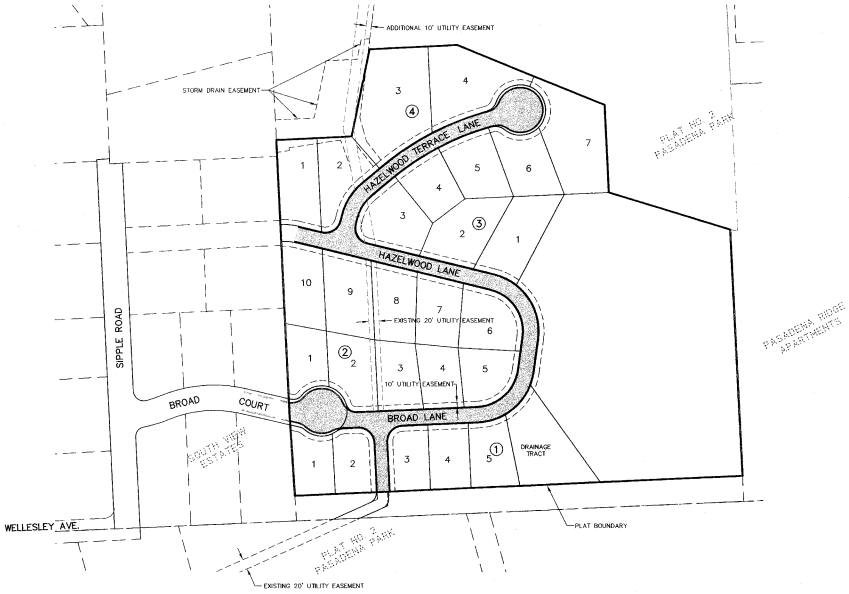
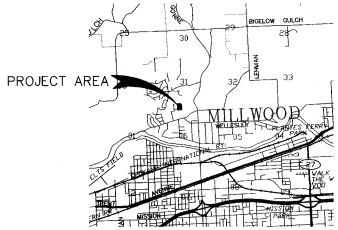
ROAD AND DRAINAGE IMPROVEMENTS

HAZELWOOD PARK

IN THE SOUTHEAST 1/4, SECTION 31, TOWNSHIP 26 NORTH, RANGE 44 EAST, W.M.
SPOKANE COUNTY, WASHINGTON





VICINITY MAP
NTS

SHEET INDEX

SHEET 1	COVER AND INDEX SHEET
SHEET 2	EROSION / SEDIMENT CONTROL PLAN
SHEET 3	BROAD LANE – PLAN AND PROFILE, STA. 1+00 TO 7+00
SHEET 4	HAZELWOOD LANE – PLAN AND PROFILE, STA. 7+00 TO 12+32
SHEET 5	HAZELWOOD TERRACE LANE – PLAN AND PROFILE
SHEET 6	BYPASS PIPE PROFILE AND HAZELWOOD TERRACE LANE CUL-DE-SAC DETAIL
SHEET 7	DETENTION POND AND DETAIL SHEET
SHEET 8	DETAIL SHEET

CERTIFICATION

THE DESIGN IMPROVEMENTS SHOWN IN THIS SET OF PLANS AND CALCULATIONS CONFORM TO THE APPLICABLE EDITIONS OF THE SPOKANE COUNTY STANDARDS FOR ROAD AND SEWER CONSTRUCTION AND THE SPOKANE COUNTY GUIDELINES FOR STORM WATER MANAGEMENT. I APPROVE THESE PLANS FOR CONSTRUCTION.

CHAD HEIMBIGNER, P.E. — DATE 10/20/05

DEVELOPER — DATE 10-24-05

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: 5-1971
DATE ACCEPTED: 12/14/06
ROAD/STREET SUPERVISOR: 12/14/06
PROJECT LANE MILES PUBLIC: 0.64
CONSTRUCTION PLANS EXPIRE: 2011
RECORD DRAWINGS: The plans and specifications shown on this set of plans have been approved by the Spokane County Engineer. Any changes or deviations from the approved plans and specifications must be approved by the Spokane County Engineer. Contact Spokane County Engineers Office (509) 477-3600 for any proposed changes.

LEGEND

EXISTING FEATURES

- ASPHALT SURFACING
- CURB
- SIDEWALK
- FOUND POINT AS NOTED
- DRYWELL
- GUY WIRE POLE
- POWER POLE
- TELEPHONE ENCLOSURE
- WATER VALVE
- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE / CULVERT
- POWER LINE (OHP OR UGP)
- TELEPHONE LINE (OHT OR UGT)
- GAS LINE
- CONTOURS
- FENCE
- FIBER OPTIC LINE
- LOT LINE

