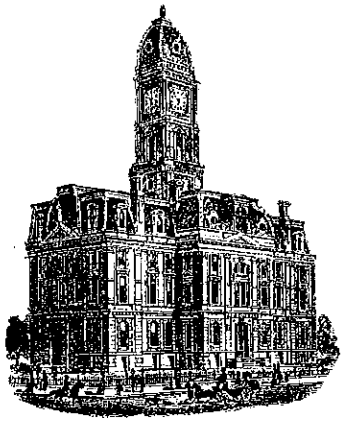

SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
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Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

May 31, 2011

To: Hamilton County Drainage Board

Re: Pebble Brook Drain – South Reconstruction

Attached are reconstruction plans prepared by Clark Dietz Engineers, along with drain map, drainage shed map and assessment roll for the proposed reconstruction of the south phase of the Pebble Brook Drain across the Pebble Brook Golf Course and the Pond 3 new storm outlet at Pebble Brook Blvd. and Village Way. This plan addresses the results of the study which was presented to the Board by Clark-Dietz on April 11, 2005 (See Hamilton County Drainage Board Minutes Book 8, pages 253-255). The Pebble Brook development is located on the North side of State Road 32 between Hazel Dell and Moontown Roads in Section 33, Township 19 North, Range 04 East, of Noblesville Township.

The proposed reconstruction will address the pond over topping and roadway flooding that occurs within the Pebble Brook development.

The office has had eight (8) complaints on the drain since 2003. Those are as follows:

DATE	APPLICANT	LOCATION	PROBLEM
April 4, 2003	Rita Edwards	Pebble Brook Blvd.	Water leakage from drain
June 2, 2003	Chris Baker	17912 Hollow Brook	Standing water
June 14, 2004	Martha Davis	5234 Ashbrooke Dr.	Yard drain not working
April 29, 2005	Marilyn Render	5496 Lacosta Ln.	Standing water
February 12, 2009	Thomas Wright	5288 Ashbrooke Dr.	Inlet not working/standing water

February 18, 2009	William Tucker, Jr.	5216 Ashbrooke Dr.	Pond not draining properly
April 6, 2009	Shawn Louks	Pebble Brook Blvd.	Pond flooding street
June 22, 2010	Noblesville Wastewater	Pebble Brook Blvd.	Inlet flooding street

On August 23, 2007 the Board heard from several landowners in this area about flooding. There were sixteen (16) landowners in attendance that day discussing Ponds 2 and 3 (See Hamilton County Drainage Board Minutes Book 7, pages 541-547).

Pebble Brook Drainage Improvements – South Phase

The South Phase proposal is to provide a new storm outlet for Pond 3 in the area of Village Way and Pebble Brook Blvd. in Section 1 of The Village at Pebble Brook and install a new pipe across the Pebble Brook Golf Course from Pond #2 to the outlet point west of the road entrance to the clubhouse.

The proposed work on Pond 3 in Village @ Pebble Brook Section 1 will replace the inadequate outlet. The existing outlet was approved in 1993 with the drainage facilities for Village @ Pebble Brook Sec. 1 (Hamilton County Drainage Board Minute Book 3, Page 77).

The reconstruction of the Pond 3 drain will consist of the following:

77 feet – 18" RCP 28 feet – 12" RCP

The reconstruction of this drain will result in a net increase of 39 feet to the Pebble Brook Drain length. The footage being removed is 66 feet of 12" RCP from Str. 105 to 105A.

The work to install the new outlet pipe will occur within City of Noblesville street right-of-way and existing platted easement on parcels:

Parcel	Owner
11-06-33-00-05-011.000	Pebblebrook Boulevard Assn., Inc
Pebble Brook Blvd. ROW	City of Noblesville

The following is a breakdown of the proposed engineers estimated costs for the Pond 3 outlet.

Description	Quality	Unit	Unit Price	Amount
Temporary Erosion and Sediment Control	1	LS	$800.00	$800.00
Construction Engineering	1	LS	$500.00	$500.00
Pipe, RCP 24"	77	LF	$50.00	$3,850.00
Concrete End Section 24"	1	EA	$1,250.00	$1,250.00
Core Drill, 24" Pipe	1	EA	$1,250.00	$1,250.00
6" Underdrain	25	LF	$25.00	$625.00
Core Holes for 6" Underdrain	1	EA	$800.00	$800.00
Mulched Seeding	138	SYS	$5.00	$690.00
Concrete Curb, Remove and Replace	12	LF	$75.00	$900.00

HMA Pavement for Patching, Commercial Street	82	Ton	$75.00	$6,150.00
			Sub Total	$16,815.00
			15% Contingency	$2,522.00
			Pond 3 Outlet Total	$19,337.00

The proposed work on Pond 2 in Village @ Pebble Brook Section 1 will provide a secondary outlet for Pond 2 by installing Six Hundred Twenty Eight (628) feet of Twenty-One (21) inch NRCP pipe across the Pebble Brook Golf Course from Pond #2 to the outlet point where Pond 3 discharges in the open ditch west of the road entrance to the clubhouse. The proposed work will include the reshaping of approximately One Hundred Fifty (150) feet of ditch and the replacement of existing 36" CMP pipe under the road with Eighty-Six (86) feet of 36" RCP pipe. The existing outlet for Pond #2 was approved in 1993 with the drainage facilities for Village @ Pebble Brook Sec. 1 (Hamilton County Drainage Board Minute Book 3, Page 77).

The reconstruction of the Pond 2 drain will consist of the following:

628 feet – 21" NRCP
150 feet – Open Ditch
103 feet – 36" RCP

The reconstruction of this drain will result in a net increase of 782 feet to the Pebble Brook Drain length. The footage being removed is 99 feet of 40" CMP from Str. 201 to 202.

The work to install the new outlet pipe will occur on parcels:

Parcel	Owner
11-06-33-00-00-002.000	Palmer Properties, LLC
11-06-33-00-00-002.006	Palmer Properties, LLC
11-06-33-00-00-002.007	Palmer Properties, LLC

The proposed installation of the 21" storm pipe across the golf course will require the acquisition of a permanent easement across parcels 11-06-33-00-00-002.000, 11-06-33-00-00-002.006, and 11-06-33-00-00-002.007 from the property owner. At this time Palmer Properties, LLC has the easement documents for signing and as yet not returned them.

The following is a breakdown of the proposed engineers estimated costs for the Pond 2 outlet.

Description	Quantities	Unit	Unit Price	Amount
Temporary Erosion and Sediment Control	1	LS	$3,200.00	$3,200.00
Construction Engineering/Staking	1	LS	$1,900.00	$1,900.00
4' Manhole with Type 4 Casting	1	EA	$2,500.00	$2,500.00
Pipe, NRCP, 21"	628	LF	$25.00	$15,700.00
Pipe, RCP, 36"	103	LF	$85.00	$8,755.00
Concrete End Section, 21"	2	EA	$600.00	$1,200.00
Concrete End Section, 36"	2	EA	$800.00	$1,600.00
5" Restrictor Plate Assembly	1	LS	$3,500	$3,500.00

Tree Removal	1	EA	$800.00	$800.00
Armorloc or Approved Equal	1	LS	$15,000	$15,000.00
Revetment Riprap on Geotextiles	60	TON	$35.00	$2,100.00
HMA Pavement for Patching, Commercial Street	24	TON	$75.00	$1,800.00
Cold Patch, Undistributed	10	TON	$50.00	$500.00
Ditch Regrading	150	LF	$60.00	$9,000.00
			Sub Total	$67,555.00
			15% Contingency	$10,133.00
			Total	$77,688.00

The following is a breakdown of the proposed Golf Course Fairway Repair as provided by Pebble Brook Golf Course for the Pond 2 outlet. The golf course has requested to make their own repairs to the fairway, so this sum will be paid to Palmer Properties, LLC, as the owner of the golf course parcels affected by this outlet installation.

Description	Quantities	Unit	Unit Price	Amount
Golf Course Fairway Repair	1	LS	$9,032.00	$9,032.00
			15% Contingency	$1,355.00
			Total	$10,387.00

Pond 2 Total	$77,688.00
Pond 3 Total	$19,337.00
Golf Course Fairway Repair	$10,387.00
Total Estimated Cost for the Pebble Brook Drain – South Reconstruction	$107,412.00

In my opinion, the maintenance fund balance for the Pebble Brook Drain (#191) is in excess of the amount reasonably needed in that fund for maintenance work in the foreseeable future; therefore, I recommend that $42,735.00 be transferred to this reconstruction fund. The maintenance fund transfer is as outlined in I.C. 36-9-27-45.5. The current maintenance fund balance for Pebble Brook is $56,987.94 and the transfer is just under 75% of that balance.

After subtracting the maintenance fund balance transfer of $42,735.00 from the estimated total project cost of $107,412.00, a total of $64,677.00 will need to be collected from a reconstruction assessment for the sub-area of the Pebble Brook Shed.

I have reviewed the drainage shed for the Pebble Brook Drain and upon considering each parcel individually; I believe that each parcel within the sub-area of the drainage shed will have equal benefits, by land use, as provided by the drain. Therefore I recommend each tract be assessed on the same basis equally, by land use.

I recommend the following rates for reconstruction:

1. Highways and roads are $246.68 per acre based on its 76% impervious area and larger proportional use of detention area.

2. Commercial (including industrial, schools, and multi-family tracts are $123.34 per acre with a $127.00 minimum.

3. Un-platted residential and agricultural tracts (including golf course) are $12.34 per acre with a $15.00 minimum.

4. Subdivision lots are $115.00 per parcel.

Parcel 10-06-33-00-00-010-000, owned by Thelma Curts, has only partially been assessed for maintenance to the Vestal Kirkendall Drainage Area and the remaining not assessed to a drainage shed. A review of the parcel has revealed that it does drain to the Sly Run, Pebble Brook Arm shed, via a pipe to pick up the off-site runoff from this parcel. The parcel should have 4.15 acres removed from the Vestal Kirkendall and added to the Sly Run Shed, along with the 10 acres that has not been assessed to either drain. This puts 41.19 acres benefited by the Vestal Kirkendall and 14.15 acres benefits by the Sly Run Shed, for a total parcel size of 55.34 acres.

I recommend the Board set a hearing for this proposed reconstruction for August 22 2011.

Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/pll

Sly Run Drain, Pebble Brook Arm
Pebble Brook Drain
South Reconstruction Will add 881' & vacate 99' due to the reconstruction.
Hearing: 08/25/11
*No change in current maintenance except adding 1 parcel.
**Will add 14.15 acres from parcel 10-06-33-00-00-010.000 to maintenance & the Vestal/Kirkendall Drain #292 will be reduced to 41.19 acres benefited.

Cost Est=$107,412.00
Mnt $$ = -$42,735.00
Collect - $64,677.00

Reconstruction Rate Type	Rate	Minimum
Lots		$115.00
Res/Ag	$12.34	$15.00
Commercial	$123.34	$127.00
Roads	$246.68	

Reconstruction Total
$64,677.19

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-04-06-020.000	A Max Homes LLC	Pinehurst Village 1ST LOT 20	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-035.000	Aardappel, James M & Joeng J	Vlgs at Pebble Brook 2nd LT191	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-043.000	Adams, Richard C & Patricia A	Pinehurst Village 1ST LOT 43	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-001.000	Ancich, Anthony & Maria	Ashfield 1st Lot 1	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-063.000	Antoine, Adolph D & Maryann C	Ashfield 1st Lot 63	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-012.000	Arnold, Bradley L & Brooke Arnold	Vlgs at Pebble Brook 3rd LT 49	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-005.000	Ashenfelter, Kimberly K	Pinehurst Village 1ST LOT 5	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-082.000	Ashfield Homeowners Association Inc	Ashfield 1st C.A. 1, 0.40 Ac	Residential/Ag	0.40	$15.00	0.02%	*
08-06-32-00-06-083.000	Ashfield Homeowners Association Inc	Ashfield 1st C.A. 2, 2.12 Ac	Residential/Ag	2.12	$26.16	0.04%	*
08-06-32-00-06-084.000	Ashfield Homeowners Association Inc	Ashfield 1st C.A. 3, 0.42 Ac	Residential/Ag	0.42	$15.00	0.02%	*
08-06-32-00-06-085.000	Ashfield Homeowners Association Inc	Ashfield 1st C.A. 4, 0.26 Ac	Residential/Ag	0.26	$15.00	0.02%	*
08-06-32-00-06-086.000	Ashfield Homeowners Association Inc	Ashfield 1st C.A. 5, 0.19 Ac	Residential/Ag	0.19	$15.00	0.02%	*
11-06-33-00-05-008.000	Aslin, Charles F Trustee	Vlgs at Pebble Brook 1ST LT 8	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-002.000	Baker, Hana	Vlgs at Pebble Brook 3rd LT 39	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-007.000	Baker, Kimberly A & Christopher R Co Trustees	Vlgs at Pebble Brook 3rd LT 44	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-057.000	Balyeat, Cynthia E	Ashfield 1st Lot 57	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-013.000	Barabas, Alex & Diane	Vlgs at Pebble Brook 2nd LT200	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-022.000	Barendt, Connie M	Ashfield 1st Lot 22	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-006.000	Barnes, Bruce A & Lisa P	Vlgs at Pebble Brook 3rd LT 43	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-017.000	Barr, Joni	Pinehurst Village 1ST LOT 17	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-073.000	Baxter, Carrie & Ryan	Ashfield 1st Lot 73	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-004.000	Bazzle, Edna S	Emerald Vlg at PB LOT 4	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-032.000	Beachler, Robert P & Susan G CoTrustees	Vlgs at Pebble Brook 4TH LT147	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-026.000	Bejin, Joseph E Jr & Marilynn L	Vlgs at Pebble Brook 4TH LT153	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-009.001	Best, James F & Edythe L	Emerald Vlg at PB LOT 9B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-017.000	Betty Jane Dodd Revocable Stewardship Trust	Pebble Brook 1-A LOT PT 41	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-022.000	Birge, Richard D & Jamila R	Pinehurst Village 1ST LOT 22	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-002.000	Blaydes, Suzanne	Vlgs at Pebble Brook 1ST LT 2	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-016.000	Booher, Ronnie L & Misty D	Vlgs at Pebble Brook 4TH LT 70	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-011.000	Bowman, William C & Catherine A	Vlgs at Pebble Brook 1ST LT 21	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-011.000	Brake, Randy L & Alice N	Emerald Vlg at PB LOT 11-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-015.000	Brake, Troy L & Dawn E	Vlgs at Pebble Brook 2nd LT185	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-002.000	Bredekamp, David A & Margaret A	Emerald Vlg at PB LOT 2-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-025.000	Bredensteiner, Kurt & Ann	Ashfield 1st Lot 25	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-036.000	Broshears, Krista K	Pinehurst Village 1ST LOT 36	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-034.000	Brown, Brian D & Laura R	Vlgs at Pebble Brook 2nd LT190	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-024.000	Brown, Diana L	Vlgs at Pebble Brook 3rd LT 61	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-041.000	Brown, Joni	Ashfield 1st Lot 41	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-047.000	Brown, Kevin L	Vlgs at Pebble Brook 4TH LT132	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
08-06-32-00-06-062.000	Brunk, Amanda & Donald	Ashfield 1st Lot 62	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-014.000	Bunch, Judith A Trustee of the Judith A Bunch Trust	Emerald Vlg at PB LOT 14B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-011.000	Burke, Anthony & Courtney L	Ashfield 1st Lot 11	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-012.000	Burney, John D & Betty L	Vlgs at Pebble Brook 2nd LT201	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-038.000	Byer, Lindsay E	Vlgs at Pebble Brook 4TH LT141	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-018.000	Campbell, A Lee & Evelyn C	Vlgs at Pebble Brook 2nd LT182	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-017.001	Carpenter, Shirley L	Pebble Brook 1-A LOT PT 41	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-069.000	Carroll, John W & Carol D Travelstead	Ashfield 1st Lot 69	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-047.000	Cassidy, Brooke & Patrick	Ashfield 1st Lot 47	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-030.000	Caulk, Robert E & Tammara Tirsway Jt/Rs	Vlgs at Pebble Brook 4TH LT149	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-020.000	Chaffin, Joshua M & Lisa A	Ashfield 1st Lot 20	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-080.000	Christman, Robert E & Carrie A	Ashfield 1st Lot 80	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-001.000	City of Noblesville	Emerald Vlg at PB LOT 1	Residential/Ag	1.59	$19.62	0.03%	*
99-99-99-99-99-999.008	City of Noblesville	Vlg PB 1-4; PB 1A; Emerald Vlg; Pinehurst Vlg; Moontown	Road	56.88	$14,031.16	21.69%	*
99-99-99-99-99-999.010	City of Westfield	Ashfield Subd; Moontown Rd	Road	19.02	$4,691.85	7.25%	*
11-06-33-04-06-014.000	Clemens, Connie A	Pinehurst Village 1ST LOT 14	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-070.000	Cline, Thomas S & Tami M	Ashfield 1st Lot 70	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-010.000	Clough, John R & Rose M	Vlgs at Pebble Brook 3rd LT 47	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-028.000	Cody, Michael R & Kristi Wilson Cody	Pinehurst Village 1ST LOT 28	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-07-003.000	Cody, Tyson K & Kelly A	Pinehurst Village 2nd LOT 47	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-007.000	Cole, Bradley K	Ashfield 1st Lot 7	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-043.000	Collins, Jack S & Patsy K	Vlgs at Pebble Brook 4TH LT136	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-034.000	Colosimo, Rene L	Ashfield 1st Lot 34	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-010.001	Condes, James P & Beverly M	Emerald Vlg at PB LOT 10-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-058.000	Contreras, Juan J & Maria C	Ashfield 1st Lot 58	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-049.000	Cook, Shaun	Ashfield 1st Lot 49	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-031.000	Coole, Adam B & Laura K	Ashfield 1st Lot 31	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-035.000	Cooper, David C	Pinehurst Village 1ST LOT 35	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-034.000	Cooper, Scott & Wendy	Pinehurst Village 1ST LOT 34	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-008.000	Craft, Delores A	Emerald Vlg at PB LOT 8-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-021.000	Crawford, Cheri A	Ashfield 1st Lot 21	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-008.000	Crosley, Kimberly A	Pinehurst Village 1ST LOT 8	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-008.000	Crouch, J Steven & Miriam I	Vlgs at Pebble Brook 3rd LT 45	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-07-004.000	Cumston, Jonathan Paul & Dawn Marie	Pinehurst Village 2nd LOT 48	Regulated Subd.	One Lot	$115.00	0.18%	*
10-06-33-00-00-010.000	Curts, Thelma	S33 T19 R4 55.34 AC	Residential/Ag	**14.15**	$174.61	0.27%	$28.30 **
11-06-33-00-00-009.000	D & N Inc	S33 T19 R4 2.51 AC	Commercial	2.51	$309.58	0.48%	*
11-06-33-00-00-002.011	D & S Investments	S33 T19 R4 0.02 AC	Residential/Ag	0.02	$15.00	0.02%	*
11-06-33-03-01-012.000	Damer, Kenneth L & Madeline E	Vlgs at Pebble Brook 1ST LT 22	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-013.000	Darlington, Todd M & Tara C	Pinehurst Village 1ST LOT 13	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-021.000	Davidson, Robert C & Anne S	Vlgs at Pebble Brook 3rd LT 58	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-005.000	Davis, Gaylord T & Martha E	Vlgs at Pebble Brook 1ST LT 15	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-012.000	Davis, Joseph D & Courtney K	Vlgs at Pebble Brook 4TH LT 74	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-052.000	Day, Andria & Kenneth	Ashfield 1st Lot 52	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-001.000	Day, William & Karen Edith	Pinehurst Village 1ST LOT 1	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-010.000	Decarlo, Janice A	Vlgs at Pebble Brook 1ST LT 10	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-020.000	Denny, Brian L & Laura A	Vlgs at Pebble Brook 3rd LT 57	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-003.000	Devine, Linda & Peter Zarakas Jt	Ashfield 1st Lot 3	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-03-01-021.000	Dickison, George I & Gretchen	Vlgs at Pebble Brook 1ST LT 31	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-036.000	Diebold, Daryl A	Vlgs at Pebble Brook 2nd LT192	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-059.000	Dildine, Joseph & Treva	Ashfield 1st Lot 59	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-013.001	Dorn, Richard E Trustee w/LE	Emerald Vlg at PB LOT 13B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-020.000	Dro, Daniel H & April L	Vlgs at Pebble Brook 2nd LT180	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-027.000	Drummond, John D & Carrie E	Vlgs at Pebble Brook 2nd LT173	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-035.000	Dulin, Bradley J, Stacey I Dulin & Lana F Rutar Jt/Rs	Ashfield 1st Lot 35	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-009.000	Dulin, Tana S	Pinehurst Village 1ST LOT 9	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-041.000	Durham, Jennifer L	Pinehurst Village 1ST LOT 41	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-079.000	Eck, Andrew K & Linette E Teders Jt/Rs	Ashfield 1st Lot 79	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-022.000	Eck, Matthew W & Cynthia L	Vlgs at Pebble Brook 2nd LT178	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-001.000	Elliott, Donald E & Jane E	Vlgs at Pebble Brook 4TH LT 85	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-060.000	Elsrod, Lindsey Delee	Ashfield 1st Lot 60	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-017.000	Emerald Village at Pebble Brook H.O.A.	Emerald Vlg at PB C.A. A 0.17 AC	Residential/Ag	0.17	$15.00	0.02%	*
11-06-33-04-08-018.000	Emerald Village at Pebble Brook H.O.A.	Emerald Vlg at PB C.A. B 0.39 AC	Residential/Ag	0.39	$15.00	0.02%	*
08-06-32-00-06-050.000	Engle, John III	Ashfield 1st Lot 50	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-027.000	Equity Managers LLC Trustee Candlewood Land Trust	Vlgs at Pebble Brook 4TH LT152	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-013.000	Ernst Trust Agreement	Pebble Brook 1-A LOT PT 37	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-057.000	Facsko, Joseph J	Vlgs at Pebble Brook 4TH LT122	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-029.000	Falls, Matthew & Tami	Ashfield 1st Lot 29	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-004.001	Farmer, Danny R	Emerald Vlg at PB LOT 4-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-07-001.000	Farson, Sharon D	Pinehurst Village 2nd LOT 45	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-015.000	Feil, Brian D & Anna J	Pinehurst Village 1ST LOT 15	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-010.000	Ferrell, Daniel	Ashfield 1st Lot 10	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-031.000	Fields, Kristin	Pinehurst Village 1ST LOT 31	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-037.000	Findley, Stephen K & Joanne	Vlgs at Pebble Brook 2nd LT193	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-054.000	Fintz, Susan L	Vlgs at Pebble Brook 4TH LT125	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-031.000	Forst, Kathleen M	Vlgs at Pebble Brook 2nd LT187	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-013.000	Foster, Andrea	Vlgs at Pebble Brook 1ST LT 23	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-059.000	Foster, Richard B III	Vlgs at Pebble Brook 4TH LT120	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-008.000	France, Galewood & Linda	Vlgs at Pebble Brook 1ST LT 18	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-003.000	Garrett, C Kent & Shantel CoTrustees	Vlgs at Pebble Brook 3rd LT 40	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-015.001	Gibbons, Linda B	Pebble Brook 1-A LOT PT 39	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-010.000	Gorogiani, Greg	Emerald Vlg at PB LOT 10-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-048.000	Gossard, Cynthia J	Ashfield 1st Lot 48	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-027.000	Gradwell, Doris A & Elizabeth A Jt/Rs	Vlgs at Pebble Brook 1ST LT 37	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-028.000	Graves, Brock A & Andrea M	Ashfield 1st Lot 28	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-026.000	Graybosch, Alan J	Ashfield 1st Lot 26	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-046.000	Green, Maurice & Diana	Ashfield 1st Lot 46	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-010.000	Greene, Ashley & Christy A	Vlgs at Pebble Brook 2nd LT203	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-025.000	Greenwalt, Gregory A	Pinehurst Village 1ST LOT 25	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-006.000	Gregory, Lee A & Megan E	Vlgs at Pebble Brook 4TH LT 80	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-055.000	Guillen, Jose & Marta Portillo & Jesus Juan Cuellar Jt	Ashfield 1st Lot 55	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-003.000	Hall, James C & Rhonda J	Emerald Vlg at PB LOT 3-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-013.000	Hammond, Richard & Ann	Vlgs at Pebble Brook 4TH LT 73	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-007.000	Hannum, Robert L Trustee	Vlgs at Pebble Brook 1ST LT 17	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-015.000	Harbour Properties LLC	Vlgs at Pebble Brook 3rd LT 52	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-03-01-018.000	Harrington, Harold W & Louise M	Vlgs at Pebble Brook 1ST LT 28	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-003.001	Hartle, Shane L & Lynne	Emerald Vlg at PB LOT 3-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-007.000	Hartman, Roger E & Sue A	Vlgs at Pebble Brook 1ST LT 7	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-023.000	Harvey, Paul T	Ashfield 1st Lot 23	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-044.000	Hastings, Steven G & Diane M	Vlgs at Pebble Brook 4TH LT135	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-040.000	Hatch, Kevin	Ashfield 1st Lot 40	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-001.000	Haug, Thomas N & Jane A	Vlgs at Pebble Brook 1ST LT 1	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-005.000	Hayes, Anthony S & Amy L	Vlgs at Pebble Brook 3rd LT 42	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-024.000	Hayes, Bradley W & Nancy E	Pinehurst Village 1ST LOT 24	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-043.000	Haynie, Betty J	Vlgs at Pebble Brook 2nd LT186	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-002.001	Hazelgrove, Linda R	Emerald Vlg at PB LOT 2-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-009.000	Henriksson, Ronald & Joan	Vlgs at Pebble Brook 1ST LT 9	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-014.001	Henschen, John W & Carole	Pebble Brook 1-A LOT PT 38	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-017.000	Hernandez, Javier	Ashfield 1st Lot 17	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-019.000	Herndon, Thomas B	Ashfield 1st Lot 19	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-072.000	Hersey, Jonathan D	Ashfield 1st Lot 72	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-014.000	Hewitt, Patrick J & Elizabeth A	Vlgs at Pebble Brook 3rd LT 51	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-001.000	Hiatt, Adam & Cassandra L	Vlgs at Pebble Brook 3rd LT 38	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-010.000	Hildebrandt, Patricia C	Vlgs at Pebble Brook 4TH LT 76	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-036.000	Hipp, Lindsay	Ashfield 1st Lot 36	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-001.000	Hobbs, Emory R & Vicki L	Vlgs at Pebble Brook 2nd LT212	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-029.000	Hobbs, Mark E	Vlgs at Pebble Brook 4TH LT150	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-050.000	Hocker, James R & Debra J	Vlgs at Pebble Brook 4TH LT129	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-011.000	Hopper, Patricia L Living Trust	Vlgs at Pebble Brook 4TH LT 75	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-017.000	Horvath, Greg & Kay F	Vlgs at Pebble Brook 3rd LT 54	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-030.000	Hosfield, Wayne S & Abby G	Vlgs at Pebble Brook 2nd LT170	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-033.000	Howard, Carlton L & Lisa M	Vlgs at Pebble Brook 2nd LT189	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-028.000	Howe, Lloyd R & Janet L	Vlgs at Pebble Brook 2nd LT172	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-042.000	Howell, Richard E & Barbara H Trustee	Vlgs at Pebble Brook 4TH LT137	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-031.000	Howell, Richard E & Janet L	Vlgs at Pebble Brook 4TH LT148	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-033.000	Huser, Michael A & Jacqueline K	Pinehurst Village 1ST LOT 33	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-023.000	Hutson, Jeremy L & Erin T	Pinehurst Village 1ST LOT 23	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-042.000	Hynds, Alexander H & Linda M	Vlgs at Pebble Brook 2nd LT198	Regulated Subd.	One Lot	$115.00	0.18%	*
99-99-99-99-99-999.002	Indiana Department Of Transportation	S33 T19 R4 SR 32	Road	8.67	$2,138.72	3.31%	*
11-06-33-04-06-007.000	Inlow, April	Pinehurst Village 1ST LOT 7	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-040.000	Irwin, Ronald E & Karen S	Pinehurst Village 1ST LOT 40	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-032.000	Ishigami, Yukio & Mayumi	Ashfield 1st Lot 32	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-019.000	Jamison, Charles P	Vlgs at Pebble Brook 3rd LT 56	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-041.000	Jamison, Jimmie M	Vlgs at Pebble Brook 2nd LT197	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-008.000	Jarrett, Karin	Vlgs at Pebble Brook 2nd LT205	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-009.000	Jarrett, Karin P	Vlgs at Pebble Brook 2nd C.A., 0.23 Ac	Residential/Ag	0.23	$15.00	0.02%	*
08-06-32-00-06-081.000	Jiang, Tian Hua & Cai Yu Xiao	Ashfield 1st Lot 81	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-075.000	Jobe, Clayton & Stephanie	Ashfield 1st Lot 75	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-026.000	Johnson, Jennifer Joy	Pinehurst Village 1ST LOT 26	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-07-005.000	Judt, Brian E	Pinehurst Village 2nd LOT 49	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-011.000	Judy, Todd & Jamie	Vlgs at Pebble Brook 3rd LT 48	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-071.000	Kabrich, Leanne M & Jeffrey B	Ashfield 1st Lot 71	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-04-04-014.000	Kantz, Susan Lee	Pebble Brook 1-A LOT PT 38	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-005.000	Keene, Louis C & Mary A	Vlgs at Pebble Brook 2nd LT208	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-048.000	Kendall, J William & Mary Ann	Vlgs at Pebble Brook 4TH LT131	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-024.000	Kern, Steven R & Sandra L	Vlgs at Pebble Brook 1ST LT 34	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-009.000	Kerschen, Charles & Karen G	Vlgs at Pebble Brook 3rd LT 46	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-016.001	Kimmell, Sandra S	Pebble Brook 1-A LOT PT 40	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-002.000	King, Alan O & Jean T	Vlgs at Pebble Brook 1ST LT 12	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-018.000	King, Tanya & Tim Traycoff	Vlgs at Pebble Brook 3rd LT 55	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-067.000	Kinney, Steven & Rebecca te	Ashfield 1st Lot 67	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-016.000	Kirk, Nathan A	Vlgs at Pebble Brook 3rd LT 53	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-009.000	Kirts, Barney J & Pamela R	Vlgs at Pebble Brook 4TH LT 77	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-060.000	Kiszla Revocable Lvg Trust	Vlgs at Pebble Brook 4TH LT119	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-015.000	Knutson, Orlan M & Judith E	Vlgs at Pebble Brook 1ST LT 25	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-005.001	Kuebel, Geraldine Jay	Emerald Vlg at PB LOT 5-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-023.000	Lampo, Thomas C & Mary Ann	Vlgs at Pebble Brook 3rd LT 60	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-044.000	Landers, Jack E & Lori A	Pinehurst Village 1ST LOT 44	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-045.000	Lawrence, Paul J & Ann	Vlgs at Pebble Brook 4TH LT134	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-039.000	Laycock, Cornelia Standeford & Lee E Standeford	Vlgs at Pebble Brook 2nd LT195	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-030.000	Leonard, Michelle M	Pinehurst Village 1ST LOT 30	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-004.000	Lester, Gram M & Heather R	Vlgs at Pebble Brook 4TH LT 82	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-040.000	Lewis, Wayne D	Vlgs at Pebble Brook 4TH LT139	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-024.000	Leyda, David A & Angele D	Vlgs at Pebble Brook 2nd LT176	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-015.000	Louthan, Mary	Vlgs at Pebble Brook 4TH LT 71	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-004.000	Lowry, Wanda L	Vlgs at Pebble Brook 2nd LT209	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-006.000	Ludlam, Timothy J & Jennifer M	Pinehurst Village 1ST LOT 6	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-004.000	Lunte, Steven A & Cheri L	Vlgs at Pebble Brook 3rd LT 41	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-033.000	Lush, Russell D & Tamisa D	Vlgs at Pebble Brook 4TH LT146	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-039.000	Maggard, Linda	Vlgs at Pebble Brook 4TH LT140	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-013.000	Maher, Matthew F Jr & Diane S	Emerald Vlg at PB LOT 13A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-023.000	Majava, Michael Brian & Kathryn K	Vlgs at Pebble Brook 4TH LT156	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-014.001	Marlow, Robert J & Annette M	Emerald Vlg at PB LOT 14A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-058.000	Maslanka, Ted W & Dianne R	Vlgs at Pebble Brook 4TH LT121	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-004.000	Matthews, Michael A & Kimberly A	Pinehurst Village 1ST LOT 4	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-054.000	May, Sarah E	Ashfield 1st Lot 54	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-035.000	May, Vance A & Sherrill R	Vlgs at Pebble Brook 4TH LT144	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-016.000	McAllister, John W II & Angela N Smith Jt	Ashfield 1st Lot 16	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-019.000	McGriff, Paul E & Rebecca S Millburn Jt/Rs	Pinehurst Village 1ST LOT 19	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-027.000	Melton, Brian T & Jennifer L	Pinehurst Village 1ST LOT 27	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-009.000	Merritt, Gordon B & Kellee M Mitchell Jt	Ashfield 1st Lot 9	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-068.000	Michael, Melissa L	Ashfield 1st Lot 68	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-005.000	Miller, Carol Lou Revocable Living Trust	Vlgs at Pebble Brook 4TH LT 81	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-065.000	Miller, Jason A & Melissa A	Ashfield 1st Lot 65	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-004.000	Mills, Bobby A & Michaelene B	Vlgs at Pebble Brook 1ST LT 14	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-016.000	Mills, Dan & Rosalie Trustees	Pinehurst Village 1ST LOT 16	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-032.000	Mirabal, John J & Pinky M	Vlgs at Pebble Brook 2nd LT188	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-012.000	Mizell, Christopher	Ashfield 1st Lot 12	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-002.000	Moore, Charles H & Joan L	Pinehurst Village 1ST LOT 2	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-03-04-024.000	Moore, Kimberely M	Vlgs at Pebble Brook 4TH LT155	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-00-002.005	Morgan Properties Incorporation	S33 T19 R4 1.00 AC	Commercial	1.00	$127.00	0.20%	*
11-06-33-00-00-002.010	Morgan Properties Incorporation	S33 T19 R4 0.04 AC	Commercial	0.04	$127.00	0.20%	*
11-06-33-03-04-017.000	Morris, Stewart L & Melissa B	Vlgs at Pebble Brook 4TH LT 69	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-003.000	Morrison, Sherry Sue	Vlgs at Pebble Brook 2nd LT210	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-011.000	Murphy, Clarence J & Lillian A	Vlgs at Pebble Brook 2nd LT202	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-051.000	Myers, Matthew R & Jamie E Markoff Jt/Rs	Ashfield 1st Lot 51	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-021.000	Nagle, Jeffrey David & Marie J	Pinehurst Village 1ST LOT 21	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-039.000	Neal, Todd	Ashfield 1st Lot 39	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-040.000	Neal, Virginia L	Vlgs at Pebble Brook 2nd LT196	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-034.000	Neff, Bradley W & Penny L	Vlgs at Pebble Brook 4TH LT145	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-006.001	Newby, Emily A	Emerald Vlg at PB LOT 6-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-053.000	Nichols, John F	Vlgs at Pebble Brook 4TH LT126	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-016.000	Norman, Steven C & Christi A	Pebble Brook 1-A LOT PT 40	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-010.000	Nunamaker, Thomas R & Ruth Anne	Vlgs at Pebble Brook 1ST LT 20	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-076.000	Odimayomi, Adebayo & Temidire Jt/Rs	Ashfield 1st Lot 76	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-012.000	Odle, Robin E	Pinehurst Village 1ST LOT 12	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-019.000	OMahony, Eugene	Vlgs at Pebble Brook 1ST LT 29	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-016.000	OToole, Michael M & Suzette A	Vlgs at Pebble Brook 2nd LT184	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-004.000	Pacheco, Seleina M	Ashfield 1st Lot 4	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-00-002.000	Palmer Properties LLC	S33 T19 R4 217.88 AC	Commercial-Club House	2.60	$320.68	0.50%	*
11-06-33-00-00-002.000	Palmer Properties LLC	S33 T19 R4 217.88 AC	Residential/Ag-Golf Course	48.70	$600.96	0.93%	*
11-06-33-00-00-002.006	Palmer Properties LLC	S33 T19 R4 4.81 AC	Residential/Ag	4.81	$59.36	0.09%	*
11-06-33-00-00-002.007	Palmer Properties LLC	S33 T19 R4 4.77 AC	Residential/Ag	4.77	$58.86	0.09%	*
11-06-33-04-04-013.001	Palmer, Carol S	Pebble Brook 1-A LOT PT 37	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-045.000	Palmer, Jessica	Ashfield 1st Lot 45	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-013.000	Patel, Devendra K & Kiritkumar B	Ashfield 1st Lot 13	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-00-002.015	Pebblebrook Amenity Assoc Inc	Vlgs at Pebble Brook 7th Lt214, Recreational Area	Commercial	1.55	$191.18	0.30%	*
11-06-33-00-05-011.000	Pebblebrook Boulevard Assn Inc	Vlgs at Pebble Brook 1ST C.A., 2.30 Ac	Residential/Ag	2.30	$28.38	0.04%	*
08-06-32-00-06-061.000	Penley, Christopher & Megan	Ashfield 1st Lot 61	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-051.000	Perkins, Patricia C	Vlgs at Pebble Brook 4TH LT128	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-002.000	Peters, Troy M	Ashfield 1st Lot 2	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-019.000	Petersheim, Gideon R & Fannie S	Vlgs at Pebble Brook 4TH LT 67	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-012.001	Pfau, Mary & Ralph A	Emerald Vlg at PB LOT 12-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-015.000	Phillips, Lawrence R Jr & Sheryl S	Emerald Vlg at PB LOT 15A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-004.000	Phillips, Richard D & Georgia M	Vlgs at Pebble Brook 1ST LT 4	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-009.000	Phillips, William R Revocable Trust	Emerald Vlg at PB LOT 9A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-045.000	Pinehurst Village Homeowners Assn	Pinehurst Village 1ST BLK 2 0.65 Ac	Residential/Ag	0.65	$15.00	0.02%	*
11-06-33-04-06-046.000	Pinehurst Village Homeowners Assn	Pinehurst Village 1ST BLK 3 0.75 Ac	Residential/Ag	0.75	$15.00	0.02%	*
11-06-33-04-06-047.000	Pinehurst Village Homeowners Assn	Pinehurst Village 1ST BLK 1 0.64 Ac	Residential/Ag	0.64	$15.00	0.02%	*
11-06-33-04-07-025.000	Pinehurst Village Homeowners Assn	Pinehurst Village 2nd C.A. 6 0.06 Ac	Residential/Ag	0.03	$15.00	0.02%	*
08-06-32-00-06-014.000	Platero, Luis A & Olivia	Ashfield 1st Lot 14	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-018.000	Polar, Murat & Yesim	Pinehurst Village 1ST LOT 18	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-033.000	Portillo, Marta	Ashfield 1st Lot 33	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-077.000	Poulter, Scott A & Karen Sciortino Poulter	Ashfield 1st Lot 77	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-038.000	Ralston, Jeffrey & Angela	Vlgs at Pebble Brook 2nd LT194	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-014.000	Raymond, John F Jr & Janet E	Vlgs at Pebble Brook 1ST LT 24	Regulated Subd.	One Lot	$115.00	0.18%	*

