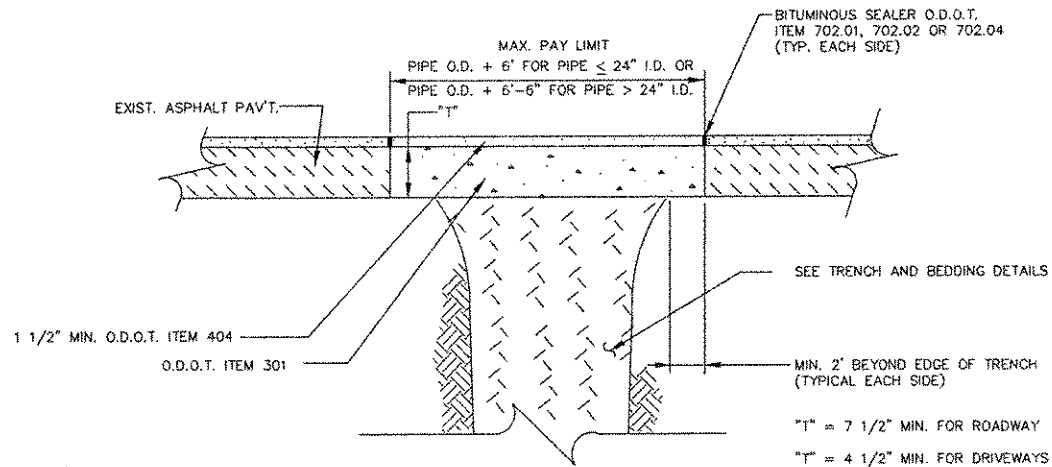


WALK TO BE DIVIDED INTO EQUALLY SPACED BLOCKS AT APPROXIMATELY 5' INTERVALS. EXPANSION JOINT FILLER 1/2" THICK SHALL BE INSTALLED EVERY 25' AND BETWEEN WALK AND ANY FIXED STRUCTURE EXTENDING FOR THE FULL DEPTH OF THE SIDEWALK. THE EXPANSION JOINT FILLER SHALL BE 1" THICK WHERE WALK IS INSTALLED AGAINST BACK OF CURB.

**TYPICAL SIDEWALK DETAIL**

Not To Scale



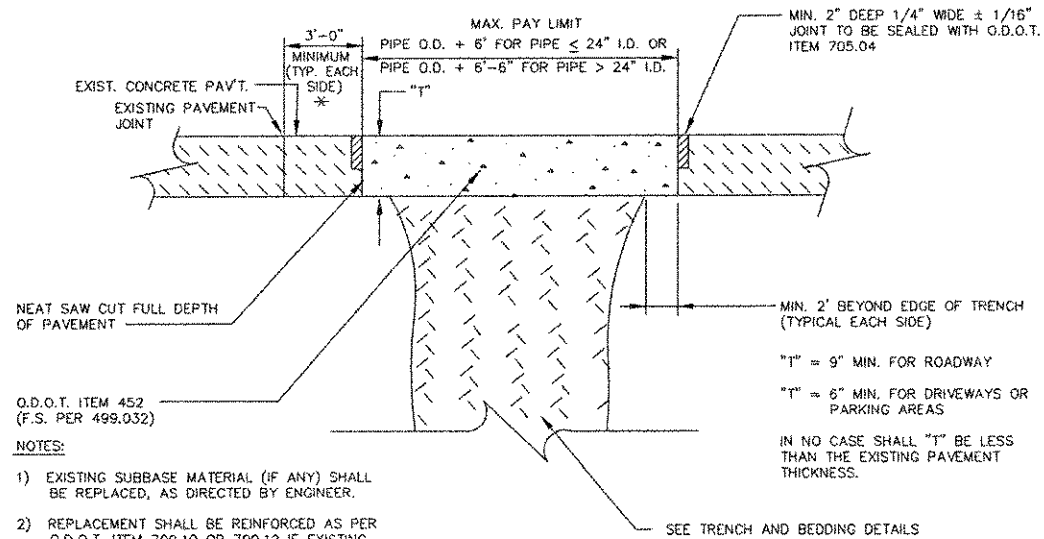
- NOTE:**
- EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

"T" = 7 1/2" MIN. FOR ROADWAY  
 "T" = 4 1/2" MIN. FOR DRIVEWAYS OR PARKING AREAS

IN NO CASE SHALL THE THICKNESS OF THE OVERLAY AND/OR "T" BE LESS THAN EXISTING.