PROPOSED IMPROVEMENTS

- ASPHALT SURFACING
- CURB
- SIDEWALK
- GRAVEL
- DRYWELL
- STORM MANHOLE
- CONCRETE INLET
- POWER POLE
- WATER VALVE
- FIRE HYDRANT
- WATER SHUTOFF / WATER VAULT
- SANITARY SEWER MANHOLE
- CLEANOUT (CO)
- WATER LINE (AS SIZED)
- SLEEVE FOR WATER / SEWER CROSSING
- SANITARY SEWER LINE (AS SIZED)
- STORM DRAIN LINE / CULVERT
- UTILITY TRENCHING
- GAS LINE TRENCHING
- CONTOURS
- FENCE
- STORM WATER SWALE / POND
- DIRECTION OF SURFACE STORM WATER DRAINAGE
- 1924.50 / 1924.00 — TOP OF CURB ELEVATION / FLOWLINE ELEVATION
- CURB INLET / 1924.00 — CURB INLET / INLET ELEVATION AT FLOWLINE
- 1924.00 — FINISHED GRADE ELEVATION

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
1		
2		
3		
4		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: COVER AND INDEX SHEET
ROAD AND DRAINAGE IMPROVEMENTS
PROJECT TITLE: HAZELWOOD PARK
SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HEIMBIGNER, STATE OF WASHINGTON, 38125, REGISTERED PROFESSIONAL ENGINEER — EXPIRES 10-20-06

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	1 OF 8
	COVER

P-1987 Eng Road-Drainage

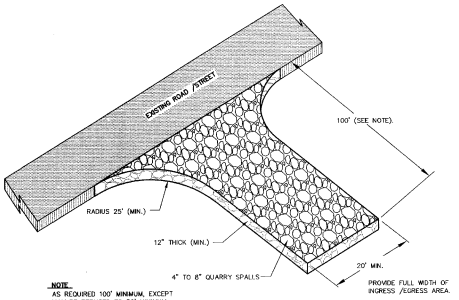
05028-DWG Cover-S1

DEFINITION: A TEMPORARY STONE-STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

PURPOSE: TO REDUCE THE AMOUNT OF MUD, DIRT, ROCK, ETC. TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF BY CONSTRUCTING A STABILIZED PAD OF ROCK SPALLS AT ENTRANCES TO CONSTRUCTION SITES AND WASHING OF TIRES DURING EGRESS.

CONDITIONS WHERE PRACTICE APPLIES: WHENEVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD OR OTHER PAVED AREAS.

MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONES, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED.



NOTE:
AS REQUIRED 100' MINIMUM, EXCEPT MAY BE REDUCED TO 50' MINIMUM FOR SITES WITH LESS THAN 1 ACRE OF EXPOSED SOIL.

STABILIZED CONSTRUCTION ENTRANCE / TIRE WASH (CE)
NTS

DEFINITION: A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED. THE FILTER FENCE IS CONSTRUCTED OF STAKES AND SYNTHETIC FILTER FABRIC WITH A RIGID WIRE FENCE BACKING WHERE NECESSARY FOR SUPPORT.

PURPOSE: 1. TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT UNDER SHEET FLOW CONDITIONS FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

2. TO DECREASE THE VELOCITY OF SHEET FLOWS.

CONDITIONS WHERE PRACTICE APPLIES: FILTER FENCES MUST BE PROVIDED JUST UPSTREAM OF THE POINT(S) OF DISCHARGE OF RUNOFF FROM A SITE, BEFORE THE FLOW BECOMES CONCENTRATED. THEY MAY ALSO BE REQUIRED:

1. BELOW DISTURBED AREAS WHERE RUNOFF MAY OCCUR IN THE FORM OF SHEET AND RILL EROSION, WHEREVER RUNOFF HAS THE POTENTIAL TO IMPACT DOWNSTREAM RESOURCES.

2. PERPENDICULAR TO MINOR SWALES OR DITCH LINES FROM CONTRIBUTING DRAINAGE AREAS UP TO ONE ACRE IN SIZE.

3. CONTRACTOR SHALL COORDINATE WITH DESIGN ENGINEER FOR ACTUAL PLACEMENT LOCATIONS.

STANDARD NOTES: A. THE FILTER FABRIC FENCE SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, OVERLAP FILTER CLOTH AND SECURELY FASTEN BOTH ENDS TO THE POST.

B. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 30 INCHES (WHERE PHYSICALLY POSSIBLE).

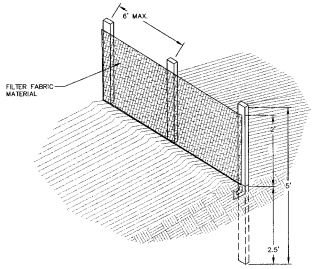
C. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THE TRENCH SHALL BE CONSTRUCTED TO FOLLOW THE CONTOURS.

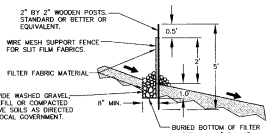
D. WHEN SLIT FILM FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

E. SLIT FILM FILTER FABRIC SHALL BE WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES. OTHER TYPES OF FABRIC MAY BE SPECIFIED TO THE DESIGN.

F. WHEN EXTRA-STRENGTH OR MONOFILAMENT FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE "E" APPLYING. EXTRA CARE SHOULD BE USED WHEN JOINING OR OVERLAPPING THESE STIFFER FABRICS.