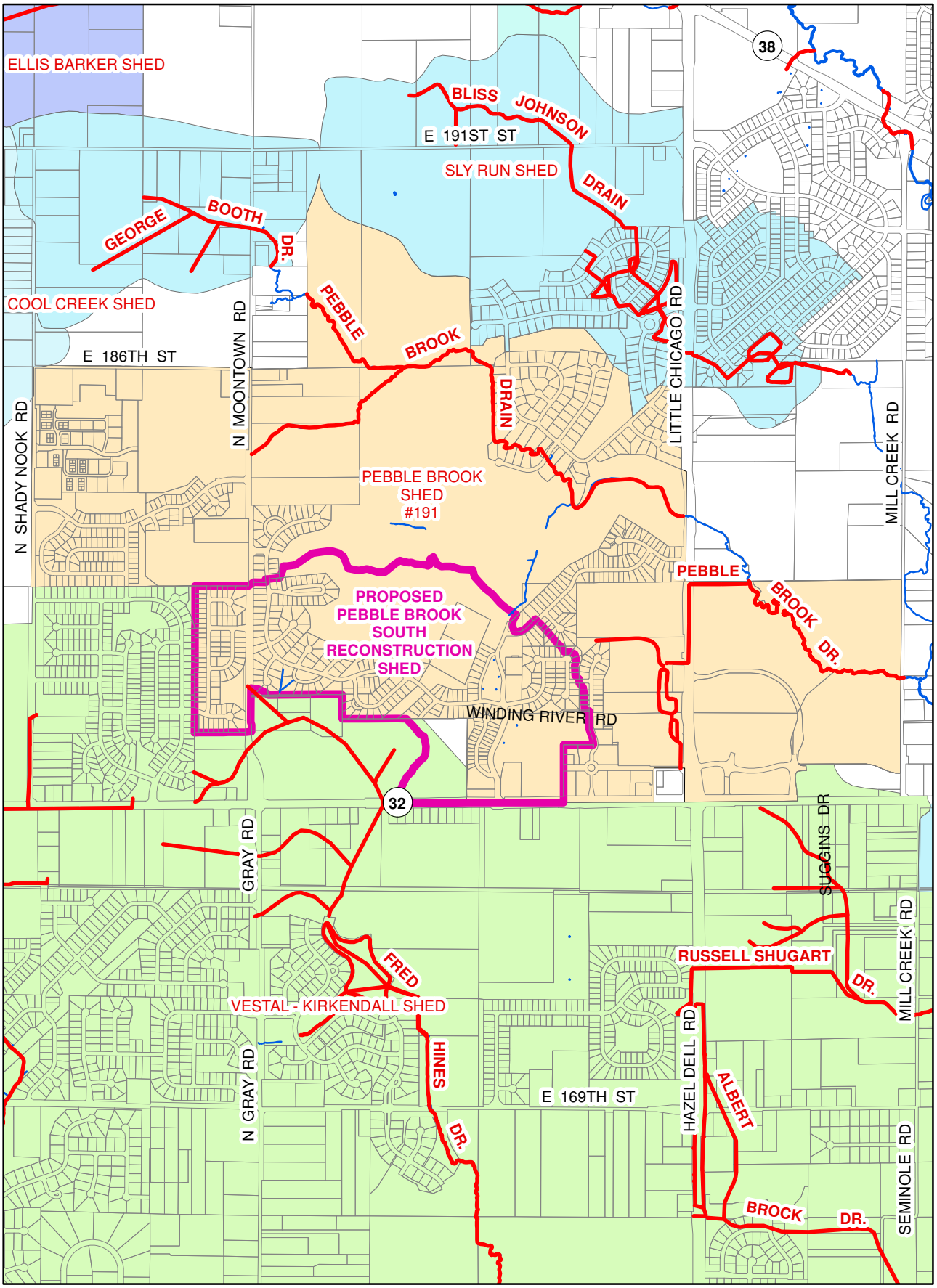
Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
08-06-32-00-06-074.000	Rebba, Joshua	Ashfield 1st Lot 74	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-042.000	Redstone, Patricia B	Pinehurst Village 1ST LOT 42	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-036.000	Reese, Starlyn K & Karl M Reese Jr	Vlgs at Pebble Brook 4TH LT143	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-006.000	Rhode, Frank L Jr & Janna M	Emerald Vlg at PB LOT 6-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-010.000	Richardson, Angel	Pinehurst Village 1ST LOT 10	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-003.000	Richey, Danny J & Joyce	Vlgs at Pebble Brook 1ST LT 3	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-043.000	Richwalski, April	Ashfield 1st Lot 43	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-056.000	Robbins, Amy	Ashfield 1st Lot 56	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-005.000	Roberts, Elizabeth G	Emerald Vlg at PB LOT 5-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-041.000	Roelofs, Marion H & William J Co Trustees	Vlgs at Pebble Brook 4TH LT138	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-028.000	Rothrock, John Thomas & Judith Jan	Vlgs at Pebble Brook 4TH LT151	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-021.000	Rowe, Matthew B & Daniela C	Vlgs at Pebble Brook 4TH LT 65	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-011.000	Rudolph, Kurt J & Catherine M	Pinehurst Village 1ST LOT 11	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-024.000	Ruger, Hungria M	Ashfield 1st Lot 24	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-026.000	Rumschlag, Eric L & Nancy M	Vlgs at Pebble Brook 2nd LT174	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-029.000	Rundle, Norman L & Lois E	Vlgs at Pebble Brook 2nd LT171	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-078.000	Ruther, Scott E & Sarah A	Ashfield 1st Lot 78	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-006.000	Sanders, Ronald C	Vlgs at Pebble Brook 1ST LT 6	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-018.000	Sawyer, Charles C & Michele J	Ashfield 1st Lot 18	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-015.000	Sawyer, Michele & Charles C	Ashfield 1st Lot 15	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-006.000	Schreiber, Connie L	Vlgs at Pebble Brook 2nd LT207	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-011.001	Scott, Everett L & Susan K	Emerald Vlg at PB LOT 11-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-008.001	Scott, Lucy E	Emerald Vlg at PB LOT 8-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-017.000	Scott, Marilyn K & Jan B	Vlgs at Pebble Brook 1ST LT 27	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-007.000	Shalley, Sheldon E & Elizabeth C	Emerald Vlg at PB LOT 7-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-026.000	Sherwood, Cynthia L	Vlgs at Pebble Brook 1ST LT 36	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-04-015.000	Shields, William E & V Sue	Pebble Brook 1-A LOT PT 39	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-039.000	Shroyer, Gary K	Pinehurst Village 1ST LOT 39	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-044.000	Sirit, Ulises	Ashfield 1st Lot 44	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-025.000	Skelly, Robert E	Vlgs at Pebble Brook 3rd LT 62	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-003.000	Smith, Greg S & Heather L	Pinehurst Village 1ST LOT 3	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-064.000	Snell, Scott D & Heather L	Ashfield 1st Lot 64	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-007.000	Snyder, Elizabeth E	Vlgs at Pebble Brook 2nd LT204	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-027.000	Solano, Na	Ashfield 1st Lot 27	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-042.000	Spraker, Kenneth & Louise Gilbert Spraker	Ashfield 1st Lot 42	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-014.000	Sprecher, Phillip B & Kimberly A	Vlgs at Pebble Brook 4TH LT 72	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-053.000	Stailey Properties LLC	Ashfield 1st Lot 53	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-026.000	Stailey Properties LLC	Vlgs at Pebble Brook 3rd LT 63	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-066.000	Stephan, David Jameson & Norma Jean CoTrustees	Ashfield 1st Lot 66	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-003.000	Stevens, Ronald G & Robert C	Vlgs at Pebble Brook 1ST LT 13	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-052.000	Stowell, Alton E & Roxanna W	Vlgs at Pebble Brook 4TH LT127	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-030.000	Stromberg, Joshua S & Amanda M	Ashfield 1st Lot 30	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-061.000	Swan, Carol A	Vlgs at Pebble Brook 4TH LT118	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-020.000	Swartzendruber, Sidney Lee & Stephanie Ann Short	Vlgs at Pebble Brook 4TH LT 66	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-009.000	Tallman, Michael J	Vlgs at Pebble Brook 1ST LT 19	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-007.000	Tate, Bob & Mary Frances Tate	Vlgs at Pebble Brook 4TH LT 79	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-046.000	Tate, Mary Lynn Revocable Inter Vivos Trust	Vlgs at Pebble Brook 4TH LT133	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-03-04-056.000	Tate, Robert Leigh & Mary Frances CoTrustees	Vlgs at Pebble Brook 4TH LT123	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-055.000	Tate, Robert Leigh & Mary Frances Rev. Intervivos TR	Vlgs at Pebble Brook 4TH LT124	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-008.000	Taylor, James W & Stephanie	Ashfield 1st Lot 8	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-022.000	Testa, Dennis P & Peggy S	Vlgs at Pebble Brook 3rd LT 59	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-006.000	Thiemrodt, Robert & Patricia	Ashfield 1st Lot 6	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-002.000	Thurston, Todd D & Jennifer B	Vlgs at Pebble Brook 4TH LT 84	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-019.000	Tirman, Thomas G & Amanda M	Vlgs at Pebble Brook 2nd LT181	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-022.000	Tomlin, Philip A & Margaret S	Vlgs at Pebble Brook 1ST LT 32	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-03-013.000	Tomlinson, Timothy M & Jennifer L	Vlgs at Pebble Brook 3rd LT 50	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-005.000	Tookolo, William T & Debra A	Ashfield 1st Lot 5	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-025.000	Torrance, Lisa D	Vlgs at Pebble Brook 4TH LT154	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-049.000	Treida, Michael D & Susan C	Vlgs at Pebble Brook 4TH LT130	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-006.000	Tucker, William F Jr	Vlgs at Pebble Brook 1ST LT 16	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-018.000	Tunnell, Thomas L & Linda C	Vlgs at Pebble Brook 4TH LT 68	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-029.000	Tunnell, Tom L & Linda C	Pinehurst Village 1ST LOT 29	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-032.000	Turner, Steve A Jr & Tonya A	Pinehurst Village 1ST LOT 32	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-015.001	Turrini, Sharon Kay	Emerald Vlg at PB LOT 15B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-016.001	Turrini, Sharon Kay	Emerald Vlg at PB LOT Pt 16	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-037.000	Umthum, Justin J	Vlgs at Pebble Brook 4TH LT142	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-022.000	Unger, Scott A & Jennifer L	Vlgs at Pebble Brook 4TH LT 64	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-008.000	Upton, Jason N & Pamela A	Vlgs at Pebble Brook 4TH LT 78	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-007.001	Vanderwall, George T & Nancy J CoTrustees	Emerald Vlg at PB LOT 7-B	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-023.000	Vanmeter, Stephen D & Kulyn	Vlgs at Pebble Brook 2nd LT177	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-037.000	Vaughn, Jordan T	Ashfield 1st Lot 37	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-037.000	Vickery, Laura L	Pinehurst Village 1ST LOT 37	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-00-008.000	Village Of Pebblebrook Apartments LLC	S33 T19 R4 18.56 AC	Commercial	18.56	$2,289.19	3.54%	*
11-06-33-03-02-014.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 2nd LT199	Residential/Ag	0.38	$15.00	0.02%	*
11-06-33-03-02-044.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 2nd, 1.69 Ac	Residential/Ag	1.69	$20.85	0.03%	*
11-06-33-03-02-045.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 2nd C.A., 0.03 Ac	Residential/Ag	0.03	$15.00	0.02%	*
11-06-33-03-02-046.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 2nd Private Dr, 0.19 Ac	Residential/Ag	0.19	$15.00	0.02%	*
11-06-33-03-02-047.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 2nd C.A., 0.18 Ac	Residential/Ag	0.18	$15.00	0.02%	*
11-06-33-03-02-048.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 2nd Private Dr, 0.18 Ac	Residential/Ag	0.18	$15.00	0.02%	*
11-06-33-03-03-027.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 3rd 0.60, Landscape Area	Residential/Ag	0.60	$15.00	0.02%	*
11-06-33-03-03-028.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 3rd 0.55Ac, Brentwood Dr	Road	1.65	$407.02	0.63%	*
11-06-33-03-03-029.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 3rd C.A., 0.77 Ac	Residential/Ag	0.77	$15.00	0.02%	*
11-06-33-03-04-062.000	Villages at Pebblebrook HOA	Vlgs at Pebble Brook 4TH C.A. 0.37 Ac	Residential/Ag	0.37	$15.00	0.02%	*
11-06-33-03-02-002.000	Vitello, A A & Beverly A	Vlgs at Pebble Brook 2nd LT211	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-017.000	Wade, Christopher E	Vlgs at Pebble Brook 2nd LT183	Regulated Subd.	One Lot	$115.00	0.18%	*
08-06-32-00-06-038.000	Walker, Angelia E	Ashfield 1st Lot 38	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-012.000	Wallace, Anne	Emerald Vlg at PB LOT 12-A	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-016.000	Walter, Charlotte	Vlgs at Pebble Brook 1ST LT 26	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-07-002.000	Wehr, Joshua J & Andrea N	Pinehurst Village 2nd LOT 46	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-023.000	Weikel, Jerry L & Brenda J	Vlgs at Pebble Brook 1ST LT 33	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-025.000	Wiggins, Ruth M Revocable Living Trust	Vlgs at Pebble Brook 1ST LT 35	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-021.000	Wilkinson, Mark J & Cathy R	Vlgs at Pebble Brook 2nd LT179	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-02-025.000	Williams, Cecil E & Paula J	Vlgs at Pebble Brook 2nd LT175	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-06-038.000	Williams, Jeffrey Alan & Tiffany Amber	Pinehurst Village 1ST LOT 38	Regulated Subd.	One Lot	$115.00	0.18%	*

Parcel	Owner	Description	Reconstruction Rate	Recnst Ben	Recnst Asmt	% of Total	Mnt.
11-06-33-04-08-016.000	Woerner, Thomas Edwin Trustee	Emerald Vlg at PB LOT Pt 16	Un-regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-020.000	Worl, Mary C Trustee	Vlgs at Pebble Brook 1ST LT 30	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-04-003.000	Wright, Alyssa M & Daniel B Swart	Vlgs at Pebble Brook 4TH LT 83	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-03-01-001.000	Wright, Thomas D & Mary Ann	Vlgs at Pebble Brook 1ST LT 11	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-00-05-005.000	Yocum, DeWayne R & Judith A	Vlgs at Pebble Brook 1ST LT 5	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-05-001.000	Zaring, D Duane	Vlgs at Pebble Brook 7TH LT213	Regulated Subd.	One Lot	$115.00	0.18%	*
11-06-33-04-08-016.002	Zdanky, Robert W & Lucinda A	Emerald Vlg at PB LOT Pt 16	Un-regulated Subd.	One Lot	$115.00	0.18%	*
Parcels: 375			Total:	199.46	$64,677.19	100.00%	$28.30
				337 Lots			

**Will add $28.30 to Sly Run #330 & reduce Vestal #292 from 45.34 to 41.19 Ac at $82.38 for maintenance.

PROPOSED PEBBLE BROOK (#191) SOUTH RECONSTRUCTION SHED



N

Printing Date: 4/7/2011
Prepared By: Darren Wilson, GISP
Hamilton County Surveyor's Office
One Hamilton County Square, Ste 188
Noblesville, IN 46060
317-776-8495

2,250 Feet

PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

HAMILTON COUNTY, INDIANA

OCTOBER 2009

2009 DRAINAGE BOARD MEMBERS

PRESIDENT	STEVEN C. DILLINGER
VICE PRESIDENT	CHRISTINE ALTMAN
MEMBER	STEVEN A. HOLT
ALTERNATE	JERRY RULON
ALTERNATE	DON SILVEY
BIG CICERO CREEK BOARD MEMBER	JOHN HIATT
ATTORNEY	MICHAEL HOWARD
SURVEYOR	KENTON C. WARD
EXECUTIVE SECRETARY	LYNETTE MOSBAUGH

UTILITY LOCATES:

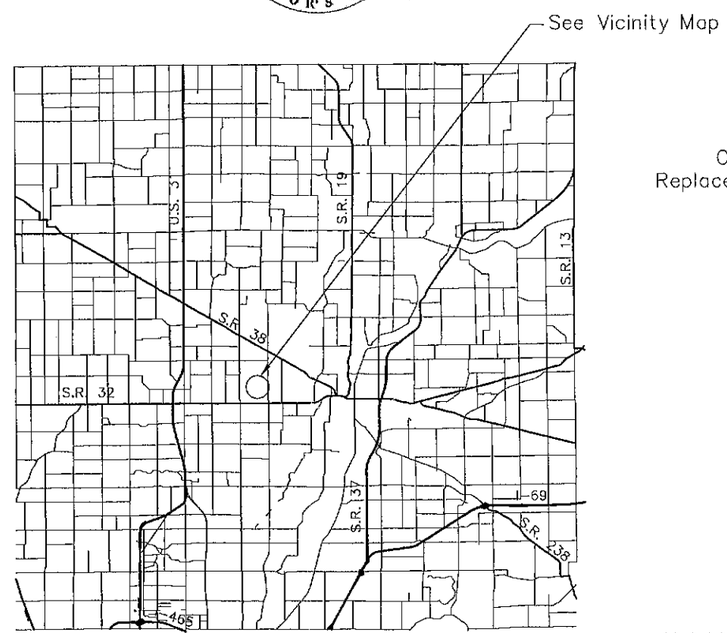
INDIANA UNDERGROUND PLANT PROTECTION SERVICE

1-800-387-5544

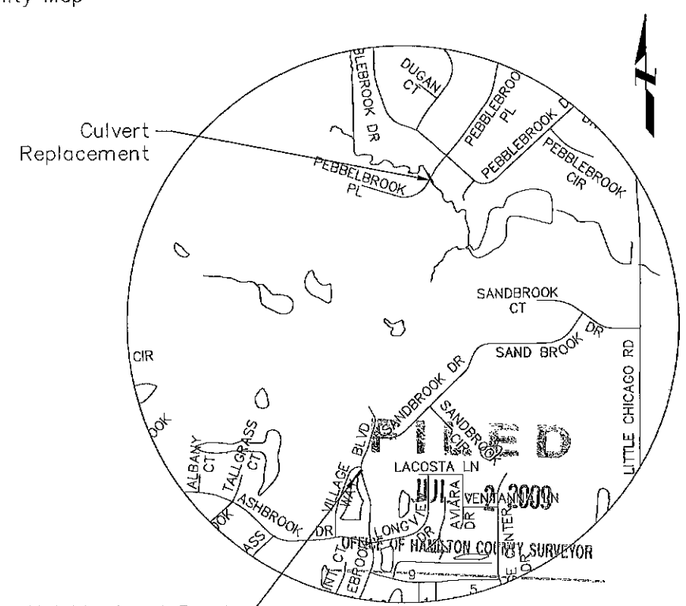
SHEET LIST TABLE

1	TITLE SHEET
2	GENERAL NOTES
3	PEBBLEBROOK PLACE CULVERT REPLACEMENT
4	SANITARY SEWER RELOCATION PLAN AND PROFILE
5	POND 3 OUTFALL
6	MAINTENANCE OF TRAFFIC
7	EROSION CONTROL
8	DETAIL SHEET 1
9	DETAIL SHEET 2
10-15	CITY OF NOBLESVILE STANDARDS

Indiana State Map



Location Map
Not To Scale



Vicinity Map
Not To Scale

Clark Dietz
ENGINEERS

8900 KEYSTONE CROSSING
SUITE 900
INDIANAPOLIS, IN 46240
PHONE : 812.471.4802
FAX : 812.471.4825

SAMUEL E. ROBERTSON REGISTERED No. PE10707598 STATE OF INDIANA PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.
DATE

PROJECT TITLE
PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
CHECKED BY: S.E.R.
DATE CHECKED: NOT FOR CONST.

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

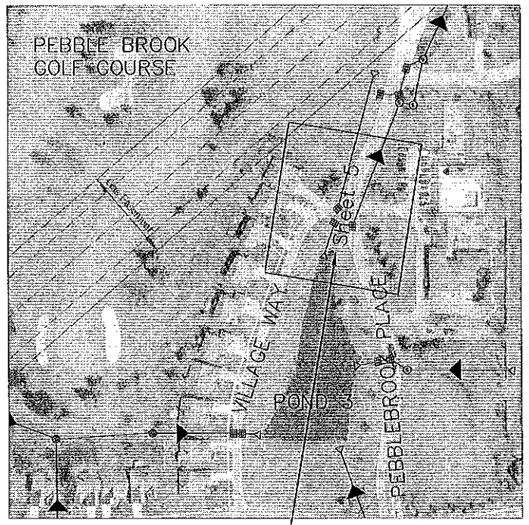
DATE	REVISION

DRAWING TITLE
TITLE SHEET

PROJECT No.
H0210021

DRAWING No.
1

SHEET 1 OF 9 SHEETS



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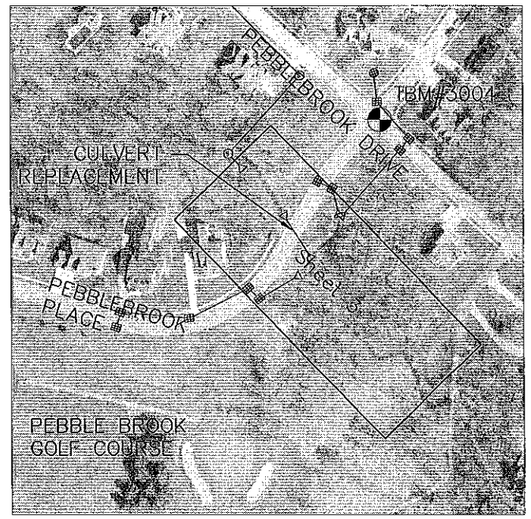
NOT TO SCALE



SHEET LOCATION MAP
NOT TO SCALE

UTILITIES

ELECTRIC:	DUKE ENERGY, INC. 100 MILL CREEK ROAD NOBLESVILLE, IN 46060 CONTACT: MIKE KOONTZ PHONE: (317) 839-9611
GAS:	VECTRON 1600 ALLISONVILLE ROAD NOBLESVILLE, IN 46061 CONTACT: DON PERDUE PHONE: (317) 776-5534
TELEPHONE:	VERIZON, INC. 20905 HAGUE ROAD NOBLESVILLE, IN 46060 CONTACT: STEVE COSTLOW PHONE: (317) 984-2334
SANITARY	CITY OF NOBLESVILLE 197 W. WASHINGTON NOBLESVILLE, IN 46060 CONTACT: MIKE HENDRICKS PHONE: (317) 776-6353
CABLE TV:	COMCAST 9750 E. 150TH STREET NOBLESVILLE, IN 46060 CONTACT: MATT STRINGER PHONE: (317) 776-3384
PANHANDLE GAS PIPELINE:	PANHANDLE GAS COMPANY 9371 ZIONSVILLE ROAD INDIANAPOLIS, IN 46268 CONTACT: MARK WOOD PHONE:(317) 733-3232
WATER:	VEOLIA WATER 1220 WATERWAY BLVD. INDIANAPOLIS, IN 46202 CONTACT: JENNIFER MARLETT PHONE: (317) 263-6336

SURVEY & BENCHMARK INFORMATION

MILLER SURVEYING INC.
948 CONNER STREET
NOBLESVILLE INDIANA 46060
PH. # (317) 773-2644 FAX 773-2694

HORIZONTAL AND VERTICAL CONTROL:

COORDINATE SYSTEM:
US STATE PLANE 1983 (AT GROUND)

PROJECT DATUM:
WORLD GEODETIC SYSTEM (WGS 1984)

VERTICAL DATUM
NAVD 88

ZONE:
INDIANA EAST 1301

GEOID MODEL:
GEOID03 (CONUS)

COORDINATE UNITS US SURVEY FEET
DISTANCE UNITS US SURVEY FEET
HEIGHT UNITS US SURVEY FEET

TBM#3004 (SEE ABOVE LOCATION MAP)
BRASS PLUG FOUND
ELEV: 827.87
N: 1751065.67
E: 213226.27

TBM#3006
MAG NAIL SET
ELEV: 827.75
N: 1750917.76
E: 213100.44

GENERAL NOTES

1. THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. DETERMINING THE EXACT LOCATION AND PROTECTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF SAME IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER AND FOR ANY RESULTING CONTINGENT DAMAGE AND COST.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY UTILITY WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE APPLICABLE UTILITY OWNER.
3. BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL PRESERVE AND PROTECT PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS AND BENCH MARKS, SUCH AS STONES, PIPES, OR OTHER MONUMENTS ENCOUNTERED. IF THE CONTRACTOR MUST DISTURB THE PROPERTY MARKERS OR MONUMENTS, THEIR HORIZONTAL AND VERTICAL LOCATION SHALL BE DETERMINED AND RECORDED BY A REGISTERED LAND SURVEYOR AND THE OWNER NOTIFIED BEFORE DISTURBING. ALL PROPERTY MARKERS AND MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RE-ESTABLISHED BY A REGISTERED LAND SURVEYOR.
5. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE AREA; NO EXTRA COMPENSATION CONNECTED WITH UTILITIES COORDINATION WILL BE ALLOWED.
6. THE CONTRACTOR IS RESPONSIBLE FOR DUST AND MUD CONTROL FOR THE DURATION OF THE PROJECT.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION TRAFFIC CONTROL.
8. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING EROSION CONTROL AND THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL, OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OR WORK ON THE PROJECT.
9. THE COST OF ABIDING BY THE PROVISIONS OR PERMITS ISSUED BY VARIOUS AGENCIES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ALL ASSOCIATED BONDING REQUIREMENTS AND COSTS SHALL ALSO BE CONSIDERED INCIDENTAL TO THE CONTRACT.
10. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE OWNERS OF PROPERTY ON OR NEAR WHICH CONSTRUCTION IS TAKING PLACE. PARTICULAR CARE AND ATTENTION IS TO BE PAID TO NORMAL BUSINESS AND/OR SCHOOL ACTIVITIES, INCLUDING (BUT NOT LIMITED TO) DELIVERIES, LOADING AND UNLOADING OF SCHOOL BUSES, AND SO ON. NO ADDITIONAL COMPENSATION SHALL BE DUE TO THE CONTRACTOR AS A RESULT OF DELAYS FROM SAID NORMAL BUSINESS AND/OR SCHOOL ACTIVITIES. THE CONTRACTOR SHALL DILIGENTLY ATTEMPT TO ACCOMMODATE THE NORMAL ACTIVITIES OF PROPERTY OWNERS ALONG THE PROJECT ROUTE AS WELL.
11. WORK NOT SPECIFIED FOR PAYMENT AS OR PART OF A SPECIFIC PAY ITEM SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT BY THE CONTRACTOR.
12. COORDINATION AND PROPER FIT OF ALL PROJECT ELEMENTS IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION STAKEOUT OF THE PROJECT ELEMENTS TO VERIFY THE COORDINATES PROVIDED. SUSPECTED ERRORS OR DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AND RESOLVED BEFORE CONSTRUCTION BEGINS.
13. NO SPECIFIC COMPENSATION IS TO BE MADE FOR MAINTENANCE OF TRAFFIC OR MOBILIZATION/DEMOBILIZATION AS THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL BE INCLUDED IN THE COST OF THE VARIOUS BID ITEMS.

"DON'T DIG BLIND"
CALL TWO WORKING DAYS
BEFORE YOU DIG

WITHIN INDIANA:
1-800-382-5544 or 811
FROM OUTSIDE INDIANA:
1-800-428-5200

Clark Dietz
ENGINEERS
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SAMUEL E. ROBERTSON
REGISTERED
No. PE10707586
STATE OF INDIANA
PROFESSIONAL ENGINEER

SIGNATURE
NOT FOR CONST.
DATE

PROJECT TITLE
PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
CHECKED BY: S.E.R.
DATE CHECKED: NOT FOR CONST.

