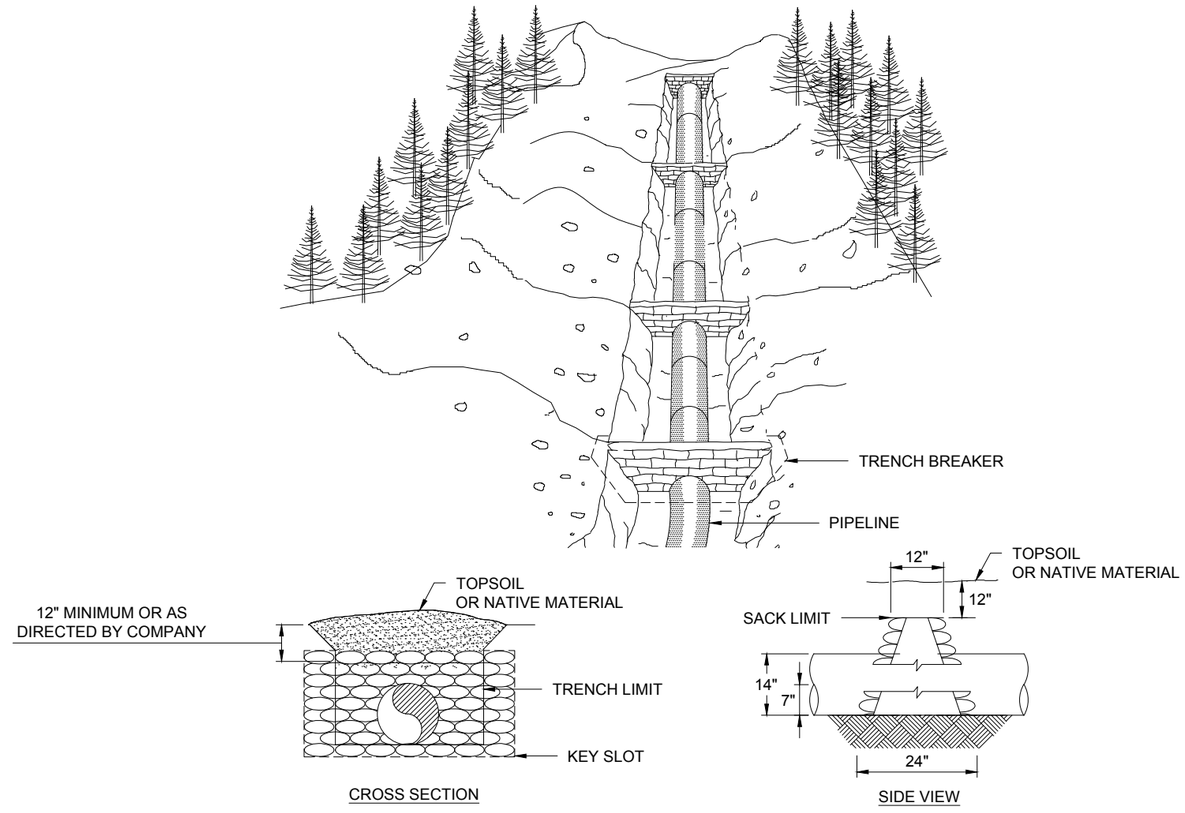
PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_AI\PA_Side_Slope_Section.dwg



A 151T **ACTIVE CONSTRUCTION RIGHT OF WAY**
N.T.S.

NOTES:

1. MINI-TRENCH BREAKERS SHALL BE INSTALLED AT EDGE OF EACH WETLAND.
2. OPEN WEAVE HEMP OR JUTE SACKS SHALL BE FILLED WITH A MINIMUM OF 55lbs. OF SAND OR SUBSOIL.
3. BREAKER CONFIGURATION MAY BE CHANGED TO INCLUDE KEYING AS DETERMINED BY COMPANY ENGINEER.



B 151T **TYPICAL TRENCH BREAKER REQUIREMENTS**
N.T.S.

NOTES:

1. TRENCH BREAKERS SHALL BE INSTALLED:
   - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN
   - AT THE BASE OF SLOPES ADJACENT TO WATERBODIES AND WETLANDS
   - WHERE NEEDED TO AVOID DRAINING A WETLAND
2. OPEN WEAVE HEMP OR JUTE SACKS SHALL BE FILLED WITH A MINIMUM OF 55lbs IN A MIXTURE OF SAND & SUBSOIL.
3. BREAKER SPACING AND CONFIGURATION, INCLUDING THE NEED TO KEY THE BREAKER INTO THE UNDISTURBED SOIL AT THE SIDES AND BOTTOM OF THE TRENCH, MAY CHANGE AS DETERMINED BY COMPANY ENGINEER.

Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01W-TYTR-01.DWG, P01W-TYTR-02.DWG, P01W-TYTR-03.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**TYPICAL TRENCH BREAKER DETAIL**
	SCALE: AS SHOWN — DATE: 10/23/2015	FIGURE NO. **PA-151T** — FILE NO. **POA-1995-120**

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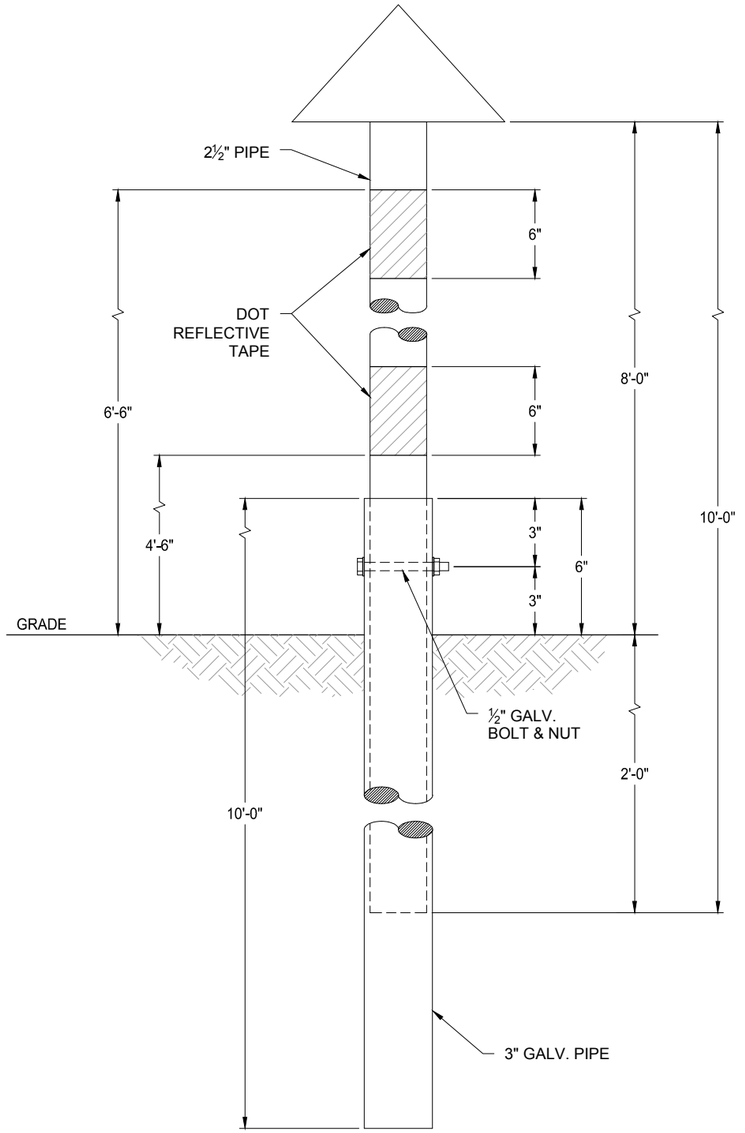
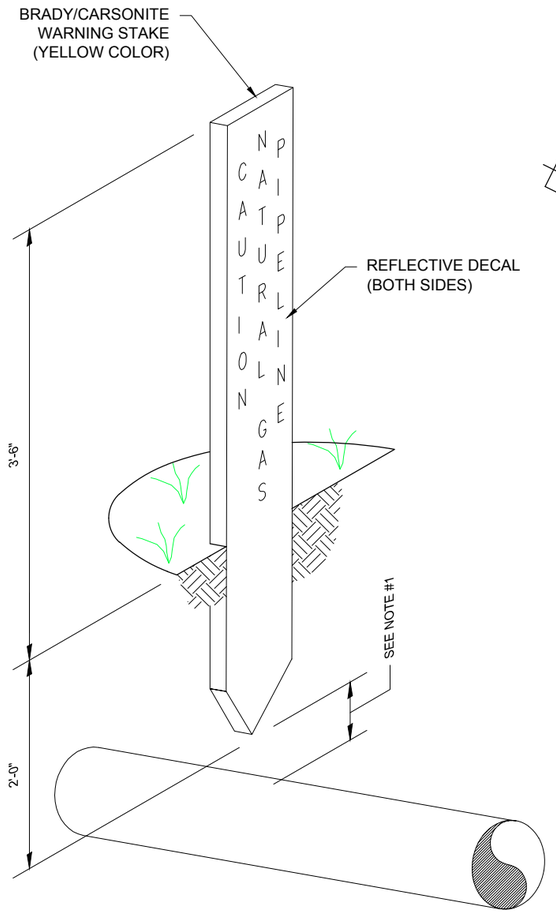


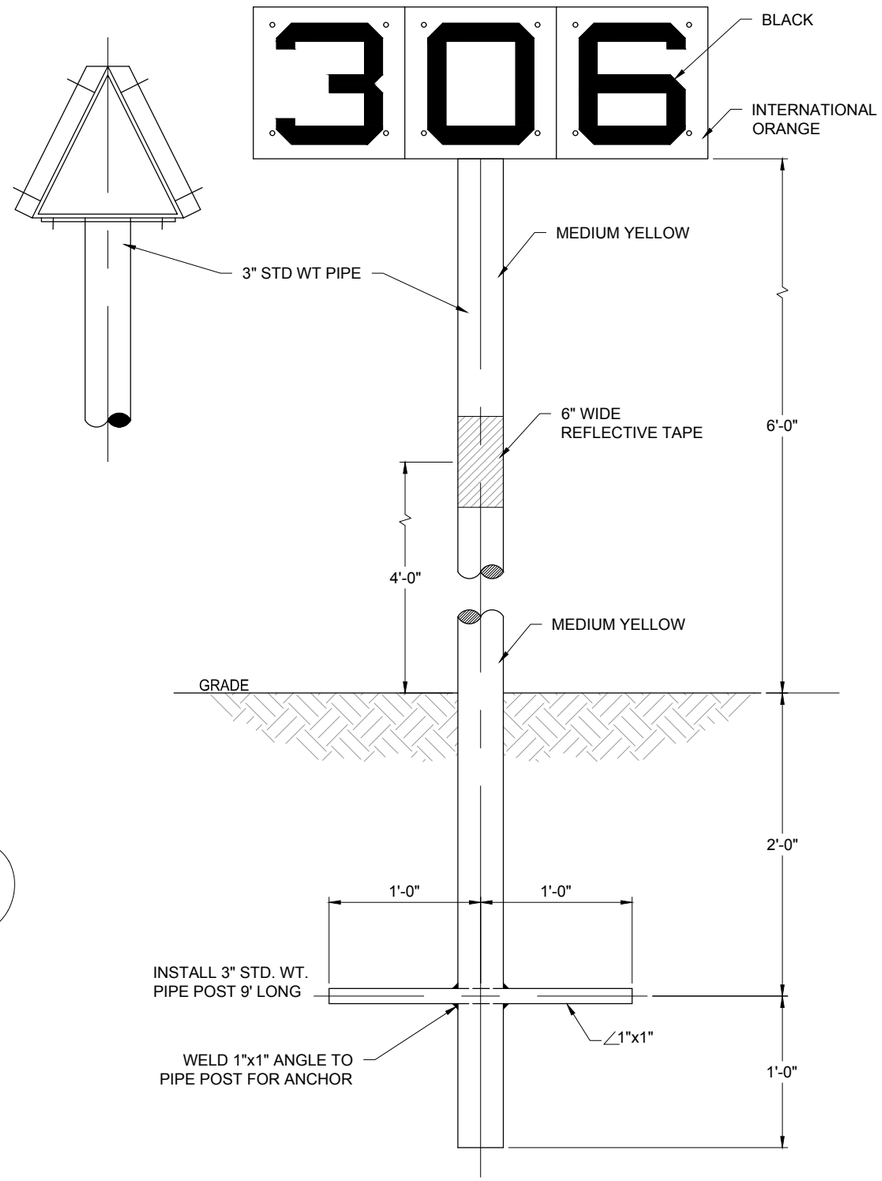
A 152T **TYPICAL PIPELINE MARKER**
N.T.S.



B 152T **TYPICAL PIPELINE WARNING MARKER**
N.T.S.

NOTES:

1. MARKERS SHALL BE PLACED DIRECTLY OVER THE PIPELINE WHEN THERE IS AT LEAST 1'-0" OF CLEARANCE BETWEEN THE TOP OF THE PIPE.
2. PIPE AND THE BOTTOM OF THE MARKER. MARKERS SHALL BE SLIGHTLY OFFSET IF THE CLEARANCE IS LESS THAN 1'-0". MARKERS WILL BE OFFSET IF THE PIPELINE IS IN A ROADWAY.



C 152T **TYPICAL PIPELINE AERIAL MARKER**
N.T.S.

NOTES:

1. CONTRACTOR TO ASSEMBLE SIGN AND MOUNT ON POST.
2. REFLECTIVE STRIPING SHOULD BE ADDED ON ALL SIDES OF POST.

Associated Engineering Drawings

P01C-TYMK-01.DWG, P01C-TYMK-02.DWG, P01C-TYMK-03.DWG (BAKER) OCT 2013

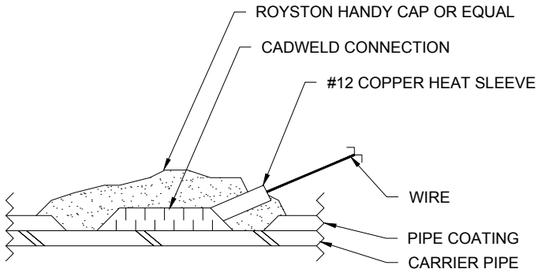
DONLIN GOLD PROJECT
APPLICANT: Donlin Gold, LLC
4720 Business Park Blvd., Suite G-25
Anchorage, Alaska 99503

SCALE: AS SHOWN
DATE: 9/21/2015

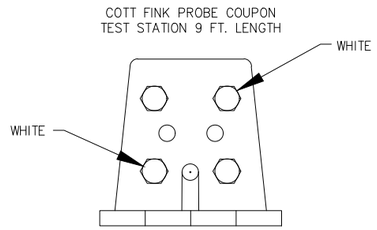
DRAWING TITLE:
TYPICAL PIPELINE MARKER DETAIL

FIGURE NO. **PA-152T**
FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_A\PA_Pipeline_Marker.dwg

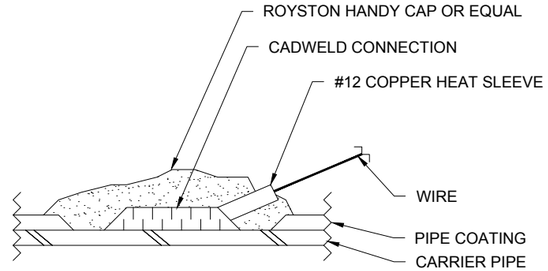


PIPE CONNECTION DETAIL
(SEE NOTES 3,4, & 5)

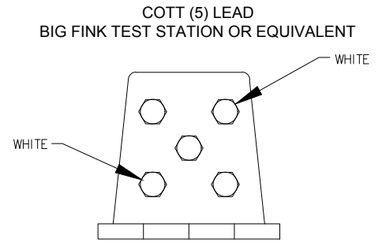


TERMINAL DETAIL

NOTE:
WIRES TO BE TERMINATED WITH RING TERMINALS.