G. LOCAL GOVERNMENTS MAY SPECIFY THE USE OF PROPERLY COMPACTED NATIVE MATERIALS. IN MANY INSTANCES, THIS MAY BE THE PREFERRED ALTERNATIVE BECAUSE THE SOIL FORMS A MORE CONTINUOUS CONTACT WITH THE TRENCH BELOW.



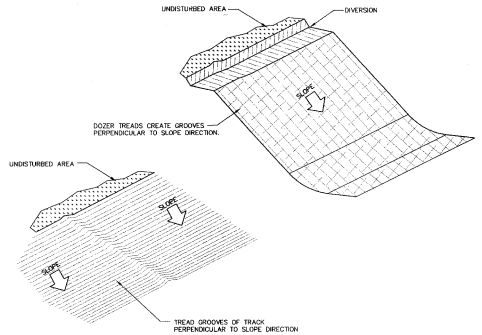


FILTER FENCE (FF)
NTS

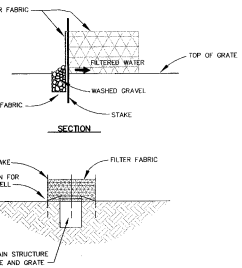
DEFINITION: PROVISION OF A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS CREATED BY OPERATING A TILLER OR OTHER SUITABLE EQUIPMENT ON THE CONTOUR OR BY LEAVING SLOPES IN A ROUGHED CONDITION BY NOT FILE GRADING THEM.

PURPOSE: TO AID IN ESTABLISHMENT OF VEGETATIVE COVER, REDUCE RUNOFF VELOCITY, INCREASE INFILTRATION, AND PROVIDE FOR SEDIMENT TRAPPING.

CONDITIONS WHERE PRACTICE APPLIES: ALL SLOPES STEEPER THAN 3:1, AND GREATER THAN 5 VERTICAL FEET, REQUIRE SURFACE ROUGHENING. EITHER STAIR-STEP GRADING, GROOVING, FURROWING, OR TRACKING IF THEY ARE TO BE STABILIZED WITH VEGETATION.



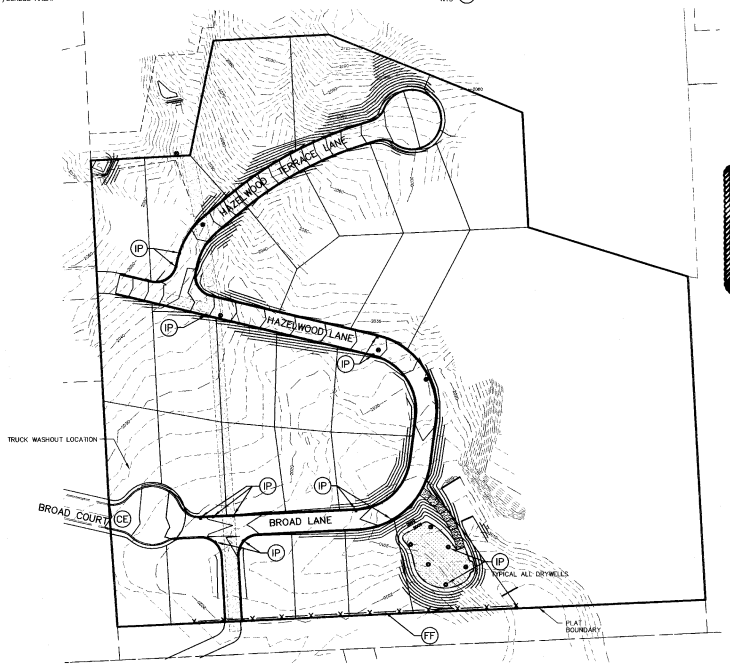
SURFACE ROUGHENING (SR)
NTS



NOTE:
1. ALL DRYWELLS, INLETS, CATCH BASINS AND ANY OTHER STORMDRAIN FIXTURES WITH GRATED INLETS SHALL BE PROTECTED.

2. PROTECTION SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED.

TEMPORARY INLET PROTECTION (IP)
NTS



SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P1927
DATE ACCEPTED: 12/8/05
ACCEPTANCE EXPIRES: 12/8/06
PROJECT LANE MILES PUBLIC: 0.09
PROJECT LANE MILES PRIVATE: 0.34
THIS DOCUMENT IS CONSIDERED THE PROPERTY OF THE PROJECT OWNER(S). THE OWNER(S) ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND DEVELOPMENT OF THE LOTS AND BUILDING SITES, TO PROVIDE A COPY TO PERMIT HOLDER(S) (509) 477-3600 MONTH PERMIT EXPIRES 12/06 PRIOR TO CONSTRUCTION

GRAPHIC SCALE
80 0 40 80 160
(IN FEET)
1 inch = 80 ft.

PROPERTY OWNER/PERMIT APPLICANT/ CONTACT PERSON

KURT PARAS
HOMES BY GEORGE PARAS
603 N. HAVANA
SPOKANE, WA 99202
(509)535-8377

PROJECT / SITE DESCRIPTION

THE PROPOSED PROJECT INCLUDES THE DEVELOPMENT OF A RESIDENTIAL SUBDIVISION LOCATED NORTH OF WELLESLEY AVENUE AND EAST OF SIPPLE ROAD. THE GROUND SURFACE AT THE PROJECT SLOPES 2% TO 20% DOWN TO THE SOUTHEAST. THE MAJORITY OF THE SITE IS COVERED WITH PONDEROSA PINES.