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

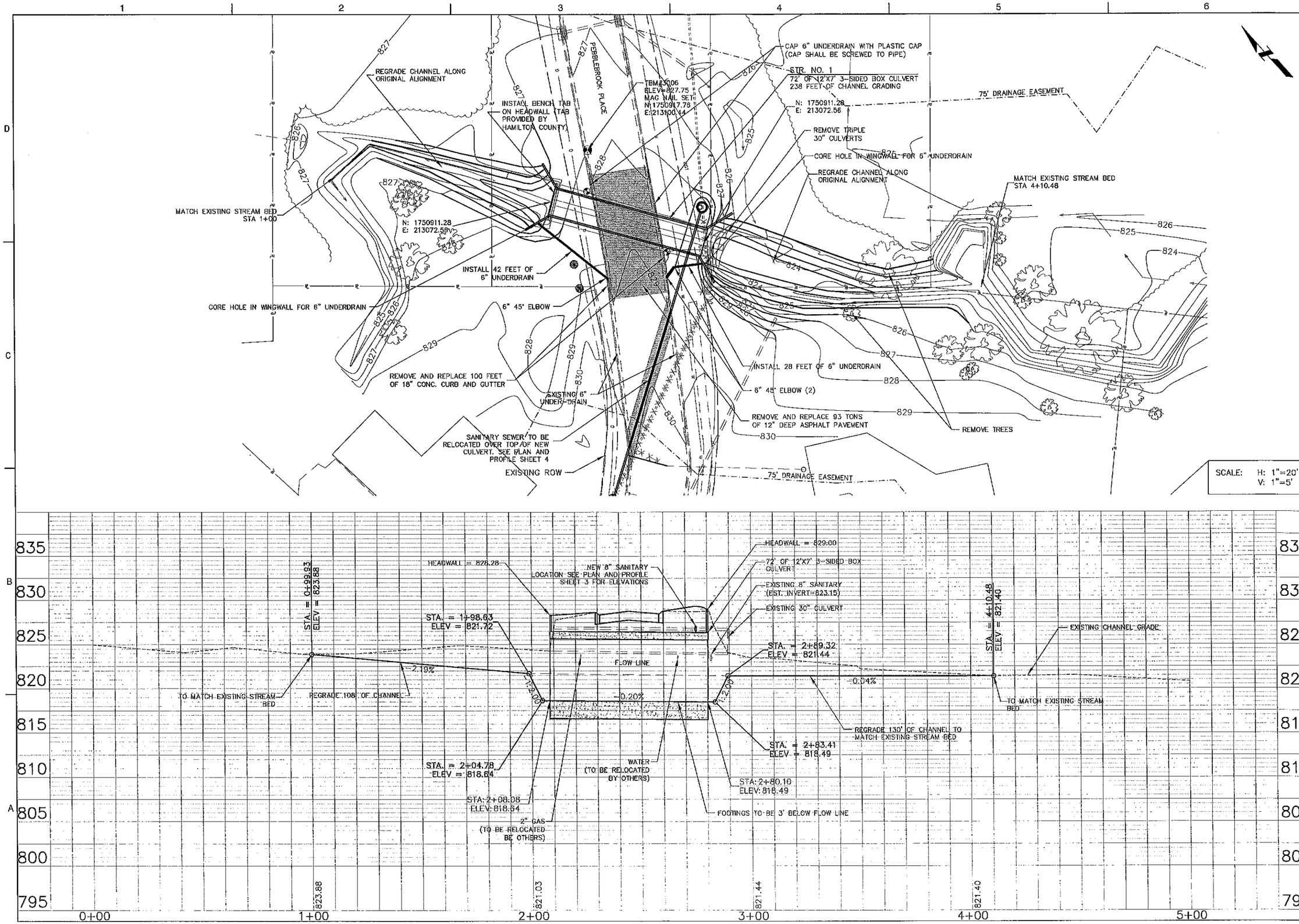
DATE	REVISION

DRAWING TITLE
GENERAL NOTES

PROJECT No.
H0210021

DRAWING No.
2

SHEET 2 OF 9 SHEETS



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FAX : 612.471.4826

SAMUEL E. ROBERTSON REGISTERED No. PE10707686 STATE OF INDIANA PROFESSIONAL ENGINEER

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DATE

PROJECT TITLE

PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
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DATE	REVISION

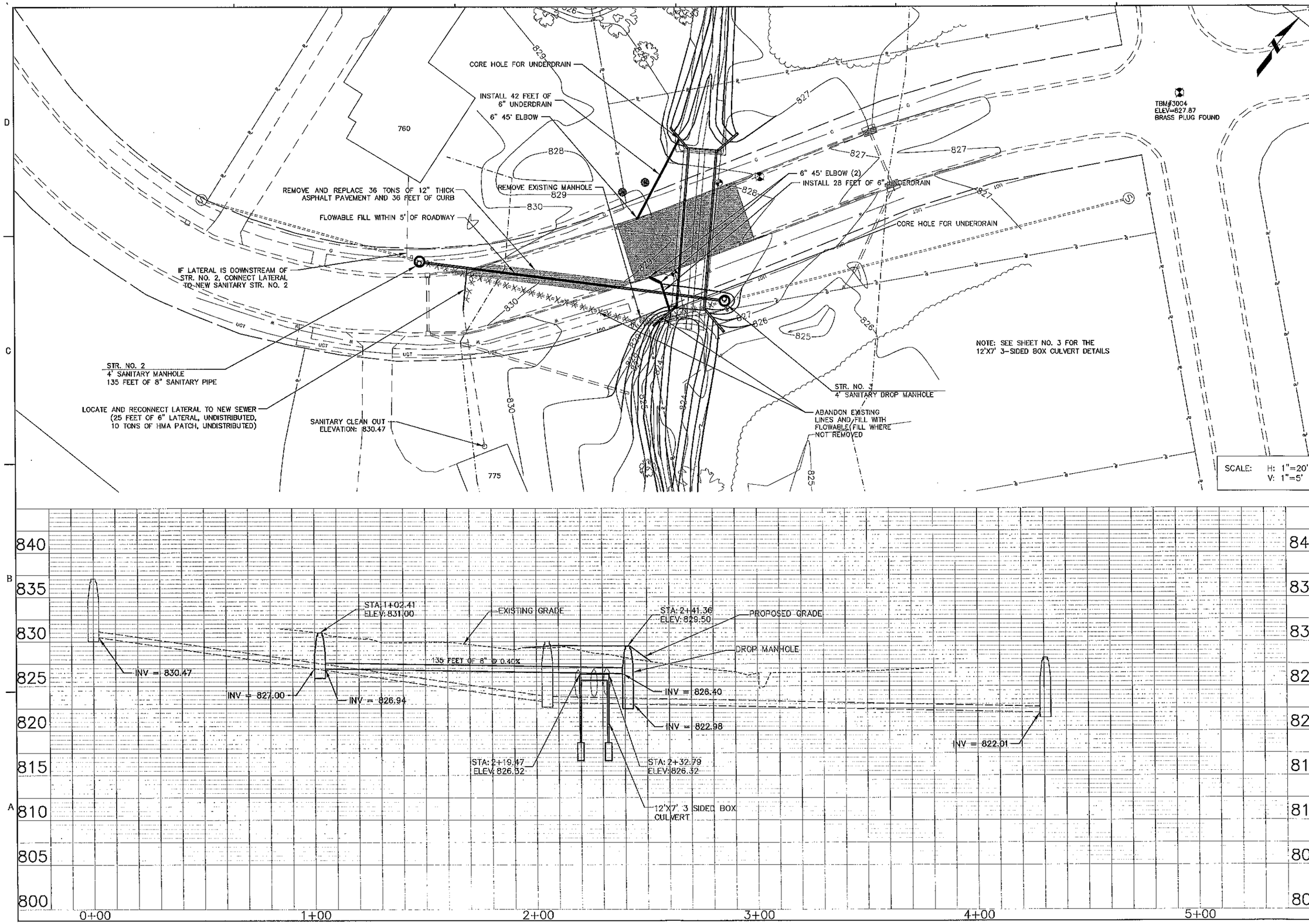
DRAWING TITLE

PEBBLEBROOK PLACE CULVERT REPLACEMENT

PROJECT No.
H0210021

DRAWING No.
3

SHEET 3 OF 9 SHEETS



Clark Dietz
ENGINEERS

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SAMUEL E. ROBERTSON
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No. PE10707666
STATE OF INDIANA
PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.
DATE

PROJECT TITLE
PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
CHECKED BY: S.E.R.
DATE CHECKED: NOT FOR CONST.

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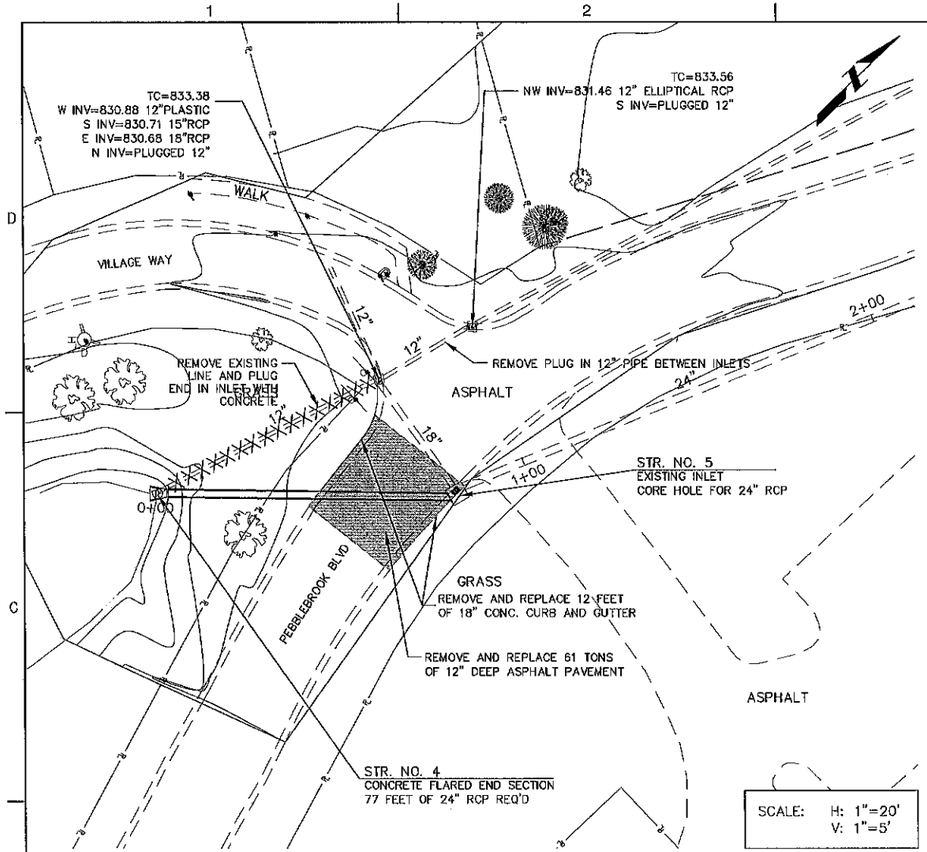
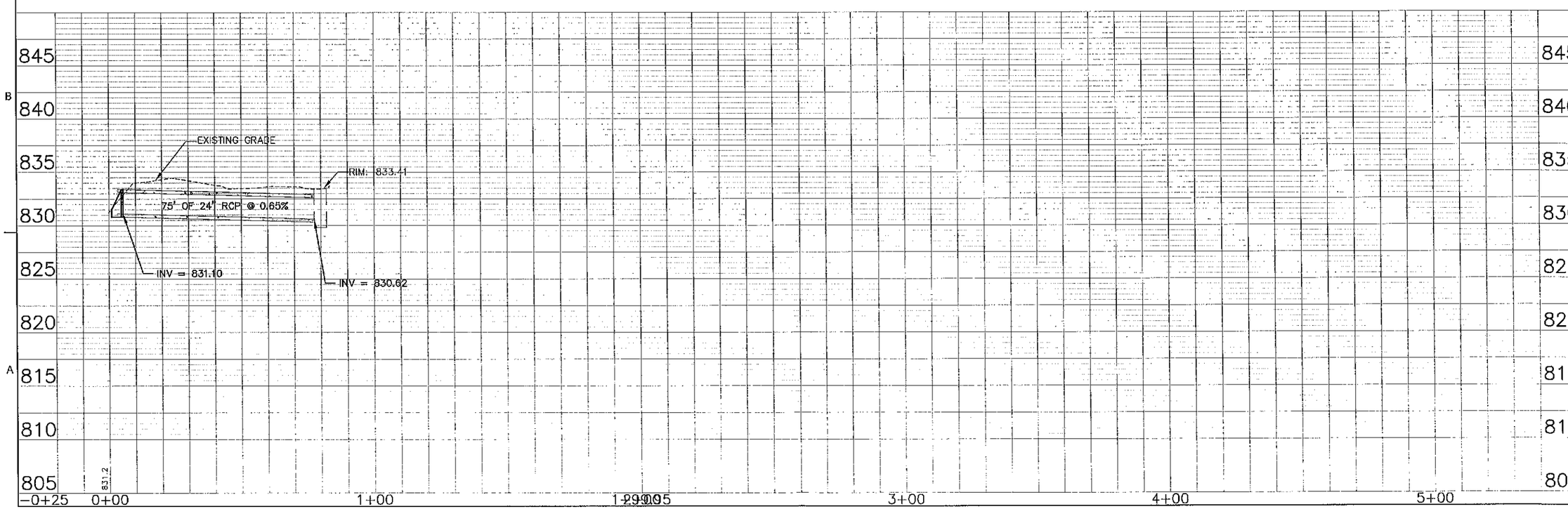
DATE	REVISION

DRAWING TITLE
SANITARY SEWER RELOCATION PLAN AND PROFILE

PROJECT No.
H0210021

DRAWING No.
4





Clark Dietz
ENGINEERS

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INDIANAPOLIS, IN 46240
PHONE : 812.471.4902
FAX : 812.471.4826

SAMUEL E. ROBERTSON
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No. PE10707588
STATE OF INDIANA
PROFESSIONAL ENGINEER

SIGNATURE

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PROJECT TITLE
PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
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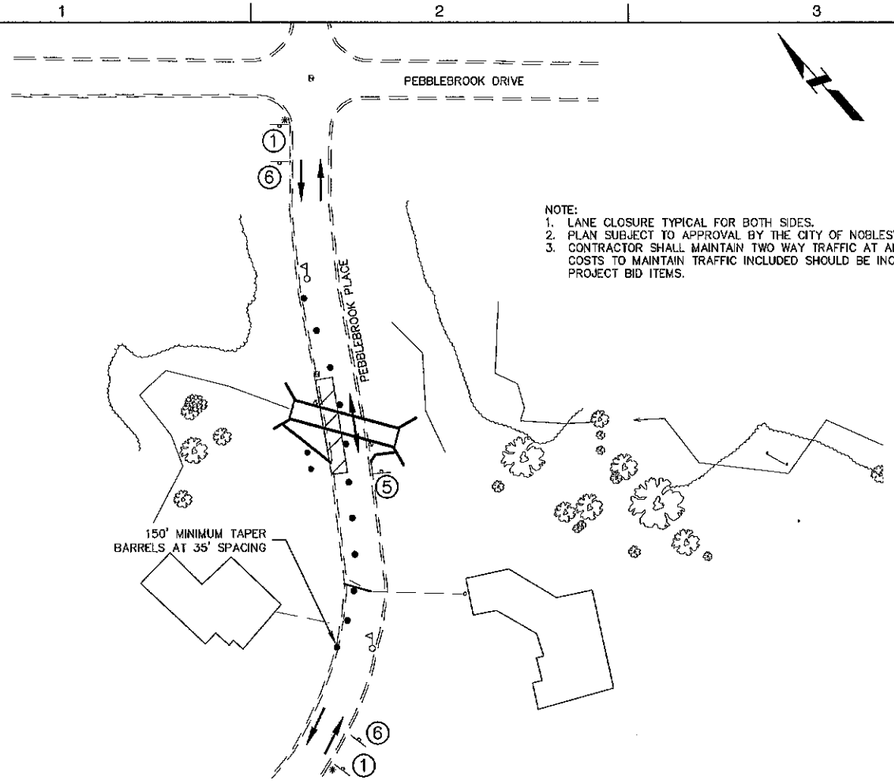
DATE	REVISION

DRAWING TITLE
POND 3 OUTFALL

PROJECT No.
H0210021

DRAWING No.
5

SHEET 5 OF 9 SHEETS



NOTE:
1. LANE CLOSURE TYPICAL FOR BOTH SIDES.
2. PLAN SUBJECT TO APPROVAL BY THE CITY OF NOBLESVILLE.
3. CONTRACTOR SHALL MAINTAIN TWO WAY TRAFFIC AT ALL TIMES. COSTS TO MAINTAIN TRAFFIC INCLUDED SHOULD BE INCLUDED IN PROJECT BID ITEMS.

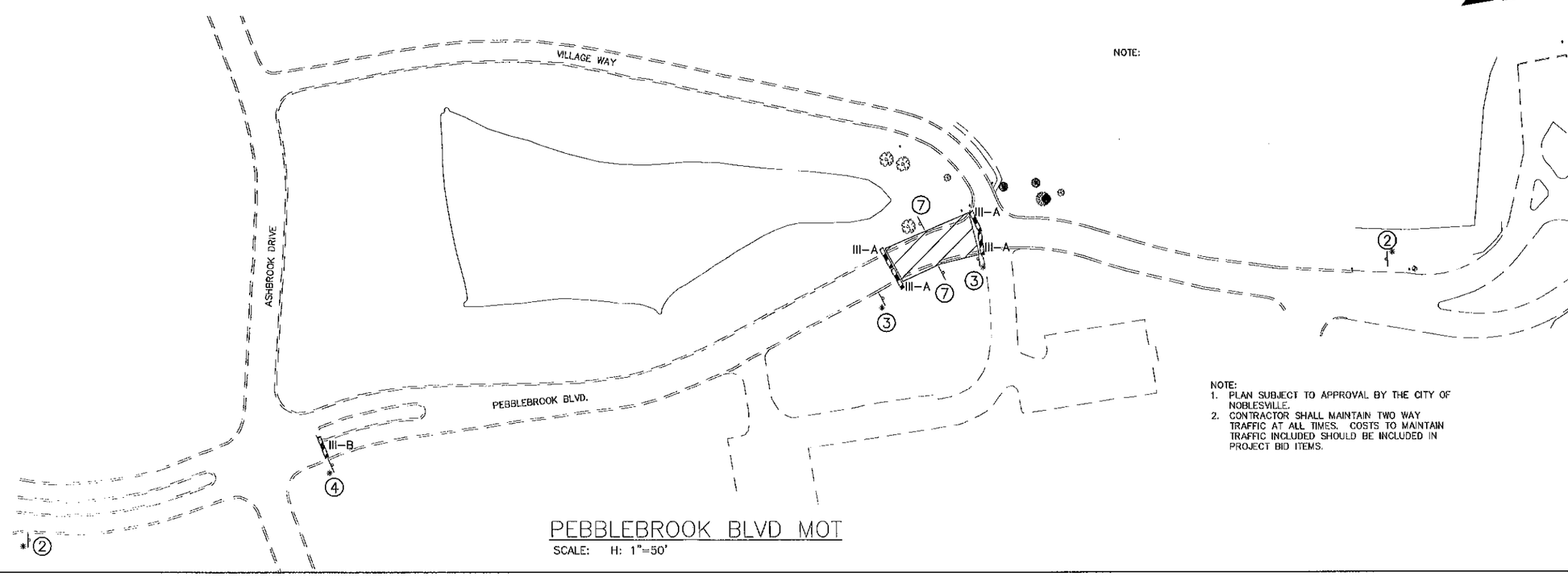
PEBBLEBROOK PLACE MOT

SCALE: H: 1"=50'

LEGEND

1	ROAD CONSTRUCTION AHEAD	XW21-4 30"X30"
2	ROAD CLOSED AHEAD	XW20-1 30"X30"
3	ROAD CLOSED	R11-2 48"X30"
4	ROAD CLOSED TO THRU TRAFFIC	R11-4 60"X30"
5	PEBBELBROOK PLACE LANE RESTRICTED ON OR AFTER DATE	ADVANCED NOTIFICATION SIGN 60"X48"
6	FLAGMAN AHEAD	W9-3 30"X30"
7	PEBBELBROOK BLVD. CLOSED ON OR AFTER DATE	ADVANCED NOTIFICATION SIGN 60"X48"

- ROADWAY CONSTRUCTION AREA
- LOW INTENSITY FLASHING YELLOW LIGHT, TYPE "A"
- CONSTRUCTION SIGN AND SUPPORTS
- FLAGGER
- STANDARD BARRICADE, TYPE III-A OR III-B
- DIRECTION OF TRAFFIC
- BARREL



NOTE:

NOTE:
1. PLAN SUBJECT TO APPROVAL BY THE CITY OF NOBLESVILLE.
2. CONTRACTOR SHALL MAINTAIN TWO WAY TRAFFIC AT ALL TIMES. COSTS TO MAINTAIN TRAFFIC INCLUDED SHOULD BE INCLUDED IN PROJECT BID ITEMS.

PEBBLEBROOK BLVD MOT

SCALE: H: 1"=50'

Clark Dietz
ENGINEERS

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INDIANAPOLIS, IN 46240
PHONE : 812.471.4802
FAX : 812.471.4825

SAMUEL E. ROBERTSON REGISTERED No. PE10707588 STATE OF INDIANA PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.

DATE

PROJECT TITLE

PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
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DATE	REVISION

DRAWING TITLE

MAINTENANCE OF TRAFFIC

PROJECT No.

H0210021

DRAWING No.

6

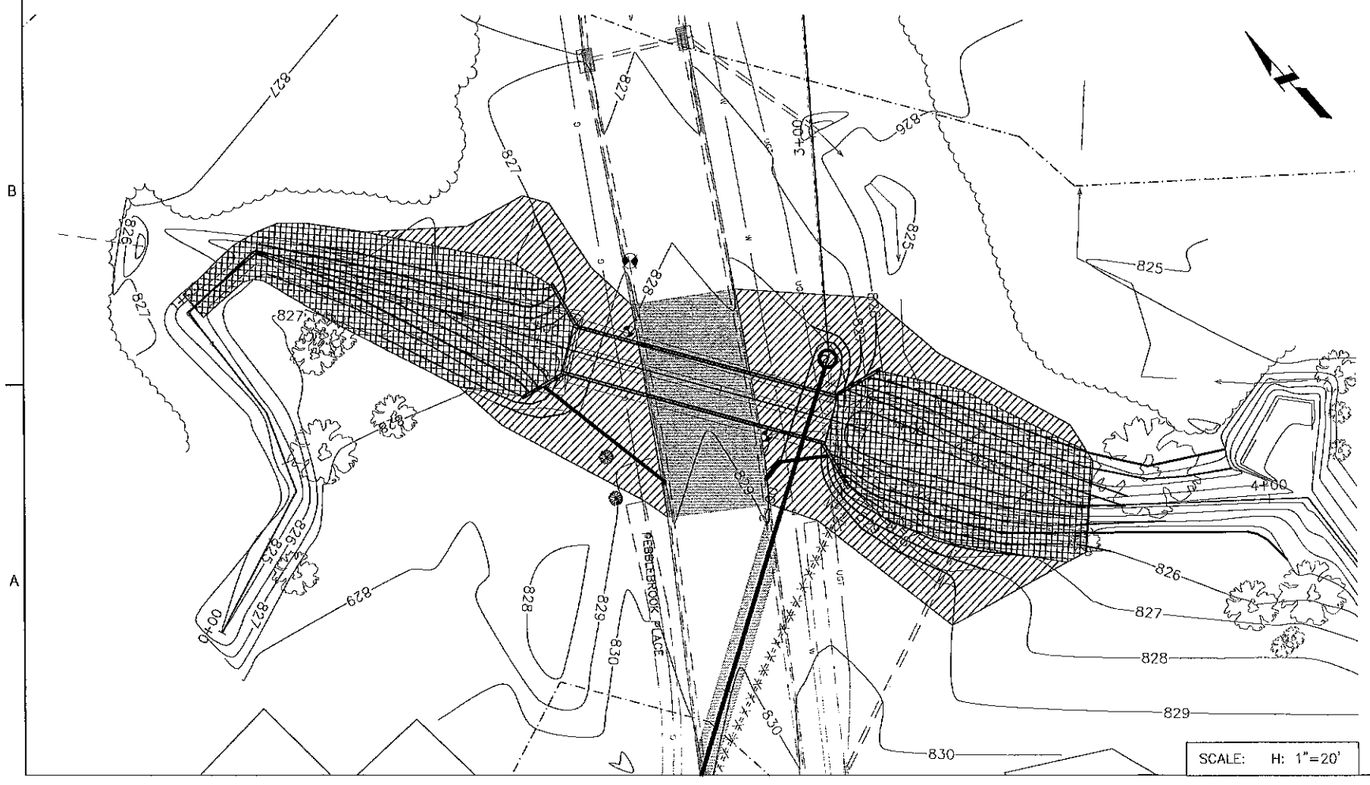
SHEET 6 OF 9 SHEETS

LEGEND

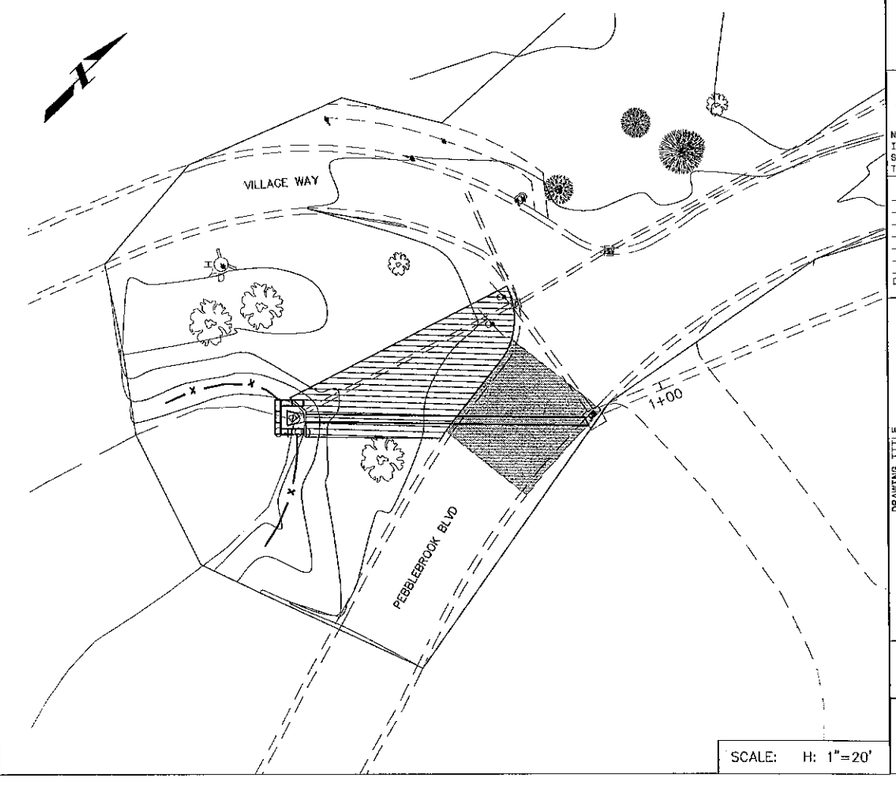
- STRAW BALE SEDIMENT TRAP
- —— x —— PERIMETER CONTROL
- MULCHED SEEDING
- EROSION CONTROL BLANKET

EROSION CONTROL NOTES:

1. DISTURBED AREA OF THE PROJECT EQUALS APPROXIMATELY 0.25 ACRES.
2. EROSION CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HAMILTON COUNTY SURVEYORS OFFICE, STATE OF INDIANA AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.
3. EXACT CONFIGURATION AND LOCATION OF TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
4. NO HYDRIC SOILS ARE KNOWN TO EXIST IN THE AREA WITHIN THE CONSTRUCTION LIMITS.
5. ALL SOIL STOCKPILE AREAS MUST BE SURROUNDED BY TEMPORARY PERIMETER CONTROL.
6. TEMPORARY OR PERMANENT SEEDING IS REQUIRED ON ALL DISTURBED AREAS THAT WILL BE LEFT EXPOSED FOR MORE THAN SIX WEEKS. SEE PLANTING SPECIFICATIONS FOR ALLOWABLE SEEDING MIX.
7. CONSTRUCTION STAGING AREAS SHALL BE SURROUNDED TEMPORARY PERIMETER CONTROL. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL ACCESS POINTS FROM THE CONSTRUCTION SITE TO THE ROADWAY TO REDUCE MIGRATION OF DEBRIS ONTO THE PAVEMENT.
8. THE TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY THE CONTRACTOR SHALL BE PROPERLY MAINTAINED TO CONTROL SILTATION AT ALL TIMES DURING THE LIFE OF THE CONTRACT.
9. ALL SALVAGEABLE TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE CONTRACT.
10. EROSION CONTROL MEASURES WILL BE CHECKED AND REPAIRED AT LEAST MONTHLY FOR ONE YEAR OR UNTIL THE VEGETATION HAS BEEN ESTABLISHED.



SCALE: H: 1"=20'



SCALE: H: 1"=20'

Clark Dietz ENGINEERS

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SAMUEL E. ROBERTSON REGISTERED No. PE10707586 STATE OF INDIANA PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.

DATE

PROJECT TITLE

PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
CHECKED BY: S.E.R.
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DATE	REVISION

DRAWING TITLE

EROSION CONTROL

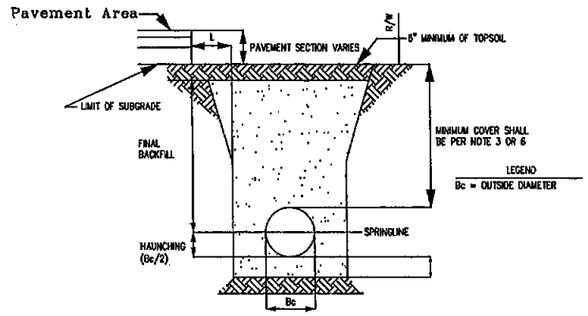
PROJECT No.

H0210021

DRAWING No.

7

SHEET 7 OF 9 SHEETS

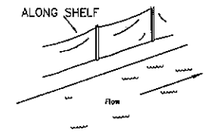


NOTES:

1. BEDDING AND HAUNCHING FOR ALL CONCRETE PIPE INSTALLATIONS SHALL BE #8 STONE MEETING THE MATERIAL REQUIREMENTS OF THE INDOT. BEDDING SHALL BE PLACED IN THE TRENCH BOTTOM SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE AND LINE, THERE REMAINS A 4" MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL AND A MINIMUM OF 3" BELOW THE BELL. BEDDING SHALL BE PLACED TO BE UNIFORM AS POSSIBLE AND COMPACTED IN 12" LIFTS (INCLUDING NATIVE BACKFILL IN THE GOLFCOURSE) TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF MATERIAL PLACED. THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR THE FULL LENGTH OF PIPE. HAUNCHING SHALL EXTEND TO THE SPRINGLINE OF THE PIPE. MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 18".
2. FINAL BACKFILL FOR ALL CONCRETE PIPE INSTALLATIONS WHERE "L" IS 5' OR LESS SHALL BE B-BORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE INDOT AND SHALL BE COMPACTED IN 6" MAXIMUM LIFTS TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 6" OF THE EXCAVATION BELOW THE START OF THE AGGREGATE SUBBASE OF THE PAVEMENT SHALL BE #53 STONE MEETING THE MATERIAL REQUIREMENT OF THE INDOT AND SHALL BE COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY. FINAL BACKFILL FOR ALL CONCRETE PIPE INSTALLATIONS WHERE "L" IS GREATER THAN 5' SHALL BE CLEAN FILL MATERIAL FREE OF ROCKS LARGER THAN 6" IN DIAMETER, FROZEN LUMPS OF SOIL, WOOD, OR OTHER EXTRANEOUS MATERIAL, COMPACTED IN 12" MAXIMUM LIFTS TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF EXCAVATION. THE FINAL 6 INCHES OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
3. THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0", BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2.5 FEET, UNLESS OTHERWISE NOTED ON THE PROFILE.
4. THESE STANDARDS SHALL APPLY FOR ALL REGULATED DRAIN STORM SEWERS UNLESS THE ENTITY HAVING CONTROL OVER THE RIGHT OF WAY HAS A MORE STRINGENT STANDARD, IN WHICH CASE THE HIGHER STANDARD SHALL APPLY.
5. THE MINIMUM COVER FROM THE FINAL GRADE TO THE TOP OF THE PIPE SHALL BE NOT LESS THAN 2 FEET OUTSIDE OF PAVEMENT AREAS, UNLESS OTHERWISE NOTED ON THE PROFILE.

STORM SEWER TRENCH BACKFILL DETAIL

NOT TO SCALE

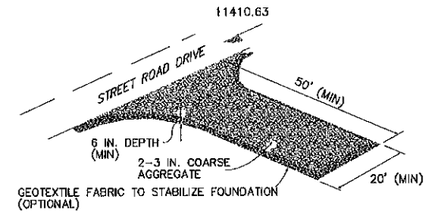


INSTALLATION

1. DIG 6" DEEP TRENCH ALONG PROPOSED FENCE LINE (A TRENCHING MACHINE IS NEEDED ON LONG RUNS.)
2. POUND STAKE IN TRENCH 6" TO 8" OR UNTIL SECURE. BE SURE TO STRETCH FABRIC TAUT WHEN POUNDING STAKES. (NOTE: STAKE MUST BE ON THE DOWNHILL OR DOWNSTREAM SIDE OF THE FENCE.)
3. DRAPE LOOSE END OF GEOTEXTILE INTO TRENCH.
4. BACKFILL AND COMPACT SOIL ON BOTH SIDES.

PERIMETER CONTROL

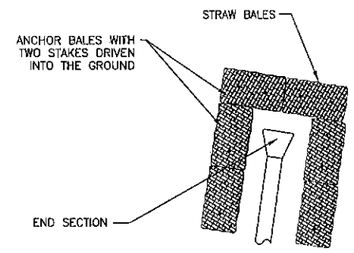
NOT TO SCALE



MATERIAL: 2-3 IN. WASHED STONE (INDOT CA NO. 2) OVER A STABLE FOUNDATION GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OR FOR SOIL WITHIN A HIGH SEASONAL WATER TABLE TO PROVIDE GREATER BEARING STRENGTH.

CONSTRUCTION EXTRANCE/EXIT DETAIL

NOT TO SCALE



STRAW BALE SEDIMENT TRAP

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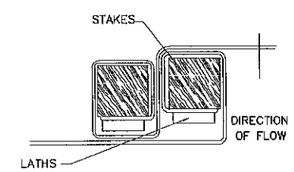

ROLL JUNCTIONS

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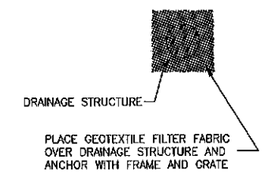

TEMPORARY INLET PROTECTION DETAIL

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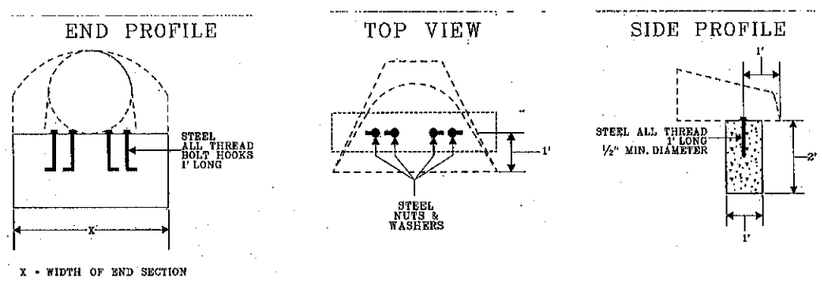


ANCHOR FOR CONCRETE END SECTIONS

NOT TO SCALE

STORM STRUCTURE DATA

STRUCTURE NUMBER	DRAWING NO.	STRUCTURE TYPE	RIM ELEVATION	DOWNSTREAM PIPE LENGTH	EFFLUENT PIPE				INFLUENT PIPE #1			INFLUENT PIPE #2		
					EFFLUENT INVERT	PIPE SIZE	EFFLUENT DIRECTION	DOWNSTREAM INVERT	INFLUENT INVERT	PIPE SIZE	INFLUENT DIRECTION	INFLUENT INVERT	PIPE SIZE	INFLUENT DIRECTION
			ELEV.	LF	ELEV.	INCHES	DIR.	ELEV.	ELEV.	INCHES	DIR.	ELEV.	INCHES	DIR.
1	3	Box Culvert	–	72	822.64	12'x7'	SE	822.25	–	–	–	–	–	–
2	4	4' Sanitary Manhole	831.00	135	826.94	8"	NE	826.40	827.00	8"	NE	–	–	–
3	4	4' Sanitary Manhole	829.50	–	822.98	8"	NE	822.01	826.40	8"	NE	–	–	–
4	5	Concrete Flared End Section	–	68	831.10	24	NE	830.62	–	–	–	–	–	–
5	5	Existing Inlet	833.41	–	NA	–	NE	–	830.62	24	SW	NA	18	W

Clark Dietz
ENGINEERS
8900 KEYSTONE CROSSING
SUITE 900
INDIANAPOLIS, IN 46240
PHONE : 812.471.4802
FAX : 812.471.4826

SAMUEL E. ROBERTSON REGISTERED No. PE10707588 STATE OF INDIANA PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.

DATE

PROJECT TITLE

PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
CHECKED BY: S.E.R.
DATE CHECKED: NOT FOR CONST.

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

DRAWING TITLE

DETAIL SHEET 1

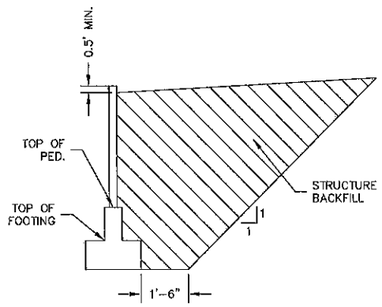
PROJECT No.

H0210021

DRAWING No.