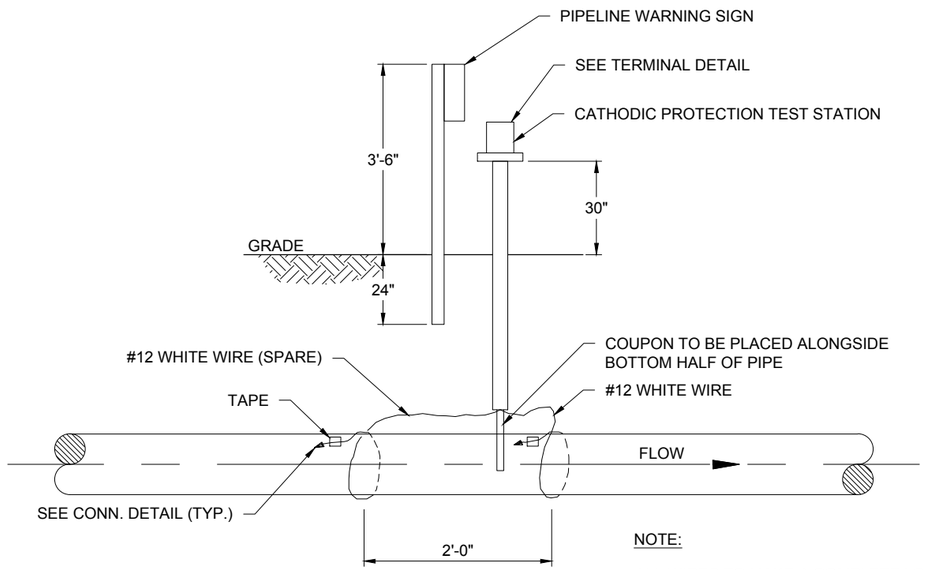


PIPE CONNECTION DETAIL
(SEE NOTES 3,4, & 5)



TERMINAL DETAIL

NOTE:
WIRES TO BE TERMINATED WITH RING TERMINALS.



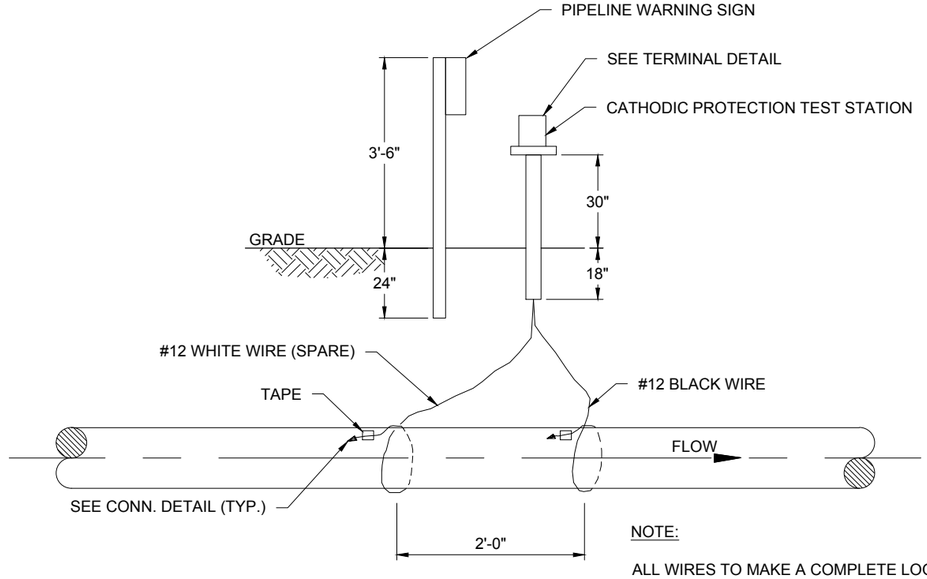
NOTE:

ALL WIRES TO MAKE A COMPLETE LOOP AROUND PIPE.

A 153T TYPICAL CATHODIC PROTECTION COUPON TEST STATION
N.T.S.

NOTES:

1. ALL WIRE SHALL BE INSULATED STRANDED COPPER #12 THHN AS SHOWN ABOVE.
2. TERMINAL BLOCK SHALL BE WIRED BY CONTRACTOR AS SHOWN IN TERMINAL DETAIL ABOVE.
3. ALL WIRE CONNECTIONS TO CARRIER PIPE SHALL BE MADE AS SHOWN IN DETAIL ABOVE. WIRE SHALL BE CONNECTED TO PIPE BY CADWELD PROCESS WITH COPPER HEAT SLEEVE.
4. CADWELD WIRE CONNECTIONS SHALL BE PRIMED WITH ROYSTON SPRAY PRIMER OR EQUAL AND ALLOWED TO DRY 3 TO 4 MINUTES OR UNTIL TACKY, AND COVERED WITH ROYSTON HANDY CAP OR EQUAL.
5. WIRE INSULATION SHALL BE PROTECTED FROM DAMAGE.
6. LAY WIRES ALONGSIDE PIPE. NOT OVER OR UNDER PIPE.
7. CATHODIC PROTECTION TEST STATION AND ALL OTHER MATERIALS SHALL BE FURNISHED BY CONTRACTOR.
8. INSTALL AT ALL LOCATIONS INDICATED ON ALIGNMENT SHEETS.



NOTE:

ALL WIRES TO MAKE A COMPLETE LOOP AROUND PIPE.

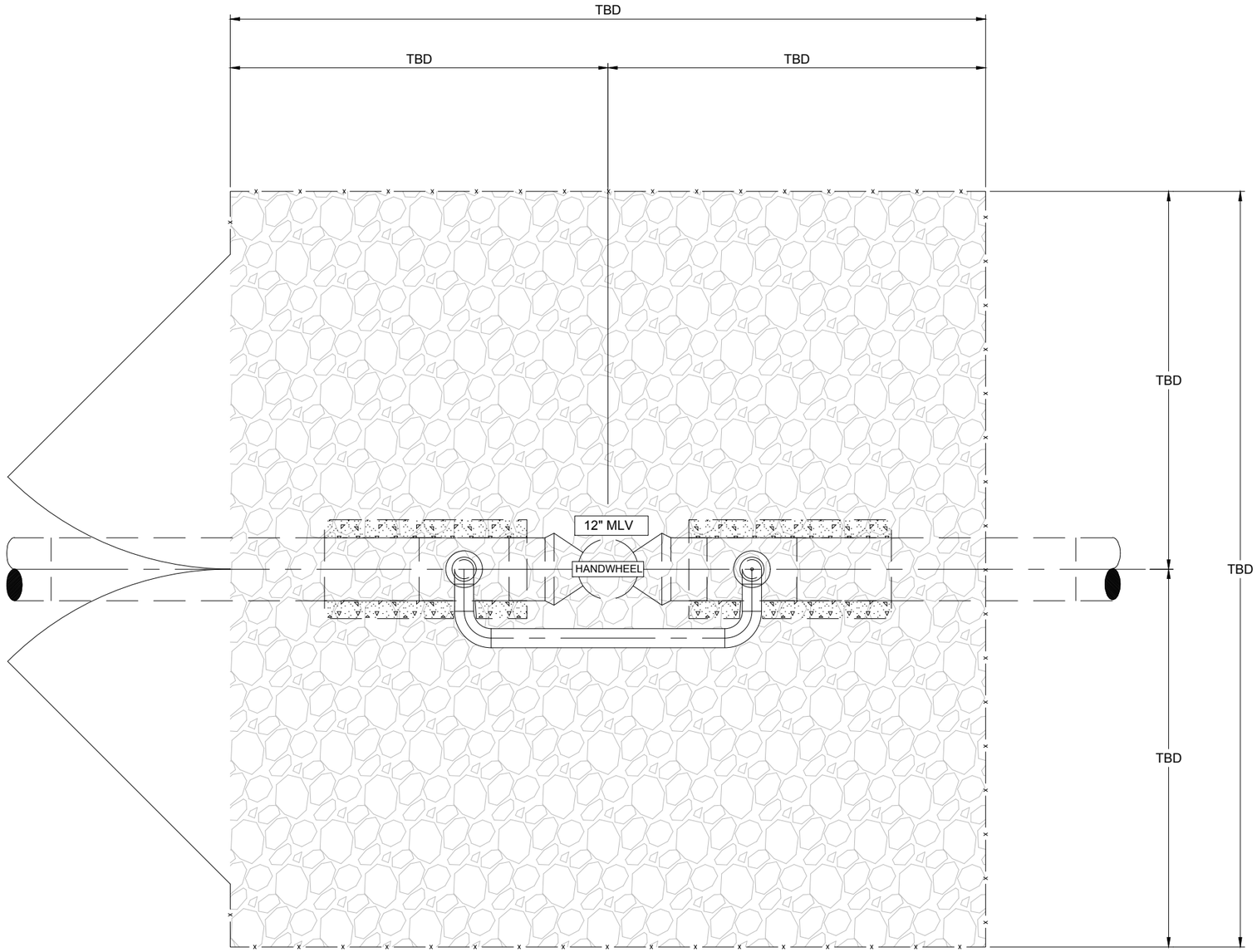
B 153T TYPICAL PIPELINE WARNING MARKER
N.T.S.

NOTES:

1. ALL WIRE SHALL BE INSULATED STRANDED COPPER #12 THHN AS SHOWN ABOVE.
2. TERMINAL BLOCK SHALL BE WIRED BY CONTRACTOR AS SHOWN IN TERMINAL DETAIL ABOVE.
3. ALL WIRE CONNECTIONS TO CARRIER PIPE SHALL BE MADE AS SHOWN IN DETAIL ABOVE. WIRE SHALL BE CONNECTED TO PIPE BY CADWELD PROCESS WITH COPPER HEAT SLEEVE.
4. CADWELD WIRE CONNECTIONS SHALL BE PRIMED WITH ROYSTON SPRAY PRIMER OR EQUAL AND ALLOWED TO DRY 3 TO 4 MINUTES OR UNTIL TACKY, AND COVERED WITH ROYSTON HANDY CAP OR EQUAL.
5. WIRE INSULATION SHALL BE PROTECTED FROM DAMAGE.
6. LAY WIRES ALONGSIDE PIPE. NOT OVER OR UNDER PIPE.
7. CATHODIC PROTECTION TEST STATION AND ALL OTHER MATERIALS SHALL BE FURNISHED BY CONTRACTOR.
8. INSTALL AT ALL LOCATIONS INDICATED ON ALIGNMENT SHEETS.

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **TYPICAL CATHODIC PROTECTION DETAIL**
P01C-TYTS-01.DWG, P01C-TYTS-02.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-153T** FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_AIPA_Cathodic_Protection.dwg



A / 154T **TYPICAL MLV FENCING**
N.T.S.

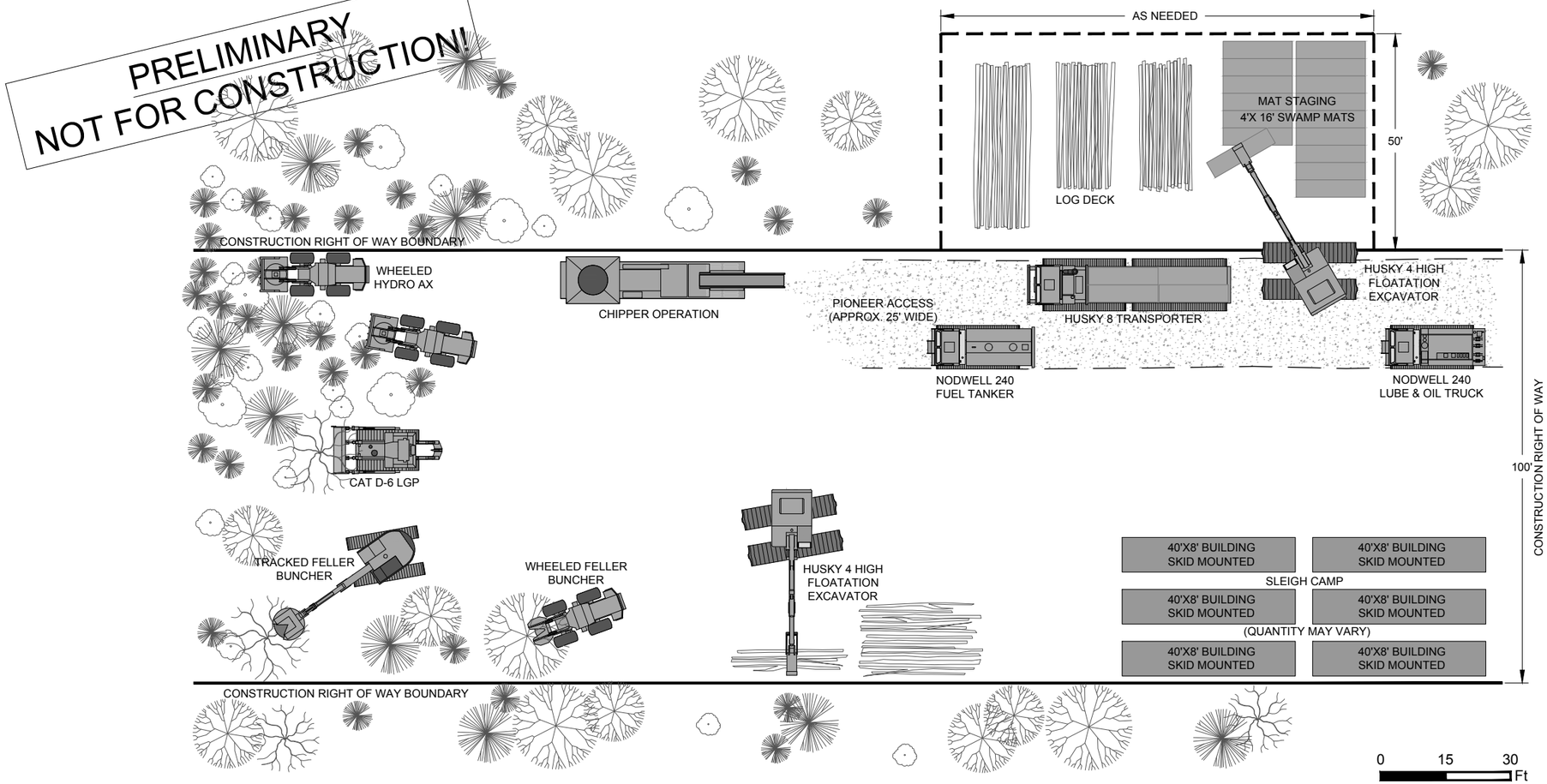
NOTES:

1. REFERENCE DRAWING (DONLIN PIPELINE MLV DWG) AND CONSTRUCTION SPECIFICATIONS FOR DETAILED CONSTRUCTION GUIDELINES.
2. LOCATION OF GATE TO BE FIELD DETERMINED.