SOIL TYPE

THE SOILS IN THIS REGION OF THE SUBJECT PROJECT HAVE BEEN IDENTIFIED AS MARBLE (TYPE "A"), SPOKANE (TYPE "C"), BERNHILL (TYPE "B") AND PHOEBE (TYPE "B").

ESC MEASURES

FILTER FENCE SHALL BE USED TO AID IN CONTAINING ANY SEDIMENT ON THE SITE DURING CONSTRUCTION. STABILIZED CONSTRUCTION ENTRANCES SHALL BE USED AT POINTS OF INGRESS AND EGRESS FOR CONSTRUCTION VEHICLES. DRYWELL/INLET PROTECTION SHALL BE USED AT ALL STORMWATER PIPE INLETS OR DRYWELLS.

REFER TO PLAN VIEW ON THIS SHEET FOR APPROXIMATE LOCATION OF THE ABOVE ITEMS.

CERTIFICATION

THE EROSION AND SEDIMENT CONTROL PLAN MEETS THE REQUIREMENTS AS LISTED IN CHAPTER 4.5 OF THE GUIDELINES FOR STORMWATER MANAGEMENT. THIS ESC PLAN REPRESENTS A GUIDELINE FOR THE CONTRACTOR TO FOLLOW. THE CONTRACTOR SHALL BE RESPONSIBLE TO FOLLOW ALL SPOKANE COUNTY REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL.

CHAD HUMBIGNER, P.E. — DATE 10/6/05

NOTE: REFER TO COVER AND INDEX SHEET FOR VICINITY MAP.

DEVELOPER — DATE 10-24-05

NORTH

BENCHMARK

TBM: "4" ON SOUTH BOLT OF FIRE HYDRANT ON NORTH SIDE OF BROAD COURT PER SPOKANE COUNTY SANITARY SEWER PLANS.
ELEVATION=2029.53 (NAVD88)

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
1		
2		
3		
4		
5		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: EROSION / SEDIMENT CONTROL PLAN

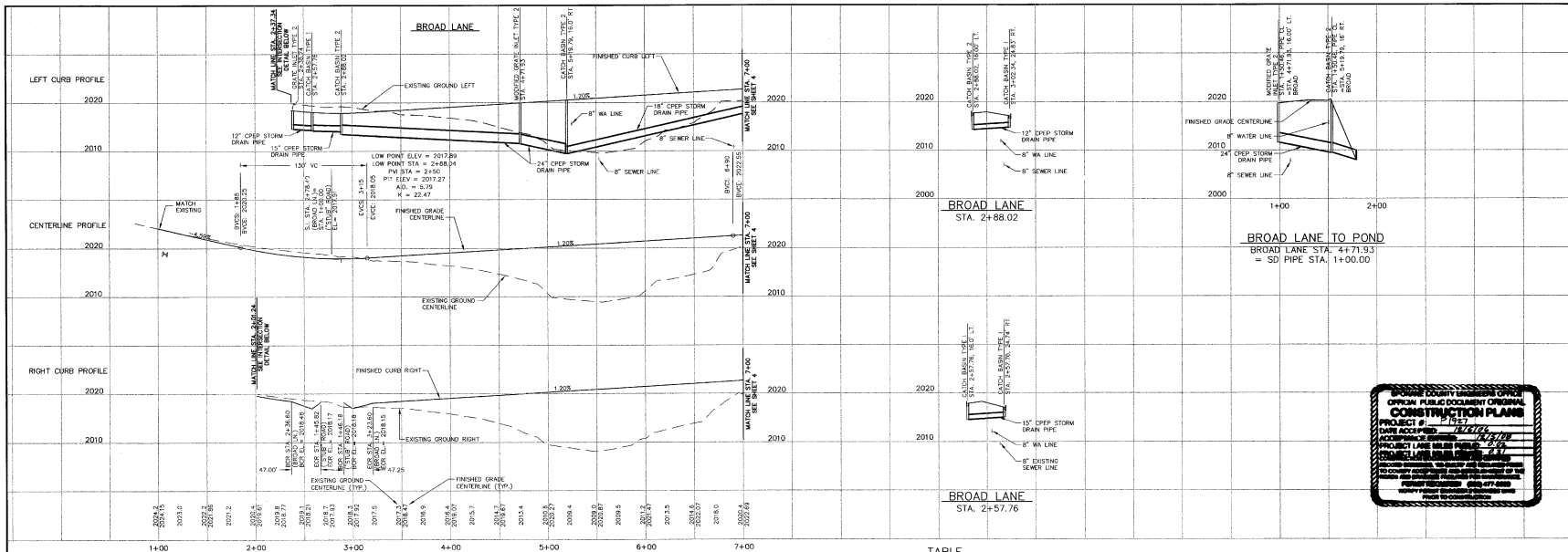
SUBJECT TITLE: HAZELWOOD PARK
SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HUMBIGNER, STATE OF WASHINGTON, 38150, REGISTERED PROFESSIONAL ENGINEER