8

SHEET 8 OF 9 SHEETS



SECTION THRU HEADWALL
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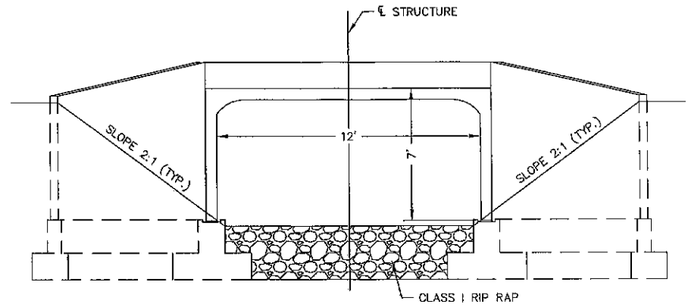
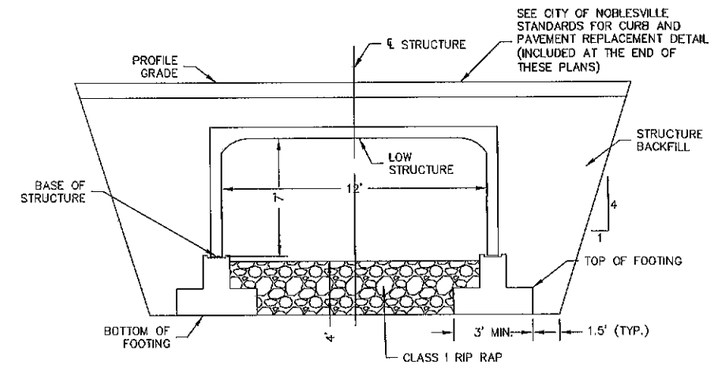


END ELEVATION
NOT TO SCALE



TYPICAL SECTION
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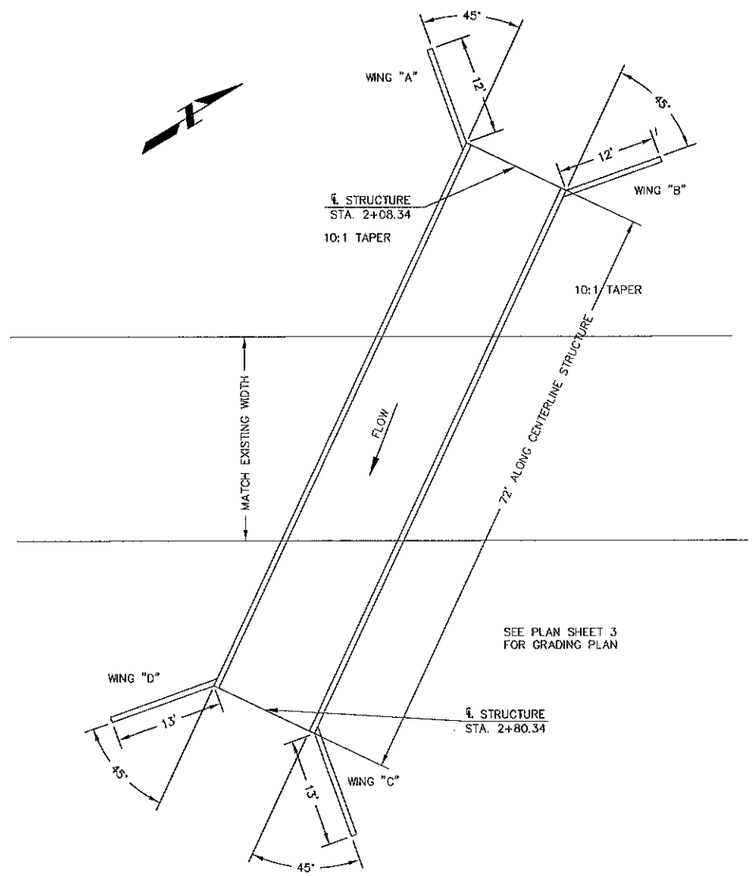

PLAN
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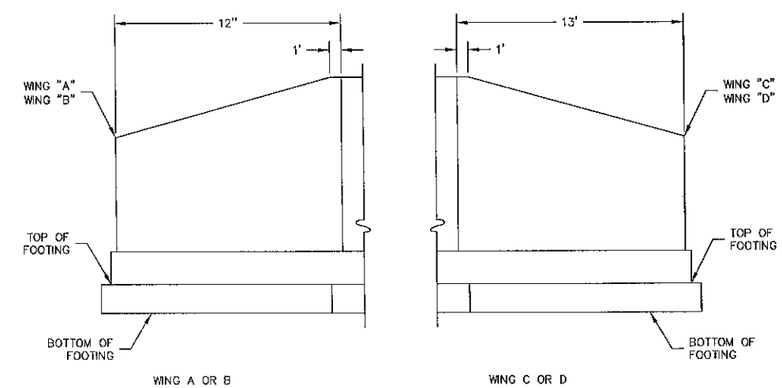
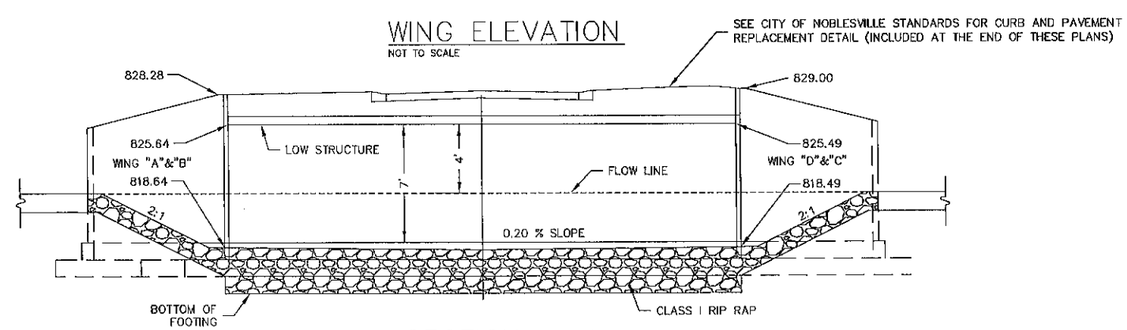


WING ELEVATION
NOT TO SCALE



SECTION A–A
NOT TO SCALE

SOILS PARAMETER FOR DESIGN	
ALLOWABLE BEARING PRESSURE (PSF)	4,000
UNIT WEIGHT (PCF)	120

NOTE: MANUFACTURER OF THE THREE-SIDED BOX CULVERT SHALL SUBMIT DETAILED DESIGN TO ENGINEER.

THREE–SIDED BOX CULVERT DETAILS

Clark Dietz ENGINEERS
8900 KEYSTONE CROSSING
SUITE 900
INDIANAPOLIS, IN 46240
PHONE : 812.471.4802
FAX : 812.471.4826

SAMUEL E. ROBERTSON REGISTERED No. PE10707588 STATE OF INDIANA PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.
DATE

PROJECT TITLE
PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE I

DESIGNED BY: S.E.R.
DRAWN BY: S.J.W.
CHECKED BY: S.E.R.
DATE CHECKED: NOT FOR CONST.

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE	REVISION

DRAWING TITLE
DETAIL SHEET 2

PROJECT No.
H0210021

DRAWING No.
9

SHEET 9 OF 9 SHEETS

NOBLESVILLE, INDIANA

NOBLESVILLE STANDARDS

FOR PEBBLEBROOK DRAINAGE IMPROVMENETS - PHASE I

NOBLESVILLE COMMON COUNCIL

BRIAN AYER — MEMBER

TERRY BUSBY — MEMBER

ALAN HINDS — MEMBER

LAURIE JACKSON — MEMBER

MARY SUE ROWLAND — MEMBER

DALE SNELLING — MEMBER

KATHIE STRETCH — MEMBER

TABLE OF CONTENTS

Sheet	Description
1.	Directions For Use and General Note
2.	Right-Of-Way & Utility Easement Guidelines
3.	Pavement, Curb & Sidewalk Details and Notes
4.	Storm Sewer Bedding Details and Notes
~~5.~~	~~Storm Sewer Details and Notes~~
6.	Sanitary Sewer Bedding Details and Notes
7.	Sanitary Sewer Details and Notes
~~8.~~	~~Miscellaneous Detail and Notes I~~
~~9.~~	~~Miscellaneous Detail and Notes II~~
~~10.~~	~~Miscellaneous Details and Notes III~~
~~11.~~	~~Street Cut Details~~
~~12.~~	~~Street Lighting & Traffic Signal Standards, Details, and Notes~~
~~13.~~	~~Landscape Planting And Seeding Details And General Notes~~
~~14.~~	~~Thoroughfare Roundabout Single Lane~~
~~15.~~	~~Local Roundabout~~
~~16.~~	~~Roundabout Details and Notes~~

Designer Note:
1. Pages 5, 8, 9, 10, 11, 12, 13, 14, 15, and 16 are not used and are omitted from this set of Noblesville Standard Drawings. If any additional Noblesville Standard drawings are needed please see the City of Noblesville website.
2. Details on remaining pages that are not used have a X drawn through them.

DIRECTIONS FOR USE

1. *The Entire Set Of Signed, Full Size Standards Shall Be Attached To The Construction Drawings And Shall Be Considered Part Thereto. Partial Set May Be Used For Small Projects When Approved By The City Of Noblesville Planning Director And/Or City Engineer.*
2. *Details Prepared By Outside Sources Shall Not Be Included In The Construction Drawings When Said Details Cover Work Which Is Contained In The Noblesville Standards.*
3. *Individual Noblesville Standards That Do Not Apply Shall Be Crossed-Out By Design Engineer Through The Placement Of A Single Large X Over Detail. Minor Reference Notation May Be Placed Adjacent To Individual Standard Titles For Coordination. However, The Standards Themselves Shall Not Be Modified In Any Way.*
4. *Details Prepared By Outside Sources Covering Work Which Is Not Covered By Noblesville Standards Are The Sole Responsibility Of The Design Engineer And Shall Be Placed On Sheets Other Than The Noblesville Standards Sheets.*
5. *For Details, Specifications, And Design Guidelines Not Covered In These Standards, Refer To The Documents Stated Below. In The Event That These Standards Are Used, Referenced, Or Incorporated Into Any Publicly Or Privately Funded Project And A Conflicting Standard(s) And/Or Specification(s) Exist, The Following Order Shall Govern:*
   - *5.1. Noblesville Standards*
   - *5.2. Unified Development Ordinance*
   - *5.3. Noblesville Stormwater Technical Standards*
   - *5.4. INDOT Standards and Specifications / Indiana Manual on Uniform Traffic Control Devices / INDOT Work Zone Safety Manual*
   - *5.5. "Ten State Standards" Prepared By Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers and Sanitary Engineers*
   - *5.6. ASTM and/or AWWA Standards and Specifications*
   - *5.7. Project's Written Specifications*
   - *5.8. Project's Plans*
6. *Design Professional Certifying The Plans For The Project Acknowledges Their Professional Responsibility For Ensuring That All Work Is Correct, Accurate, And Complies With All Appropriate Laws, Standards, Regulations, And Ordinances. If Such An Error And/or Omission Is Found, The Design Professional Accepts Full Responsibility And Shall Determine A Solution That Complies With All Appropriate Laws, Standards, Regulations, And Ordinances. If Such An Error Or Omission Is Found, The Developer Is Not Relieved To Comply With All Appropriate Laws, Standards, Regulations, And Ordinances.*
7. *All Requests For Interpretations And/Or Clarification With The Standards Shall Be Done In Writing To The City Engineer. All Official Responses By The City Engineer Will Be Done In Writing.*

GENERAL NOTES

1. *Contractor Shall Verify The Exact Location Of All Existing Utilities At Least 48 Hours Prior To Any Construction Or Excavation. During Construction, All Utilities Shall Be Adequately Supported To Minimize Damage. The Contractor Shall Be Responsible For Repairing Or Replacing Damaged Utilities To The Satisfaction Of The Noblesville Department of Engineering And The Owner Of The Affected Utility.*
2. *At The Preconstruction Conference, All Construction Drawings Shall Be Submitted To The Noblesville Department Of Engineering In Paper And Electronic Format. Acceptable Forms Of Electronic Format Include: AutoCAD 2004, Or Most Current Format. In Addition, A Full Size PDF Version Shall Be Submitted. All Coordinate Data Shall Be Compliant With The State Plane Coordinate System With Units Provided In U.S. Survey Feet. All Benchmarks And Elevations Shall Be From The NAD 1983 (Conus) Datum. Electronic Submittal Shall Include Plot Files. Reference "Digital Record Drawing Submittal Requirements" From The Noblesville Wastewater Utility Department For Additional Guidelines For Electronic Submittals.*
3. *Wherever Proprietary Equipment Is Specified, All Proposals For Substitution Shall Be Submitted In Writing To The Noblesville Department Of Engineering And Shall Be Subject To The Findings Thereto.*
4. *Plan And Profile Drawings And Individual Details Prepared By Outside Sources Shall Be Provided For Review By The Technical Advisory Committee (T.A.C.). Any Project With Public Works Infrastructure Improvements Shall Commence With Construction No Later Than 6 Months From T.A.C. Approval, Or Shall Be Subject To A Subsequent T.A.C. Approval.*
5. *As-Built Record Drawings, Prepared By Outside Sources, Shall Be Accompanied With A Detailed Inventory Of All Fixed Assets. Two Full Sets Of As-Built Drawings On Mylar Shall Be Submitted To The Noblesville Department Of Engineering. A Certified Letter Or Attestment Shall Accompany The Drawings. The Letter Of Attestment Shall Be Certified By A Registered Land Surveyor. As-Builts Are Required For Sanitary Sewer System, Storm Sewer System, Roadways, Trails, Sidewalks, Final Grading, Conduits, Lights, Signs, And All Other Infrastructure Within Public Rights-Of-Ways And/Or Easements.*
6. *Electronic Drawings Submittal For Both Construction Drawings And As-Builts Shall Comply With Guidelines Set By City's GIS Coordinator. Electronic Construction Drawing Submittal Shall Be Submitted And Approved After T.A.C. Approval At Pre-Construction Conference. As-Built Drawing Submittal Shall Be Submitted And Approved After Infrastructure Has Been Inspected And Approved.*
7. *The Contractor Is Responsible For Maintaining A Safe Construction Site And For Keeping Surrounding Streets Neat And Clean. The Contractor Shall Provide All Traffic Control, In Accordance With Most Recent Version Of INDOT Workzone Safety Manual, Required On Public Ways Near The Project*

BOARD OF PUBLIC WORKS AND SAFETY

JOHN DITSLEAR — MAYOR

LAWRENCE J. STORK — MEMBER

JACK E. MARTIN — MEMBER

NOBLESVILLE CITY ATTORNEY

MICHAEL A. HOWARD — CITY ATTORNEY

NOBLESVILLE PLANNING COMMISSION

GRETCHEN HANES — PRESIDENT

1-800-382-5544 or 811
HOLEY MOLEY SAYS CALL

AT LEAST TWO FULL WORKING DAYS BEFORE YOU DIG

REVISIONS		
Rev. No.	Description	Date
1	Revision of Sheet Nos. 2, 3, 5, 8, and 10	11/01/02
2	Add Table of Contents; Directions - Notes 3, 5; General Notes 2, 5, 6, 7	12/1/05
3	Directions For Use Notes 5, 6, 7; Sheets No 1-12, 14-16	11/1/2007

JOHN M. BEERY REGISTERED No. PE19600331 STATE OF INDIANA

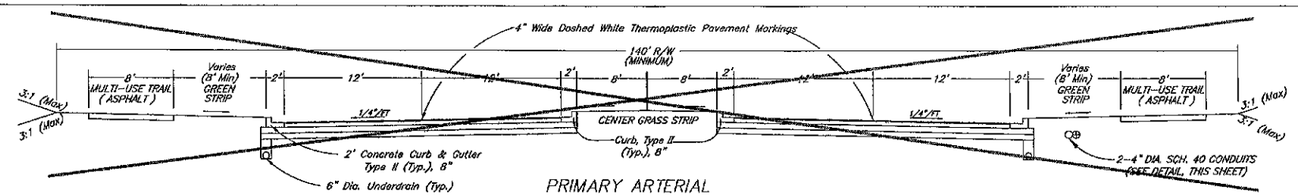
CITY OF NOBLESVILLE INCORPORATED MAY 1 1873 SEAL INDIANA

CITY OF NOBLESVILLE

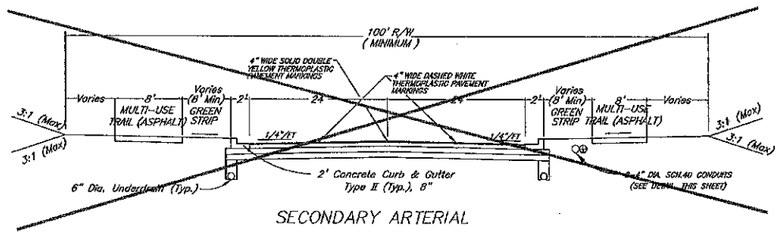
Directions For Use, & General Notes

SHEET 1 OF 16

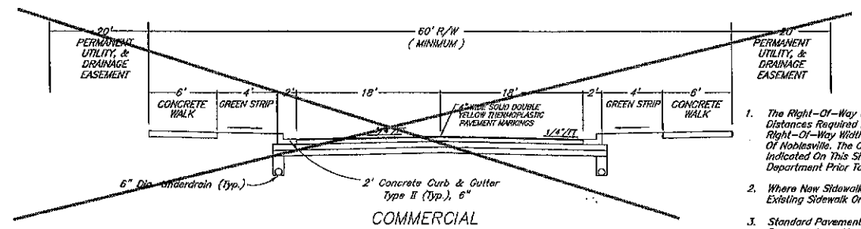
11/01/2007 1:50:34 S:\Engineer\Construction Standards\2007-11\Working\Sheet01.dwg



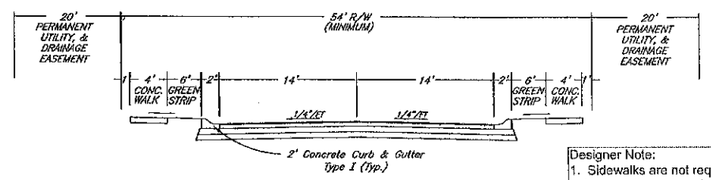
PRIMARY ARTERIAL



SECONDARY ARTERIAL

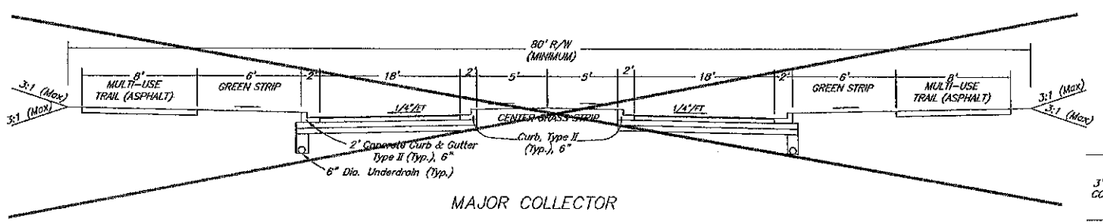


COMMERCIAL

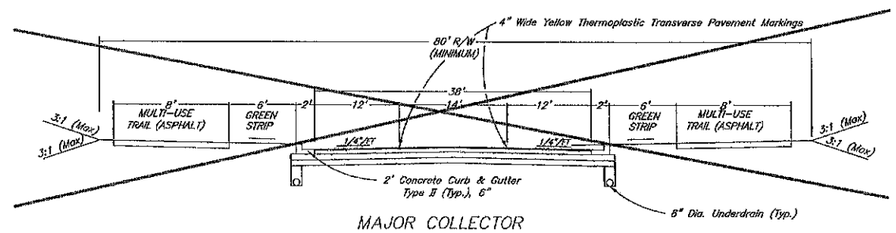


LOCAL RESIDENTIAL STREETS

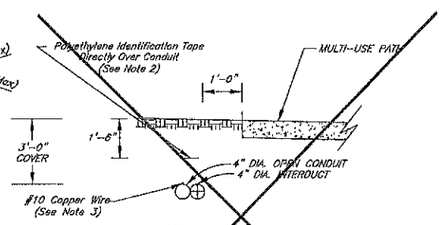
Designer Note:
1. Sidewalks are not required for this project unless existing sidewalks are damaged.



MAJOR COLLECTOR



MAJOR COLLECTOR ALTERNATE A



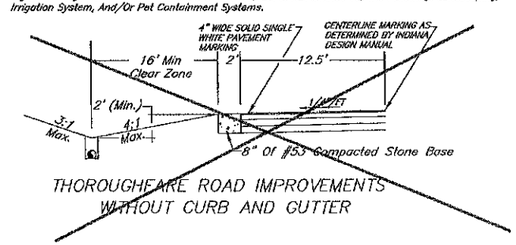
CONDUIT DETAIL

NOTES:

1. 4" Dia. Interduct Conduit Shall Be PVC Schedule 40. The Interior Of Each Interduct Shall Be Specifically Delineated With A Contrasting Colors.
2. The Polyethylene Identification Tape Shall Be Metallic And Have A Minimum Thickness Of 4 Mils. The Tape Shall Read "Caution Buried Fiber Optic". Tape Shall Be Placed Directly Over Pipe, 18" Below Final Grade.
3. 10 Gauge Insulated, Solid Copper Wire Shall Be Attached Directly To The Outside Of The Open Conduit Every 10 Feet.
4. Handholes Shall Be Placed At Location Designated By City Engineer, But No Greater Than 400 Feet Apart.
5. Developer Shall Submit Shop Drawings Of Interduct And Handhole, For Review And Approval.

GENERAL NOTES

1. The Right-Of-Way Widths, Pavement Widths And Easement Widths Indicated On This Sheet Are Minimum Distances Required By The City Of Noblesville. Greater Widths May Be Provided Or Required. Additional Right-Of-Way Width Will Be Required In Proximity Of All Intersections With Thoroughfare Roads, Per City Of Noblesville. The Contractor Shall Review The Plot And The Plans To Confirm The Various Widths Indicated On This Sheet And Shall Report Any Discrepancy To The City Engineer And Noblesville Planning Department Prior To Proceeding With Construction.
2. Where New Sidewalk Connects To Existing Sidewalk, The Width Of New Sidewalk Shall Match Width Of Existing Sidewalk Or Be A Minimum Of 4 Feet, Whichever Is Greater.
3. Standard Pavement Markings Shall Be Placed In Streets/Roads As Shown, In Accordance With The Most Recent Indiana Manual On Uniform Traffic Control Devices. For Asphalt Pavements, All Pavement Markings Shall Be Thermoplastic. For Concrete Pavements, All Pavement Markings Shall Be Epoxy.
4. Snowplowable Raised Pavement Markers (RPMs) Shall Be Placed On All Thoroughfare Roads, In Accordance With The Most Recent Indiana Manual On Uniform Traffic Control Devices. Blue RPMs Shall Be Used When Adjacent To A Fire Hydrant. Contract Fire Marshall And City Engineer For Placement Location Of Blue RPMs On Roadways With More Than Two-Lanes.
5. Type II Curb Heads Are To Terminate With 12:1 Slope.
6. Acceleration/Deceleration Lanes And Passing Blisters Shall Be Constructed For All New Development Entrances, Which Connect To A Primary Arterial, Secondary Arterial, Major Collector, Or INDOT Right-Of-Way. See Subdivision Entrance From A Thoroughfare Detail, Standards Sheet 8.
7. For Any Development, Which Directly Adjoins A Primary Arterial, Secondary Arterial, Or Major Collector, As Depicted On the Noblesville Thoroughfare Plan, The Developer Shall Conduct The Following For Said Roadway(s).
   - 7.1. Hire An Independent Testing Laboratory To Collect Pavement Core Samples Every 400 Feet, But No Less Than Two Samples Per Roadway. A Written Summary, Which Illustrates The Aggregate Subbase Thickness And Pavement Thickness, Shall Be Submitted To The Noblesville Department Of Engineering.
   - 7.2. Developer Shall Repair All Pavement Failures, As Determined By The Noblesville Department Of Engineering.
   - 7.3. Developer Shall Widen Adjacent Travel Lane And Shoulder, As Shown Below.
   - 7.4. Developer Shall Widen Existing Culverts And Bridge Structures Within The Limits Of The Development.
   - 7.5. Following The Successful Completion Of Widening The Adjacent Travel Lane(s), The Entire Roadway Shall Receive An 1" Overlay Of HMA Surface. The Thickness of The Overlay Shall Be Increased As Required to Produce A Minimum Total Pavement Thickness Of 6". Maximum Depth Of HMA Surface Shall Not Exceed 1.5"; Additional HMA Material Shall Be HMA Intermediate.
   - 7.6. Developer Shall Only Be Responsible For Improving Existing Thoroughfare Roadways, Between The Limits Of The Development.
   - 7.7. Roadway Drainage Improvements Shall Be Included With The Pavement Widening, Such As Regrading Of Drainage Swales And/Or Installation Of Roadway Pipe Culverts. See Detail
8. Material Tickets Shall Be Provided To The Noblesville Department of Engineering Within Seven (7) Calendar Days Of Placing Materials. All Concrete, Asphalt, And Aggregate Materials Must Be Produced And/Or Supplied From An INDOT Approved Source And Meet INDOT Specifications.
9. City Is Not Responsible For Maintaining, Repairing, Or Replacing Non-Public Infrastructure Within Right-Of-Way. Non-Public Infrastructure Includes, But Is Not Limited To, The Following: Landscaping, Irrigation System, And/Or Pet Containment Systems.



THOROUGHFARE ROAD IMPROVEMENTS WITHOUT CURB AND GUTTER

REVISIONS		
Rev. No.	Description	Date
1	R/W Widths: Thoroughfare Roads; Thoroughfare Road Improvements; Markings	11/01/02
2	Trail on Thoroughfares: Road Improv. Detail: Gen Notes 1, 4, 5, 6, 8	12/1/06
3	Center Median Curb Type/Height; Remove Underdrain, Local Section; Gen Note 6	11/1/07

JOHN M. BEERY REGISTERED No. PE19500331 STATE OF INDIANA PROFESSIONAL ENGINEER

CITY OF NOBLESVILLE INCORPORATED MAY 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Right-of-Way & Utility Easement Guidelines

SHEET 2 OF 16

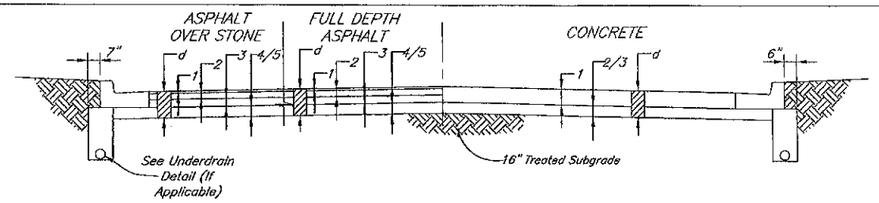
Surveyor: Engineering Consultants, Inc. 11/20/2007 3:08:25 PM

PAVEMENT CONSTRUCTION

1. Specifications For Asphalt Paving Operations, Placement Methods, And Weather Limitations Shall Conform To The Most Current INDOT Specifications Section 402.
2. Specifications For Portland Cement Concrete Pavement (PCCP) Paving Operations, Placement Methods, And Weather Limitations Shall Conform To The Most Current INDOT Specifications Section 502
3. Subbase And Subgrade Shall Be Placed To At Least 100 Percent Of Maximum Dry Density, In Accordance With AASHTO T99. Compaction Tests Shall Be At The Contractor's Expense And Shall Be Performed By An Independent Testing Laboratory. Test Results Shall Be Submitted To The Noblesville Department Of Engineering For Consideration Of Acceptance Of Maintenance Surety. One In-Place Density Test Shall Be Completed For Each Lift For Every 400 Linear Feet Per Traffic Lane. Coarse Aggregate Shall Not Be Placed On Frozen Subbase Or Subgrade.
4. For New Pavement Construction, The Contractor Shall Use Lime Modification To Aid Compaction Efforts Of The Subgrade Soil. Where Soil Conditions Are Predominantly Sand Or Gravel, Contractor May Use Soil-Cement Modification, Upon Written Approval Of The City Engineer. Lime Modification Shall Be In Accordance With The 2006 INDOT Standards And Specifications, Section 913.04(b). Hydrated Lime Shall Be Used To Modify The Soil To A Depth Of 16 Inches. Lime Modification Shall Be Performed Only With A Minimum Soil Temperature, Measured 4 Inches Below The Subgrade, Of 45°F, And With the Air Temperature Rising. Hydrated Lime Shall Not Be Mixed With Frozen Soils Or With Soil Containing Frost. Following Soil Modification, Compaction Of The Lime Modified Mixture Shall Provide A Density Not Less Than 100% Of The Maximum Dry Density Within The Special Subgrade Treatment Zone Or 95% Of The Maximum Dry Density Below The Special Subgrade Treatment Zone. Maximum Dry Densities Shall Be Determined In Accordance With AASHTO T99. The Mix Design Shall Be Determined In Accordance With INDOT Laboratory Proposed Design Procedure. The Mix Design And Construction Procedure Shall Be Submitted To The Noblesville Department Of Engineering For Approval. Following The Completion Of The Soil Modification Efforts, The Noblesville Department Of Engineering Shall Conduct A Subgrade Evaluation.
5. Wherever Rigid Pavement Is To Be Used, The Contractor Shall Submit A Detailed Paving Plan To The Noblesville Department Of Engineering. The Paving Plan Shall Illustrate The Location And Type Of Jointing To Be Used In The Construction. The Location And Type Of Jointing Shall Meet The Requirements Of The Most Recent INDOT Standard Details.
6. The Primary And Secondary Arterial Pavement Section Thickness Shown Are Minimum Requirements. California Bearing Ratio (CBR) Tests Shall Be Performed To Verify Pavement Thickness Designs. CBR Tests Shall Be Submitted To The Noblesville Department Of Engineering As Part Of The T.A.C. Submittal.
7. Concrete Curbs And Sidewalks Shall Be Constructed In Accordance With INDOT Specifications, Sections 604 And 605. Control Joints Shall Be Spaced 10 Feet Apart. Saw Cuts Or Tooled Joints Shall Be Uniform, Vertical And Neat.
8. For Cold-Weather Concrete Placement, Contractor Shall Comply With Provisions Of ACI 306R For Protection From Physical Damage Or Reduced Strength, For Hot Weather Concrete Placement, Contractor Shall Comply with Provisions Of ACI 305R For Protection From Physical Damage Or Reduced Strength, As Associated With Rapid Moisture Loss.
9. The Roadway Pavement Cross Section Shall Be Completed Within 60 Calendar Days From The Start Of The Subgrade Treatment. The Surface Asphalt Course May Be Placed More Than 60 Calendar Days After Subgrade Treatment, But Shall Be Placed Within One Calendar Year Of Placement of Asphalt Intermediate Course.
10. Proof Roll Tests Shall Be Passed Prior To Placement Of Underdrains And First Lift Of Roadway Base Material. Proof Roll Tests Shall Not Be Conducted On Frozen Subgrade And The Temperature For The Previous 72 Hours Prior To The Proof Roll Test Shall Be Above 32° F. Subgrade Shall Be Free From Excess Moisture.
11. Areas In Which Failures Occur During Proof Roll Test Are To Be Marked In The Field By The Engineering Department. Failures Shall Be Corrected And Retested Until Passing Inspection.
12. Roadways Which Have Exposed Milled Areas Shall Place And Compact Temporary Asphalt Pavement, Cold Mix Or Hot Mix, At The Milled Joints To Smooth The Transition Between The Milled Surface And Unmilled Surface. Milling Operations And Milled Pavement Areas Are Considered Construction Zones And Shall Be Marked Accordingly. Milled Surfaces Shall Be Covered Within 14 Calendar Days Of Start Of Pavement Milling Operations.

SIDEWALK CURB RAMP CONSTRUCTION

1. All Sidewalk Curb Ramps Shall Meet The Requirements Of The Americans With Disabilities Act And The Most Recent INDOT Standard Specifications. Curb Swipes Required For Curb Ramps Shall Be Provided At Time Of Initial Construction.
2. Minimum Width Of Curb Ramp Shall Match Sidewalk Widths, Not Including Flares. Maximum Slope Of Ramps Shall Be 12:1.
3. Curb Ramps Are To Be Located As Shown On The Plans Or As Directed By The Noblesville Department Of Engineering.
4. Type C Ramps Shall Be Provided At Every Public Roadway Intersection, Including Alleys. Type C Ramps Also Shall Be Provided At Walk Locations At Mid-Block In Vicinity Of Hospitals, Medical Centers, Or Athletic Stadiums. Bi-Directional Ramps Are Not Permitted, Unless Existing Conditions Warrant Their Use. The Use Of Details Contrary To Those Shown Hereon Shall Require The Prior Written Approval Of The Noblesville Department Of Engineering.
5. Ramps Shall Direct Pedestrians Perpendicularly Across Roadway To Another Ramp.
6. Surface Texture Of The Ramp Shall Be Obtained By A Coarse Brooming Transverse To The Slope Of The Ramp.
7. Ramps Shall Be Provided Where The Driveway Curb Extends Across The Sidewalk.
8. Care Shall Be Taken To Assure A Uniform Grade On All Ramps With No Breaks In Grade.
9. The Normal Gutter Line Profile Shall Be Maintained Through The Area Of The Ramp.
10. Drainage Structures Shall Not Be Placed In Line With Ramps. Location Of The Ramps Shall Take Precedence Over Location Of Drainage Structures.
11. Expansion Joint For The Ramp Shall Be A Maximum ½" Wide. The Top Of The Joint Filler For All Ramp Types Shall Be Flush With Adjacent Concrete.
12. Thermoplastic Crosswalk And Stop Line Marking Shall Be Installed When Directed By Either Planning Director, City Engineer, Or Street Commissioner.
13. Sidewalk Ramps Are Not To Be Constructed Within Or Part Of A Driveway.