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **TYPICAL MLV FENCING DETAIL**
P01M-DTVA-01.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-154T** FILE NO. **POA-1995-120**

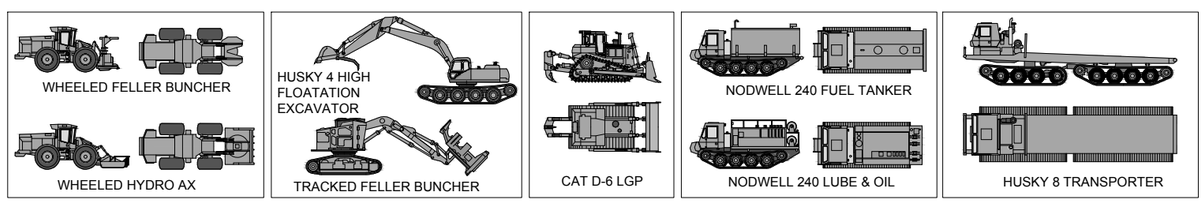
PATH: C:\Users\mtengrewicz\Dropbox\Donlin\181202_010_Mapping_404_Support\Revision_AIPA_MLV_Fencing.dwg

PRELIMINARY
NOT FOR CONSTRUCTION!



NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.

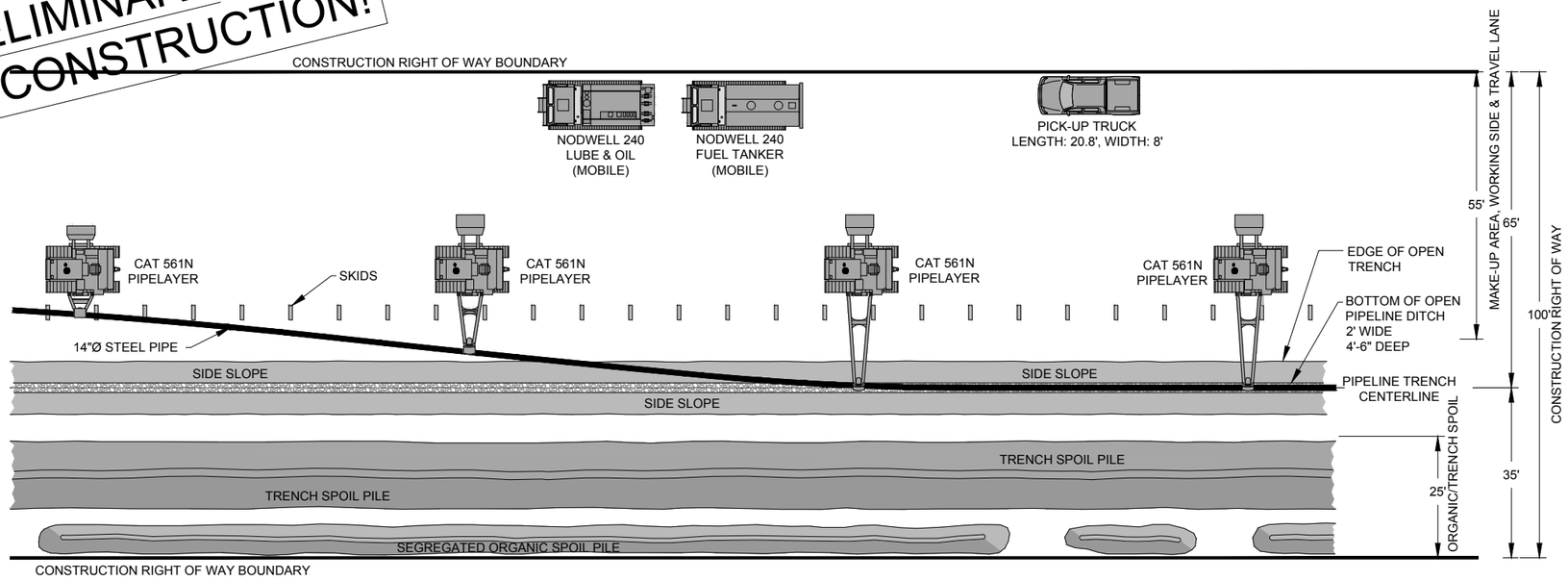
LEGEND
PERMANENT RIGHT OF WAY BOUNDARY
TEMPORARY USE AREA



Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-01.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN SUMMER GRADED R.O.W.MODE**
	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-155T** FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

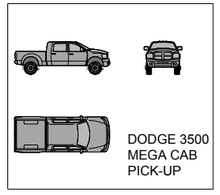
PRELIMINARY
NOT FOR CONSTRUCTION!

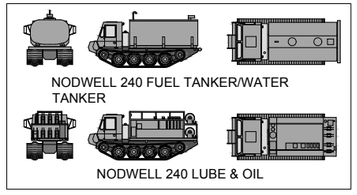


0 15 30
Ft

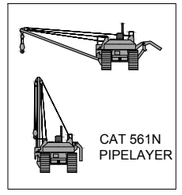
LEGEND
- PIPELINE/TRENCH CENTERLINE
- CONSTRUCTION R.O.W. BOUNDARY
- TRENCH SPOIL PILE
- ORGANIC SPOIL PILE
- BOTTOM OF OPEN PIPELINE TRENCH
- SIDESLOPES OF OPEN TRENCH

NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.


DODGE 3500
MEGA CAB
PICK-UP

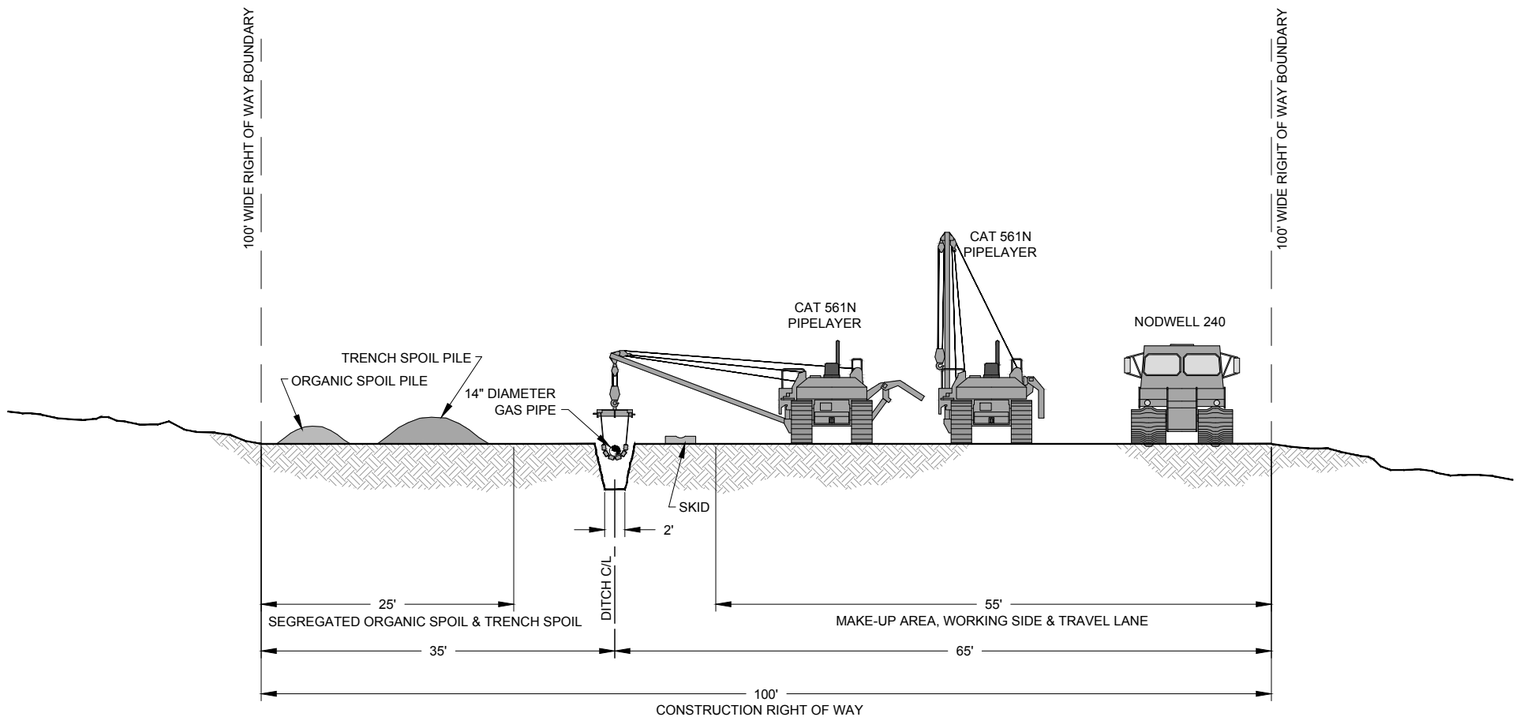

NODWELL 240 FUEL TANKER/WATER TANKER

NODWELL 240 LUBE & OIL


CAT 561N
PIPELAYER

Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-05.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN SUMMER GRADED R.O.W. MODE**
	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-156T** FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

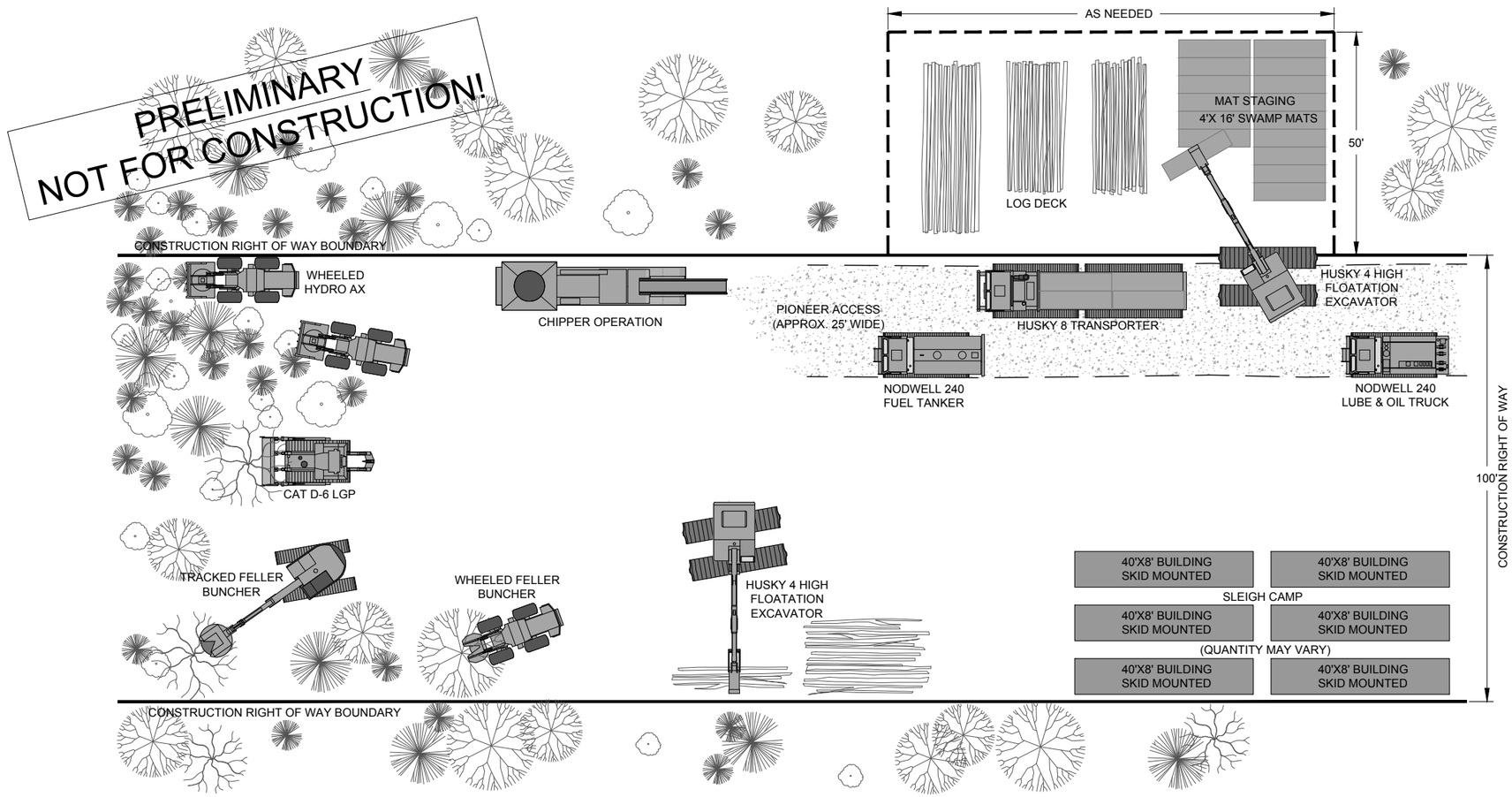


PRELIMINARY
NOT FOR CONSTRUCTION!

Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-07.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**CROSS SECTION SUMMER GRADED R.O.W. MODE**
	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-157T** FILE NO. **POA-1995-120**

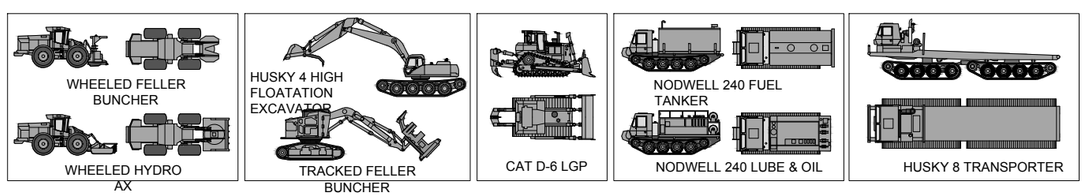
PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

PRELIMINARY
NOT FOR CONSTRUCTION!



NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.

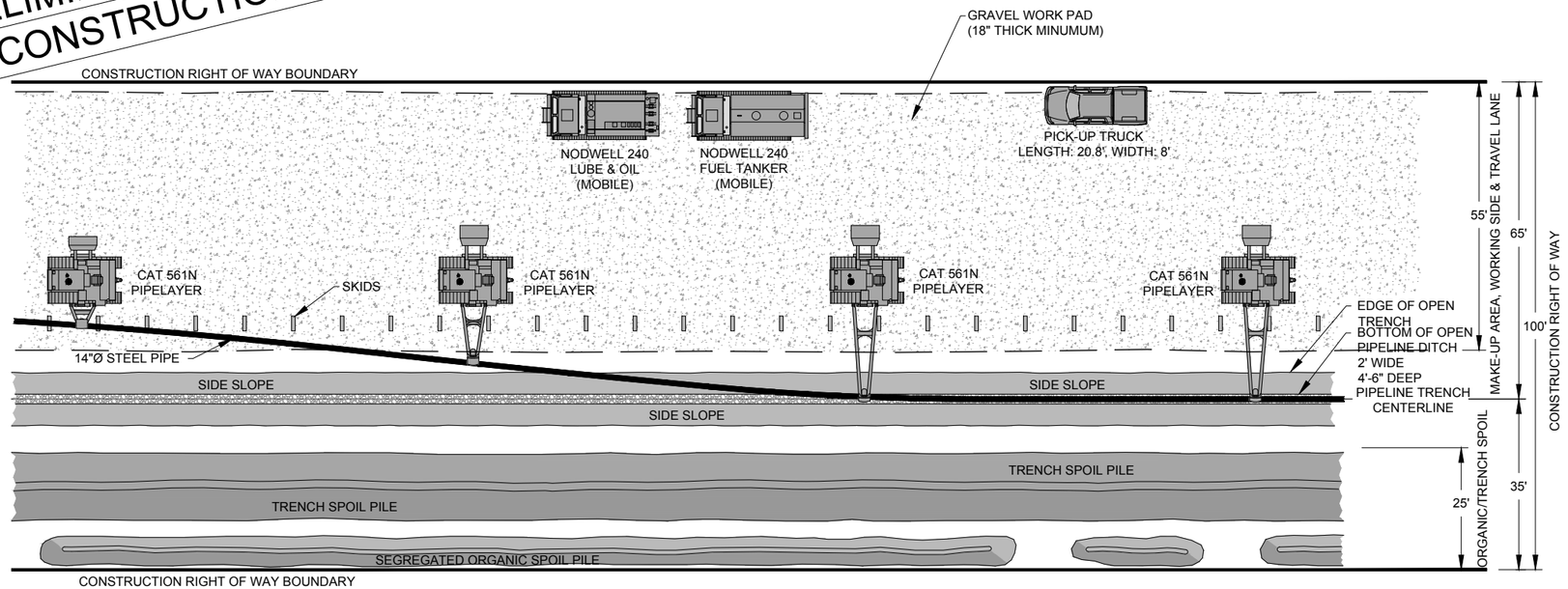
LEGEND
PERMANENT RIGHT OF WAY BOUNDARY
TEMPORARY USE AREA



Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-08.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN SUMMER PERMAFROST R.O.W. MODE**
	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-158T** FILE NO. **POA-1995-120**

PATH: C:\Users\mtengrewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_ai\PA_ROW.dwg

PRELIMINARY
NOT FOR CONSTRUCTION!

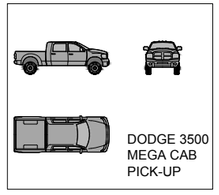


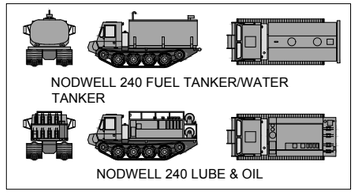
0 15 30
Ft

LEGEND

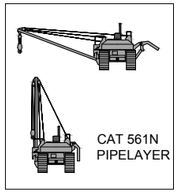
- PIPELINE/TRENCH CENTERLINE
- CONSTRUCTION R.O.W. BOUNDARY
- TRENCH SPOIL PILE
- ORGANIC SPOIL PILE
- BOTTOM OF OPEN PIPELINE TRENCH
- SIDESLOPES OF OPEN TRENCH

NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.


DODGE 3500
MEGA CAB
PICK-UP

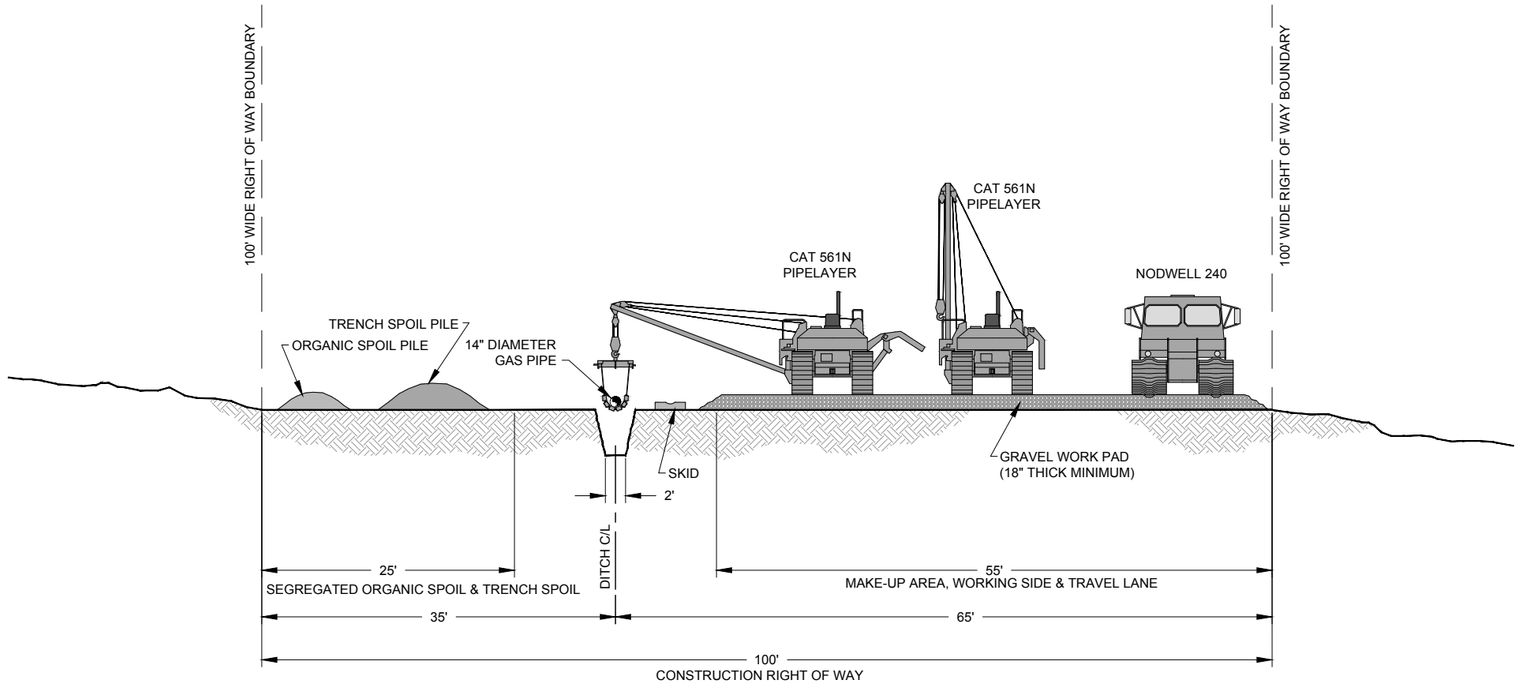

NODWELL 240 FUEL TANKER/WATER
TANKER

NODWELL 240 LUBE & OIL


CAT 561N
PIPELAYER

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: RIGHT OF WAY PLAN SUMMER PERMAFROST R.O.W. MODE
P01C-TYRWS-12.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. PA-159T FILE NO. POA-1995-120

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg



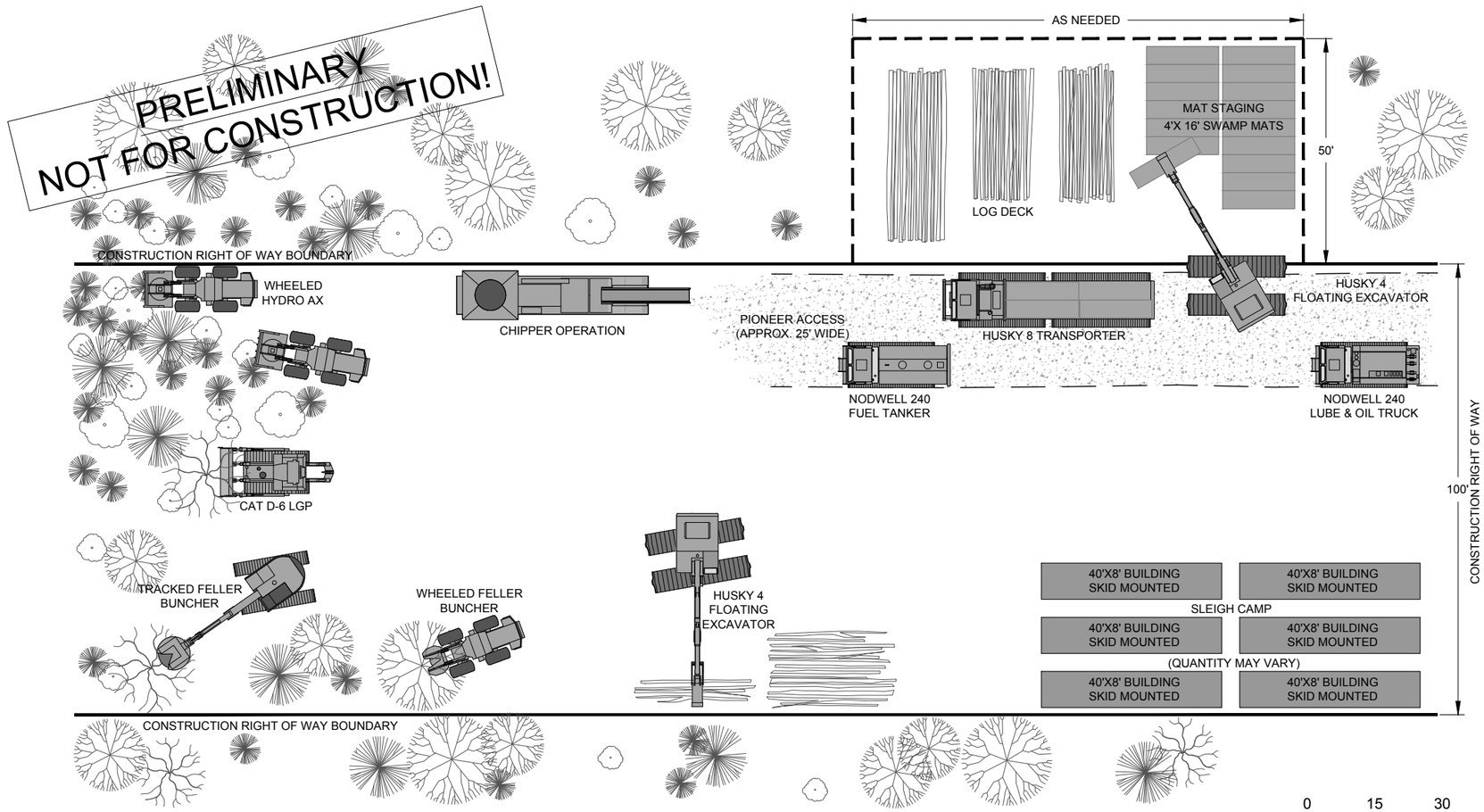
0 7.5 15
Ft

PRELIMINARY
NOT FOR CONSTRUCTION!

Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-14.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**CROSS SECTION SUMMER PERMAFROST R.O.W. MODE**
	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-160T** FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_ai\PA_ROW.dwg

PRELIMINARY
NOT FOR CONSTRUCTION!

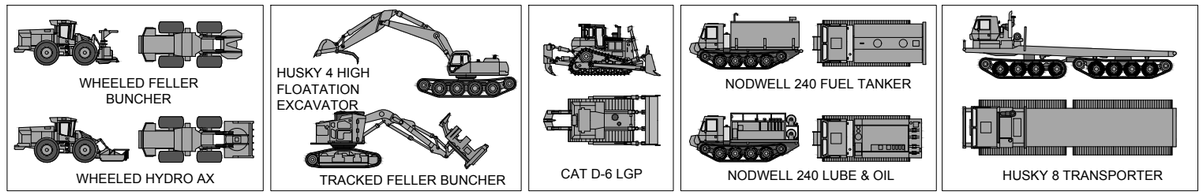


NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.