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	2 OF 8
	EROSION

05028-CDMG Erosion

P-1927 Eng Prel Drainage



TABLE

1. GRATE INLET TYPE 2
WSDOT STD. B-4c W/FRAME AND VANED GRATE WSDOT STD. B-4d
SEE NOTE 8
STA. 2+38.74, 16.00' LT.
GRATE EL.= 2017.84
IE.= 2014.70 (OUT)

2. 12" CPEP STORM DRAIN PIPE
L.= 19'
S.= 0.8%

3. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 1 METAL FRAME, STD. B-10, AND TYPE 1 METAL GRATE, STD. B-12.
STA. 2+57.76, 16.00' LT.
GRATE EL.= 2017.87
IE.= 2014.35 (S)
IE.= 2014.55 (W)
IE.= 2014.22 (E)

4. 15" CPEP STORM DRAIN PIPE
L.= 38'
S.=0.5%

5. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B=14.
STA. 3+57.76, 24.74' RT.
GRATE EL.= 2016.86
IE.= 2014.55 (OUT)
SEE NOTE 9

6. 15" CPEP STORM DRAIN PIPE
L.= 39'
S.=0.5%

7. 48" DIAMETER CATCH BASIN TYPE 2
WSDOT STD. B-1e W/TYPE 2 METAL FRAME, SPOKANE COUNTY STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 2+88.02, 16.00' LT.
GRATE EL.= 2017.30
IE.= 2014.11 (W)
IE.= 2014.31 (S)
IE.= 2013.51 (E)
SEE NOTE 9

8. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 3+02.34, 24.83' RT.
GRATE EL.= 2016.93
IE.= 2014.77 (OUT)
SEE NOTE 9.

9. 12" CPEP STORM DRAIN PIPE
L.= 40'
S.= 1.2%

10. 24" CPEP STORM DRAIN PIPE
L.= 184'
S.= 1.0%

11. MODIFIED GRATE INLET TYPE 2, SIMILAR TO WSDOT STD. B-4c WITH KNOCKOUTS TO ACCOMODATE 24" CPEP AND VANED FRAME AND GRATE WSDOT STD. B-4d.
SEE NOTE 8
STA. 4+71.93, 16.00' LT.
GRATE EL.= 2019.51
IE.= 2011.60 (W)
IE.= 2011.50 (E)

12. 24" CPEP STORM DRAIN PIPE
L.= 55'
S.= 3.6%

13. 18" CPEP STORM DRAIN PIPE
L.= 217'
S.= 4.5%

14. 48" DIAMETER CATCH BASIN TYPE 2
WSDOT STD. B-1e W/CB FRAME, STD. B-2a, AND VANED GRATE, STD. B-2b.
STA. 5+18.76, 16.00' RT.
GRATE EL.= 2020.09
IE.= 2009.40 (S)
IE.= 2009.50 (NE)(NW)

15. 24" CPEP STORM DRAIN PIPE
L.= 25'
S.= 5.6%
IE.= 2008.00 (OUT)

16. DETENTION POND "A"
FOR ADDITIONAL CONSTRUCTION SPECIFICATIONS AND INFORMATION REFER TO DETAIL SHEET.

17. "NO OUTLET" SIGN PER M.U.T.C.D. STANDARDS.

18. STOP AND STREET SIGNS PER M.U.T.C.D. STANDARDS.

19. RIP RAP, SEE DETAIL SHEET.

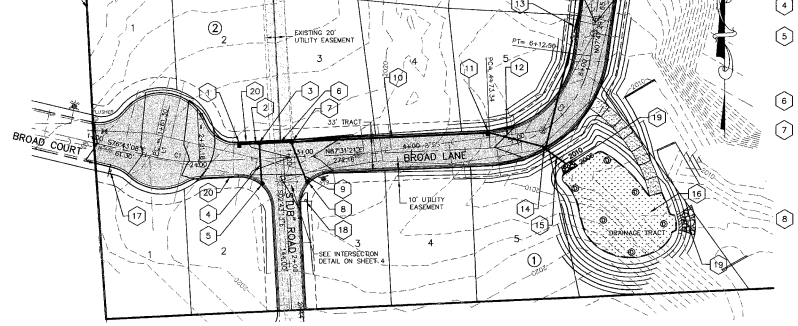
20. BEGIN CURB TRANSITION FROM TYPE "B", SPOKANE COUNTY STD. A-3 TO TYPE "R", 2+37.42 TO 2+53.42 LT. AND 2+20.69 TO 2+36.60 RT. MATCH GUTTER FLOWLINE ELEVATION AND BACK OF CURB ALIGNMENT. TRANSITION SHALL BE 16' IN LENGTH TO ALLOW FOR A SMOOTH APPEARANCE. SEE DETAIL SHEET.