LOCAL RESIDENTIAL

d= 12.5"
1. 1" HMA Surface, Type A, 9.5mm ON
2. 3" HMA Intermediate, Type A, 19.0 mm ON
3. 2.5" HMA Base, Type A, 25.0 mm ON
4. 6" Compacted Aggregate, #53 ON
5. 16" Stabilized Subgrade

d= 10.5"
1. 1" HMA Surface, Type A, 9.5mm ON
2. 3" HMA Intermediate, Type A, 19.0 mm ON
3. 2.5" HMA Base, Type A, 25.0 mm ON
4. 4" HMA Base, Type A, 25.0 mm ON
5. 16" Stabilized Subgrade

d= 12"
1. 6" PCCP ON
2. 6" Compacted Aggregate, #53 ON
3. 16" Stabilized Subgrade

COLLECTOR

d= 16"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0 mm (OG) ON
5. 6" Compacted Aggregate, #53 ON
6. 16" Stabilized Subgrade

d= 13"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0 mm (OG) ON
5. 3" HMA Base, Type B, 25.0 mm ON
6. 16" Stabilized Subgrade

d= 18"
1. 9" PCCP ON
2. 3" Compacted Aggregate, #8 ON
3. 6" Compacted Aggregate, #53 ON
4. 16" Stabilized Subgrade

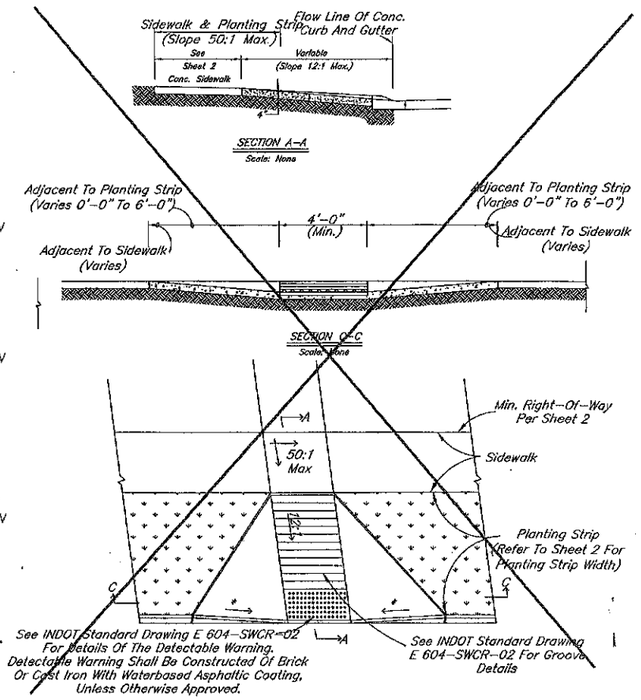
ARTERIAL / COMMERCIAL

d= 19"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0 mm (OG) ON
5. 3" HMA Base, Type B, 25.0 mm ON
6. 6" Compacted Aggregate, #53 ON
7. 16" Stabilized Subgrade

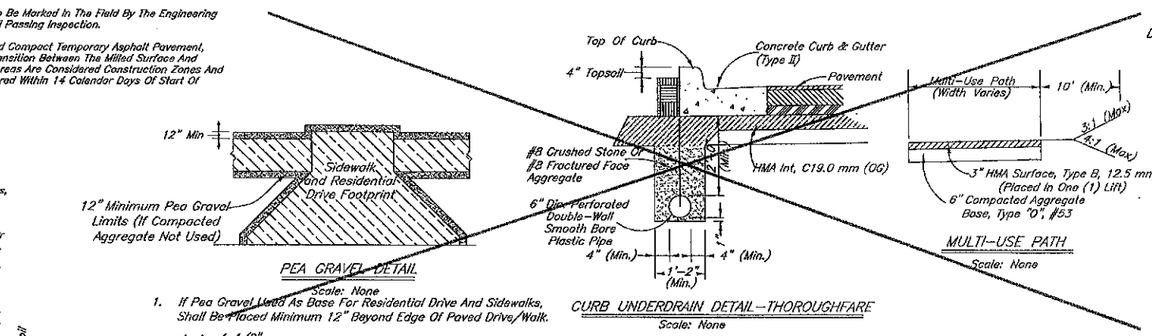
d= 16"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0mm (OG) ON
5. 6" HMA Base, Type B, 25.0 mm ON
6. 16" Stabilized Subgrade

d= 19"
1. 10" PCCP ON
2. 3" Compacted Aggregate, #8 ON
3. 6" Compacted Aggregate, #53 ON
4. 16" Stabilized Subgrade

PAVEMENT CONSTRUCTION
Scale: None



CURB RAMP, TYPE C
Scale: None



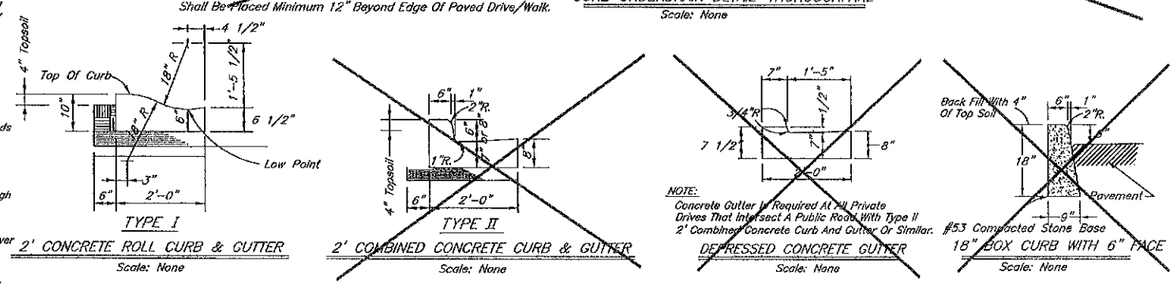
PEA GRAVEL DETAIL
Scale: None
1. If Pea Gravel Used As Base For Residential Drive And Sidewalks, Shall Be Placed Minimum 12" Beyond Edge Of Paved Drive/Walk.

CURB UNDERDRAIN DETAIL-THOROUGHFARE
Scale: None

MULTI-USE PATH
Scale: None

SIDEWALK RAMP CONSTRUCTION

1. Refer To INDOT Standard Drawings For Alternate Sidewalk Ramp Configurations And Construction Details.
2. Wing Slope To Be 2:1 If Entirely Adjacent To Greenspace, 12:1 If Adjacent To Sidewalk.



2' CONCRETE ROLL CURB & GUTTER
Scale: None

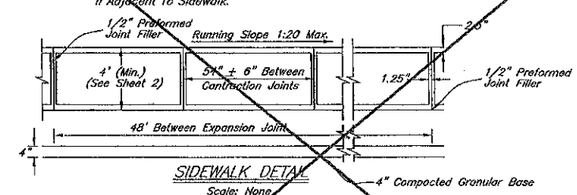
2' COMBINED CONCRETE CURB & GUTTER
Scale: None

NOTE:
Concrete Gutter Is Required At All Private Drives That Intersect A Public Road With Type II 2' Combined Concrete Curb And Gutter Or Similar.

DEPRESSED CONCRETE GUTTER
Scale: None

#53 Compacted Stone Base

18" BOX CURB WITH 6" FACE
Scale: None



SIDEWALK DETAIL
Scale: None

1. Care Shall Be Taken To Assure A Uniform Grade On All Ramps With No Grade Breaks.
2. 1/2" Preformed Joint Filler Shall Be Incorporated When Abutting Concrete Curbs, Structures, Other Walls, Other Fixed Objects, And A Spacing Of 48 Feet Of Walk.
3. Surface Texture Shall Be That Obtained By A Coarse Brooming, With A 2.5" Wide Smooth Trowel Finish For The Perimeter Of Each Sidewalk Panel. At Construction Joints, The Abutting Smooth Trowel Finish Shall Be 1.25" Wide.
4. Distance Between Contraction Joints Shall Be Consistent Between Driveways.
5. All Concrete Sidewalks Shall Be 4" Thick, Except At Residential Drive Crossings Where The Minimum Thickness Shall Be 6". At Commercial Drives, The Concrete Sidewalk Thickness Shall Be 8".
6. All Concrete Shall Be Air Entrained (5%±1%) - 6 Bags Per Cubic Yard, Minimum 4000psi Compressive Strength.
7. A Minimum Of 4" Thick Compacted Granular Base Or 4" Pea Gravel Bed Extended Minimum Of 12" Beyond Edge Of Paved Sidewalk To Account For Spreading Shall Be Placed Prior To The Construction Of The Sidewalk.
8. Sidewalk Longitudinal Grade Shall Be Within ±1% Of The Adjacent Roadway's Longitudinal Grade Except At Curb Ramps.
9. Sidewalks And Trails Shall Have A Minimum Of 10 Feet To Both Sides Of The Sidewalk/Trail To A Side Slope No Greater Than 4:1 For Down Hill Grades And 3:1 On Up Hill Grades.

REVISIONS

Rev. No.	Description	Date
1	Pavement X-Sections & Type II Curbs; Pavement Construction Note #1	11/01/02
2	Pvmt Con Note 1, 2, 9, 10-12; Ramp Notes 4, 5, 12, 14; Pvmt X-Sec Material - Collector, Arterial	12/1/05
	Curb Underdrain Detail; Top Soil Depth; Curb Face Height; Ramp Detail; Sidewalk Note 7	
3	Pvmt X-Sections; Underdrain Detail; Ramp Detail; Add Path & Pea Gravel Detail;	11/1/2007
	Gen Note 9, Sidewalk Detail & Note 7, 8, 9	

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CITY OF NOBLESVILLE INCORPORATED MAY 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Pavement, Curb & Sidewalk Details And Notes

SHEET 3 OF 16

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Designer Note:
1. Storm Sewer Pipe and minimum depth is specified on the plan and profile drawings.

STORM SEWER REINFORCED CONCRETE PIPE

1. ~~Reinforced Concrete Pipe Shall Be Class III, IV, Or V As Specified In ASTM C-76:~~

~~DEPTH OF FILL OVER PIPE~~	~~CLASS~~
~~Between 2 Feet And 10 Feet~~	~~III~~
~~Between 10 Feet And 16 Feet~~	~~IV~~
~~15 Feet Or Greater~~	~~V~~

2. ~~Reinforced Elliptical Concrete Pipe Shall Be Class HE-III Or HE-IV As Specified In ASTM C-507:~~

~~DEPTH OF FILL OVER PIPE~~	~~CLASS~~
~~3 Feet Or Less~~	~~HE-IV~~
~~Between 3 Feet And 8 Feet~~	~~HE-III~~

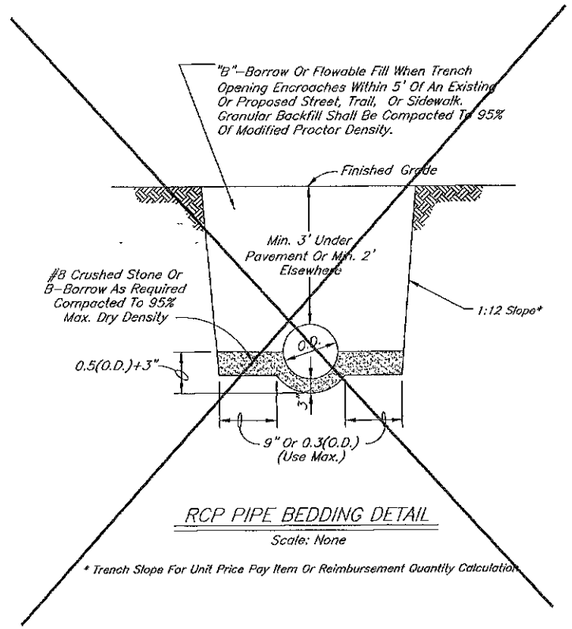
3. Lift Holes Are Not Allowed For Pipe Less Than 24 Inches In Diameter. A Maximum Of Two Lift Holes Are Allowed For Pipe 24 Inches In Diameter Or Larger; Lift Holes Shall Be Repaired In Accordance With The Most Recent INDOT Standard Specifications.
4. Fittings And Specifications Shall Be In Accordance With The Specifications For The Type Of Pipe Being Used.
5. The Outside Of Each Pipe Section Shall Be Legibly Marked With The Date Of Manufacture, Class Of Pipe, Specification Designation, Name Or Trademark Of Manufacturer And Identification Of Plant/Location. The Interior Of The Pipe Shall Also Be Marked With Same Information As The Exterior Of The Pipe In A Location That Can Be Seen During The Closed Circuit Television (CCTV) Inspection.
6. Pipe Shall Be Furnished With A Bell Or Groove On One End Of A Unit Of Pipe And A Spigot Or Tongue On The Adjacent End Of The Adjoining Pipe. All Joints Shall Have A Groove On The Spigot For Placement Of A Rubber "O"-Ring Or Profile Gasket In Accordance With ASTM C-443. The Gasket Shall Be A Continuous Ring Which Fits Snugly Into The Annular Space Between The Overlapping Surfaces Of The Assembled Pipe Joint.
7. Pipe Size And Classification Shall Be Called Out In Plan And Profile Of Construction Drawings.
8. All Culverts Or Ends Of Storm Pipe That Do Not Connect Directly To A Structure Shall Require Flared End Sections With PreCast Toe Walls And Rip-Rap. Specifications And Bedding Of Toe-Walls And Rip-Rap Requirements Shall Be Determined By The Design Engineer Based On The Velocity Of Discharge And Soil Type. Headwalls Shall Also Be Considered If The Previously Stated Items Are Note Sufficient.
9. Storm Sewer Pipe Shall Have A Minimum Horizontal Separation Of 10 Feet From Sanitary Sewer Pipe Or Water Main Pipe. All Pipe Crossings Shall Be At Angles Greater Than 45° With A Minimum Vertical Separation Of 1.5 Feet. Dimensions Are Measured From The Outside Of Pipe To Outside Of Pipe.

STORM SEWER PIPE TELEVISING AND AS-BUILT DRAWINGS

1. Closed Circuit Television Inspection Shall Be Performed On All Pipe Installed Within The City Of Noblesville For The Purposes Of Conveying Storm Water.
2. The Contractor Installing The Storm Sewer Pipe Shall Employ/Hire The Contractor Responsible For The Television Inspection Services. The Developer Shall Contact The Noblesville Department Of Engineering To Schedule The Closed-Circuit Television Inspection, Immediately Following The Thorough Cleaning Of All Segments.
3. If Any Pipe And/Or Joint Is Found To Be Faulty, The Contractor Shall Repair That Portion Of The Work To The Satisfaction And Approval Of The Noblesville Department Of Engineering.
4. Contractor Shall Bear All Costs Of Line Segment Cleaning, Debris Removal & Disposal, And, Through Subsequent Invoicing From The Noblesville Department Of Engineering, The Closed-Circuit Television Inspection.
5. Two Sets Of As-Built Mylar Drawings Shall Be Submitted To The Department Of Engineering. Electronic As-Built Drawings Submittal Shall Be Submitted And Comply City's GIS Coordinator's Guidelines. Contractor Shall Submit As-Built Drawings Within 30 Days Of Successful Completion of All Testing Requirements.
6. Contractor Shall Supply Digital Video Of Video Inspection To Department Of Engineering On 700 mB Compact Disks In The Following Format:
   - 6.1. Minimum 640 X 480 Pixel Dimension
   - 6.2. Minimum 24 fps (Frames Per Second)
   - 6.3. Indexed Chapters To Allow Instant Access To Points Of Observation
   - 6.4. Cross-Platform Compatible To Allow For Viewing On Any Operating System

STORM SEWER GENERAL NOTES

1. Storm Sewer Pipe, For In Public Right-of-Way And/Or Public Easements, Of Other Material Or Material Not Meeting These Specifications Shall Require The Prior Written Approval Of the Noblesville Department Of Engineering.
2. Upon Request, The Contractor Shall Submit Information To The Noblesville Department Of Engineering Illustrating Conformance With These Specifications.
3. The Smallest Permissible Storm Sewer Pipe Diameter Is 12 Inches.
4. Stormwater Technical Standards Manual Shall Be Referenced For Stormwater Design.
5. Prior To Earthwork, Pipe Construction, Or Other Activity That May Affect Or Alter Stormwater Runoff, The Downstream Receiving End Of Stormwater Shall Be Secured And Stabilized To Accommodate All Upstream Runoff, Including Offsite. This Includes, But Not Limited To Downstream Ditch Improvements, Culvert Improvements, Or Constructing Positive Outlet For Retention Facility.
6. Pre-Fabricated Galvanized Animal And Debris Guard Shall Be Installed On The Upstream End Of All Pond Outfalls.
7. Underdrain Table May Be Required By The City Engineer. Table Shall Be In The Format Required By The Indiana Department Of Transportation (INDOT).



RCP PIPE BEDDING DETAIL

Scale: None

* Trench Slope For Unit Price Pay Item Or Reimbursement Quantity Calculation

Designer Note:
1. Storm Sewer Bedding Detail is shown on Sheet 7 of the drawings per the Hamilton County Surveyor's Office Standard Detail Drawings for Drain Design.

REVISIONS		
Rev. No.	Description	Date
1	Pipe Note 5, 7; Televising/A/B Note 5, 6; General Note 4	12/1/06
	Pipe Trench Detail - Backfill Note, Trench Slope Note, Min. Cover Note	
3	Add Storm RCP Note 8-9, Add General Note 5-7	11/1/2007

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CITY OF NOBLESVILLE INCORPORATED SEAL INDIANA

CITY OF NOBLESVILLE

Storm Sewer Bedding And Notes

SHEET 4 OF 16

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SANITARY SEWER POLYVINYL CHLORIDE (P.V.C.) PIPE

1. P.V.C. Pipe Diameters Of 4 Inches Through 15 Inches Shall Meet Or Exceed All The Requirements Of ASTM D-3034, And Shall Have A Cell Classification Of 12454-B, 12454-C, 12364-C, Or 13364-B. Reference Should Be Made To ASTM D-1784 For A Summarization Of Cell Class Properties. P.V.C. Pipe Diameters Greater Than 15 Inches Shall Meet Or Exceed All Requirements Of ASTM F-679, And Shall Have A Minimum Cell Classification Of 12454-C Or 12364-C.
2. When Depth Of Soil Cover Over The Pipe Is Less Than 12 Feet The Minimum Wall Thickness Of P.V.C. Pipe, 6 Inches Through 15 Inches In Diameter, Shall Conform To SDR-35, Type PSM, As Specified In ASTM D-3034. When Depth Of Soil Cover Over The Pipe Is 12 Feet Or Greater, The Minimum Wall Thickness Of PVC Pipe, 6 Inches Through 15 Inches In Diameter, Shall Conform To SDR-26, Type PSM, As Specified In ASTM D-3034. The Minimum Wall Thickness For P.V.C. Pipe Greater Than 15 Inches Shall Conform To T-1 Or T-2, As Specified In ASTM F-679. P.V.C. SDR-35 Pipe Shall Have A Minimum Pipe Stiffness Of 46 Pounds Per Square Inch For Each Diameter When Measured At Five Percent Deflection And Tested In Accordance With ASTM D-2412. P.V.C. SDR-26 Pipe Shall Have A Minimum Pipe Stiffness Of 115 Pounds Per Square Inch For Each Diameter When Measured At Five Percent Deflection And Tested In Accordance With ASTM D-2412.
3. The Assembly Of Joints Shall Be In Accordance With Pipe Manufacturers' Recommendations And ASTM D-3212. Solvent Cement Joints Shall Not Be Allowed For Mainline Pipe.
4. Pipe Fittings Shall Be SDR-26 Manufactured Fittings Made Of P.V.C. Plastic Having A Cell Classification Of 12454-B, 12454-C, Or 13343-C, As Defined In ASTM D-1784. Saddle Connections Shall Not Be Allowed For New Construction. Lateral Connections Shall Occur At SDR-26 Tee-Wyes.
5. In Accordance With ASTM D-3034, The Outside Of Each Pipe Section Shall Be Legibly Marked With The Date Of Manufacture, Class Of Pipe, Specification Designation, Name Or Trademark Of Manufacturer And Identification Of Plant/Location. When Possible, The Interior Of The Pipe Shall Also Be Marked With Same Information As The Exterior Of The Pipe In A Location That Can Be Seen During The Closed Circuit Television (CCTV) Inspection.
6. Installation Shall Be In Accordance With ASTM Recommended Practice D-2321.
7. Pipe Size And Classification Shall Be Called Out In Plan And Profile Of Construction Drawings.
8. Sanitary Sewer Pipe Shall Have A Minimum Horizontal Separation Of 10 Feet From Storm Sewer Pipe Or Water Main Pipe. All Pipe Crossings Shall Be At Angles Greater Than 45° With A Minimum Vertical Separation Of 1.5 Feet. Dimensions Are Measured From The Outside Of Pipe To Outside Of Pipe.

SANITARY SEWER LEAKAGE TESTING

1. A Leakage Test Shall Be Performed For All Mainline Segments. Low Pressure Air Shall Be Slowly Introduced Into The Sealed Line Until The Internal Air Pressure Reaches 4 PSIG Plus The Groundwater Head Divided By 2.31 (Maximum Test Pressure Is 9 PSIG). Testing For Leakage Shall Not Commence Until After All Backfill Has Been In Place For 30 Days.
2. At A Stable Internal Air Pressure Within 0.5 PSIG Of The Initial Internal Air Pressure, Timing Shall Commence With A Stopwatch or Similar Device Of 99.8 Percent Accuracy, Timing Shall End When The Internal Air Pressure Drops 1 PSIG Below The Stable Internal Air Pressure.
3. The Line Shall Be Accepted If The Time Shown In Table 1 For The Designated Pipe Size And Length Elapses Before The Air Pressure Drops 1 PSIG Below The Stable Internal Air Pressure At Which Time The Test Can Be Discontinued For The Accepted Line.
4. Should Contractor Excavate Pipe For The Purpose Of Repairing A Leak, Then The Entire Mainline Segment Shall Be Retested For Both Leakage And Deflection.
5. The Design Engineer Or His/Her Representative Shall Attest That Each Mainline Segment Was Tested For Leakage, With Successful Results, In Compliance With Stated Leakage Testing Requirements.

SANITARY SEWER DEFLECTION TESTING

1. An In-Place Deflection Test Shall Be Performed On All Flexible Pipe To Be Used For The Purposes Of Conveying Sanitary Sewage. Testing For An Allowable Deflection Of 5 Percent Internal Pipe Diameter Shall Not Commence Until After All Backfilling Has Been In Place For 30 Days. A Nine-Point, Go-No-Go" Mandrel Shall Be Used For The Deflection Test. A Proving Ring Shall Be Provided For Each Mandrel.
2. All Pipe Exceeding The Allowable Deflection Shall Be Replaced. A Replaced Section Shall Be Retested 30 Days After Replacement. The Contractor Shall Bear All Costs For Testing And Testing Equipment. The "Go-No-Go" Mandrel Shall Be Manually Pulled Without The Use Of Any Winching Or Other Mechanical Device. Should Corrective Measures Be Conducted, The Entire Segment Shall Be Tested Again For Leakage, As Stated Above.
3. The Design Engineer Or His/Her Representative Shall Attest That Each Mainline Segment Was Tested For Deflection, With Successful Results, In Compliance With Stated Deflection Testing Requirements.

OIL / GREASE TRAP REQUIREMENTS

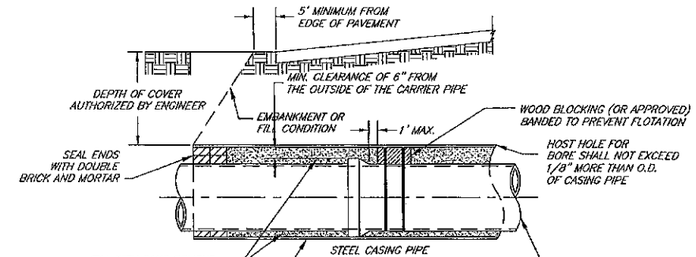
1. All New Commercial Or Industrial Entities, Which Either Generate And/Or Waste Oil, Grease Or The By-Products Thereto, Shall Construct A 1,000-Gallon (Minimum) Grease Trap. The Design Engineer Shall Submit Detailed Calculations For Size Justification Of Said Trap. Calculations Shall Be Accompanied With References, Specifically Denoting Origin Of Sizing/Calculation Method.
2. Toilets, Urinals And Other Similar Fixtures Shall Not Waste Through The Grease Interceptor. All Other Waste Shall Enter Through The Grease Interceptor, Through The Inlet Pipe Only.
3. The Grease Interceptor And Grease Trap Shall Be Designed Such That It Is Easily Accessible, For Inspection/Sampling And Cleaning, At All Times. The Grease Trap Shall Have A Minimum Of Two (2) Compartments, With Fittings, Designed For Grease Interception.
4. The Oil/Grease Trap Shall Be Located Outside The Building And At A Distance Far Enough To Allow Soluble Grease/Oil To Become Insoluble.
5. A Backwater Prevention Valve Shall Be Located Downstream Of Oil/Grease Trap.

SANITARY SEWER TELEVISING AND AS-BUILT DRAWINGS

1. Closed Circuit Television Inspection Shall Be Performed On All Pipe To Be Used For The Purposes Of Conveying Sanitary Sewer. Televising Shall Be Done After Leakage And Deflection Testing.
2. The Contractor Installing Pipe Shall Employ/Hire The Contractor Responsible For The Television Inspection Services. The Contractor/Developer Shall Contact The Noblesville Department Of Engineering To Schedule The Closed-Circuit Television Inspection, Immediately Following The Thorough Cleaning Of All Line Segments.
3. If Any Pipe And/Or Joint Is Found To Be Leaking, The Contractor Shall Repair That Portion Of The Work To The Satisfaction And Approval Of The Noblesville Department Of Engineering.
4. Contractor Shall Bear All Costs Of Line Segment Cleaning, Debris Removal And Disposal, And, Through Subsequent Invoicing From The Noblesville Department Of Engineering, The Closed-Circuit Television Inspection.
5. Contractor Shall Submit As-Built Drawings, Electronic And Hardcopy, And All Leakage And Deflection Certification Of Attestment Within 30 Days Of Successful Completion Of All Testing Requirements.
6. Two Sets Of As-Built Mylar Drawings Shall Be Submitted To The Department Of Engineering. Electronic As-Built Drawings Submittal Shall Be Submitted And Comply City's GIS Coordinator's Guidelines.
7. Contractor Shall Supply Digital Video To Client On 700 mB Compact Disks In The Following Format:
   - 7.1. Minimum 640 X 480 Pixel Dimension
   - 7.2. Minimum 24 fps (Frames Per Second)
   - 7.3. Indexed Chapters To Allow Instant Access To Points Of Observation
   - 7.4. Cross-Platform Compatible To Allow For Viewing On Any Operating System

SANITARY SEWER LATERAL PIPE AND FITTINGS

1. Service Laterals Shall Be SDR-26 Pipe From The Sewer Main To The Building. One Lateral Shall Be Installed Per Building. All Laterals Shall Be Inspected By The Noblesville Department Of Engineering Prior To Backfilling.
2. Joints Shall Be Flexible Gasket Push-On-Compression Type Conforming To ASTM D-3212 And ASTM F-477. No Solvent Cement Joints Shall Be Allowed.
3. Lateral Size Shall Be A Minimum Of 6 Inches In Diameter Between Mainline Sewer And Clean-Out Closest To Building. Lateral Size Shall Be A Minimum Of 4 Inches In Diameter Between Building And First Downstream Clean-Out.
4. A Minimum Of One Clean-Out Shall Be Installed For Each Lateral. Where The Length Of A Lateral Exceeds 100 Feet, Then One Clean-Out Shall Be Installed For Every 100 Feet Of Lateral Length. In Any Event, A Clean-Out Shall Be Located No Farther Than 4 Feet From The Building.
5. In Accordance With Sanitary Sewer Connection Policy No. 85-W2, Approval Consideration Of A Lateral Connection Requires The Owner Of The Residence Or Business To Provide The Following Information On A Legible Diagram: Name Of Property Owner, Address, Telephone Numbers Of Both Property Owner And Contractor, Depth And Position Of Lateral Between Mainline Sewer To The Building, Location Of Connection Point Referenced To Any Permanent Object, length And Size Of Pipe To Be Installed, Pipe Material, Slope Of Pipe, Bedding Type, Pipe Contractor, And Method Of Connection.
6. Contractor Shall, When Curbs Are Available, Engrave A 3-Inch High By 1/8-Inch Deep "S" On The Curb Directly Above Each Service Lateral. Where Curbs Are Not Available, Contractor Shall Notch The Sidewalk Directly Above Each Service Lateral. See Curb Stamp Detail, Sheet 10.
7. A Backwater Prevention Valve Shall Be Provided For Each Sanitary Sewer Lateral. The Backwater Prevention Valve Shall Be Housed In A 18" Diameter (Minimum) Meter Pit, Readily Accessible At All Times, And Located No More Than 2.5' Deep. The Backwater Prevention Valve Shall Be Installed Immediately Upstream Of The First Clean-Out.
8. For Service Laterals, Contractor Shall Install 10-Gauge Insulated, Solid Copper Wire And Polyethylene Identification Tape. Both Items Shall Be Highly Resistant To Alkalis, Acids And Other Destructive Agents Found In Soil. The 10-Gauge Tracer Wire Shall Be Attached Directly to The Outside Of The PVC Service Lateral Every 10 Feet. The Polyethylene Identification Tape Shall Have A Minimum Thickness Of 4 Mils And Shall Be Placed Directly Over Pipe, 1'-6" Below Final Grade.
9. The Approval Of A New Sanitary Sewer Service Lateral Or The Modification Of An Existing Service Lateral Requires The Procurement Of A Sewer Connection Permit From The Noblesville Department Of Engineering.
10. In Accordance With ASTM D-3034, The Outside Of Each Pipe Section Shall Be Legibly Marked With The Date Of Manufacture, Class Of Pipe, Specification Designation, Name Or Trademark Of Manufacturer And Identification Of Plant/Location. Pipe Shall Be Rotated In Such A Manner That The Markings Are Easily Readable During Sanitary Lateral Inspection.



CASING PIPE SHALL BE JOINED USING 36 KSI WELDED JOINTS

		NOMINAL WALL THICKNESS			
		RAILROAD CROSSINGS		ROADWAY CROSSINGS	
NOMINAL SIZE	ACTUAL O.D.	BARE	PROTECTIVE COATED	BARE	PROTECTIVE COATED
8"	8 5/8"	0.250	0.188	0.250	0.188
10"	10 3/4"	0.250	0.188	0.250	0.188
12"	12 3/4"	0.250	0.188	0.250	0.188
14"	14"	0.281	0.219	0.250	0.219
16"	16"	0.281	0.219	0.250	0.219
18"	18"	0.312	0.250	0.250	0.250
20"	20"	0.344	0.281	0.312	0.250
24"	24"	0.406	0.344	0.312	0.250
30"	30"	0.469	0.406	0.375	0.375
36"	36"	0.532	0.469	0.500	0.438
42"	42"	0.563	0.500	0.500	0.500
48"	48"	0.625	0.563	0.625	0.563
54"	54"	0.688	0.625	0.625	0.625
60"	60"	0.750	0.688	0.625	0.625
66"	66"	0.813	0.750	0.625	0.625
72"	72"	0.875	0.813	0.750	0.750

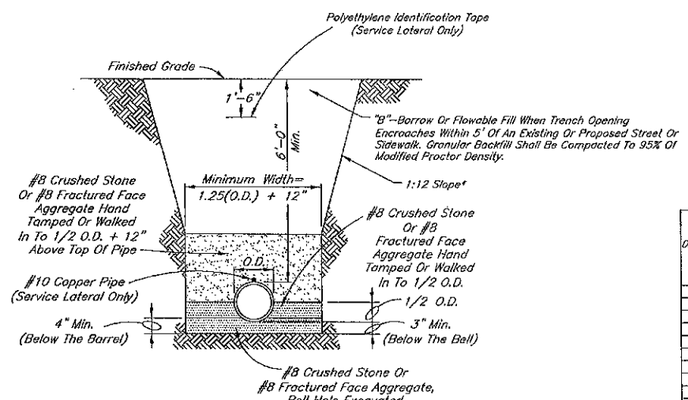
TABLE 1

SPECIFICATION TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q=0.0015

1 Pipe Diameter (in.)	2 Minimum Time (Min:Sec)	3 Length For Minimum Time (Ft.)	4 Time For Longer Length (Sec.)	Specification Time For Length (L) Shown (Min.:Sec.)							
				100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	350 Ft.	400 Ft.	450 Ft.
6	5:40	398	.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.124L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306L	28:51	43:16	57:41	72:07	86:32	100:57	115:23	129:48
30	28:20	80	21.360L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46

NOTE:

For More Efficient Testing Of Long Test Sections And/Or Sections Of Larger Diameter Pipes, A Timed Pressure Drop Of 0.5 PSIG May Be Used In Lieu Of The 1.0 PSIG Timed Pressure Drop. If A 0.5 PSIG Pressure Drop Is Used, The Required Test Time Shall Be Exactly Half As Long As Those Shown Above.



Pipe Size	8" TO 15"	18" And Over
Bedding Below The Pipe Barrel	O.D./4 Min.=4"	O.D./4 Max.=8"

PVC PIPE BEDDING DETAIL

Scale: None

* Trench Slope For Unit Price Pay Item Or Reimbursement Quantity Calculation

SANITARY SEWER FORCE MAIN

1. Construction Of Force Mains And Lift Station Shall Only Be Permitted When Determined To Be Required As Noted On The Sanitary Sewer Masterplan.
2. Force Mains And Lift Stations Shall Be Designed And Constructed To The Specifications And Requirements Determined By The City Engineer And Wastewater Utility Director.
3. Force Mains Shall Be Constructed With A Plastic Coated 10 Gauge Solid Copper Tracer Wire Taped To The Force Main Pipe At 10 Foot Intervals. Tracer Wire Shall Not Be Wrapped Around The Pipe. Below Grade Splices Are Not Permitted. Tracer Wire Access Boxes Shall Be Placed At Intervals Not To Exceed 600 Feet And At All Deflection Points To Gain Access To Wire For Locating The Pipe. The Top Of The Wire Access Box Shall Have A Casting With "SEWER" Permanently Engraved Or Casting Onto It. Wastewater Utility Director Shall Approve All Tracer Wire Riser Box Structures Prior To Construction.

REVISIONS		
Rev. No.	Description	Date
1	Pipe Note 5, 7; Televising/A/B Notes 2, 4, 6, 7; Lateral Note 7, 10; Add Casing Detail & Tables;	12/1/06
	Bedding Detail - Backfill and Slope Notes; Oil/Grease Trap Note 5	
3	Add Force Main General Notes; Add PVC Pipe Note 8	11/1/2007

JOHN M. BEERY REGISTERED No. PE19500331 STATE OF INDIANA PROFESSIONAL ENGINEER

CITY OF NOBLESVILLE INCORPORATED 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Sanitary Sewer Bedding Details And Notes

SHEET 6 OF 16

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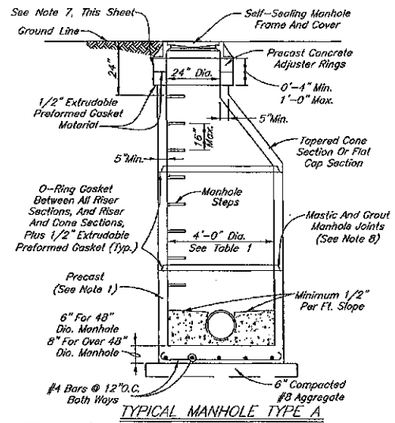
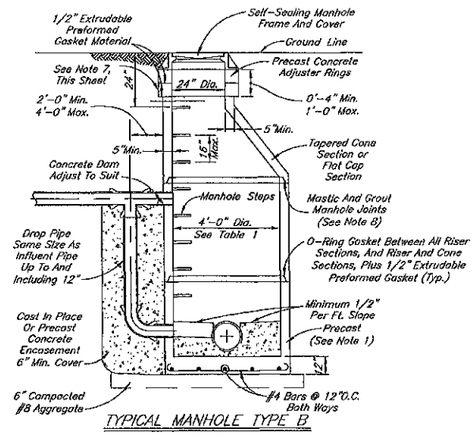


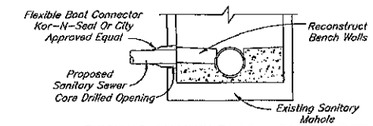
TYPICAL MANHOLE TYPE A

Scale: None



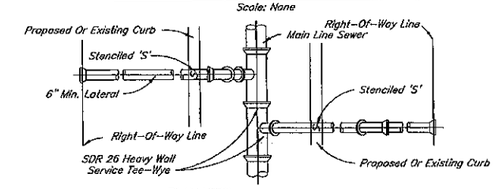
TYPICAL MANHOLE TYPE B

Scale: None

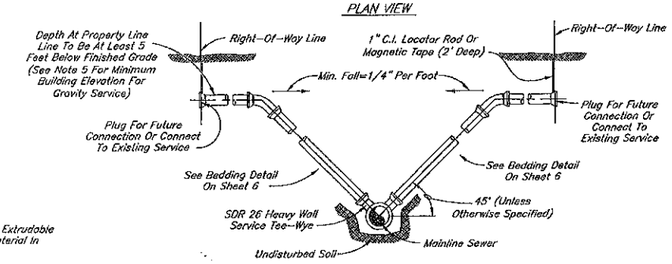


EXISTING MANHOLE CONNECTION DETAIL

Scale: None



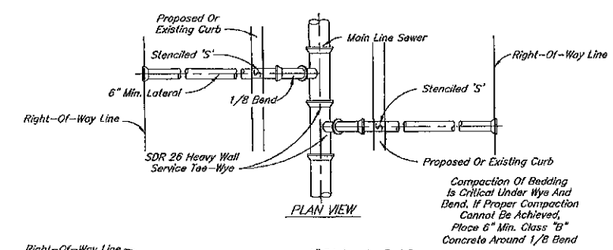
PLAN VIEW



ELEVATION VIEW

SERVICE CONNECTION FOR DEEP SEWERS (15' DEEP AND OVER)

Scale: None



ELEVATION VIEW

SERVICE CONNECTION FOR SHALLOW SEWERS (LESS THAN 15' DEPTH)

Scale: None

MANHOLES

Scale: None

1. Precast Concrete Manholes Shall Conform To ASTM C-478, With Rubber Type Gaskets Equal To ASTM C-443. Monolithic Cast-In-Place Manholes Shall Only Be Used With The Prior Written Approval Of The City Of Noblesville. The Base And First Riser Section Of The Precast Concrete Manhole Shall Be Integrally Cast As One Complete Unit. Precast Concrete Cones Shall Be Of The Eccentric Cone Type. No "See Through" Lift Holes Shall Be Allowed On Precast Concrete Manholes 48 Inches In Diameter Or Less. In Addition To The Rubber Type Gaskets, All Joints Shall Receive A 1/2 Inch Diameter Non-Asphaltic Mastic (Kent-Seal Or City Approved Equal) Conforming To AASHTO M-198 And Federal Specifications 55-5-210A. Manhole/Sewer Connection Shall Be Made With A Flexible Watertight Connection.