LEGEND

CONSTRUCTION RIGHT OF WAY BOUNDARY

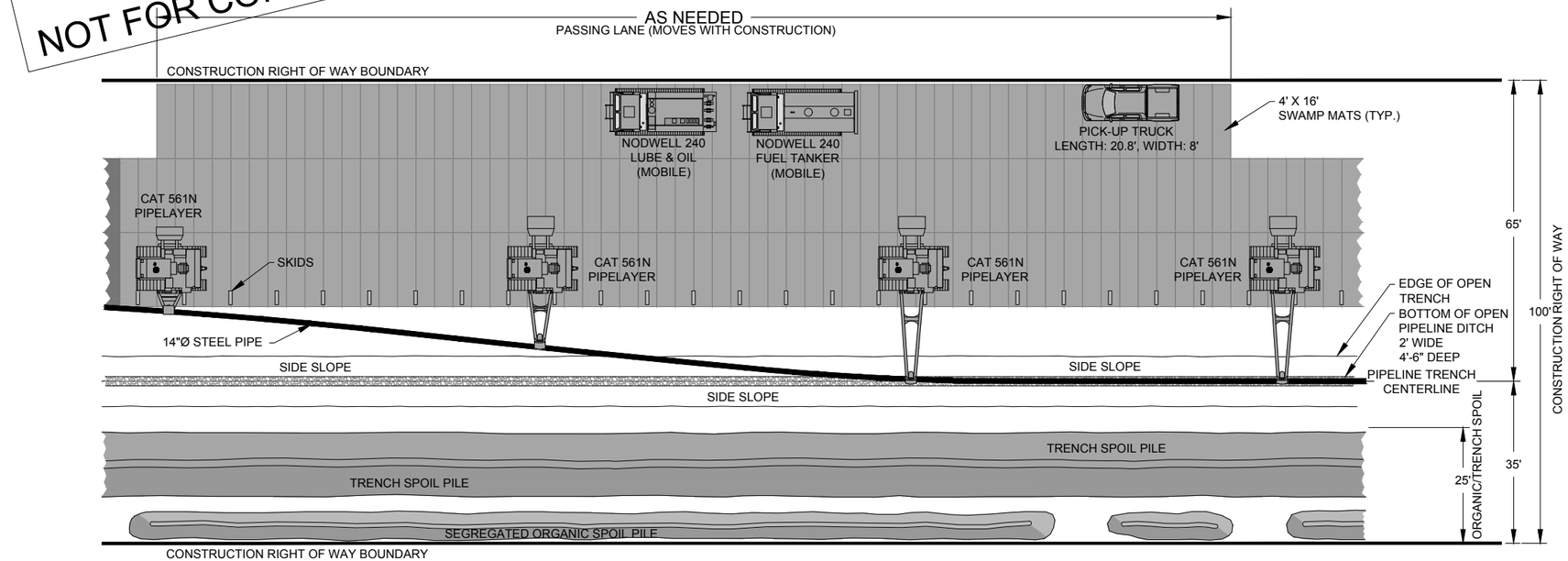
TEMPORARY USE AREA



Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-15.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN SUMMER WETLANDS R.O.W. MODE**
	SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-161T** FILE NO. **POA-1995-120**

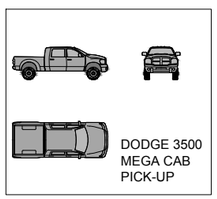
PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

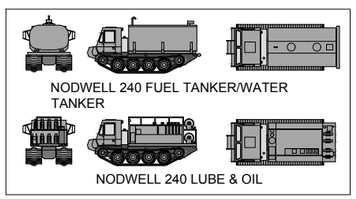
PRELIMINARY
NOT FOR CONSTRUCTION!



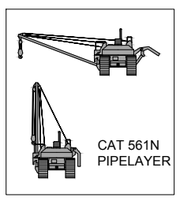
LEGEND
- PIPELINE/TRENCH CENTERLINE
- CONSTRUCTION R.O.W. BOUNDARY
- TRENCH SPOIL PILE
- ORGANIC SPOIL PILE
- BOTTOM OF OPEN PIPELINE TRENCH
- SIDESLOPES OF OPEN TRENCH

NOTES:
1. MATS OR CORDUROY TIMBER AS NEEDED.
2. EQUIPMENT QUANTITY AND TYPE MAY VARY.


DODGE 3500
MEGA CAB
PICK-UP

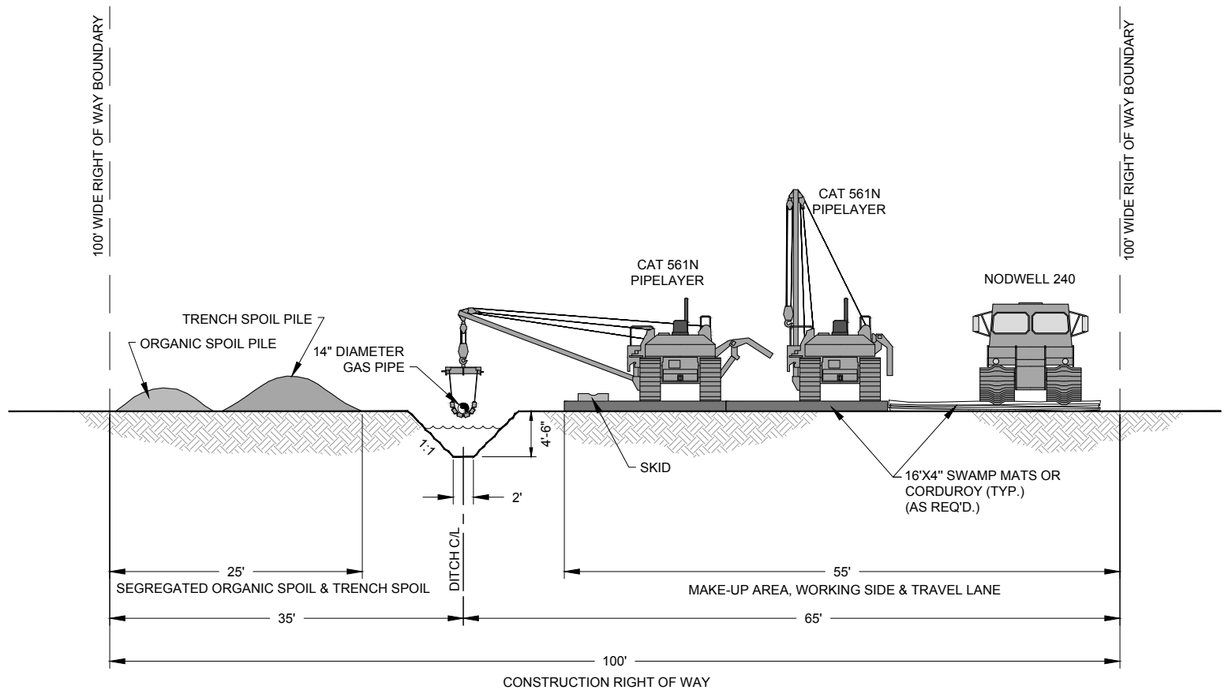

NODWELL 240 FUEL TANKER/WATER
TANKER

NODWELL 240 LUBE & OIL


CAT 561N
PIPELAYER

Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWS-19.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN SUMMER WETLANDS R.O.W. MODE**
	SCALE: AS SHOWN / DATE: 9/21/2015	FIGURE NO. **PA-162T** / FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg



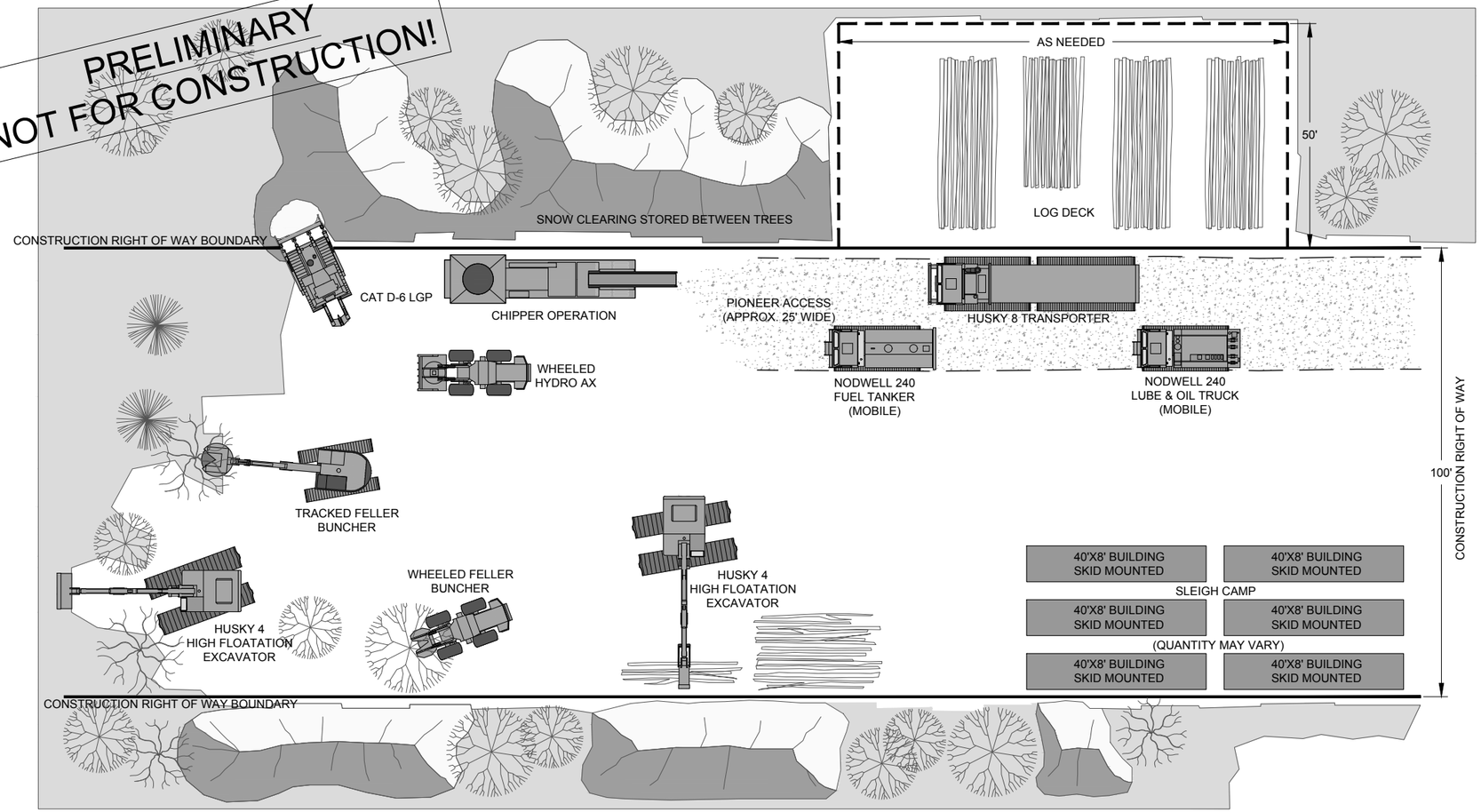
0 7.5 15 Ft

PRELIMINARY
NOT FOR CONSTRUCTION!

	Associated Engineering Drawings P01C-TYRWS-21.DWG (BAKER) OCT 2013	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **CROSS SECTION SUMMER WETLANDS R.O.W. MODE**
		SCALE: AS SHOWN DATE: 9/21/2015	FIGURE NO. **PA-163T** FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

PRELIMINARY
NOT FOR CONSTRUCTION!



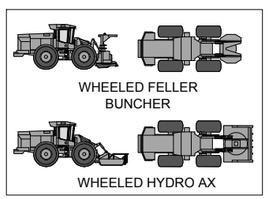
0 15 30 Ft

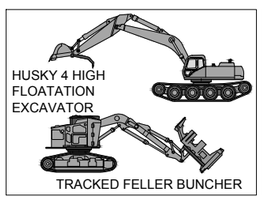
LEGEND

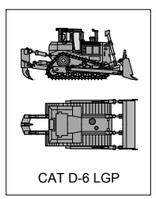
PERMANENT RIGHT OF WAY BOUNDARY

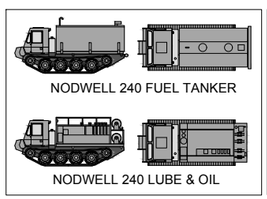
TEMPORARY USE AREA

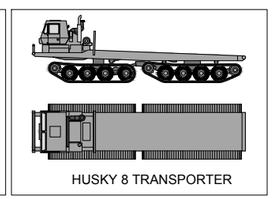
NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.











Associated Engineering Drawings
P01C-TYRWW-01.DWG (BAKER) OCT 2013

DONLIN GOLD PROJECT
APPLICANT: Donlin Gold, LLC
4720 Business Park Blvd., Suite G-25
Anchorage, Alaska 99503

DRAWING TITLE:
RIGHT OF WAY PLAN WINTER GRADED R.O.W MODE

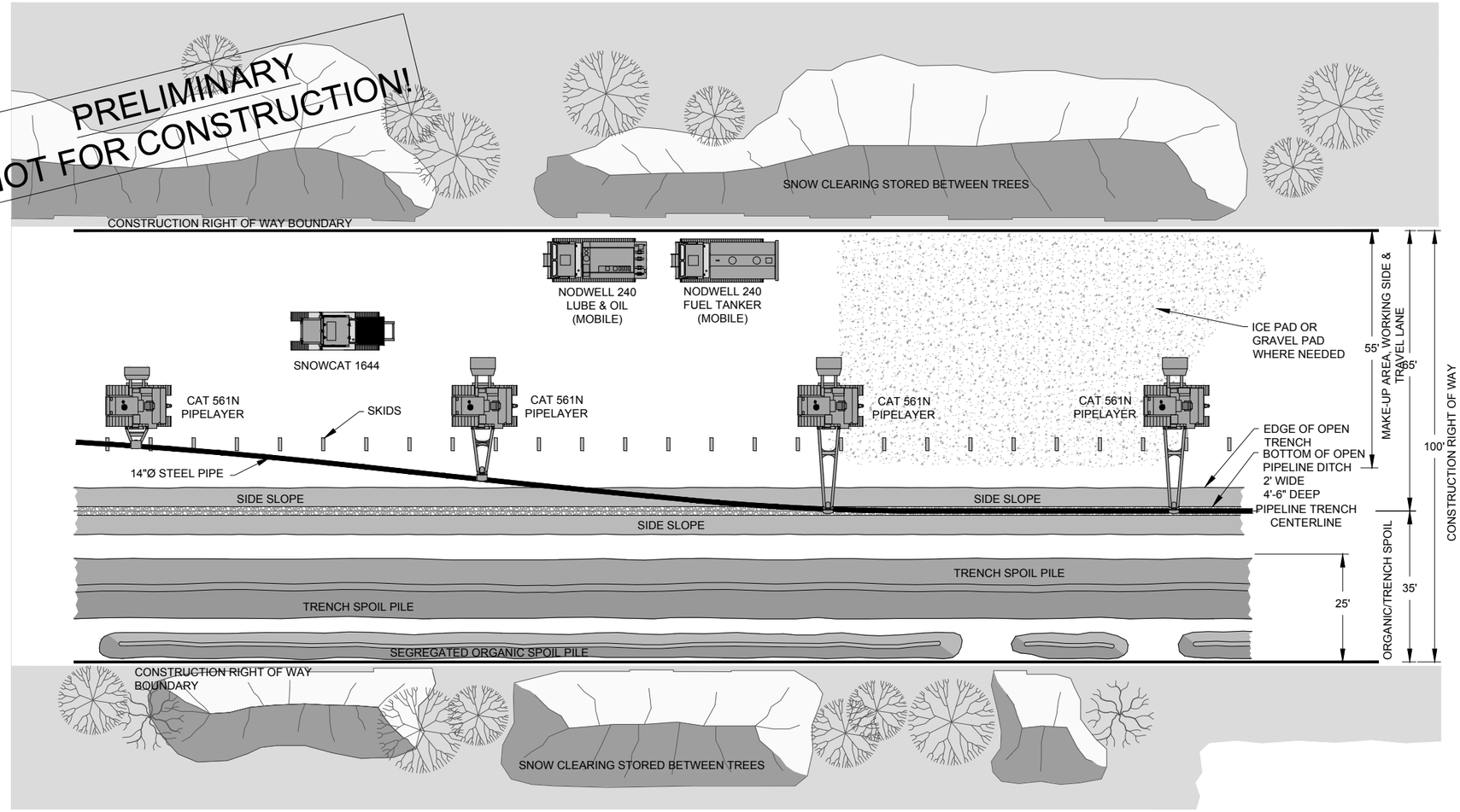
SCALE: AS SHOWN | DATE: 9/22/2015

FIGURE NO. **PA-164T**

FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

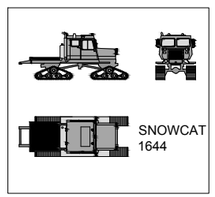
PRELIMINARY
NOT FOR CONSTRUCTION!