LINE TABLE

LINE	LENGTH	BEARING
L1	16.00	N13°16'52"E

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TAN	CHORD L	BEARING
C1	39.88	145.00	15°45'30"	20.07	39.75	S84°35'54"E
C2	139.16	100.00	79°43'52"	83.51	128.20	N47°39'25"E
C3	146.76	100.00	84°05'06"	90.17	133.94	N34°15'04"W
C4	28.66	100.00	16°25'21"	14.43	28.56	N84°30'18"W
C5	63.53	100.00	36°23'34"	32.88	62.46	S31°34'20"W
C6	226.40	550.00	23°35'05"	114.82	224.80	S61°53'50"W



NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.

2. ALL CURB RETURNS ARE 30' RADIUS AT BACK OF CURB UNLESS OTHERWISE SHOWN.

3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.

4. THE UNDERGROUND UTILITY LINES AND OFF-SITE UTILITIES LOCATION HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.

5. EXISTING OVERHEAD POWER, TELEPHONE AND OTHER UTILITIES WITHIN THE PROPOSED ROADWAY OF BROAD COURT SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION.

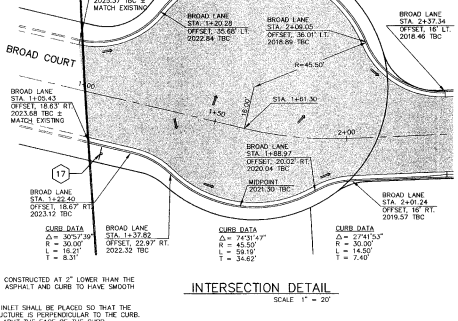
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.

7. CURB INLETS SHALL BE CONSTRUCTED AT 2" LOWER THAN THE FLOW LINE OF THE CURB. ASPHALT AND CURB TO PAVE SMOOTH TAPER INTO CURB INLETS.

8. THE W.S.D.O.T. TYPE 2 INLET SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.

9. INLETS AND CATCH BASINS WITH TYPE 2 METAL FRAMES SHALL HAVE A FULL TYPE B CURB AND GUTTER SECTION 6' ON EACH SIDE OF THE INLET OR CATCH BASIN. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION FROM TYPE R TO TYPE B CURB PRIOR TO 6' ON EACH SIDE OF THE INLET OR CATCH BASIN. SEE DETAIL SHEET FOR TRANSITION.

10. CONTRACTOR SHALL VERIFY SANITARY SEWER SERVICE AND WATER SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO INSTALLATIONS.



INTERSECTION DETAIL

SCALE 1" = 20'

DEVELOPER KDB 10-24-05 DATE

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

DATUM: NAVD88

BENCHMARK

TBM: "+" ON SOUTH BOLT OF FIRE HYDRANT ON NORTH SIDE OF BROAD COURT PER SPOKANE COUNTY SANITARY SEWER PLANS.
ELEVATION=2029.53 (NAVD88)

CALL BEFORE YOU DIG 456-8000

P-1927 Eng Work Drawings

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT # P-1927
DATE ACCEPTED 12/6/06
DATE EXPIRES 12/6/08
PROJECT LANE MILES PUBLIC 0.07
PROJECT LANE MILES PRIVATE 0.07
CONTACT PUBLIC WORKS FOR ADDITIONAL INFORMATION
TO CONVERT PUBLIC TO PRIVATE PROJECT CONTACT OF E.
PERMIT NUMBER (509) 477-3600
PROJECT DESCRIPTION
FOR CONSTRUCTION

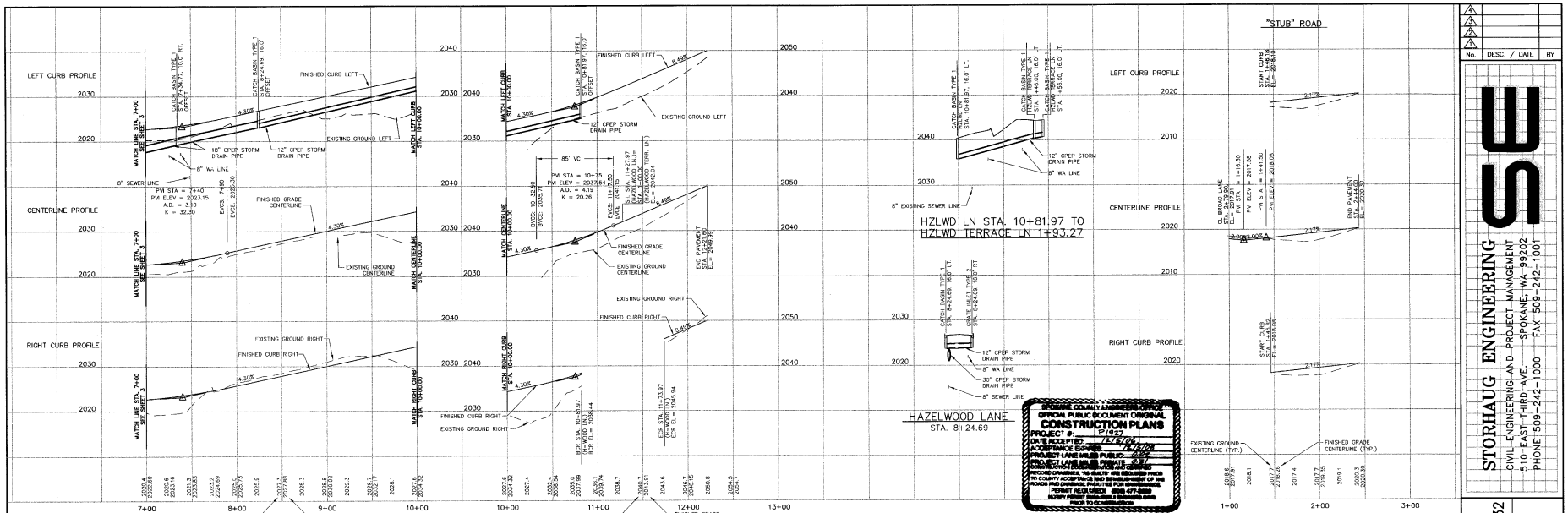
SHEET TITLE: BROAD LANE PLAN AND PROFILE 1+00 TO 7+00