2. Final Adjustment In Elevation Of The Frame And Cover Shall Be Accomplished By The Use Of A 4 Inch Minimum Thickness Adjusting Ring As Detailed Herein To A Maximum Combined Thickness Of 12 Inches. Brick Or Block Shall Not Be Used In The Construction Of A Manhole Or To Adjust The Elevation Of the Frame And Cover.

3. Manhole Ladder Rungs Shall Be Neenah No. R-1981-J, East Jordan Iron Works No. 8512, M. A. Industries No. PS 1-PF Or As Approved By The Noblesville Department Of Engineering.

4. Manhole Frame And Cover Shall Be Neenah R-1772-C with Gasketed Lid, East Jordan 1022-2 With Gasketed Lid, Or As Approved By The Noblesville Department Of Engineering. When Watertight Frame And Cover Is Required By The Noblesville Department Of Engineering, Neenah R-1772-C With Locking Lid, East Jordan 1022-3WT With Locking Lid, Or As Approved By The Noblesville Department Of Engineering Shall Be Provided. All Covers Shall Be Stamped "SANITARY SEWER" With 2" Raised Letters.

5. The Lowest Internal Plumbing Elevation To Receive Gravity Sanitary Service Must Be One (1) Foot Above The Top Of Manhole Casting Elevation Of Either The First Upstream Or Downstream Manhole On The Public Sewer To Which Connection Is To Be Made. Those Portions Of The Building Not Meeting The Stated Gravity Sanitary Service Requirement Shall Be Provided And Maintained By The Property Owner With A Grinder Pump System Or The Noblesville Department Of Engineering Approved Equal Discharging To The Gravity Building Connection Outside Of The Public Right-Of-Way.

6. Manholes Shall Be Installed At Distances Not Greater Than 400 Feet.

7. Contractor Shall Install An External Rubber Sleeve Sealing System Wrapped Over The Flange Of The Manhole Frame To 2 Inches Below The Bottom Of The Lowest Adjusting Ring. The External Rubber Sealing Sleeve Shall Have A Minimum Thickness Of 60 Mils And Meet The Requirements Of ASTM C-923, ASTM C-443 And ASTM F-477. The Rubber Sleeve Shall Be Infi-Shield External Manhole Seal, Or As Approved By The Noblesville Department Of Engineering.

8. Apply Bituminous Coating, Hydracide 700 Mastic, On The External Face At All Manhole Section Joints. Hydracide Mastic Shall Be Applied To 6" Above And Below Each Joint. Apply Non-Shrink Mortar Or Epoxy Grout On The Internal Face At All Manhole Section Joints.

9. For An Industrial Property, Developer Shall Submit To The Noblesville Department Of Engineering. The Proposed Location Of An Industrial Monitoring/Sampling Station. Said Submittal Shall Also Address The Station's Size And Material Of Construction.

10. After Manhole Assembly And Backfilling, A City Representative Will Visually Inspect Each Structure For Leakage or Evidence Thereof. In Addition, All Manholes Installed Shall Be Vacuum Tested In Accordance With ASTM C1244-93. If Any Manhole Shows Leakage Or Signs Thereof, Said Manhole Shall Be Repaired To The Satisfaction Of The Noblesville Department Of Engineering And Retested. The Design Engineer Or His/Her Representative Shall Certify That All Manholes Were Vacuum Tested, With Successful Results, In Accordance With ASTM C1244-93.

11. Any Vacuum Testing And Equipment Shall Be Provided By The Contractor. Any Repairs Shall Be The Responsibility Of The Contractor.

12. Contractor Shall Permanently Secure Casting To Eccentric Cone Or Flat Cap Section By Installation Of Three (3) Equally Spaced 3/8" Dia. Stainless Steel All-Thread Dowel Rods Or 3/8" Hilti Expansion Anchor. Sika Epoxy, Or Noblesville Department Of Engineering Approved Equal, Shall Be Used With Each Stainless Steel All-Thread Dowel Rod.

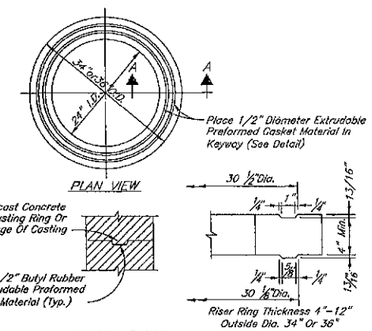
13. Castings Shall Not Be Buried And Shall Be Flush With The Adjacent Finished Grade. Castings Which Are Surrounded By Asphalt or Concrete Shall Be Constructed Within A Tolerance Of ± 0.1' Of The Designed Elevation. All Other Castings Shall Be Constructed Within A Tolerance Of ± 0.2' Of The Designed Elevation. Elevations Will Be Checked With The As-Built Drawings.

14. There Shall Be A Minimum Of 0.1 Feet Of Fall Between The Upstream Invert(s) And The Downstream Invert In The Structure For Pipes Of The Same Diameter. For Pipes Of Differing Diameters, The Crown Of The Upstream Pipe Shall Match The Crown Of The Downstream Pipe. An Outside Drop Manhole Is Required For Upstream Inverts Which Are Two Feet (2') Higher Than The Downstream Invert.

TABLE 1

Pipe Size	Minimum Manhole Diameter	
	Pipe Entering/ Pipe Exiting At 0° To 45° Bend	Pipe Entering/ Pipe Exiting At 45° To 90° Bend
8"-21"	48"	48"
24"	48"	60"
27"-30"	60"	60"
33"-36"	60"*	72"

* 72" With A-Lock Connector

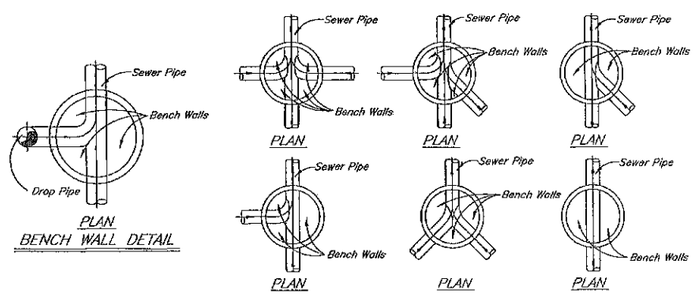


GASKET DETAIL

SECTION "A-A"

PRECAST ADJUSTING RING

Scale: None



BENCH WALL DETAIL

Note: All Bench Walls To Be Sloped @ 1/2"/Ft.

BENCH WALL DETAILS

Scale: None

REVISIONS		
Rev. No.	Description	Date
1	Manhole Detail - Adjust Rings; Manhole Note 2, 13	12/01/06
3	Add Manhole Note 14	11/1/2007

JOHN M. GERRY REGISTERED No. PE19900331 STATE OF INDIANA PROFESSIONAL ENGINEER

CITY OF NOBLESVILLE INCORPORATED 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Sanitary Sewer Details And Notes

SHEET 7 OF 16

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PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE II

HAMILTON COUNTY, INDIANA

OCTOBER 2009

Indiana State Map

2009 DRAINAGE BOARD MEMBERS

PRESIDENT	STEVEN C. DILLINGER
VICE PRESIDENT	CHRISTINE ALTMAN
MEMBER	STEVEN A. HOLT
ALTERNATE	JERRY RULON
ALTERNATE	DON SILVEY
BIG CICERO CREEK BOARD MEMBER	JOHN HIATT
ATTORNEY	MICHAEL HOWARD
SURVEYOR	KENTON C. WARD
EXECUTIVE SECRETARY	LYNETTE MOSBAUGH

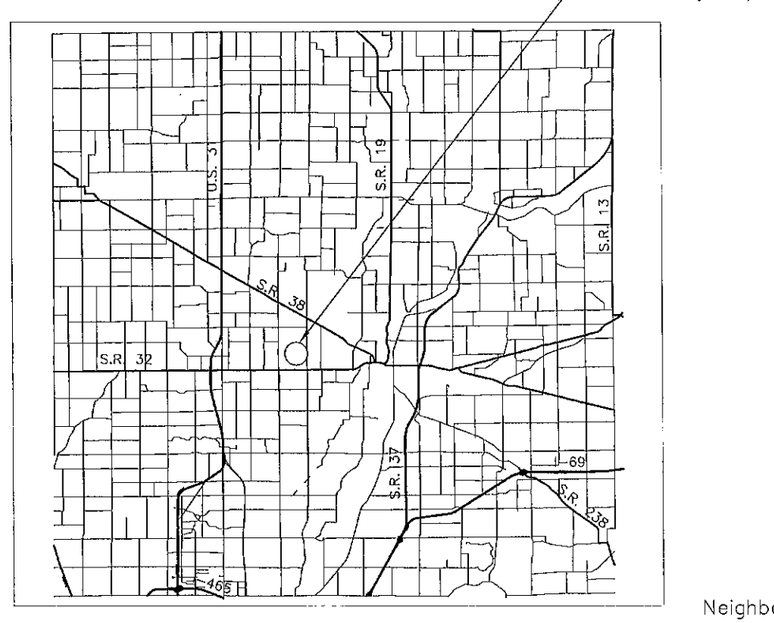
UTILITY LOCATES:

INDIANA UNDERGROUND PLANT PROTECTION SERVICE

1-800-387-544

SHEET LIST TABLE

1	TITLE SHEET
2	GENERAL NOTES
3	PEBBLEBROOK POND 2 OUTFALL
4	PEBBLEBROOK POND 2 OUTFALL
5	EROSION CONTROL
6	DETAIL SHEET 1
7	DETAIL SHEET 2
8-12	CITY OF NOBLESVILLE STANDARDS



Location Map
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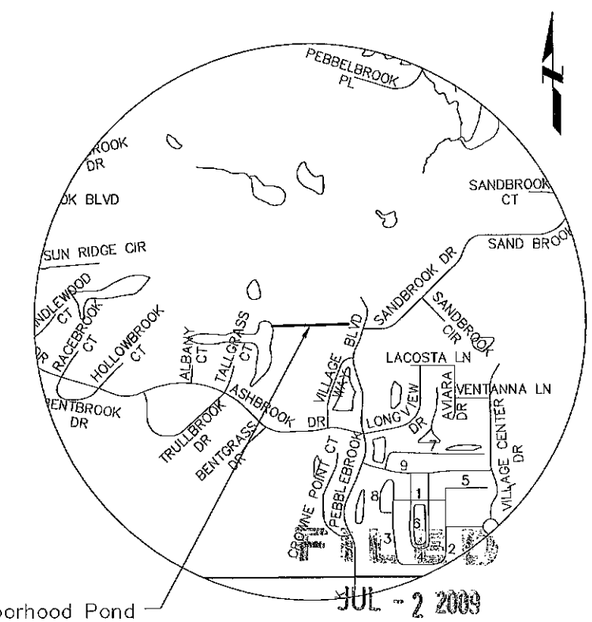


Vicinity Map
Not To Scale

JUL - 2 2009
OFFICE OF HAMILTON COUNTY SURVEYOR

Clark Dietz ENGINEERS
8900 KEYSTONE CROSSING
SUITE 900
INDIANAPOLIS, IN 46240
PHONE : 812.471.4802
FAX : 812.471.4826

SAMUEL E. ROBERTSON REGISTERED No. PE10707586 STATE OF INDIANA PROFESSIONAL ENGINEER

SIGNATURE

NOT FOR CONST.

DATE

PROJECT TITLE: PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE II

DESIGNED BY: SER
DRAWN BY: SER/SJW
CHECKED BY:
DATE CHECKED: NOT FOR CONST.

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

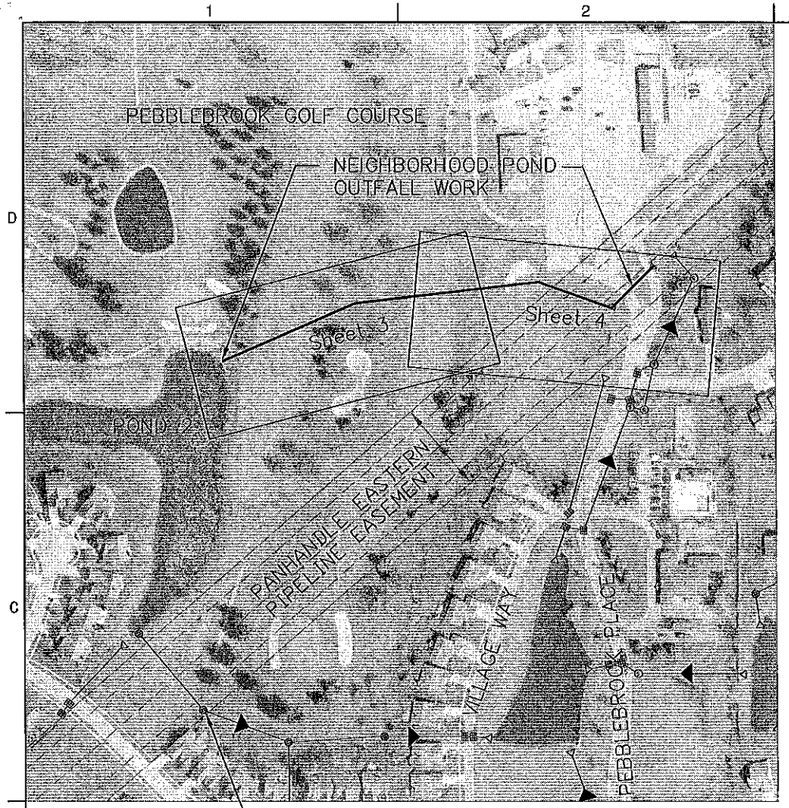
DATE	REVISION

DRAWING TITLE: TITLE SHEET

PROJECT No. H0210021

DRAWING No. 1

SHEET 1 OF 7 SHEETS



CONTRACTOR TO INSTALL 5" RESTRICTER PLATE AS SHOWN IN THE RESTRICTER PLATE INSTALLATION DETAIL ON SHEET 6.

SHEET LOCATION MAP

NOT TO SCALE

SURVEY & BENCHMARK INFORMATION

MILLER SURVEYING INC.
948 CONNER STREET
NOBLESVILLE INDIANA 46060
PH. # (317) 773-2644 FAX 773-2694

HORIZONTAL AND VERTICAL CONTROL:

COORDINATE SYSTEM:
US STATE PLANE 1983 (AT GROUND)

PROJECT DATUM:
WORLD GEODETIC SYSTEM (WGS 1984)

VERTICAL DATUM
NAVD 88

ZONE:
INDIANA EAST 1301

GEOID MODEL:
GEOID03 (CONUS)

COORDINATE UNITS US SURVEY FEET
DISTANCE UNITS US SURVEY FEET
HEIGHT UNITS US SURVEY FEET

TBM#3399
CUT "V" TOP/CONCRETE
N.E. QUADRANT OF BASE
FOR LIGHT POLE
ELEV: 833.88

UTILITIES

ELECTRIC: DUKE ENERGY, INC.
100 MILL CREEK ROAD
NOBLESVILLE, IN 46060
CONTACT: MIKE KOONTZ
PHONE: (317) 839-9611

GAS: VECTRON
1600 ALLISONVILLE ROAD
NOBLESVILLE, IN 46061
CONTACT: DON PERDUE
PHONE: (317) 776-5534

TELEPHONE: VERIZON, INC.
20905 HAGUE ROAD
NOBLESVILLE, IN 46060
CONTACT: STEVE COSTLOW
PHONE: (317) 984-2334

WATER: VEOLIA WATER
1220 WATERWAY BLVD.
INDIANAPOLIS, IN 46202
CONTACT: JENNIFER MARLETT
PHONE: (317) 263-6336

GOLF COURSE PEBBLE BROOK GOLF COURSE
SUPERINTENDENT: PHIL EPHLIN
OFFICE (317) 896-5683
CELL (317) 557-4899

SANITARY: CITY OF NOBLESVILLE
197 W. WASHINGTON
NOBLESVILLE, IN 46060
CONTACT: MIKE HENDRICKS
PHONE: (317) 776-6353

CABLE TV: COMCAST
9750 E. 150TH STREET
NOBLESVILLE, IN 46060
CONTACT: MATT STRINGER
PHONE: (317) 776-3384

PANHANDLE GAS PIPELINE: PANHANDLE GAS COMPANY
9371 ZIONSVILLE ROAD
INDIANAPOLIS, IN 46268
CONTACT: MARK WOOD
PHONE:(317) 733-3232

"DON'T DIG BLIND"
CALL TWO WORKING DAYS BEFORE YOU DIG

WITHIN INDIANA:
1-800-382-5544 or 811
FROM OUTSIDE INDIANA:
1-800-428-5200

GENERAL NOTES

1. THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. DETERMINING THE EXACT LOCATION AND PROTECTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF SAME IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER AND FOR ANY RESULTING CONTINGENT DAMAGE AND COST.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY UTILITY WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE APPLICABLE UTILITY OWNER.

3. BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.

4. THE CONTRACTOR SHALL PRESERVE AND PROTECT PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS AND BENCH MARKS, SUCH AS STONES, PIPES, OR OTHER MONUMENTS ENCOUNTERED. IF THE CONTRACTOR MUST DISTURB THE PROPERTY MARKERS OR MONUMENTS, THEIR HORIZONTAL AND VERTICAL LOCATION SHALL BE DETERMINED AND RECORDED BY A REGISTERED LAND SURVEYOR AND THE OWNER NOTIFIED BEFORE DISTURBING. ALL PROPERTY MARKERS AND MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RE-ESTABLISHED BY A REGISTERED LAND SURVEYOR.

5. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE AREA; NO EXTRA COMPENSATION CONNECTED WITH UTILITIES COORDINATION WILL BE ALLOWED.

6. THE CONTRACTOR IS RESPONSIBLE FOR DUST AND MUD CONTROL FOR THE DURATION OF THE PROJECT.

7. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION TRAFFIC CONTROL.

8. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING EROSION CONTROL AND THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL, OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OR WORK ON THE PROJECT.

9. THE COST OF ABIDING BY THE PROVISIONS OR PERMITS ISSUED BY VARIOUS AGENCIES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ALL ASSOCIATED BONDING REQUIREMENTS AND COSTS SHALL ALSO BE CONSIDERED INCIDENTAL TO THE CONTRACT.

10. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE OWNERS OF PROPERTY ON OR NEAR WHICH CONSTRUCTION IS TAKING PLACE. PARTICULAR CARE AND ATTENTION IS TO BE PAID TO NORMAL BUSINESS AND/OR SCHOOL ACTIVITIES, INCLUDING (BUT NOT LIMITED TO) DELIVERIES, LOADING AND UNLOADING OF SCHOOL BUSES, AND SO ON. NO ADDITIONAL COMPENSATION SHALL BE DUE TO THE CONTRACTOR AS A RESULT OF DELAYS FROM SAID NORMAL BUSINESS AND/OR SCHOOL ACTIVITIES. THE CONTRACTOR SHALL DILIGENTLY ATTEMPT TO ACCOMMODATE THE NORMAL ACTIVITIES OF PROPERTY OWNERS ALONG THE PROJECT ROUTE AS WELL.

11. WORK NOT SPECIFIED FOR PAYMENT AS OR PART OF A SPECIFIC PAY ITEM SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT BY THE CONTRACTOR.

12. COORDINATION AND PROPER FIT OF ALL PROJECT ELEMENTS IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION STAKEOUT OF THE PROJECT ELEMENTS TO VERIFY THE COORDINATES PROVIDED. SUSPECTED ERRORS OR DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AND RESOLVED BEFORE CONSTRUCTION BEGINS.

13. CONTRACTOR SHALL COMPACT NATIVE BACKFILL AREAS ACROSS THE GOLF COURSE IN MAXIMUM 1 FOOT LIFTS WITH A VIBRATORY COMPACTOR.

14. CONTRACTOR SHALL FINISH GRADE THE SITE, REMOVING ANY ROCKS LARGER THAN A 1/2" INCH. SOD AND SEEDING WILL NOT BE REQUIRED IN THE GOLF COURSE PROPERTY. SEEDING WILL BE REQUIRED FOR THE POND 3 OUTFALL.

15. NO SPECIFIC COMPENSATION IS TO BE MADE FOR MAINTENANCE OF TRAFFIC OR MOBILIZATION/DEMOBILIZATION AS THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL BE INCLUDED IN THE COST OF THE VARIOUS BID ITEMS.

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INDIANAPOLIS, IN 46240
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FAX : 812.471.4826

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SIGNATURE

NOT FOR CONST.
DATE

PROJECT TITLE
PEBBLEBROOK DRAINAGE IMPROVEMENTS PROJECT - PHASE II

DESIGNED BY: SER
DRAWN BY: SER/SJW
CHECKED BY:
DATE CHECKED: NOT FOR CONST.

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

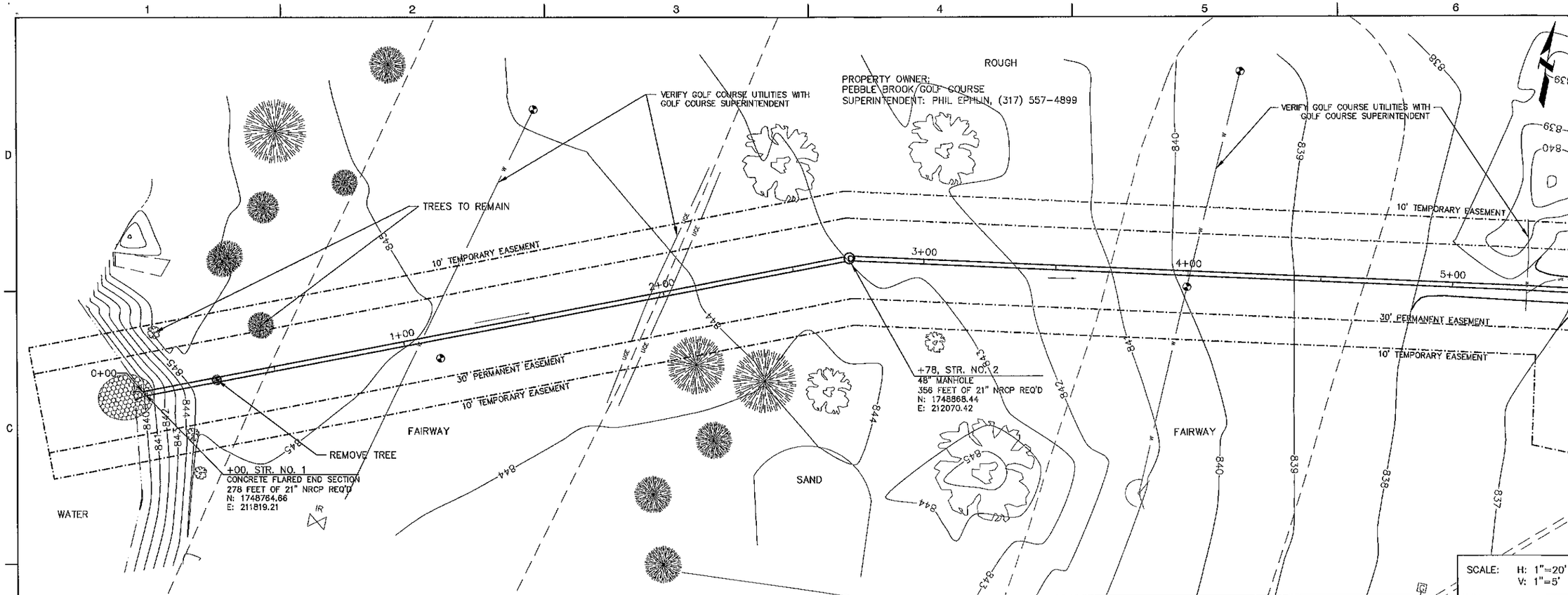
DATE REVISION

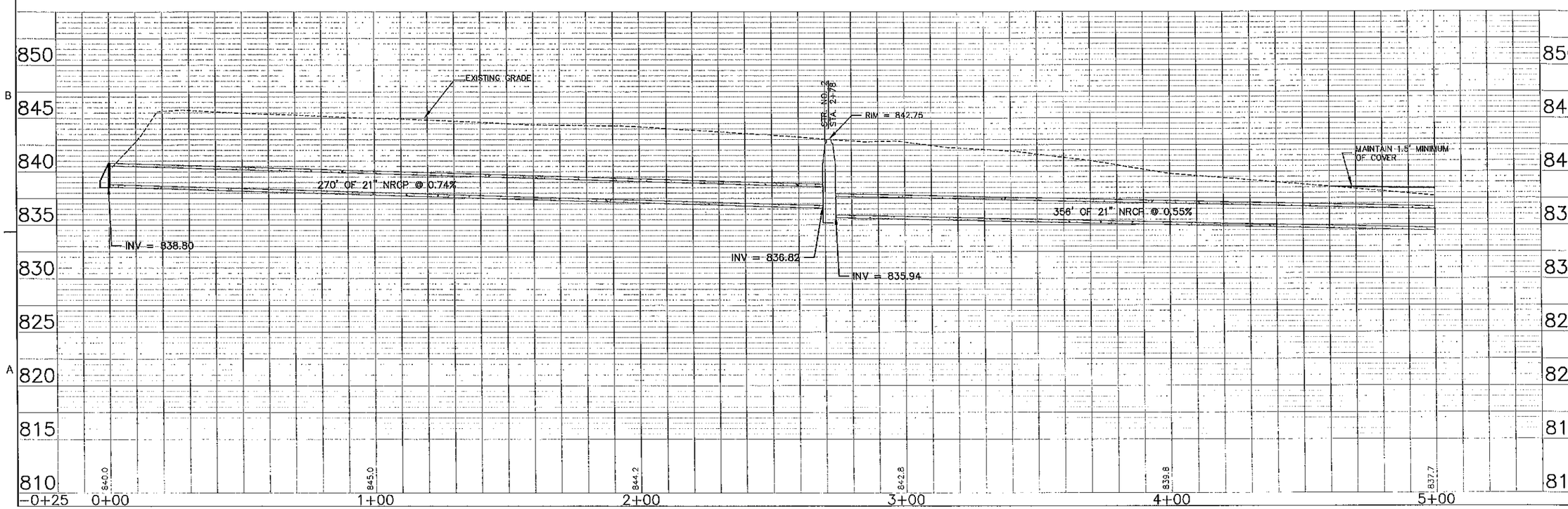
DRAWING TITLE
GENERAL NOTES

PROJECT No.
H0210021

DRAWING No.
2

SHEET 2 OF 7 SHEETS





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POND 2 OUTFALL SHEET 1 OF 2

PROJECT No.
H0210021

DRAWING No.
3

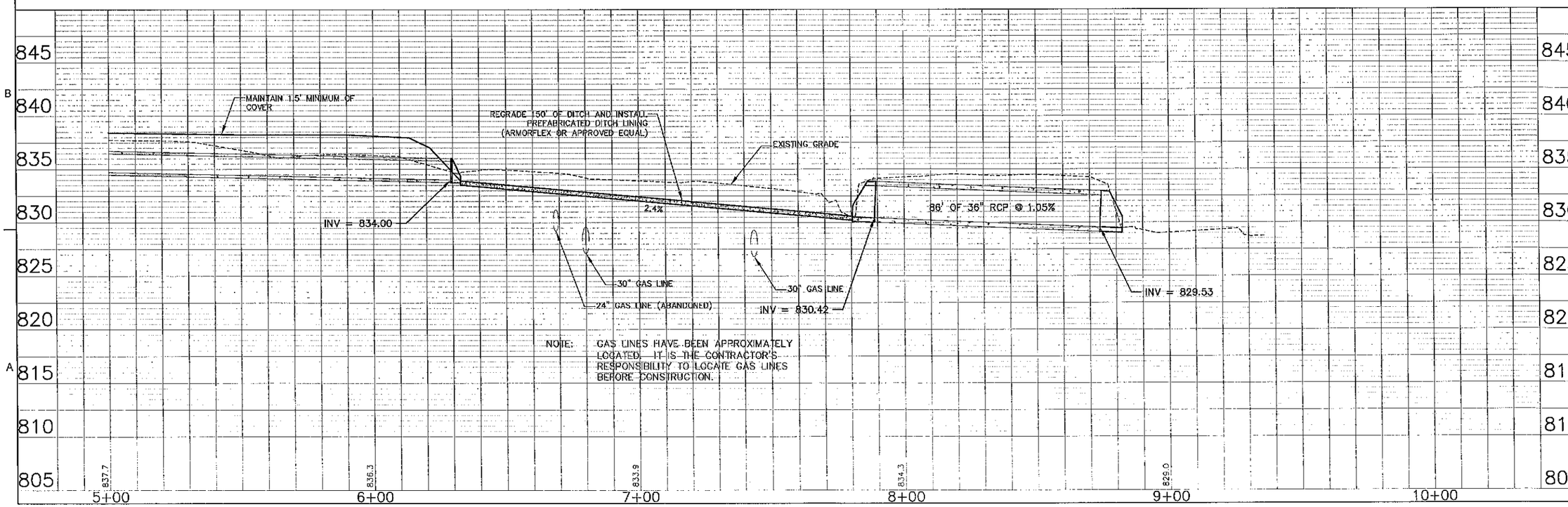
SHEET 3 OF 7 SHEETS

PROPERTY OWNER:
PEBBLE BROOK GOLF COURSE
SUPERINTENDENT: PHIL EPBEW, (317) 557-4899

TEMPORARY EASEMENT
TURF
ASPHALT
GRASS
SAND
DASHED LINE INDICATED AREA WHERE BUNKER WILL BE REMOVED
REMOVE AND REPLACE 18 TONS OF 12" DEEP ASPHALT PAVEMENT
SIGN TO BE REMOVED BY OTHERS
10' TEMPORARY EASEMENT
INV = 830.42
N: 1748897.13
E: 212876.50
5+00
6+00
7+00
8+00
9+00
30' PERMANENT EASEMENT
PLACE RIPRAP 18" DEEP ON GEOTEXTILE
INV = 829.53
N: 1748955.76
E: 212638.32
REMOVE EXISTING 36" CULVERT
STR. NO. 3
86' OF 36" RCP REQ'D
CONCRETE FLARED END SECTION
140' OF DITCH GRADING REQ'D
REGRADE 150' OF DITCH AND INSTALL PREFABRICATED DITCH LINING (ARMORLOC OR APPROVED EQUAL)
VERIFY GOLF COURSE UTILITIES WITH GOLF COURSE SUPERINTENDENT
TBM #3399
ELEV=833.68
CUT "V" TOP/CONCRETE
N.E. QUADRANT OF BASE FOR LIGHT POLE
N:1758828.66
E:212584.83
GRADE CHIPPING GREEN AS SHOWN WITH TOP SOIL
PEBBLEBROOK BLVD

NOTE: GAS LINES OWNED BY:
PANHANDLE EASTERN PIPELINE COMPANY
CONTACT MARK WOODS AT 317-733-3232 AT LEAST ONE WEEK BEFORE WORK IS TO BE PERFORMED AROUND THE GAS LINES.