**TYPE C PAVEMENT REPLACEMENT**

Not To Scale



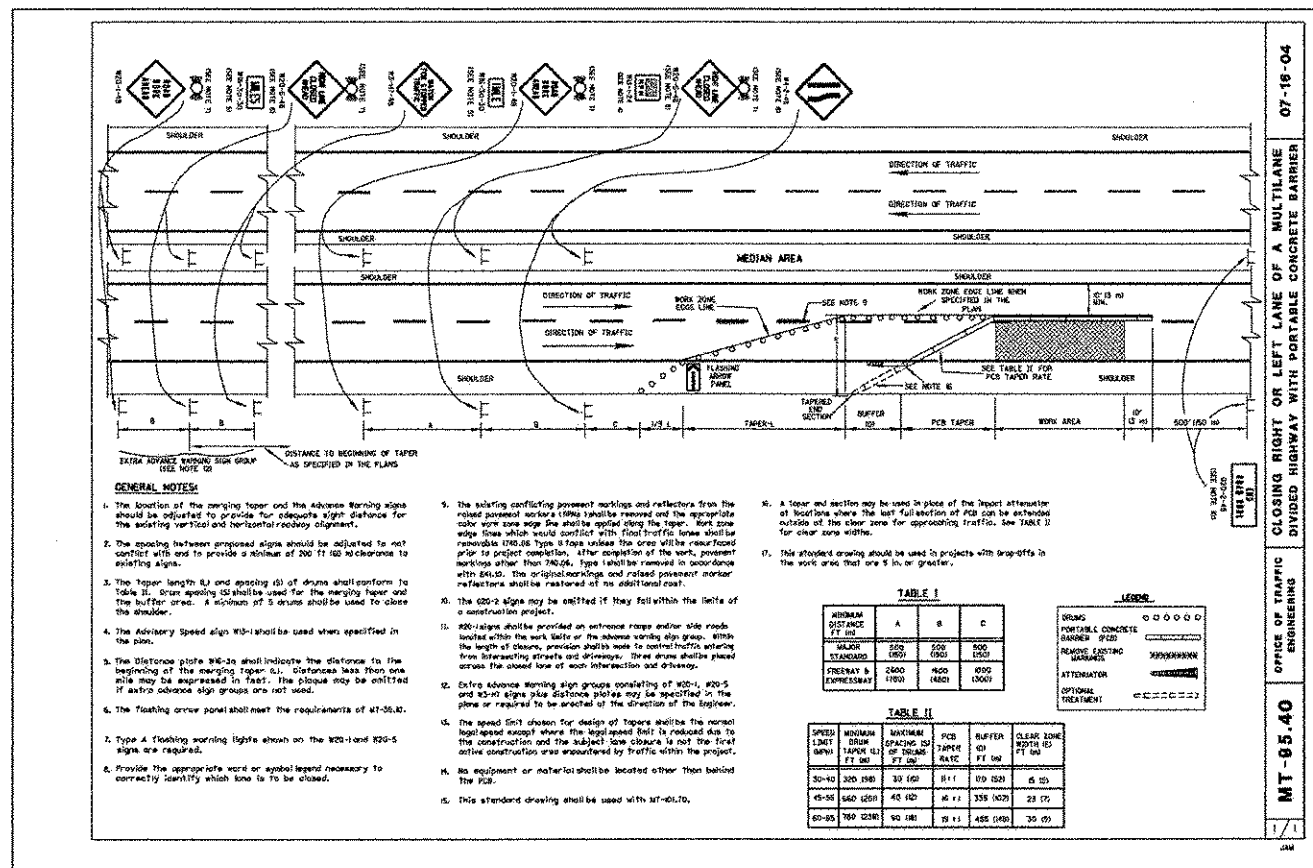
- NOTES:**
- EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.
  - REPLACEMENT SHALL BE REINFORCED AS PER O.D.O.T. ITEM 709.10 OR 709.12 IF EXISTING PAVEMENT IS REINFORCED.
  - 5/8" HOOKBOLT @ 30" O.C. MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

"T" = 9" MIN. FOR ROADWAY  
 "T" = 6" MIN. FOR DRIVEWAYS OR PARKING AREAS

IN NO CASE SHALL "T" BE LESS THAN THE EXISTING PAVEMENT THICKNESS.