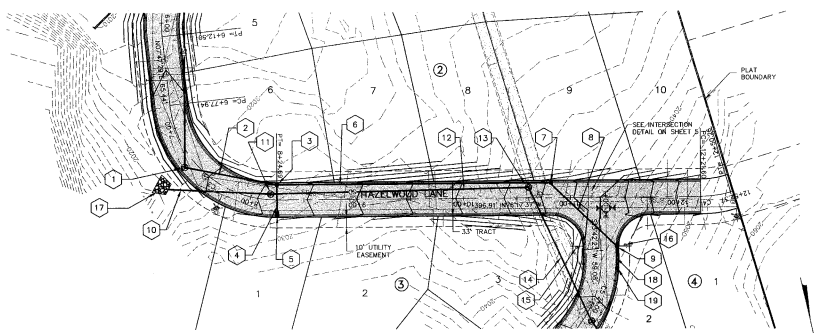
PROJECT TITLE: HAZELWOOD PARK SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HEIMBIGNER, STATE OF WASHINGTON, 38172, REGISTERED PROFESSIONAL ENGINEER

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	3 OF 8
	STREET

05028-S-DWG ST-1





TABLE

1. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/ TYPE 4 FRAME, STD. B-15, AND SOLID LID, STD. B-15.
STA. 7+34.77, 16.00' RT.
GRATE EL.= 2023.20
IE.= 2019.30 (W)
IE.= 2019.20 (S)

2. 18" CPEP STORM DRAIN PIPE
L= 88'
S.= 4.1%

3. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 1 METAL FRAME, STD. B-10, AND TYPE 1 METAL GRATE, STD. B-12
STA. 8+24.69, 16.00' LT.
GRATE EL.= 2026.37
IE.= 2022.82 (E)
IE.= 2023.22 (W)
IE.= 2023.72 (N)

4. 12" CPEP STORM DRAIN PIPE
L= 20'
S.= 0.5%

5. GRATE INLET TYPE 2
WSDOT STD. B-4c W/FRAME AND VANED GRATE, WSDOT STD. B-4d
SEE NOTE 8
STA. 8+24.69, 16.00' RT.
GRATE EL.= 2026.37
IE.= 2023.87 (OUT)

6. 12" CPEP STORM DRAIN PIPE
L= 29.7'
S.= 4.0%

7. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 1 METAL FRAME, STD. B-10, AND TYPE 1 METAL GRATE, STD. B-12.
STA. 10+81.97, 16.00' LT.
GRATE EL.= 2038.02
IE.= 2033.71 (NW)
IE.= 2033.61 (E)

8. 12" CPEP STORM DRAIN PIPE
L= 85'
S.= 5.3%

9. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 1+46.00, 16.00' LT.
GRATE EL.= 2041.74
IE.= 2038.23 (OUT)
SEE NOTE 9.

10. 36" CPEP STORM DRAIN PIPE
L= 95'
S.= 0.5%
IE.= 2020.00 (OUT)
SEE RIPRAP TABLE ON DETAIL SHEET.

11. MANHOLE TYPE III-60
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID.
STA. 8+18.32, 5.41' LT.
GRATE EL.= 2026.59
IE.= 2020.48

12. 30" CPEP STORM DRAIN PIPE
L= 242.0'
S.= 2.0%

13. MODIFIED MANHOLE TYPE III-60 (5.5' DEPTH)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID.
STA. 10+60.95, 10.00' LT.
GRATE EL.= 2036.81
IE.= 2031.44 (E,N)

14. 30" CPEP STORM DRAIN PIPE
L= 136'
S.= 3.2%

15. "NO OUTLET" SIGN PER M.U.T.C.D. STANDARDS.

16. STOP AND STREET SIGNS PER M.U.T.C.D. STANDARDS.

17. RIP RAP, SEE DETAIL SHEET

18. 12" CPEP STORM DRAIN PIPE
L= 20'
S.= 2.0%

19. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 1+66.00, 16.00' LT.
GRATE EL.= 2042.28
IE.= 2038.73 (OUT)
SEE NOTE 9.