SCALE: H: 1"=20'
V: 1"=5'



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SAMUEL E. ROBERSON REGISTERED No. PE10707568 STATE OF INDIANA PROFESSIONAL ENGINEER

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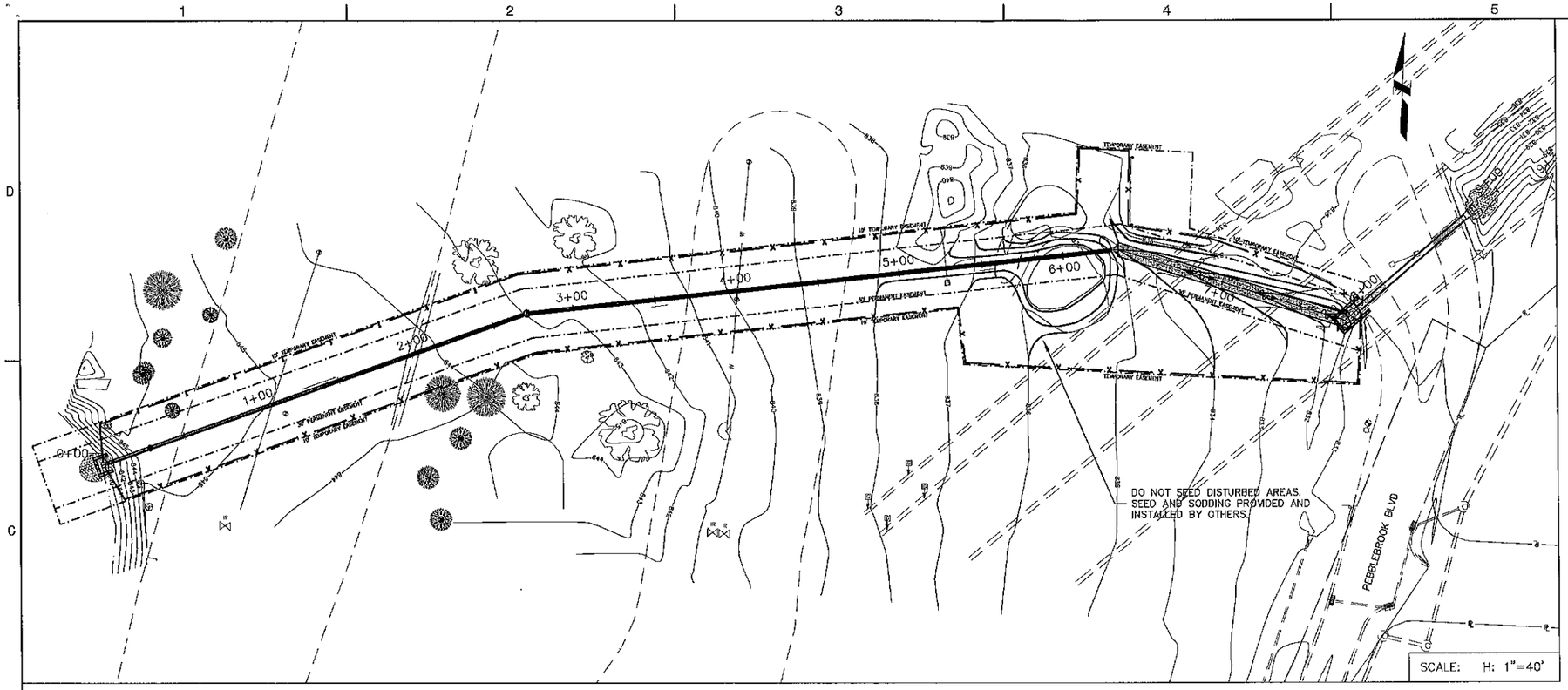
DRAWING TITLE
POND 2 OUTFALL
SHEET 2 OF 2

PROJECT No.
H0210021

DRAWING No.
4
SHEET 4 OF 7 SHEETS



LEGEND

STRAW BALE SEDIMENT TRAP

PERIMETER CONTROL

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SAMUEL E. ROBERTSON
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PROFESSIONAL ENGINEER

SIGNATURE

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PROJECT TITLE

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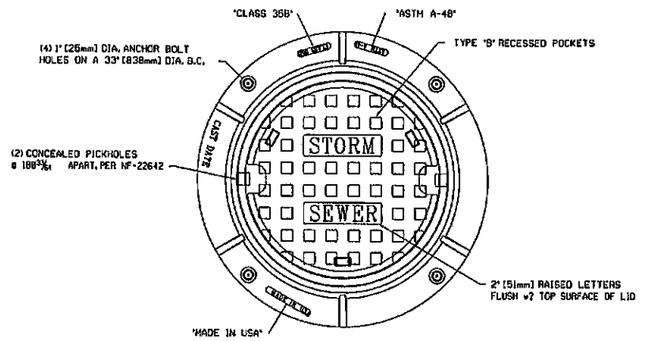
DRAWING TITLE

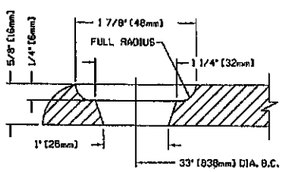
EROSION CONTROL

PROJECT No.
H0210021

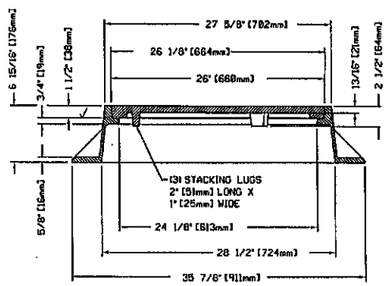
DRAWING No.
5

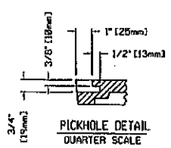
SHEET 5 OF 7 SHEETS





ANCHOR HOLE DETAIL
FULL SCALE





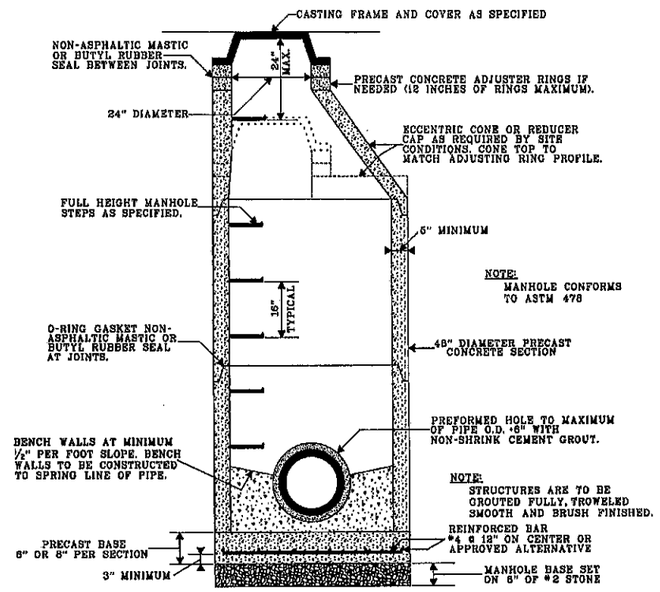
PICKHOLE DETAIL
QUARTER SCALE

NEENAH	1642 or 1772
EAST JORDAN	1045 or 1022

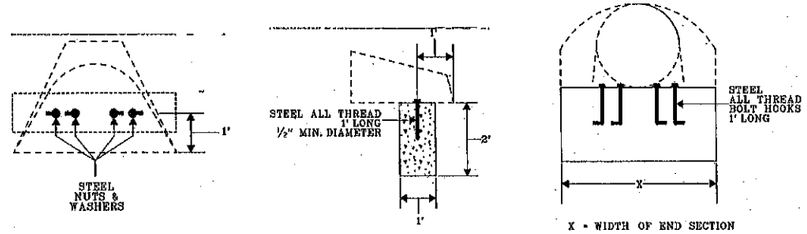
* Or approved by Hamilton County Surveyor's Office

NOTE: ALL DIMENSIONS ARE SHOWN IN ENGLISH AND METRIC.
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NOT PAINTED
WEIGHT: FRAME - 158#, LID - 124#

STANDARD MANHOLE CASTING
NOT TO SCALE

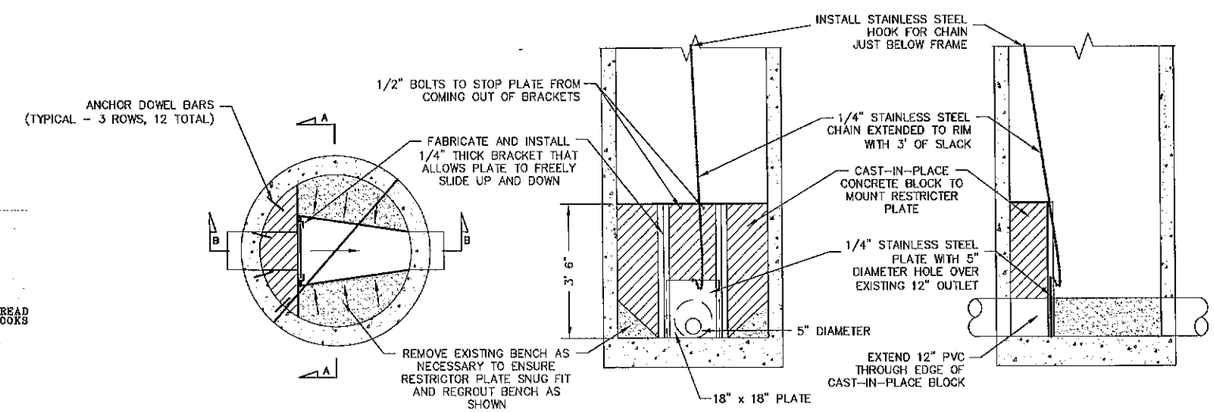


STANDARD STORM MANHOLE
NOT TO SCALE



TOP VIEW SIDE PROFILE END PROFILE

ANCHOR FOR CONCRETE END SECTIONS
NOT TO SCALE



TOP VIEW SECTION A-A SECTION B-B

NOTE:
1. DO NOT INSTALL RESTRICTOR PLATE UNTIL POND 2 OUTFALL IS INSTALLED
2. INSTALLATION LOCATION SHOWN ON LOCATION MAP ON THE GENERAL NOTES SHEET

5" RESTRICTOR PLATE INSTALLATION DETAIL
NOT TO SCALE

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PROJECT TITLE
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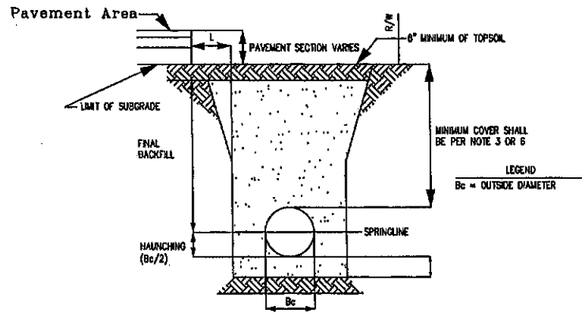
DRAWING TITLE
DETAIL SHEET 1

PROJECT No.
H0210021

DRAWING No.
6

SHEET 6 OF 7 SHEETS



NOTES:

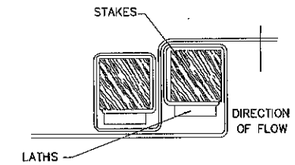
1. BEDDING AND HAUNCHING FOR ALL CONCRETE PIPE INSTALLATIONS SHALL BE #8 STONE MEETING THE MATERIAL REQUIREMENTS OF THE INDOT. BEDDING SHALL BE PLACED IN THE TRENCH BOTTOM SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE AND LINE, THERE REMAINS A 4" MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL AND A MINIMUM OF 3" BELOW THE BELL. BEDDING SHALL BE PLACED TO BE UNIFORM AS POSSIBLE AND COMPACTED IN 12" LIFTS (INCLUDING NATIVE BACKFILL IN THE GOLFCOURSE) TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF MATERIAL PLACED. THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR THE FULL LENGTH OF PIPE. HAUNCHING SHALL EXTEND TO THE SPRINGLINE OF THE PIPE. MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 18".
2. FINAL BACKFILL FOR ALL CONCRETE PIPE INSTALLATIONS WHERE "L" IS 5' OR LESS SHALL BE B-BORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE INDOT AND SHALL BE COMPACTED IN 6" MAXIMUM LIFTS TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 6" OF THE EXCAVATION BELOW THE START OF THE AGGREGATE SUBBASE OF THE PAVEMENT SHALL BE #53 STONE MEETING THE MATERIAL REQUIREMENT OF THE INDOT AND SHALL BE COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY. FINAL BACKFILL FOR ALL CONCRETE PIPE INSTALLATIONS WHERE "L" IS GREATER THAN 5' SHALL BE CLEAN FILL MATERIAL FREE OF ROCKS LARGER THAN 6" IN DIAMETER, FROZEN LUMPS OF SOIL, WOOD, OR OTHER EXTRANEOUS MATERIAL, COMPACTED IN 12" MAXIMUM LIFTS TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF EXCAVATION. THE FINAL 6 INCHES OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
3. THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0", BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAN 2.5 FEET, UNLESS OTHERWISE NOTED ON THE PROFILE.
4. THESE STANDARDS SHALL APPLY FOR ALL REGULATED DRAIN STORM SEWERS UNLESS THE ENTITY HAVING CONTROL OVER THE RIGHT OF WAY HAS A MORE STRINGENT STANDARD, IN WHICH CASE THE HIGHER STANDARD SHALL APPLY.
5. THE MINIMUM COVER FROM THE FINAL GRADE TO THE TOP OF THE PIPE SHALL BE NOT LESS THAN 2 FEET OUTSIDE OF PAVEMENT AREAS, UNLESS OTHERWISE NOTED ON THE PROFILE.

STORM SEWER TRENCH BACKFILL DETAIL

NOT TO SCALE

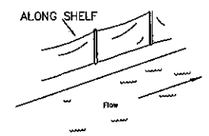
EROSION CONTROL NOTES:

1. DISTURBED AREA OF THE PROJECT EQUALS APPROXIMATELY 0.55 ACRES.
2. EROSION CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HAMILTON COUNTY SURVEYORS OFFICE, STATE OF INDIANA AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.
3. EXACT CONFIGURATION AND LOCATION OF TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
4. NO HYDRIC SOILS ARE KNOWN TO EXIST IN THE AREA WITHIN THE CONSTRUCTION LIMITS.
5. ALL SOIL STOCKPILE AREAS MUST BE SURROUNDED BY TEMPORARY PERIMETER CONTROL.
6. TEMPORARY OR PERMANENT SEEDING IS REQUIRED ON ALL DISTURBED AREAS THAT WILL BE LEFT EXPOSED FOR MORE THAN SIX WEEKS. SEE PLANTING SPECIFICATIONS FOR ALLOWABLE SEEDING MIX.
7. CONSTRUCTION STAGING AREAS SHALL BE SURROUNDED TEMPORARY PERIMETER CONTROL. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL ACCESS POINTS FROM THE CONSTRUCTION SITE TO THE ROADWAY TO REDUCE MIGRATION OF DEBRIS ONTO THE PAVEMENT.
8. THE TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY THE CONTRACTOR SHALL BE PROPERLY MAINTAINED TO CONTROL SILTATION AT ALL TIMES DURING THE LIFE OF THE CONTRACT.
9. ALL SALVAGEABLE TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE CONTRACT.
10. EROSION CONTROL MEASURES WILL BE CHECKED AND REPAIRED AT LEAST MONTHLY FOR ONE YEAR OR UNTIL THE VEGETATION HAS BEEN ESTABLISHED.



ROLL JUNCTIONS

NOT TO SCALE

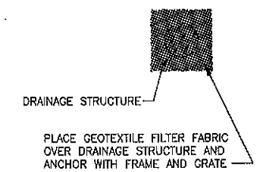


INSTALLATION

1. DIG 6" DEEP TRENCH ALONG PROPOSED FENCE LINE (A TRENCHING MACHINE IS NEEDED ON LONG RUNS.)
2. POUND STAKE IN TRENCH 6" TO 8" OR UNTIL SECURE. BE SURE TO STRETCH FABRIC TAUT WHEN POUNDING STAKES. (NOTE: STAKE MUST BE ON THE DOWNHILL OR DOWNSTREAM SIDE OF THE FENCE.)
3. DRAPE LOOSE END OF GEOTEXTILE INTO TRENCH.
4. BACKFILL AND COMPACT SOIL ON BOTH SIDES.

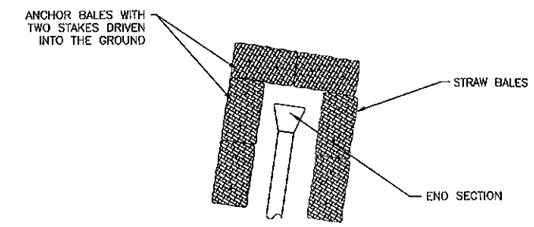
PERIMETER CONTROL

NOT TO SCALE



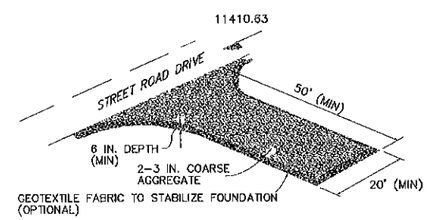
TEMPORARY INLET PROTECTION DETAIL

NOT TO SCALE



STRAW BALE SEDIMENT TRAP

NOT TO SCALE



MATERIAL: 2-3 IN. WASHED STONE (INDOT CA NO. 2) OVER A STABLE FOUNDATION GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OR FOR SOIL WITHIN A HIGH SEASONAL WATER TABLE TO PROVIDE GREATER BEARING STRENGTH.

CONSTRUCTION EXTRANCE/EXIT DETAIL

NOT TO SCALE

STORM STRUCTURE DATA

STRUCTURE NUMBER	DRAWING NO.	STRUCTURE TYPE	RIM ELEVATION	DOWNSTREAM PIPE LENGTH	EFFLUENT PIPE				INFLUENT PIPE #1			INFLUENT PIPE #2			REMARKS
			ELEV.	LF	EFFLUENT INVERT ELEV.	PIPE SIZE INCHES	EFFLUENT DIRECTION DIR.	DOWNSTREAM INVERT ELEV.	INFLUENT INVERT ELEV.	PIPE SIZE INCHES	INFLUENT DIRECTION DIR.	INFLUENT INVERT ELEV.	PIPE SIZE INCHES	INFLUENT DIRECTION DIR.	
1	3	Concrete Flared End Section	–	278	838.00	21	NE	836.80	–	–	–	–	–	–	–
2	3	48" Manhole	842.75	356	836.70	21	E	834.75	836.80	21	–	–	–	–	–
3	4	36" RCP Pipe	–	103	830.51	36	NE	829.42	–	–	–	–	–	–	–

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DETAIL SHEET 2

PROJECT No.

H0210021

DRAWING No.

7

SHEET 7 OF 7 SHEETS

NOBLESVILLE, INDIANA

NOBLESVILLE STANDARDS

FOR PEBBLEBROOK DRAINAGE IMPROVMENETS - PHASE II

NOBLESVILLE COMMON COUNCIL

BRIAN AYER — MEMBER

TERRY BUSBY — MEMBER

ALAN HINDS — MEMBER

LAURIE JACKSON — MEMBER

MARY SUE ROWLAND — MEMBER

DALE SNELLING — MEMBER

KATHIE STRETCH — MEMBER

TABLE OF CONTENTS

Sheet	Description
1.	Directions For Use and General Note
2.	Right-Of-Way & Utility Easement Guidelines
3.	Pavement, Curb & Sidewalk Details and Notes
4.	Storm Sewer Bedding Details and Notes
~~5.~~	~~Storm Sewer Details and Notes~~
~~6.~~	~~Sanitary Sewer Bedding Details and Notes~~
~~7.~~	~~Sanitary Sewer Details and Notes~~
~~8.~~	~~Miscellaneous Detail and Notes I~~
~~9.~~	~~Miscellaneous Detail and Notes II~~
~~10.~~	~~Miscellaneous Details and Notes III~~
11.	Street Cut Details
~~12.~~	~~Street Lighting & Traffic Signal Standards, Details, and Notes~~
~~13.~~	~~Landscape Planting And Seeding Details And General Notes~~
~~14.~~	~~Thoroughfare Roundabout Single Lane~~
~~15.~~	~~Local Roundabout~~
~~16.~~	~~Roundabout Details and Notes~~

Designer Note:
1. Pages 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, and 16 are not used and are omitted from this set of Noblesville Standard Drawings.
2. In the event additional details are needed Note 5 above dictates the order which the standards govern, with the exception of Storm Sewer Drains which are governed by Hamilton County Surveyor's Office Standard Detail Drawings for Drain Design.
3. Details on remaining pages that are not used have a X drawn through them.

DIRECTIONS FOR USE

1. *The Entire Set Of Signed, Full Size Standards Shall Be Attached To The Construction Drawings And Shall Be Considered Part Thereto. Partial Set May Be Used For Small Projects When Approved By The City Of Noblesville Planning Director And/Or City Engineer.*
2. *Details Prepared By Outside Sources Shall Not Be Included In The Construction Drawings When Said Details Cover Work Which Is Contained In The Noblesville Standards.*
3. *Individual Noblesville Standards That Do Not Apply Shall Be Crossed-Out By Design Engineer Through The Placement Of A Single Large X Over Detail. Minor Reference Notation May Be Placed Adjacent To Individual Standard Titles For Coordination. However, The Standards Themselves Shall Not Be Modified In Any Way.*
4. *Details Prepared By Outside Sources Covering Work Which Is Not Covered By Noblesville Standards Are The Sole Responsibility Of The Design Engineer And Shall Be Placed On Sheets Other Than The Noblesville Standards Sheets.*
5. *For Details, Specifications, And Design Guidelines Not Covered In These Standards, Refer To The Documents Stated Below. In The Event That These Standards Are Used, Referenced, Or Incorporated Into Any Publicly Or Privately Funded Project And A Conflicting Standard(s) And/Or Specification(s) Exist, The Following Order Shall Govern:*
   - *5.1. Noblesville Standards*
   - *5.2. Unified Development Ordinance*
   - *5.3. Noblesville Stormwater Technical Standards*
   - *5.4. INDOT Standards and Specifications / Indiana Manual on Uniform Traffic Control Devices / INDOT Work Zone Safety Manual*
   - *5.5. "Ten State Standards" Prepared By Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers and Sanitary Engineers*
   - *5.6. ASTM and/or AWWA Standards and Specifications*
   - *5.7. Project's Written Specifications*
   - *5.8. Project's Plans*
6. *Design Professional Certifying The Plans For The Project Acknowledges Their Professional Responsibility For Ensuring That All Work Is Correct, Accurate, And Complies With All Appropriate Laws, Standards, Regulations, And Ordinances. If Such An Error And/or Omission Is Found, The Design Professional Accepts Full Responsibility And Shall Determine A Solution That Complies With All Appropriate Laws, Standards, Regulations, And Ordinances. If Such An Error Or Omission Is Found, The Developer Is Not Relieved To Comply With All Appropriate Laws, Standards, Regulations, And Ordinances.*
7. *All Requests For Interpretations And/Or Clarification With The Standards Shall Be Done In Writing To The City Engineer. All Official Responses By The City Engineer Will Be Done In Writing.*

GENERAL NOTES

1. *Contractor Shall Verify The Exact Location Of All Existing Utilities At Least 48 Hours Prior To Any Construction Or Excavation. During Construction, All Utilities Shall Be Adequately Supported To Minimize Damage. The Contractor Shall Be Responsible For Repairing Or Replacing Damaged Utilities To The Satisfaction Of The Noblesville Department of Engineering And The Owner Of The Affected Utility.*
2. *At The Preconstruction Conference, All Construction Drawings Shall Be Submitted To The Noblesville Department Of Engineering In Paper And Electronic Format. Acceptable Forms Of Electronic Format Include: AutoCAD 2004, Or Most Current Format. In Addition, A Full Size PDF Version Shall Be Submitted. All Coordinate Data Shall Be Compliant With The State Plane Coordinate System With Units Provided In U.S. Survey Feet. All Benchmarks And Elevations Shall Be From The NAD 1983 (Conus) Datum. Electronic Submittal Shall Include Plot Files. Reference "Digital Record Drawing Submittal Requirements" From The Noblesville Wastewater Utility Department For Additional Guidelines For Electronic Submittals.*
3. *Wherever Proprietary Equipment Is Specified, All Proposals For Substitution Shall Be Submitted In Writing To The Noblesville Department Of Engineering And Shall Be Subject To The Findings Thereto.*
4. *Plan And Profile Drawings And Individual Details Prepared By Outside Sources Shall Be Provided For Review By The Technical Advisory Committee (T.A.C.). Any Project With Public Works Infrastructure Improvements Shall Commence With Construction No Later Than 6 Months From T.A.C. Approval, Or Shall Be Subject To A Subsequent T.A.C. Approval.*
5. *As-Built Record Drawings, Prepared By Outside Sources, Shall Be Accompanied With A Detailed Inventory Of All Fixed Assets. Two Full Sets Of As-Built Drawings On Mylar Shall Be Submitted To The Noblesville Department Of Engineering. A Certified Letter Of Attestment Shall Accompany The Drawings. The Letter Of Attestment Shall Be Certified By A Registered Land Surveyor. As-Builts Are Required For Sanitary Sewer System, Storm Sewer System, Roadways, Trails, Sidewalks, Final Grading, Conduits, Lights, Signs, And All Other Infrastructure Within Public Rights-Of-Ways And/Or Easements.*
6. *Electronic Drawings Submittal For Both Construction Drawings And As-Builts Shall Comply With Guidelines Set By City's GIS Coordinator. Electronic Construction Drawing Submittal Shall Be Submitted And Approved After T.A.C. Approval At Pre-Construction Conference. As-Built Drawing Submittal Shall Be Submitted And Approved After Infrastructure Has Been Inspected And Approved.*
7. *The Contractor Is Responsible For Maintaining A Safe Construction Site And For Keeping Surrounding Streets Neat And Clean. The Contractor Shall Provide All Traffic Control, In Accordance With Most Recent Version Of INDOT Workzone Safety Manual, Required On Public Ways Near The Project*

BOARD OF PUBLIC WORKS AND SAFETY

JOHN DITSLEAR — MAYOR

LAWRENCE J. STORK — MEMBER

JACK E. MARTIN — MEMBER

NOBLESVILLE CITY ATTORNEY

MICHAEL A. HOWARD — CITY ATTORNEY

NOBLESVILLE PLANNING COMMISSION

GRETCHEN HANES — PRESIDENT

1-800-382-5544 or 811
HOLEY MOLEY SAYS CALL

AT LEAST TWO FULL WORKING DAYS BEFORE YOU DIG

REVISIONS		
Rev. No.	Description	Date
1	Revision of Sheet Nos. 2, 3, 5, 8, and 10	11/01/02
2	Add Table of Contents; Directions - Notes 3, 5; General Notes 2, 5, 6, 7	12/1/06
3	Directions For Use Notes 5, 6, 7; Sheets No 1-12, 14-16	11/1/2007

JOHN M. BEERY REGISTERED No. PE19600331 STATE OF INDIANA

CITY OF NOBLESVILLE INCORPORATED 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Directions For Use, & General Notes

SHEET 1 OF 16

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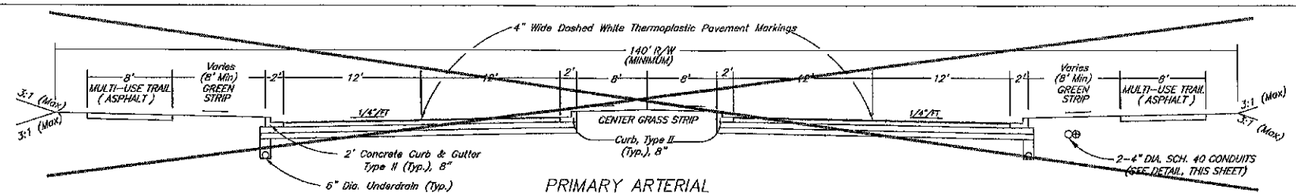
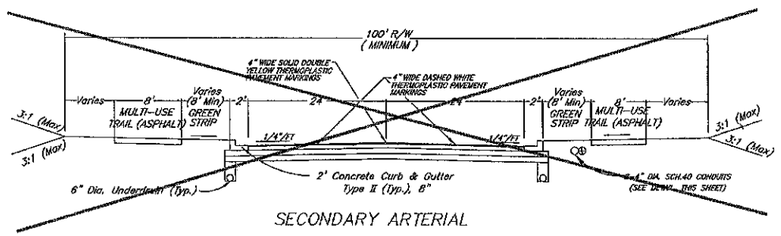


PRIMARY ARTERIAL



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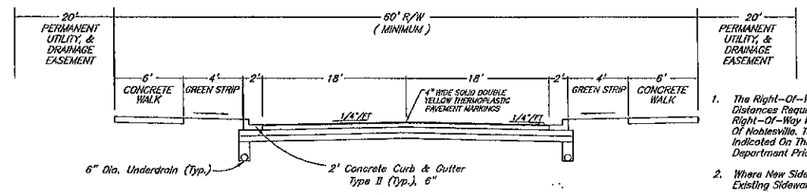
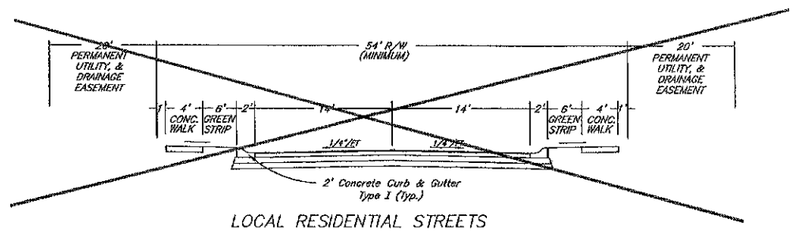
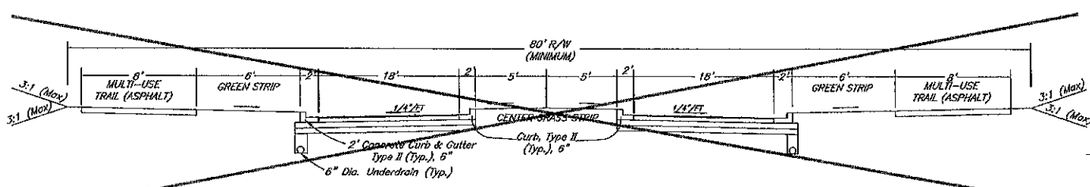


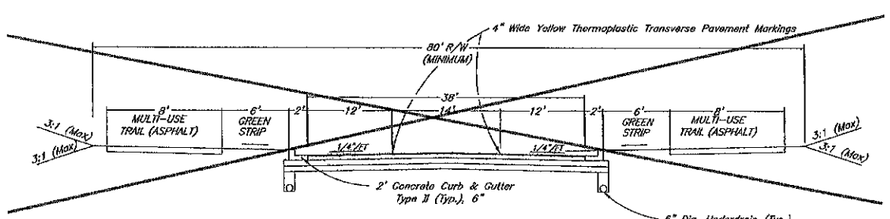
COMMERCIAL



LOCAL RESIDENTIAL STREETS



MAJOR COLLECTOR



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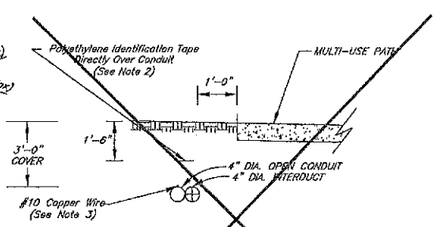


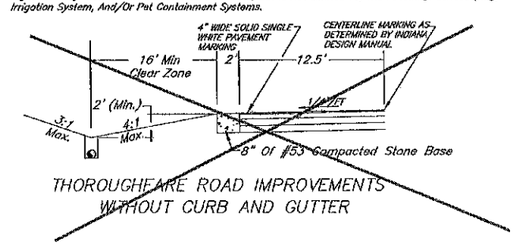
CONDUIT DETAIL

NOTES:

1. 4" Dia. Interduct Conduit Shall Be PVC Schedule 40. The Interior Of Each Interduct Shall Be Specifically Delineated With A Contrasting Colors.
2. The Polyethylene Identification Tape Shall Be Metallic And Have A Minimum Thickness Of 4 Mils. The Tape Shall Read "Caution Buried Fiber Optic". Tape Shall Be Placed Directly Over Pipe, 18" Below Final Grade.
3. 10 Gauge Insulated, Solid Copper Wire Shall Be Attached Directly To The Outside Of The Open Conduit Every 10 Feet.
4. Handholes Shall Be Placed At Location Designated By City Engineer, But No Greater Than 400 Feet Apart.
5. Developer Shall Submit Shop Drawings Of Interduct And Handhole, For Review And Approval.

GENERAL NOTES

1. The Right-Of-Way Widths, Pavement Widths And Easement Widths Indicated On This Sheet Are Minimum Distances Required By The City Of Noblesville. Greater Widths May Be Provided Or Required. Additional Right-Of-Way Width Will Be Required In Proximity Of All Intersections With Thoroughfare Roads, Per City Of Noblesville. The Contractor Shall Review The Plat And The Plans To Confirm The Various Widths Indicated On This Sheet And Shall Report Any Discrepancy To The City Engineer And Noblesville Planning Department Prior To Proceeding With Construction.
2. Where New Sidewalk Connects To Existing Sidewalk, The Width Of New Sidewalk Shall Match Width Of Existing Sidewalk Or Be A Minimum Of 4 Feet, Whichever Is Greater.
3. Standard Pavement Markings Shall Be Placed In Streets/Roads As Shown, In Accordance With The Most Recent Indiana Manual On Uniform Traffic Control Devices. For Asphalt Pavements, All Pavement Markings Shall Be Thermoplastic. For Concrete Pavements, All Pavement Markings Shall Be Epoxy.
4. Snowplowable Raised Pavement Markers (RPMs) Shall Be Placed On All Thoroughfare Roads, In Accordance With The Most Recent Indiana Manual On Uniform Traffic Control Devices. Blue RPMs Shall Be Used When Adjacent To A Fire Hydrant. Contract Fire Marshall And City Engineer For Placement Location Of Blue RPMs On Roadways With More Than Two-Lanes.
5. Type II Curb Heads Are To Terminate With 12:1 Slope.
6. Acceleration/Deceleration Lanes And Passing Blisters Shall Be Constructed For All New Development Entrances, Which Connect To A Primary Arterial, Secondary Arterial, Major Collector, Or INDOT Right-Of-Way. See Subdivision Entrance From A Thoroughfare Detail, Standards Sheet 8.
7. For Any Development, Which Directly Adjoins A Primary Arterial, Secondary Arterial, Or Major Collector, As Depicted On the Noblesville Thoroughfare Plan, The Developer Shall Conduct The Following For Said Roadway(s).
   - 7.1. Hire An Independent Testing Laboratory To Collect Pavement Core Samples Every 400 Feet, But No Less Than Two Samples Per Roadway. A Written Summary, Which Illustrates The Aggregate Subbase Thickness And Pavement Thickness, Shall Be Submitted To The Noblesville Department Of Engineering.
   - 7.2. Developer Shall Repair All Pavement Failures, As Determined By The Noblesville Department Of Engineering.
   - 7.3. Developer Shall Widen Adjacent Travel Lane And Shoulder, As Shown Below.
   - 7.4. Developer Shall Widen Existing Culverts And Bridge Structures Within The Limits Of The Development.
   - 7.5. Following The Successful Completion Of Widening The Adjacent Travel Lane(s), The Entire Roadway Shall Receive An 1" Overlay Of HMA Surface. The Thickness of The Overlay Shall Be Increased As Required to Produce A Minimum Total Pavement Thickness Of 6". Maximum Depth Of HMA Surface Shall Not Exceed 1.5", Additional HMA Material Shall Be HMA Intermediate.
   - 7.6. Developer Shall Only Be Responsible For Improving Existing Thoroughfare Roadways, Between The Limits Of The Development.
   - 7.7. Roadway Drainage Improvements Shall Be Included With The Pavement Widening, Such As Regrading Of Drainage Swales And/Or Installation Of Roadway Pipe Culverts. See Detail
8. Material Tickets Shall Be Provided To The Noblesville Department of Engineering Within Seven (7) Calendar Days Of Placing Materials. All Concrete, Asphalt, And Aggregate Materials Must Be Produced And/Or Supplied From An INDOT Approved Source And Meet INDOT Specifications.
9. City Is Not Responsible For Maintaining, Repairing, Or Replacing Non-Public Infrastructure Within Right-Of-Way. Non-Public Infrastructure Includes, But Is Not Limited To, The Following: Landscaping, Irrigation System, And/Or Pet Containment Systems.