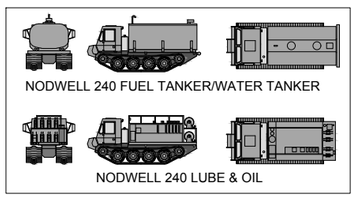


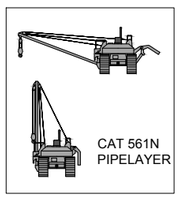
0 15 30 Ft

LEGEND
- PIPELINE/TRENCH CENTERLINE
- CONSTRUCTION R.O.W. BOUNDARY
- TRENCH SPOIL PILE
- ORGANIC SPOIL PILE
- BOTTOM OF OPEN PIPELINE TRENCH
- SIDESLOPES OF OPEN TRENCH

NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.

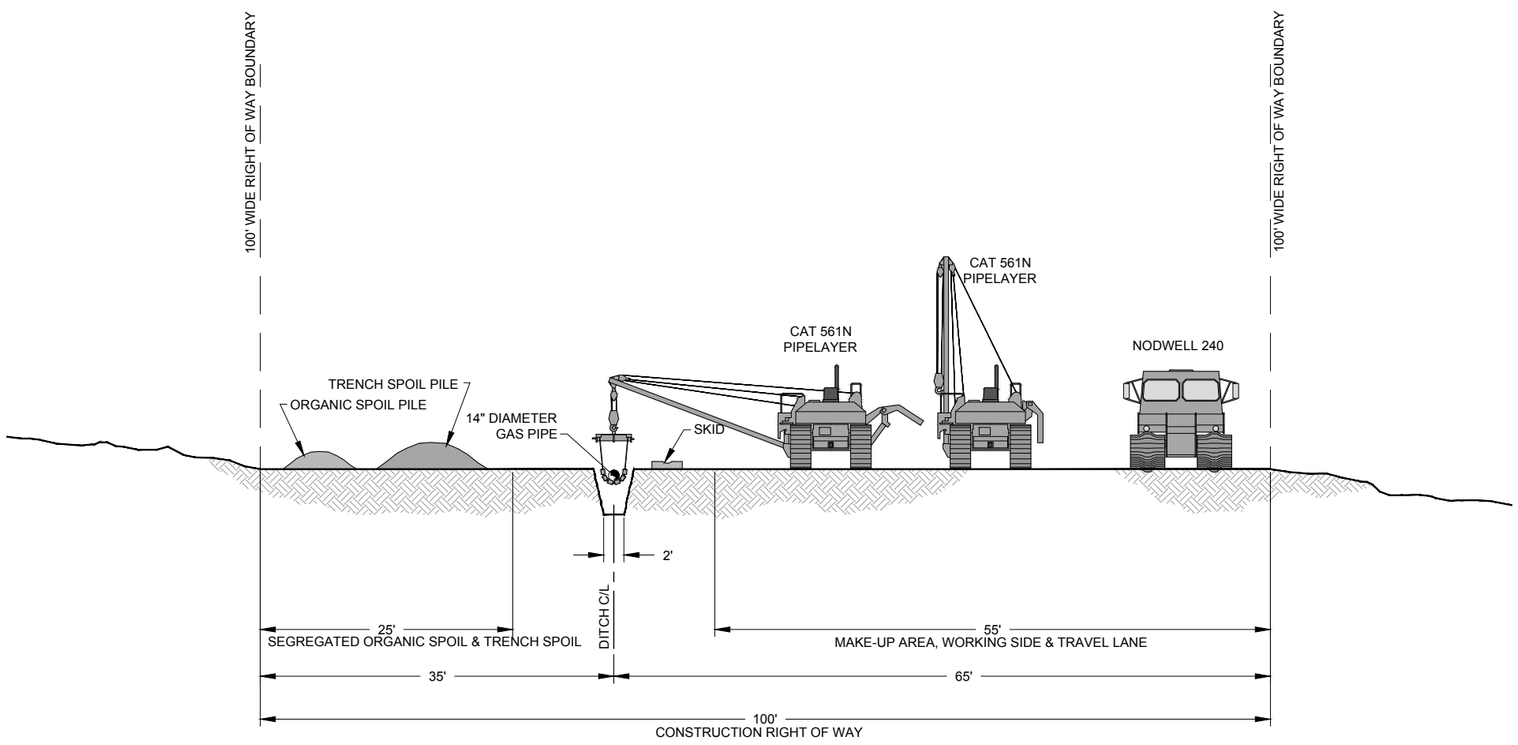






	Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
	P01C-TYRWW-06.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN WINTER GRADED R.O.W. MODE**
		SCALE: AS SHOWN / DATE: 9/22/2015	FIGURE NO. **PA-165T** / FILE NO. **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

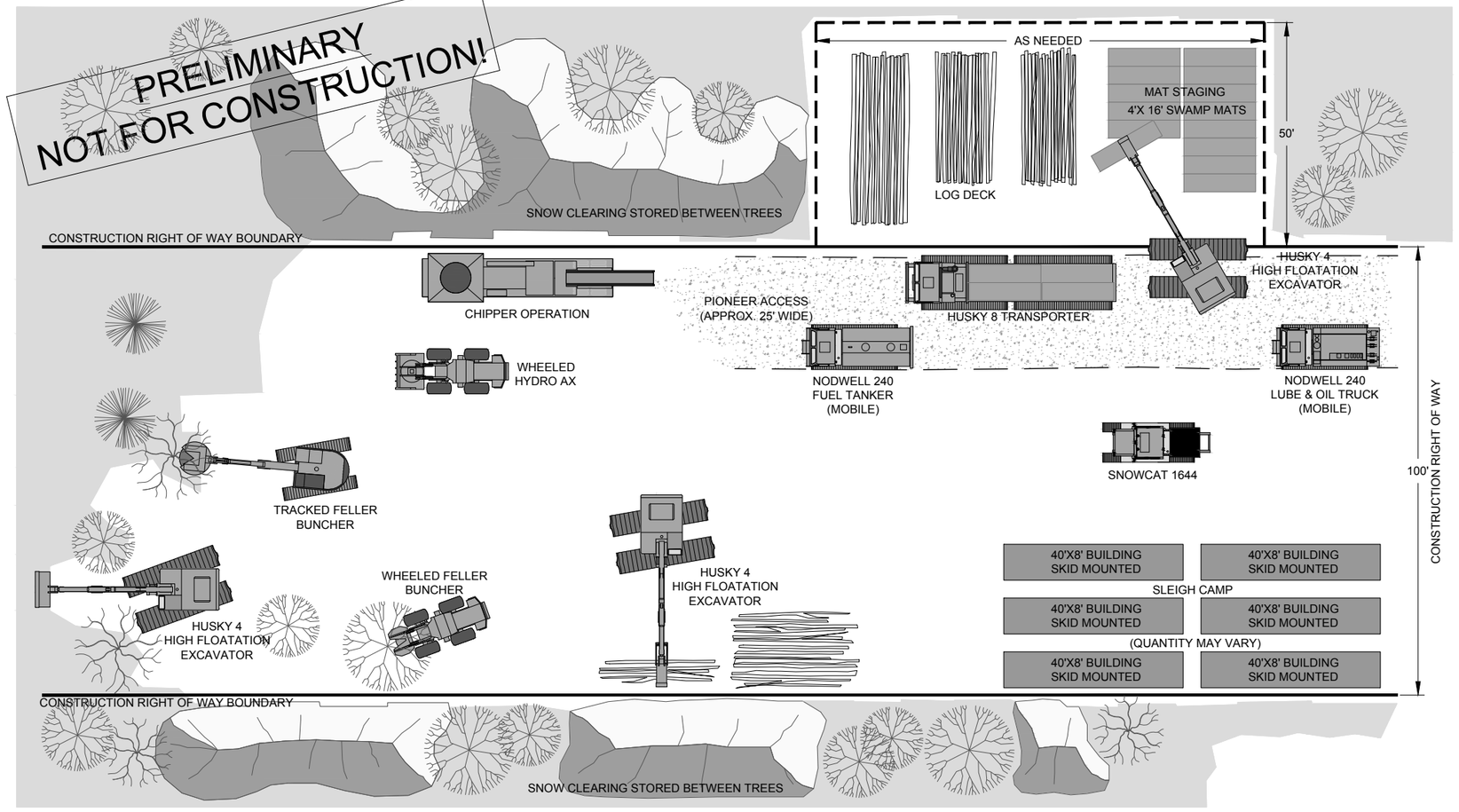


PRELIMINARY
NOT FOR CONSTRUCTION!

	Associated Engineering Drawings P01C-TYRWW-08.DWG (BAKER) OCT 2013	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **CROSS SECTION R.O.W MODE** FIGURE NO. **PA-166T** FILE NO. **POA-1995-120** SCALE: AS SHOWN DATE: 9/22/2015

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

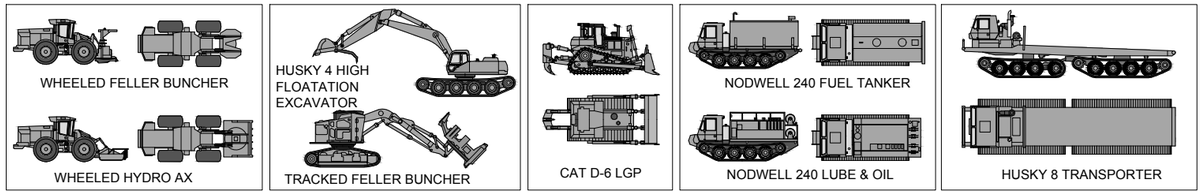
PRELIMINARY
NOT FOR CONSTRUCTION!



0 15 30 Ft

LEGEND
PERMANENT RIGHT OF WAY BOUNDARY
TEMPORARY USE AREA

NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.



Associated Engineering Drawings
P01C-TYRWW-09.DWG (BAKER) OCT 2013

DONLIN GOLD PROJECT
APPLICANT: Donlin Gold, LLC
4720 Business Park Blvd., Suite G-25
Anchorage, Alaska 99503

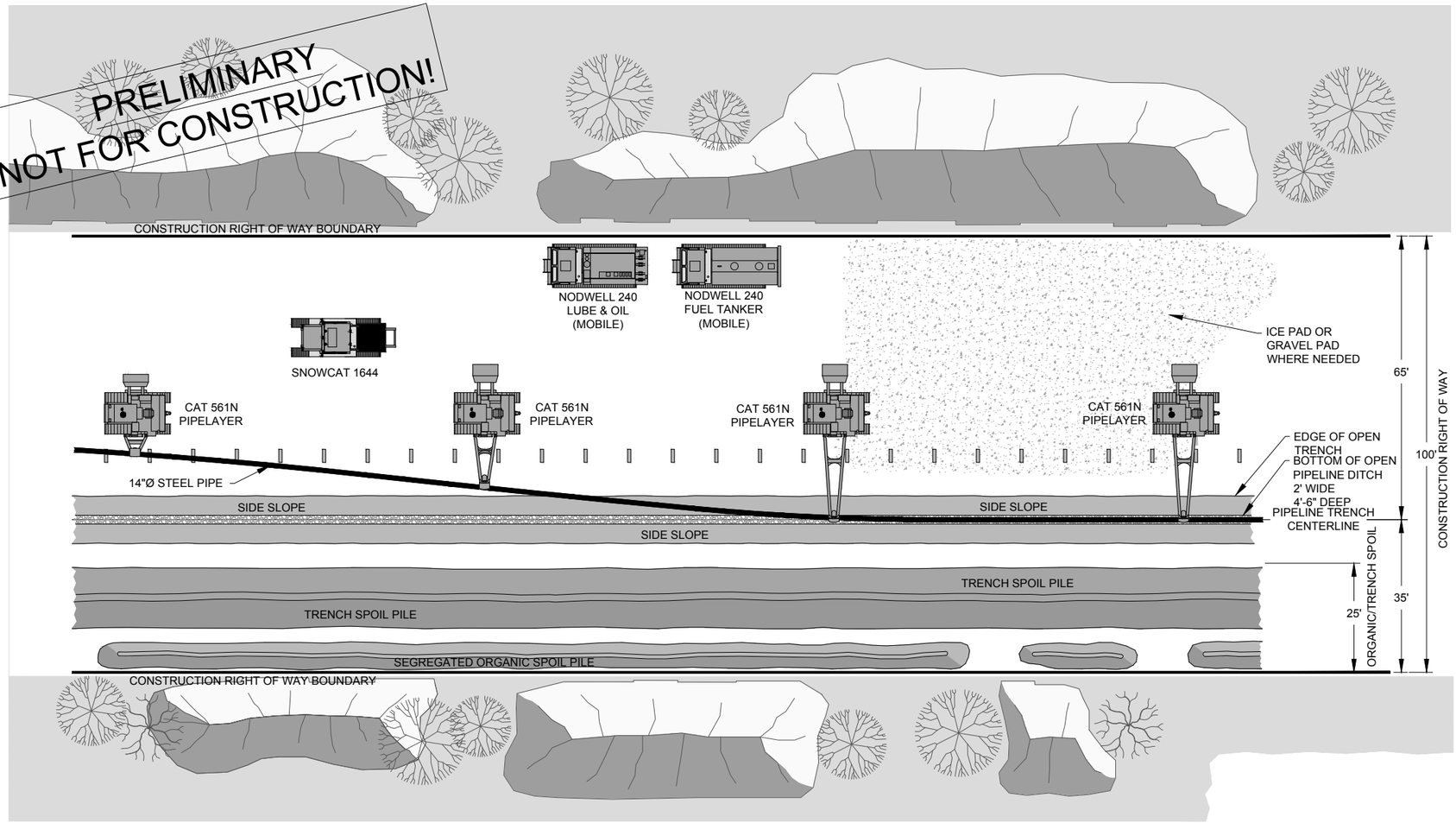
SCALE: AS SHOWN
DATE: 9/22/2015

DRAWING TITLE:
RIGHT OF WAY PLAN WINTER PERMAFROST R.O.O.W. MODE

FIGURE NO.: **PA-167T**
FILE NO.: **POA-1995-120**

PATH: C:\Users\mlengiewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg

PRELIMINARY
NOT FOR CONSTRUCTION!