**TYPE A PAVEMENT REPLACEMENT**

Not To Scale



**GENERAL NOTES:**

- The location of the warning taper and the Advance Warning sign should be adjusted to provide the adequate sight distance for the existing vertical and horizontal roadway alignment.
- The spacing between proposed signs should be adjusted to not conflict with and to provide a minimum of 200 FT clearance to existing signs.
- The taper length (L) and spacing (S) of drums shall conform to Table II. Drum spacing (S) shall be used for the taper and the buffer area. A minimum of 5 drums shall be used to close the shoulder.
- The Advance Speed sign W-30 shall be used when specified in the plan.
- The distance sign W-32 shall indicate the distance to the beginning of the taper (L). Distances less than one mile may be expressed in feet. The plaque shall be omitted if extra advance sign groups are not used.
- The flashing arrow panel shall meet the requirements of M-30-2.
- Type A flashing warning lights shown on the W-30 and W-32 signs are required.
- Provide the appropriate word or symbol legend necessary to correctly identify which lane is to be closed.
- The spacing between proposed signs should be adjusted to not conflict with and to provide a minimum of 200 FT clearance to existing signs.
- The taper length (L) and spacing (S) of drums shall conform to Table II. Drum spacing (S) shall be used for the taper and the buffer area. A minimum of 5 drums shall be used to close the shoulder.
- The Advance Speed sign W-30 shall be used when specified in the plan.
- The distance sign W-32 shall indicate the distance to the beginning of the taper (L). Distances less than one mile may be expressed in feet. The plaque shall be omitted if extra advance sign groups are not used.
- The flashing arrow panel shall meet the requirements of M-30-2.
- Type A flashing warning lights shown on the W-30 and W-32 signs are required.
- Provide the appropriate word or symbol legend necessary to correctly identify which lane is to be closed.

**TABLE I**

MINIMUM DISTANCE FT MIN	A	B	C
SPEED LIMIT STANDARD	250	500	500
FREEWAY & EXPRESSWAY	2500	4000	8000
	1500	1800	1500

**TABLE II**

SPEED LIMIT MPH	MINIMUM DRUM SPACING FT MIN	MAXIMUM SPACING FT MAX	NO. OF DRUMS PER TAPER	NO. OF DRUMS PER BUFFER	NO. OF DRUMS PER TAPER & BUFFER	CLEARANCE FT MIN
30-40	200	150	11	10	21	6
45-55	400	300	22	20	42	12
60-85	750	600	43	40	83	24

**LEGEND**

ROAD PORTABLE CONCRETE BARRIER (200)

FLASHER (200)

ATTN (200)

OPTIONAL TREATMENT

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**HESS & ASSOCIATES ENGINEERING INC.**  
 12121 KINSMAN ROAD  
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PREPARED UNDER THE SUPERVISION OF:



**REVISIONS**

PRINTED: JUNE 24, 2005

ORWELL NATURAL GAS  
 LOST NATION ROAD DISTRIBUTION LINE  
 DETAIL SHEET

PROJECT LOCATION: CITY OF WILLOUGHBY, LAKE COUNTY, STATE OF OHIO

Project Name and Address  
**ORWELL NATURAL GAS**  
 8500 STATION STREET  
 SUITE 100  
 MENTOR, OHIO 44060

Telephone: (440) 205-4600  
 Fax: (440) 974-5114

Contact Person:  
**Mr. Ottar Magnusson**  
 Mobile #: (440) 669-6700

HESS Project: LOST NATION ROAD

DESIGNED BY: JED  
 DRAWN BY: JED  
 CHECKED BY: GJH  
 DATE: 06/20/05  
 SCALE: N/A H.  
 N/A v. 22 of 22

## Dandy Bag® Plan Insert

The patented Dandy Bag® is designed for use with flat grates (including round and non-round) to catch and hold debris and sediment. The suspended solids are allowed to settle out of the stored flow prior to entering the Dandy Bag®.

**Installation**

- Stand the grate on end
- Place the Dandy Bag® over the grate
- Roll the grate over so that the open end is up
- Roll up the stack
- Lock the flap on
- Press the velcro strips together
- Be sure that the end of the grate is completely covered by the flap or the Dandy Bag® will not work properly

**Maintenance**

To insure proper operation remove silt, sediment, and debris from the surface and the vicinity of the unit with a square point shovel or stiff bristle broom away from environmentally sensitive areas and waterways in manner satisfactory to the engineer/inspector. Remove fine material from inside Dandy Bag® as needed. Dispose of Dandy Bag® no longer in use at an appropriate recycling or solid waste facility.

**Inspection**

To inspect inlet, remove Dandy Bag® with grate inside, inspect catch basin and replace Dandy Bag® back into grate frame.

Propping up body of catch basin is not recommended. The Dandy Bag® must never be used when inverted or designed as an upside down. The Dandy Bag® is not intended for any other use and should not be used for any other purpose.

**DANDY PRODUCTS, INC.**  
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 Grove City, Ohio 43123

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