THOROUGHFARE ROAD IMPROVEMENTS WITHOUT CURB AND GUTTER

REVISIONS		
Rev. No.	Description	Date
1	R/W Widths: Thoroughfare Roads; Thoroughfare Road Improvements; Markings	11/01/02
2	Trail on Thoroughfares; Road Improv. Details; Gen Notes 1, 4, 5, 6, 8	12/1/06
3	Center Median Curb Type/Height; Remove Underdrain, Local Section; Gen Note 5	11/1/07

JOHN M. BEERY REGISTERED No. PE19500331 STATE OF INDIANA PROFESSIONAL ENGINEER

CITY OF NOBLESVILLE INCORPORATED MAY 1, 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Right-of-Way & Utility Easement Guidelines

SHEET 2 OF 16

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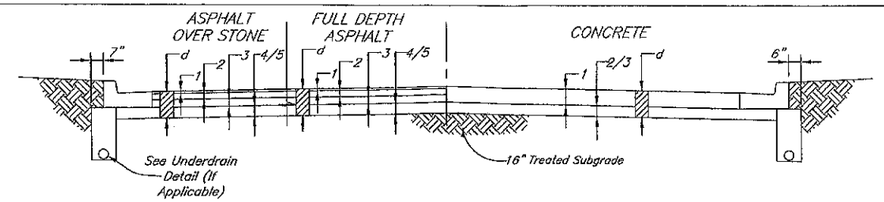
PAVEMENT CONSTRUCTION

1. Specifications For Asphalt Paving Operations, Placement Methods, And Weather Limitations Shall Conform To The Most Current INDOT Specifications Section 402.
2. Specifications For Portland Cement Concrete Pavement (PCCP) Paving Operations, Placement Methods, And Weather Limitations Shall Conform To The Most Current INDOT Specifications Section 502
3. Subbase And Subgrade Shall Be Placed To At Least 100 Percent Of Maximum Dry Density, In Accordance With AASHTO T99. Compaction Tests Shall Be At The Contractor's Expense And Shall Be Performed By An Independent Testing Laboratory. Test Results Shall Be Submitted To The Noblesville Department Of Engineering For Consideration Of Acceptance Of Maintenance Surety. One In-Place Density Test Shall Be Completed For Each Lift For Every 400 Linear Feet Per Traffic Lane. Coarse Aggregate Shall Not Be Placed On Frozen Subbase Or Subgrade.
4. For New Pavement Construction, The Contractor Shall Use Lime Modification To Aid Compaction Efforts Of The Subgrade Soil. Where Soil Conditions Are Predominantly Sand Or Gravel, Contractor May Use Soil-Cement Modification, Upon Written Approval Of The City Engineer. Lime Modification Shall Be In Accordance With The 2006 INDOT Standards And Specifications, Section 913.04(b). Hydrated Lime Shall Be Used To Modify The Soil To A Depth Of 16 Inches. Lime Modification Shall Be Performed Only With A Minimum Soil Temperature, Measured 4 Inches Below The Subgrade, Of 45°F, And With the Air Temperature Rising. Hydrated Lime Shall Not Be Mixed With Frozen Soils Or With Soil Containing Frost. Following Soil Modification, Compaction Of The Lime Modified Mixture Shall Provide A Density Not Less Than 100% Of The Maximum Dry Density Within The Special Subgrade Treatment Zone Or 95% Of The Maximum Dry Density Below The Special Subgrade Treatment Zone. Maximum Dry Densities Shall Be Determined In Accordance With AASHTO T99. The Mix Design Shall Be Determined In Accordance With INDOT Laboratory Proposed Design Procedure. The Mix Design And Construction Procedure Shall Be Submitted To The Noblesville Department Of Engineering For Approval. Following The Completion Of The Soil Modification Efforts, The Noblesville Department Of Engineering Shall Conduct A Subgrade Evaluation.
5. Wherever Rigid Pavement Is To Be Used, The Contractor Shall Submit A Detailed Paving Plan To The Noblesville Department Of Engineering. The Paving Plan Shall Illustrate The Location And Type Of Jointing To Be Used In The Construction. The Location And Type Of Jointing Shall Meet The Requirements Of The Most Recent INDOT Standard Details.
6. The Primary And Secondary Arterial Pavement Section Thickness Shown Are Minimum Requirements. California Bearing Ratio (CBR) Tests Shall Be Performed To Verify Pavement Thickness Designs. CBR Tests Shall Be Submitted To The Noblesville Department Of Engineering As Part Of The T.A.C. Submittal.
7. Concrete Curbs And Sidewalks Shall Be Constructed In Accordance With INDOT Specifications, Sections 604 And 605. Control Joints Shall Be Spaced 10 Feet Apart. Saw Cuts Or Tooled Joints Shall Be Uniform, Vertical And Neat.
8. For Cold-Weather Concrete Placement, Contractor Shall Comply With Provisions Of ACI 306R For Protection From Physical Damage Or Reduced Strength, For Hot Weather Concrete Placement, Contractor Shall Comply with Provisions Of ACI 305R For Protection From Physical Damage Or Reduced Strength, As Associated With Rapid Moisture Loss.
9. The Roadway Pavement Cross Section Shall Be Completed Within 60 Calendar Days From The Start Of The Subgrade Treatment. The Surface Asphalt Course May Be Placed More Than 60 Calendar Days After Subgrade Treatment, But Shall Be Placed Within One Calendar Year Of Placement of Asphalt Intermediate Course.
10. Proof Roll Tests Shall Be Passed Prior To Placement Of Underdrains And First Lift Of Roadway Base Material. Proof Roll Tests Shall Not Be Conducted On Frozen Subgrade And The Temperature For The Previous 72 Hours Prior To The Proof Roll Test Shall Be Above 32° F. Subgrade Shall Be Free From Excess Moisture.
11. Areas In Which Failures Occur During Proof Roll Test Are To Be Marked In The Field By The Engineering Department. Failures Shall Be Corrected And Retested Until Passing Inspection.
12. Roadways Which Have Exposed Milled Areas Shall Place And Compact Temporary Asphalt Pavement. Cold Mix Or Hot Mix, At The Milled Joints To Smooth The Transition Between The Milled Surface And Unmilled Surface. Milling Operations And Milled Pavement Areas Are Considered Construction Zones And Shall Be Marked Accordingly. Milled Surfaces Shall Be Covered Within 14 Calendar Days Of Start Of Pavement Milling Operations.

SIDEWALK CURB RAMP CONSTRUCTION

1. All Sidewalk Curb Ramps Shall Meet The Requirements Of The Americans With Disabilities Act And The Most Recent INDOT Standard Specifications. Curb Swipes Required For Curb Ramps Shall Be Provided At Time Of Initial Construction.
2. Minimum Width Of Curb Ramp Shall Match Sidewalk Widths, Not Including Flares. Maximum Slope Of Ramps Shall Be 12:1.
3. Curb Ramps Are To Be Located As Shown On The Plans Or As Directed By The Noblesville Department Of Engineering.
4. Type C Ramps Shall Be Provided At Every Public Roadway Intersection, Including Alleys. Type C Ramps Also Shall Be Provided At Walk Locations At Mid-Block In Vicinity Of Hospitals, Medical Centers, Or Athletic Stadiums. Bi-Directional Ramps Are Not Permitted, Unless Existing Conditions Warrant Their Use. The Use Of Details Contrary To Those Shown Hereon Shall Require The Prior Written Approval Of The Noblesville Department Of Engineering.
5. Ramps Shall Direct Pedestrians Perpendicularly Across Roadway To Another Ramp.
6. Surface Texture Of The Ramp Shall Be Obtained By A Course Brooming Transverse To The Slope Of The Ramp.
7. Ramps Shall Be Provided Where The Driveway Curb Extends Across The Sidewalk.
8. Care Shall Be Taken To Assure A Uniform Grade On All Ramps With No Breaks In Grade.
9. The Normal Gutter Line Profile Shall Be Maintained Through The Area Of The Ramp.
10. Drainage Structures Shall Not Be Placed In Line With Ramps. Location Of The Ramps Shall Take Precedence Over Location Of Drainage Structures.
11. Expansion Joint For The Ramp Shall Be A Maximum ½" Wide. The Top Of The Joint Filler For All Ramp Types Shall Be Flush With Adjacent Concrete.
12. Thermoplastic Crosswalk And Stop Line Marking Shall Be Installed When Directed By Either Planning Director, City Engineer, Or Street Commissioner.
13. Sidewalk Ramps Are Not To Be Constructed Within Or Part Of A Driveway.



LOCAL RESIDENTIAL

d= 12.5"
1. 1" HMA Surface, Type A, 9.5mm ON
2. 3" HMA Intermediate, Type A, 19.0 mm ON
3. 2.5" HMA Base, Type A, 25.0 mm ON
4. 6" Compacted Aggregate, #53 ON
5. 16" Stabilized Subgrade

d= 10.5"
1. 1" HMA Surface, Type A, 9.5mm ON
2. 3" HMA Intermediate, Type A, 19.0 mm ON
3. 2.5" HMA Base, Type A, 25.0 mm ON
4. 4" HMA Base, Type A, 25.0 mm ON
5. 16" Stabilized Subgrade

d= 12"
1. 6" PCCP ON
2. 6" Compacted Aggregate, #53 ON
3. 16" Stabilized Subgrade

COLLECTOR

d= 16"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0 mm (OG) ON
5. 6" Compacted Aggregate, #53 ON
6. 16" Stabilized Subgrade

d= 13"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0 mm (OG) ON
5. 3" HMA Base, Type B, 25.0 mm ON
6. 16" Stabilized Subgrade

d= 18"
1. 9" PCCP ON
2. 3" Compacted Aggregate, #8 ON
3. 6" Compacted Aggregate, #53 ON
4. 16" Stabilized Subgrade

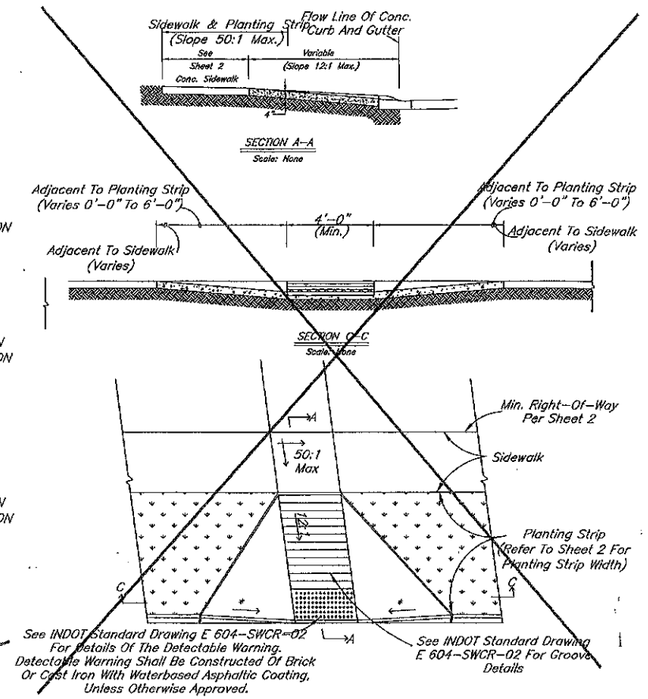
ARTERIAL / COMMERCIAL

d= 19"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0 mm (OG) ON
5. 3" HMA Base, Type B, 25.0 mm ON
6. 6" Compacted Aggregate, #53 ON
7. 16" Stabilized Subgrade

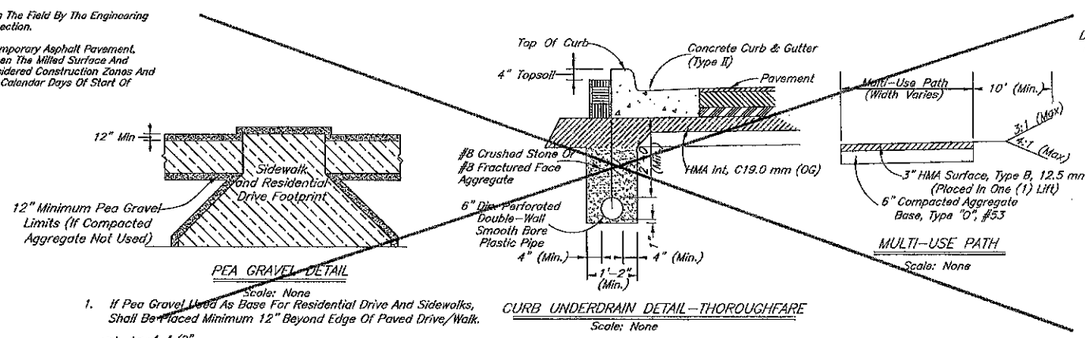
d= 16"
1. 1" HMA Surface, Type B, 9.5mm ON
2. 3" HMA Intermediate, Type B, 19.0 mm ON
3. 4" HMA Base, Type B, 25.0 mm ON
4. 2" HMA Int., C19.0mm (OG) ON
5. 6" HMA Base, Type B, 25.0 mm ON
6. 16" Stabilized Subgrade

d= 19"
1. 10" PCCP ON
2. 3" Compacted Aggregate, #8 ON
3. 6" Compacted Aggregate, #53 ON
4. 16" Stabilized Subgrade

PAVEMENT CONSTRUCTION
Scale: None



CURB RAMP, TYPE C
Scale: None



PEA GRAVEL DETAIL
Scale: None

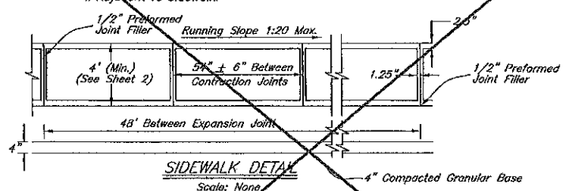
1. If Pea Gravel Used As Base For Residential Drive And Sidewalks, Shall Be Placed Minimum 12" Beyond Edge Of Paved Drive/Walk.

CURB UNDERDRAIN DETAIL-THOROUGHFARE
Scale: None

MULTI-USE PATH
Scale: None

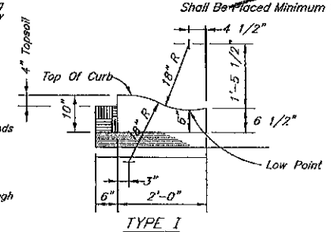
SIDEWALK RAMP CONSTRUCTION

1. Refer To INDOT Standard Drawings For Alternate Sidewalk Ramp Configurations And Construction Details.
* Wing Slope To Be 2:1 If Entirely Adjacent To Greenspace, 12:1 If Adjacent To Sidewalk.

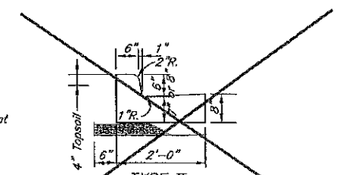


SIDEWALK DETAIL
Scale: None

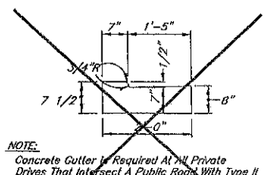
1. Care Shall Be Taken To Assure A Uniform Grade On All Ramps With No Grade Breaks.
2. 1/2" Preformed Joint Filler Shall Be Incorporated When Abutting Concrete Curbs, Structures, Other Walls, Other Fixed Objects, And A Spacing Of 48 Feet Of Walk.
3. Surface Texture Shall Be That Obtained By A Coarse Brooming, With A 2.5" Wide Smooth Trowel Finish For The Perimeter Of Each Sidewalk Panel. At Construction Joints, The Abutting Smooth Trowel Finish Shall Be 1.25" Wide.
4. Distance Between Contraction Joints Shall Be Consistent Between Driveways.
5. All Concrete Sidewalks Shall Be 4" Thick, Except At Residential Drive Crossings Where The Minimum Thickness Shall Be 6". At Commercial Drives, The Concrete Sidewalk Thickness Shall Be 8".
6. All Concrete Shall Be Air Entrained (5%±1%) -- 6 Bags Per Cubic Yard, Minimum 4000psi Compressive Strength.
7. A Minimum Of 4" Thick Compacted Granular Base Or 4" Pea Gravel Bed Extended Minimum Of 12" Beyond Edge Of Paved Sidewalk To Account For Spreading Shall Be Placed Prior To The Construction Of The Sidewalk.
8. Sidewalk Longitudinal Grade Shall Be Within ±1% Of The Adjacent Roadway's Longitudinal Grade Except At Curb Ramps.
9. Sidewalks And Trails Shall Have A Minimum Of 10 Feet To Both Sides Of The Sidewalk/Trail To A Side Slope No Greater Than 4:1 For Down Hill Grades And 3:1 On Up Hill Grades.



TYPE I
2' CONCRETE ROLL CURB & GUTTER
Scale: None

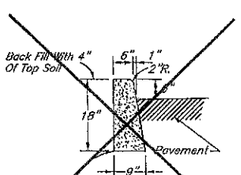


TYPE II
2' COMBINED CONCRETE CURB & GUTTER
Scale: None



NOTE:
Concrete Gutter Is Required At All Private Drives That Intersect A Public Road With Type II 2' Combined Concrete Curb And Gutter Or Similar.

DEPRESSED CONCRETE GUTTER
Scale: None



18" BOX CURB WITH 6" FACE
Scale: None

REVISIONS		
Rev. No.	Description	Date
1	Pavement X-Sections & Type 8 Curbs; Pavement Construction Note #1	11/01/02
2	Pvmt Con Note 1, 2, 9, 10-12; Ramp Notes 4, 5, 12, 14; Pvmt X-Sec Material - Collector, Arterial	12/1/06
	Curb Underdrain Detail; Top Soil Depth; Curb Face Height; Ramp Detail; Sidewalk Note 7	
3	Pvmt X-Sections; Underdrain Detail; Ramp Detail; Add Path & Pea Gravel Detail;	11/1/2007
	Gen Note 9, Sidewalk Detail & Note 7, 8, 9	

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CITY OF NOBLESVILLE INCORPORATED MAY 1, 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Pavement, Curb & Sidewalk Details And Notes

SHEET 3 OF 16

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Designer Note:
1. Storm Sewer Pipe and minimum depth is specified on the plan and profile drawings.

STORM SEWER REINFORCED CONCRETE PIPE

1. ~~Reinforced Concrete Pipe Shall Be Class III, IV, Or V As Specified In ASTM C-76.~~

~~DEPTH OF FILL OVER PIPE~~	~~CLASS~~
~~Between 2 Feet And 10 Feet~~	~~III~~
~~Between 10 Feet And 16 Feet~~	~~IV~~
~~16 Feet Or Greater~~	~~V~~

2. ~~Reinforced Elliptical Concrete Pipe Shall Be Class HE-III Or HE-IV As Specified In ASTM C-507.~~

~~DEPTH OF FILL OVER PIPE~~	~~CLASS~~
~~3 Feet Or Less~~	~~HE-IV~~
~~Between 3 Feet And 8 Feet~~	~~HE-III~~

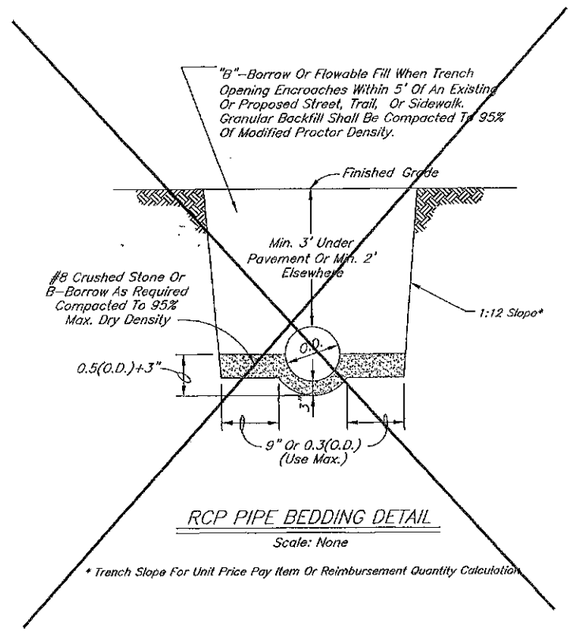
3. Lift Holes Are Not Allowed For Pipe Less Than 24 Inches In Diameter. A Maximum Of Two Lift Holes Are Allowed For Pipe 24 Inches In Diameter Or Larger, Lift Holes Shall Be Repaired In Accordance With The Most Recent INDOT Standard Specifications.
4. Fittings And Specifications Shall Be In Accordance With The Specifications For The Type Of Pipe Being Used.
5. The Outside Of Each Pipe Section Shall Be Legibly Marked With The Date Of Manufacture, Class Of Pipe, Specification Designation, Name Or Trademark Of Manufacturer And Identification Of Plant/Location. The Interior Of The Pipe Shall Also Be Marked With Same Information As The Exterior Of The Pipe In A Location That Can Be Seen During The Closed Circuit Television (CCTV) Inspection.
6. Pipe Shall Be Furnished With A Bell Or Groove On One End Of A Unit Of Pipe And A Spigot Or Tongue On The Adjacent End Of The Adjoining Pipe. All Joints Shall Have A Groove On The Spigot For Placement Of A Rubber "O"-Ring Or Profile Gasket In Accordance With ASTM C-443. The Gasket Shall Be A Continuous Ring Which Fits Snugly Into The Annular Space Between The Overlapping Surfaces Of The Assembled Pipe Joint.
7. Pipe Size And Classification Shall Be Called Out In Plan And Profile Of Construction Drawings.
8. All Culverts Or Ends Of Storm Pipe That Do Not Connect Directly To A Structure Shall Require Flared End Sections With PreCast Toe Walls And Rip-Rap. Specifications And Bedding Of Toe-Walls And Rip-Rap Requirements Shall Be Determined By The Design Engineer Based On The Velocity Of Discharge And Soil Type. Headwalls Shall Also Be Considered If The Previously Stated Items Are Note Sufficient.
9. Storm Sewer Pipe Shall Have A Minimum Horizontal Separation Of 10 Feet From Sanitary Sewer Pipe Or Water Main Pipe. All Pipe Crossings Shall Be At Angles Greater Than 45° With A Minimum Vertical Separation Of 1.5 Feet. Dimensions Are Measured From The Outside Of Pipe To Outside Of Pipe.

STORM SEWER PIPE TELEVISING AND AS-BUILT DRAWINGS

1. Closed Circuit Television Inspection Shall Be Performed On All Pipe Installed Within The City Of Noblesville For The Purposes Of Conveying Storm Water.
2. The Contractor Installing The Storm Sewer Pipe Shall Employ/Hire The Contractor Responsible For The Television Inspection Services. The Developer Shall Contact The Noblesville Department Of Engineering To Schedule The Closed-Circuit Television Inspection, Immediately Following The Thorough Cleaning Of All Segments.
3. If Any Pipe And/Or Joint Is Found To Be Faulty, The Contractor Shall Repair That Portion Of The Work To The Satisfaction And Approval Of The Noblesville Department Of Engineering.
4. Contractor Shall Bear All Costs Of Line Segment Cleaning, Debris Removal & Disposal, And, Through Subsequent Invoicing From The Noblesville Department Of Engineering, The Closed-Circuit Television Inspection.
5. Two Sets Of As-Built Mylar Drawings Shall Be Submitted To The Department Of Engineering. Electronic As-Built Drawings Submittal Shall Be Submitted And Comply City's GIS Coordinator's Guidelines. Contractor Shall Submit As-Built Drawings Within 30 Days Of Successful Completion of All Testing Requirements.
6. Contractor Shall Supply Digital Video Of Video Inspection To Department Of Engineering On 700 mB Compact Disks In The Following Format:
   - 6.1. Minimum 640 X 480 Pixel Dimension
   - 6.2. Minimum 24 fps (Frames Per Second)
   - 6.3. Indexed Chapters To Allow Instant Access To Points Of Observation
   - 6.4. Cross-Platform Compatible To Allow For Viewing On Any Operating System

STORM SEWER GENERAL NOTES

1. Storm Sewer Pipe, For In Public Right-of-Way And/Or Public Easements, Of Other Material Or Material Not Meeting These Specifications Shall Require The Prior Written Approval Of the Noblesville Department Of Engineering.
2. Upon Request, The Contractor Shall Submit Information To The Noblesville Department Of Engineering Illustrating Conformance With These Specifications.
3. The Smallest Permissible Storm Sewer Pipe Diameter Is 12 Inches.
4. Stormwater Technical Standards Manual Shall Be Referenced For Stormwater Design.
5. Prior To Earthwork, Pipe Construction, Or Other Activity That May Affect Or Alter Stormwater Runoff, The Downstream Receiving End Of Stormwater Shall Be Secured And Stabilized To Accommodate All Upstream Runoff, Including Offsite. This Includes, But Not Limited To Downstream Ditch Improvements, Culvert Improvements, Or Constructing Positive Outlet For Retention Facility.
6. Pre-Fabricated Galvanized Animal And Debris Guard Shall Be Installed On The Upstream End Of All Pond Outfalls.
7. Underdrain Table May Be Required By The City Engineer. Table Shall Be In The Format Required By The Indiana Department Of Transportation (INDOT).



RCP PIPE BEDDING DETAIL

Scale: None

* Trench Slope For Unit Price Pay Item Or Reimbursement Quantity Calculation

Designer Note:
1. Storm Sewer Bedding Detail is shown on Sheet 7 of the drawings per the Hamilton County Surveyor's Office Standard Detail Drawings for Drain Design.

REVISIONS		
Rev. No.	Description	Date
1	Pipe Note 5, 7; Televising/A/B Note 5, 6; General Note 4	12/1/05
	Pipe Trench Detail - Backfill Note, Trench Slope Note, Min. Cover Note	
3	Add Storm RCP Note 8-9, Add General Note 5-7	11/1/2007

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CITY OF NOBLESVILLE INCORPORATED 1873 SEAL INDIANA

CITY OF NOBLESVILLE

Storm Sewer Bedding And Notes

SHEET 4 OF 16

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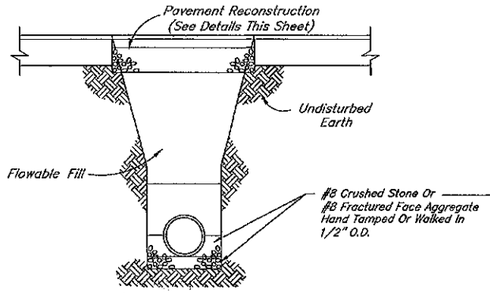
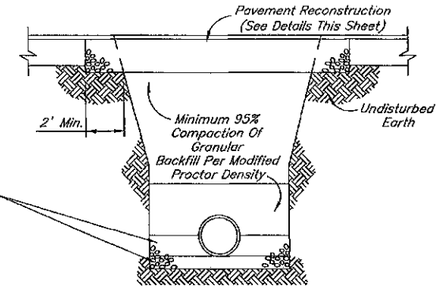


NOTES:
1. Trench Spoil Is To Be Removed From The Work Site And Disposed Of Out Of The Right-Of-Way.
2. Flowable Fill Is To Be Poured Into The Trench To Serve As Backfill, To The Dimensions And Specifications Listed In This Detail.
3. The Flowable Fill Mix Design Shall Have Been Previously Reviewed And Approved By The Noblesville Street Department Or Department Of Engineering
4. The Compressive Strength Of The Flowable Fill Shall Not Be Less Than 50 PSI Nor Greater Than 100 PSI At 28 Days.
5. When Type I Trench Backfill Is Used, The Existing Paved Surface Is Not Required To Be Over-Cut 2 Feet Minimum Each Side. Saw Cut Existing Pavement So That Cut Provides A Vertical, Neat And Uniform Edge.
6. Flowable Fill Shall Be Mixed And Placed As Specified In The Latest INDOT Standard Specifications, Section 213.

TRENCH BACKFILL – TYPE I FLOWABLE FILL DETAIL

Scale: None



NOTES:
1. Saw Cut Existing Pavement So That Cut Provides A Vertical, Neat And Uniform Edge.
2. Trench Spoil Is To Be Removed From The Work Site And Disposed Of Out Of The Right-Of-Way.
3. Trench Backfill – Type II Shall Only Be Permitted When Conducted Under The Presence Of An Independent Testing Laboratory. Proctor Tests And Field Density (Compaction) Tests Shall Be Conducted At The Sole Expense Of The Contractor. All Test Results Shall Be Submitted To The Noblesville Street Department Or Department Of Engineering Within 30 Days Of Backfill Completion.

TRENCH BACKFILL – TYPE II GRANULAR FILL DETAIL

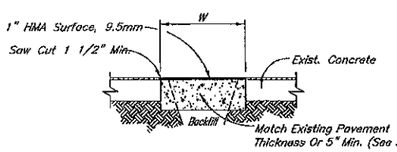
Scale: None

PAVEMENT RESTORATION TABLE	
UTILITY DEPTH RANGE (FEET)	MAXIMUM TRENCH WIDTH AT FINISHED GRADE, W (FEET)
0 TO 5	I. D. +5
5 To 8	I. D. +8
8 To 10	I. D. +10
10 TO 12	I. D. +12
12 To 14	I. D. +14
14 To 16	I. D. +16
16 To 18	I. D. +18
18 To 20	I. D. +20

I.D. = Pipe Or Conduit Inside Diameter

GENERAL NOTES

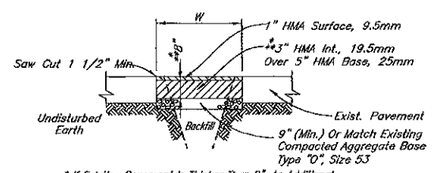
1. Any Excavation And/Or Trench Within 5 Feet Of Existing Or Proposed Roadway, Alley, Or Sidewalk/Trail Shall Be Type I Or Type II Backfill As Shown.
2. Type II Backfill May Be Used When The Trench Has Adequate Space To Allow Entrance Of Proper Equipment And Materials To Achieve The Required 95% Compaction Of Modified Proctor Density.
3. The Noblesville Board of Public Works And Safety Or The City Engineer Shall Have The Authority To Require Type I Trench Backfill When, In Their Opinion, Minimum Compaction Cannot Be Obtained.
4. The Contractor Shall Notify The City Of Noblesville Permitting Agency At Least 24 Hours Prior To Beginning Backfill Of Excavation. If The Permanent Patch Placement Is To Be A Separate Operation, The Contractor Shall Also Notify The City Of Noblesville Permitting Agency 24 Hours Prior To Placement Of Patch.
5. The Contractor Shall Be Responsible For Maintaining And Repairing Any And All Open Cuts Permitted Within The City Of Noblesville Right-Of-Way For A Period Of One Year Upon Final Acceptance By The Permitting Agency.
6. Trench Backfill And Pavement Restoration Shall Be Conducted In An Expedient Manner.
7. Surface Patch Shall Extend From Face Of Curb To Face Of Curb Unless Otherwise Approved By City Of Noblesville Board of Public Works.
8. Prior To Conducting Any Work Within City Of Noblesville Right-Of-Way Caused By Or Related To New Construction, Contractor Shall Secure A Utility Coordination Permit From The Noblesville Department of Engineering.
9. Prior To Conducting Any Work Within City Of Noblesville Right-Of-Way On Existing Facilities, Contractor Shall Secure An Encroachment Permit From The Noblesville Street Department.



NOTES:
1. Saw Cuts Shall Provide A Vertical, Neat And Uniform Edge.
2. All Materials Shall Comply With Specifications As Required By The Noblesville Department Of Engineering.
3. Concrete Surface Shall Be Broom Finish At Right Angles To Traffic Flow.
4. All Concrete Shall Be Air Entrained (5% ±1%)-6 Bags Per Cubic Yard Minimum 4000 PSI Compressive Strength Concrete. Prior To Exposing Concrete Patch To Vehicular Traffic, Compressive Strength Test Results Of Cylindrical Concrete Specimens Shall Be Supplied To The Noblesville Department of Engineering. Compressive Strength Tests Shall Be Conducted In Accordance With ASTM C39.
5. Contractor Shall Contact The Noblesville Department Of Engineering To Determine If Anchors Are Required On Existing Concrete Pavement Repairs.
6. The Concrete Pavement And The Existing Vertical Edge Of Pavement Are To Be Tack Coated Prior To The Placement Of New Asphalt. Tack Coat Is To Be Applied As Specified On Sheet 3.
7. The New Surface Pavement Grade Shall Match The Existing Surface Pavement Grade.
8. A Two (2) Inch Wide Band Of Crack Sealant Is To Be Applied Along The Joint Between The Existing And New Asphalt Surface. Sealant Is To Be Applied In Accordance With INDOT Standard Specifications, Section 305.
9. Contractor Shall Mill (1") Existing Pavement 25' In Each Direction From Trench Centerline, Replace With 1" HMA Surface, And Appropriate Pavement Markings.
10. Refer To Pavement Restoration Table For W. See General Notes For Additional Details.

CONCRETE W/BITUMINOUS SURFACE PATCH

Scale: None



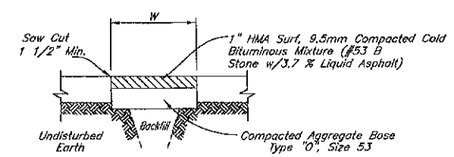
* If Existing Pavement Is Thicker Than 8", An Additional Lift Of HMA Base, 25mm Is To Be Used To Match The Existing Pavement Thickness.

** For Collector, Arterial And Industrial Streets, Contractor Shall Increase HMA Base, 25mm Thickness To Obtain A Total Pavement Thickness Of 10".

NOTES
1. Saw Cuts Shall Provide A Vertical, Neat, And Uniform Edge.
2. All Materials Shall Comply With Specifications As Required By The Noblesville Department Of Engineering.
3. Contractor Shall Mill (1") Existing Pavement 25' In Each Direction From Trench Centerline From Face-Of-Curb To Face-Of-Curb Or Edge-Of-Roadway, Replace With 1" HMA Surface, 9.5mm, And Appropriate Pavement Markings.
4. The Existing Vertical Edge Of Pavement Is To Be Tack Coated Prior To The Placement Of New Asphalt. Tack Coat Is To Be Applied As Specified On Sheet 3.
5. The New Surface Pavement Grade Shall Match The Existing Surface Pavement Grade.
6. A Two (2) Inch Wide Band Of Crack Sealant Is To Be Applied Along The Joint Between The Existing And New Asphalt Surface. Sealant Is To Be Applied In Accordance With INDOT Standard Specifications, Section 305.
7. Refer To Pavement Restoration Table For W. See General Notes For Additional Details.

BITUMINOUS PATCH

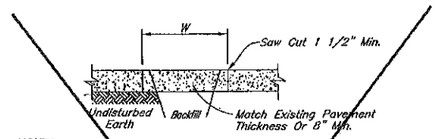
Scale: None



NOTES
1. Saw Cuts Shall Provide A Vertical, Neat, And Uniform Edge.
2. All Materials Shall Comply With Specifications As Required By The Noblesville Department Of Engineering.
3. The Contractor Shall Reference Noblesville Standard Cross-Sections As To The Required Thickness Of The Compacted Aggregate Base.
4. Temporary Repair Patch Is Required When Restoration Work Occurs Between November 15 And April 15.
5. Contractor Shall Refer To The Noblesville Encroachment Ordinance #13-3-01, For Maintenance Of Repair Of Temporary Patch.

FOR TEMPORARY REPAIR PATCH

Scale: None



NOTES
1. Saw Cuts Shall Provide A Vertical, Neat, And Uniform Edge.
2. All Materials Shall Comply With Specifications As Required By The Noblesville Department Of Engineering.
3. Surface Of Repair Shall be Broom Finished At Right Angles To Traffic Flow.
4. All Concrete Shall Be Air Entrained (5% ± 1%)-6 Bags Per Cubic Yard Minimum 4000 PSI Compressive Strength Concrete. Prior To Exposing Concrete Patch To Vehicular Traffic, Compressive Strength Test Results Of Cylindrical Concrete Specimens Shall Be Supplied To The Noblesville Department Of Engineering. Compressive Strength Tests Shall Be Conducted In Accordance With ASTM C39.
5. Contractor Shall Contact The Noblesville Department Of Engineering To Determine If Anchors Are Required On Existing Concrete Pavement Repairs.
6. Refer To Pavement Restoration Table For W. See General Notes For Additional Details.

CONCRETE PATCH

Scale: None

FOR CUTS WITHIN CONCRETE STREETS

Designer Note:
1. Contractor to have the option of either Concrete W/Bituminous Surface Patch or Bituminous Patch.

REVISIONS		
Rev. No.	Description	Date
1	Gen. Notes 1, 2, 7-9; Conc. w/ Bitum. Note 9; Bitum Patch Note 3; Trench Backfill Type II Detail	12/1/06

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CITY OF NOBLESVILLE INCORPORATED MAY 1 1874 SEAL INDIANA

CITY OF NOBLESVILLE

Street Cut Details

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