LEGEND

- PIPELINE/TRENCH CENTERLINE
- CONSTRUCTION R.O.W. BOUNDARY
- TRENCH SPOIL PILE
- ORGANIC SPOIL PILE
- BOTTOM OF OPEN PIPELINE TRENCH
- SIDESLOPES OF OPEN TRENCH

NOTES:
1. MATS OR CORDUROY TIMBER AS NEEDED.
2. EQUIPMENT QUANTITY AND TYPE MAY VARY.

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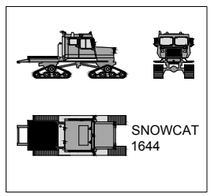
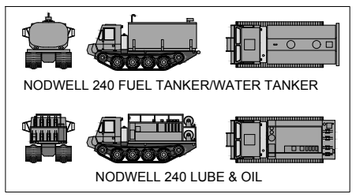
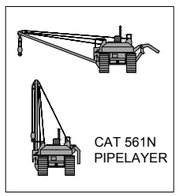
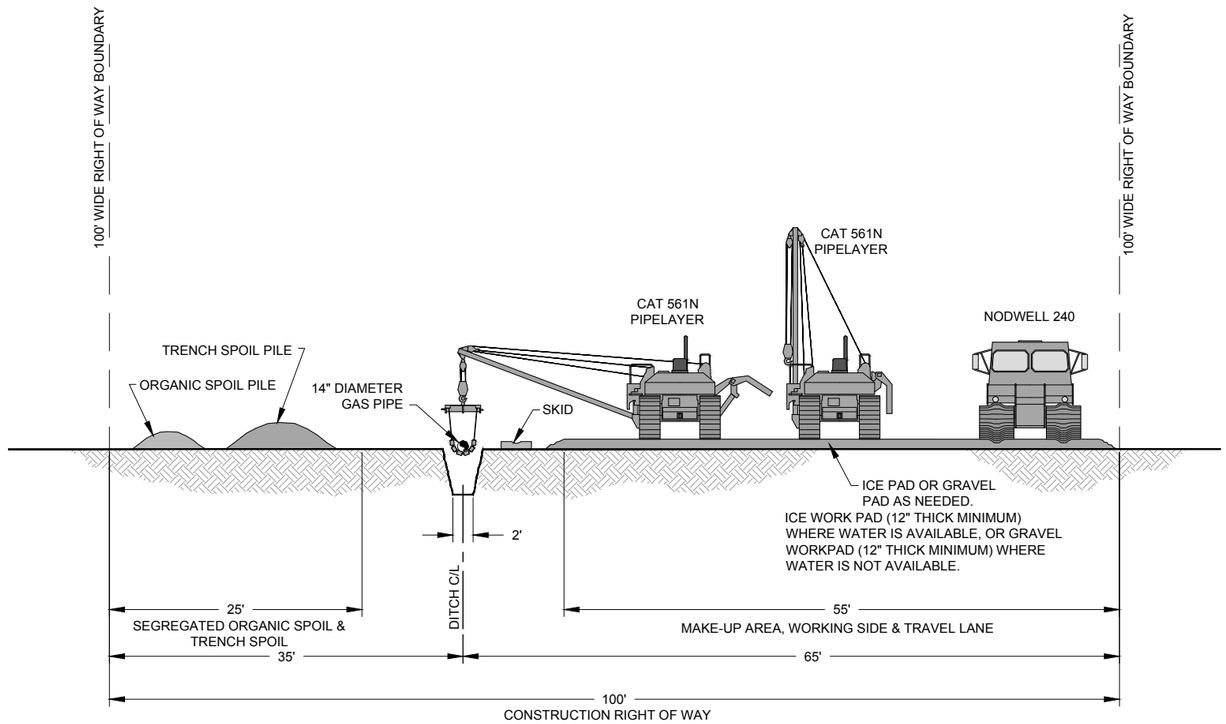






Associated Engineering Drawings	DONLIN GOLD PROJECT	DRAWING TITLE:
P01C-TYRWW-14.DWG (BAKER) OCT 2013	APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	**RIGHT OF WAY PLAN WINTER PERMAFROST R.O.W. MODE**
	SCALE: AS SHOWN / DATE: 9/22/2015	FIGURE NO. **PA-168T** / FILE NO. **POA-1995-120**

PATH: C:\Users\mlenglewicz\Dropbox\Donlin\181202_010_mapping_404_support\revision_a\PA_ROW.dwg



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PRELIMINARY
NOT FOR CONSTRUCTION!

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: CROSS SECTION WINTER PERMAFROST R.O.W. MODE
P01C-TYRWW-16.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/22/2015	FIGURE NO. PA-169T FILE NO. POA-1995-120

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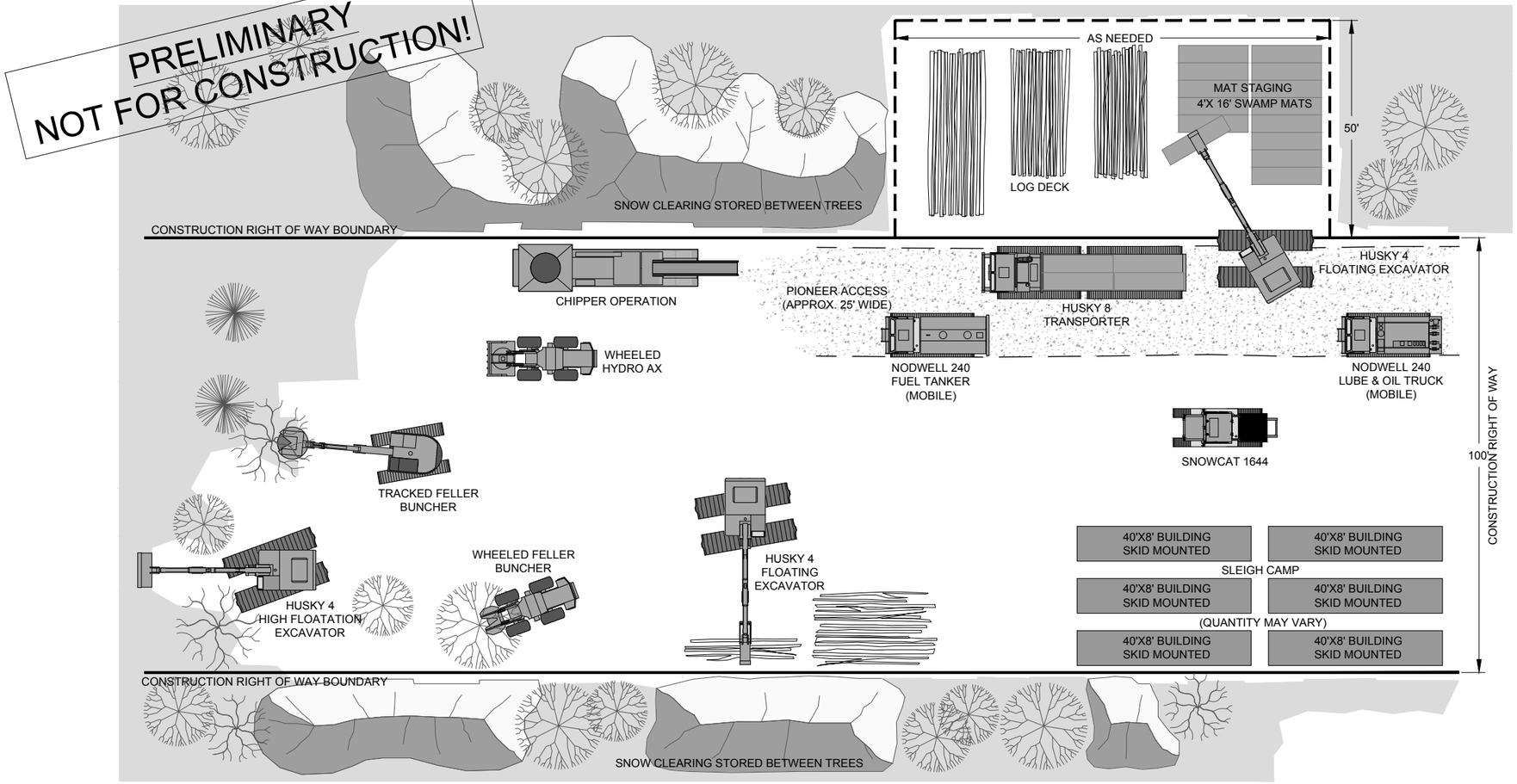
PRELIMINARY
NOT FOR CONSTRUCTION!



NOTES:
1. EQUIPMENT QUANTITY AND TYPE MAY VARY.

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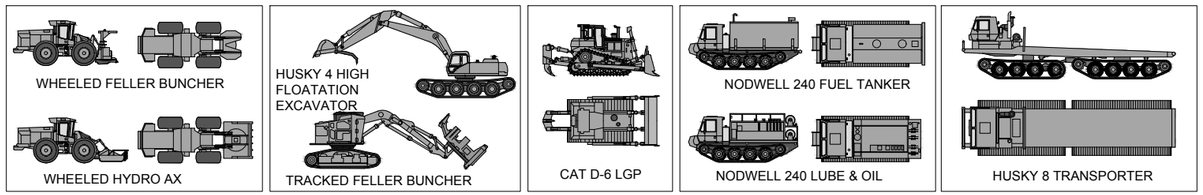
LEGEND
PERMANENT RIGHT OF WAY BOUNDARY
TEMPORARY USE AREA



Associated Engineering Drawings
P01C-TYRWW-17.DWG (BAKER) OCT 2013

DONLIN GOLD PROJECT
APPLICANT: Donlin Gold, LLC
4720 Business Park Blvd., Suite G-25
Anchorage, Alaska 99503

SCALE: AS SHOWN | DATE: 9/22/2015

DRAWING TITLE:
RIGHT OF WAY PLAN WINTER WETLANDS R.O.W. MODE

FIGURE NO. **PA-170T**

FILE NO. **POA-1995-120**

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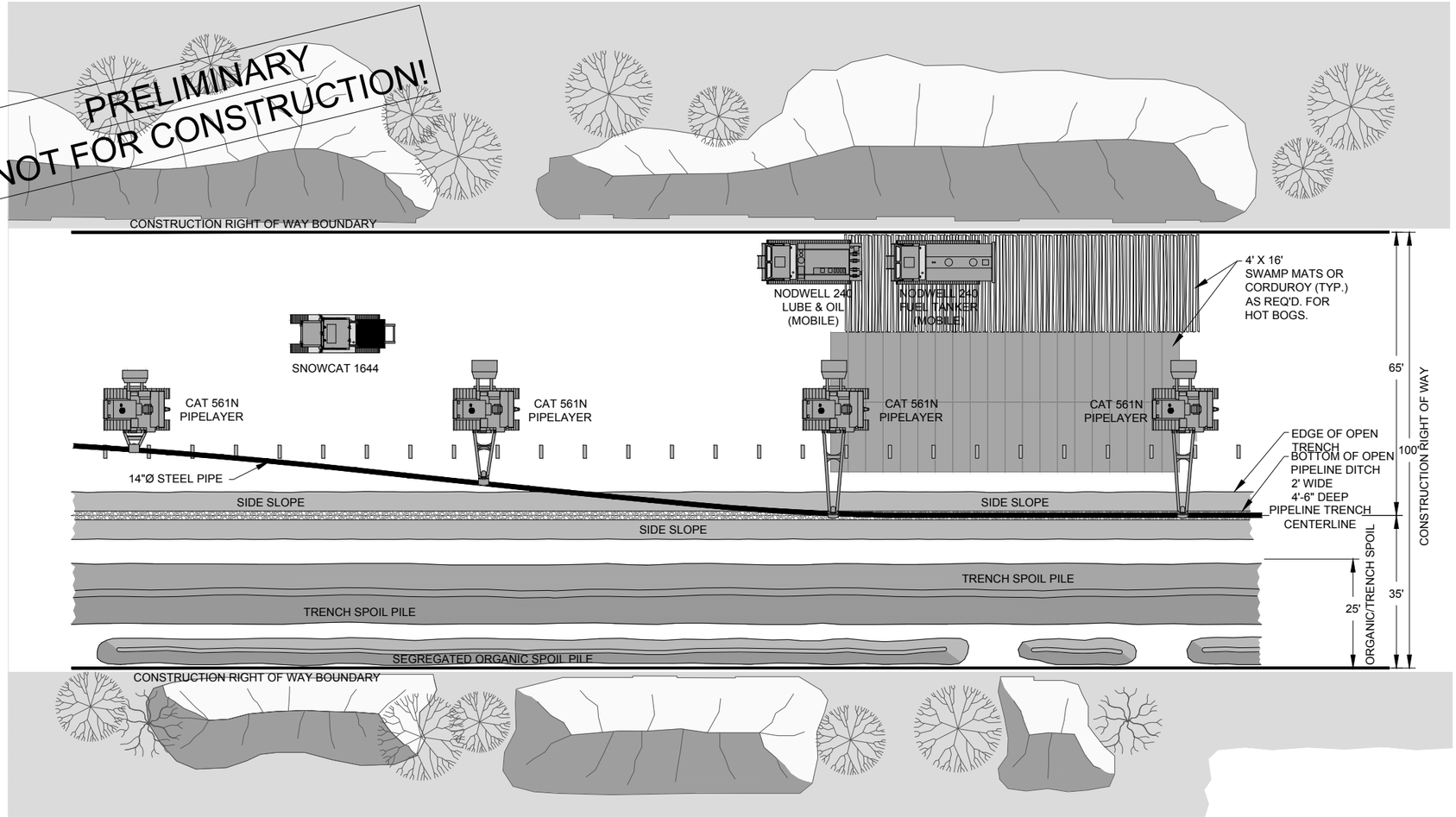
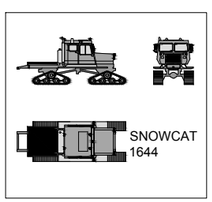
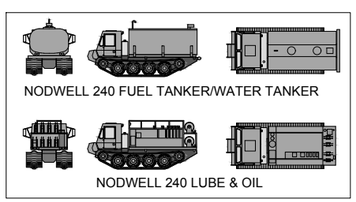
PRELIMINARY
NOT FOR CONSTRUCTION!

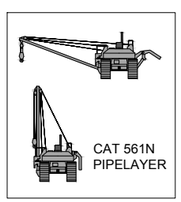


LEGEND
- PIPELINE/TRENCH CENTERLINE
- CONSTRUCTION R.O.W. BOUNDARY
- TRENCH SPOIL PILE
- ORGANIC SPOIL PILE
- BOTTOM OF OPEN PIPELINE TRENCH
- SIDESLOPES OF OPEN TRENCH

NOTES:
1. MATS OR CORDUROY TIMBER AS NEEDED.
2. EQUIPMENT QUANTITY AND TYPE MAY VARY.







Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: RIGHT OF WAY PLAN WINTER WETLANDS R.O.W. MODE
P01C-TYRWW-22.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/22/2015	FIGURE NO. PA-171T FILE NO. POA-1995-120

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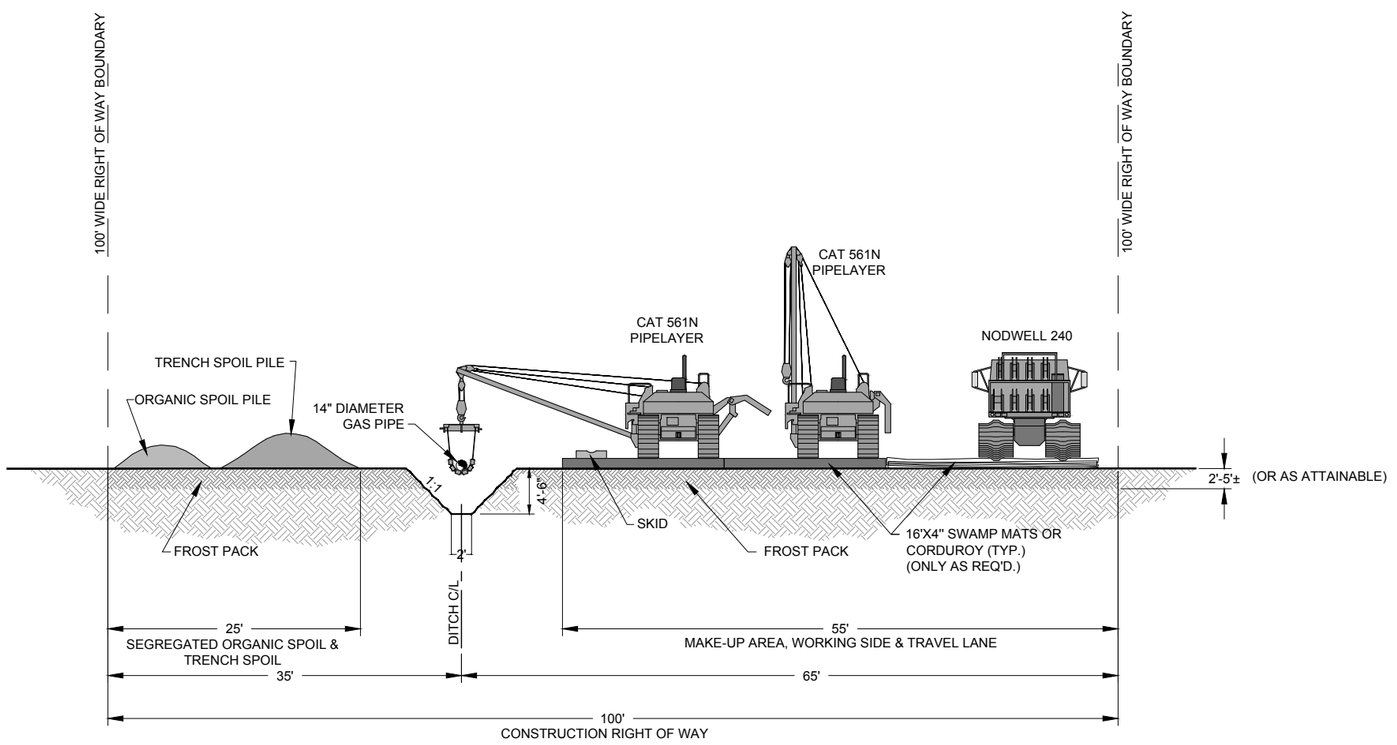

0 7.5 15 Ft

PRELIMINARY
NOT FOR CONSTRUCTION!

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **CROSS SECTION WINTER WETLANDS R.O.W. MODE**
P01C-TYRWW-24.DWG (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/22/2015	FIGURE NO. **PA-172T** FILE NO. **POA-1995-120**

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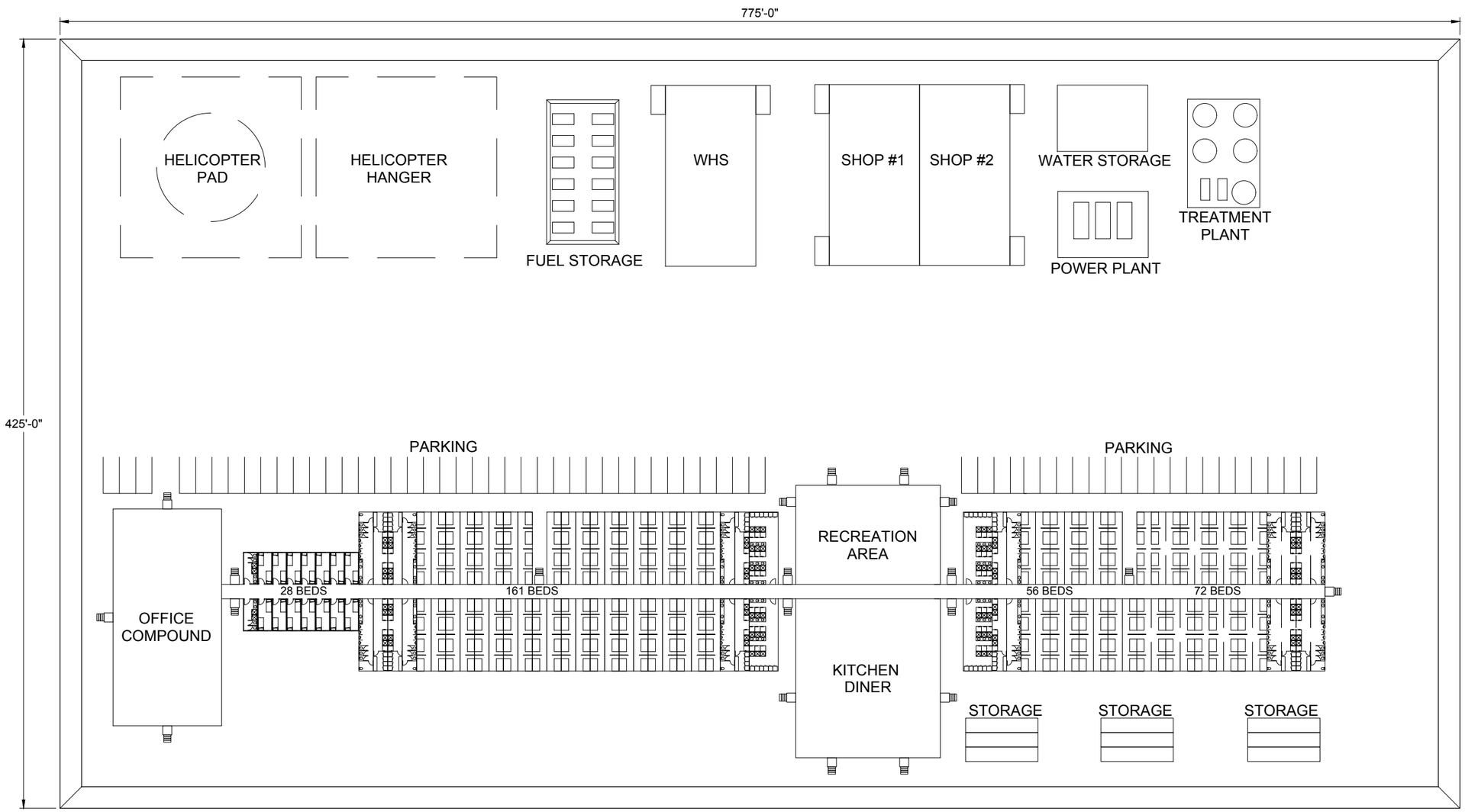

A / 173T **TYPICAL CAMP PLOT PLAN 200 TO 300 MAN CAMP**
N.T.S.

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: **TYPICAL CAMP PLOT PLAN 200 TO 300 MAN CAMP DETAIL**
Camp 1.dwg (?) MAR 2012	SCALE: AS SHOWN — DATE: 9/23/2015	FIGURE NO. **PA-173T** — FILE NO. **POA-1995-120**

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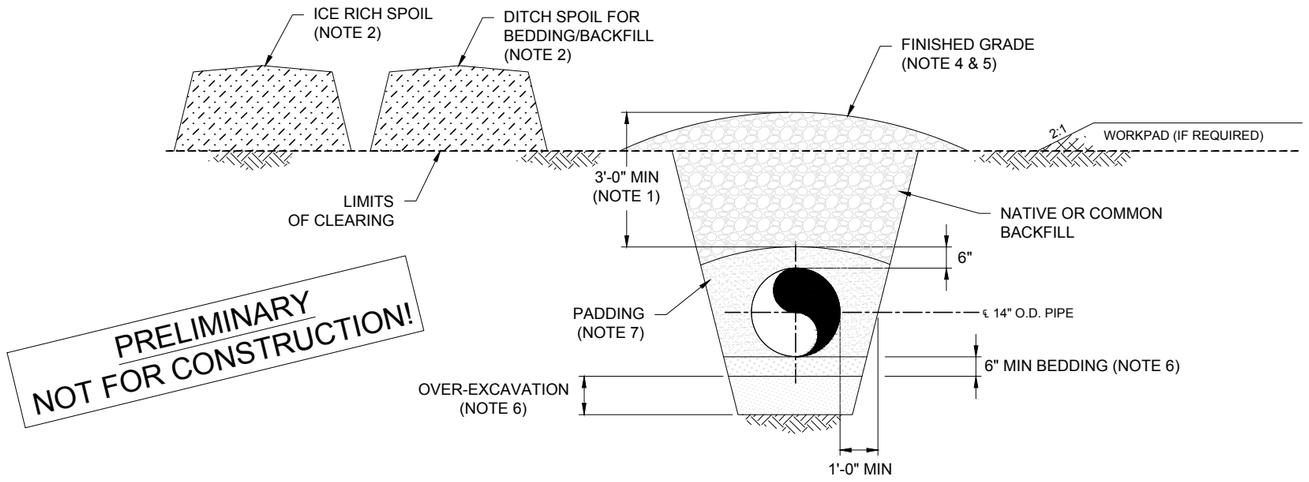
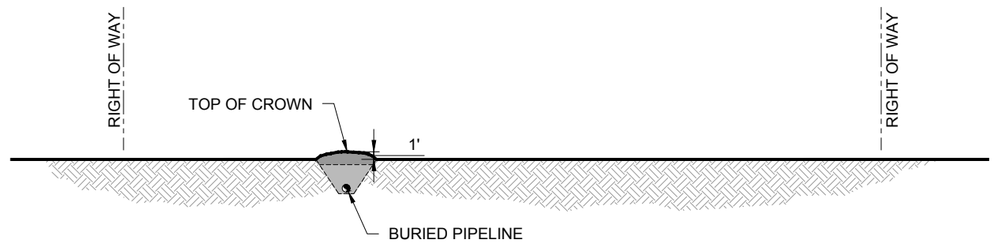


PRELIMINARY
NOT FOR CONSTRUCTION!

NOTES:

1. MINIMUM DEPTH OF COVER: 36". ADDITIONAL COVER MAY BE REQUIRED FOR BUOYANCY CONTROL. RIVER AND STREAM SCOUR, AND BENDS.
2. EXCAVATION:
   LOG THE TRENCH MATERIAL AS IT IS DUG. SEGREGATE ICE RICH MATERIAL IN A SPOIL PILE SEPARATE FROM DITCH SPOIL WHICH IS ACCEPTABLE FOR BACKFILL. IN EXTREME CASES OF ICE CONTENT, IT MAY BE NECESSARY TO HAUL IN ADDITIONAL SELECT MATERIAL AND/OR TO HAUL THE ICE RICH SPOIL TO AN APPROVED DISPOSAL SITE, SUCH AS AN ABANDONED MATERIAL SITE, COULD BE CONSIDERED.
3. PRIOR TO FINAL DESIGN:
   GEOTECHNICAL LOGGING OF BORE HOLES TO DETERMINE ICE CONTENT IN THE DITCH PROFILE AND BELOW THE DITCH BOTTOM FOR AN ADDITIONAL 10' OR WHATEVER DEPTH WAS DETERMINED TO AFFECT PIPELINE SETTLEMENT IN THE EVENT OF THAWING BELOW THE PIPELINE.
4. PLACE AND ROACH THE REMAINING DITCH SPOIL. INCLUDING THE ICE RICH SPOIL, OVER TOP OF THE PADDING AND ALLOW IT TO THAW DURING SUMMER SEASON.
5. PLACE APPROPRIATE EROSION CONTROL DEVICES (ECDs) ALONG THE ROACH DITCH LINE WHERE ICE RICH SPOIL MIGHT FLOW INTO AN EXISTING DRAINAGE WHEN IT MELTS. SEED THE ROACHED SPOIL PILE AND ANY DISTURBED RIGHT OF WAY. INSPECT THE DITCH LINE IN THE SUMMER/FALL FOLLOWING WINTER CONSTRUCTION AND USE LOW GROUND PRESSURE EQUIPMENT TO DRESS UP OR RE-SHAPE THE ROACHED SPOIL OVER THE DITCH AS NEEDED. RE-SEED AND RE-PLACE ECDs IF NECESSARY. REPEAT INSPECTION ANNUALLY FOR THE FIRST THREE SEASONS OR AS NEEDED TO MAINTAIN SOIL STABILITY.
6. PLACEMENT OF SELECT, THAW STABLE FILL FOR PIPE BEDDING IN ANY OVER-EXCAVATED SECTIONS TO PROPERLY SUPPORT AND BED THE PIPE.
7. PLACEMENT OF SELECT, THAW STABLE PADDING AROUND THE PIPE TO 6" ABOVE THE PIPE. ACCEPTABLE DITCH SPOIL WOULD BE PREFERRED. IMPORTED MATERIAL MIGHT BE NEEDED IF DITCH SPOIL IS NOT ACCEPTABLE.
8. OVER-EXCAVATE 3 FEET BELOW TARGET DITCH DEPTH WHERE VISIBLE SEGREGATED ICE (FROZEN GROUND CLASSIFICATION Vx) IS DISCOVERED IN THE DITCH BOTTOM. BACKFILL OVER-EXCAVATION WITH THAW-STABLE BEDDING. PLACE GEOGRID, IF SO DIRECTED BY THE ENGINEER, TO SPAN AREAS OF OVER-EXCAVATION.

A 174T **TYPICAL PIPE TRENCH SECTION**
N.T.S.



B 174T **TYPICAL RECLAIMED TRENCH SECTION**
N.T.S.

Associated Engineering Drawings	DONLIN GOLD PROJECT APPLICANT: Donlin Gold, LLC 4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503	DRAWING TITLE: TYPICAL PIPE TRENCH DETAIL
P01C-SCIS-01.dwg (BAKER) OCT 2013	SCALE: AS SHOWN DATE: 9/30/2015	FIGURE NO. PA-174T FILE NO. POA-1995-120

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