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.

2. ALL CURB RETURNS ARE 30' RADIUS AT BACK OF CURB UNLESS OTHERWISE SHOWN.

3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.

4. THE UNDERGROUND UTILITY LINES AND OFF-SITE UTILITIES LOCATION HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.

5. EXISTING OVERHEAD POWER, TELEPHONE AND OTHER UTILITIES WITHIN THE PROPOSED ROADWAY OF BROAD COURT SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION.

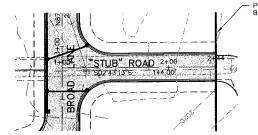
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.

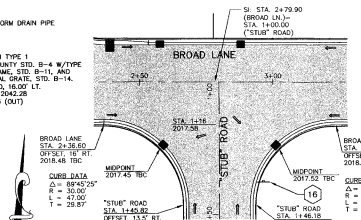
7. CURB INLETS SHALL BE CONSTRUCTED AT 2" LOWER THAN THE FLOW LINE OF THE CURB. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.

8. THE W.S.D.O.T. TYPE 2 INLET SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.

9. INLETS AND CATCH BASINS WITH TYPE 2 METAL FRAMES SHALL HAVE A FULL TYPE B CURB AND GUTTER SECTION 6" ON EACH SIDE OF THE INLET OR CATCH BASIN. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION FROM TYPE B TO TYPE B CURB PRIOR TO 6' ON EACH SIDE OF THE INLET OR CATCH BASIN. SEE DETAIL SHEET FOR TRANSITION.

10. CONTRACTOR SHALL VERIFY SANITARY SEWER SERVICE AND WATER SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO INSTALLATIONS.





INTERSECTION DETAIL

SCALE 1" = 20'

K&B 10-24-05

DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TAN	CHORD L	BEARING
C1	39.88	145.00	15°45'30"	20.07	39.75	S84°35'34"E
C2	139.16	100.00	79°43'22"	83.51	128.20	N47°39'25"E
C3	146.76	100.00	84°05'06"	90.17	133.94	N34°15'04"W
C4	28.66	100.00	16°22'21"	14.43	28.56	N84°30'18"W
C5	63.53	100.00	36°23'54"	32.88	62.46	S31°54'20"W
C6	226.40	550.00	23°35'05"	114.82	224.80	S61°53'50"W

BENCHMARK

TBM: "+" ON SOUTH BOLT OF FIRE HYDRANT ON NORTH SIDE OF BROAD COURT PER SPOKANE COUNTY SANITARY SEWER PLANS.
ELEVATION=2029.53 (NAVD88)

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORIZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

No.	DESC. / DATE	BY
1		
2		
3		
4		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: PLAN AND PROFILE STA. 7+00 TO 12+32

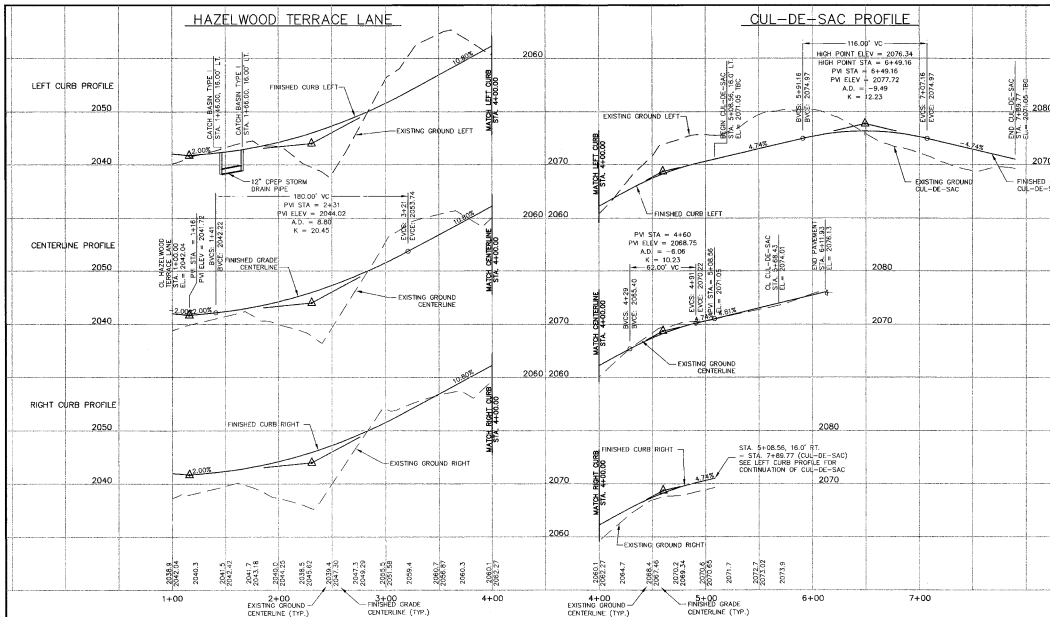
PROJECT TITLE: HAZELWOOD LANE
HAZELWOOD PARK
SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HEIMBIGNER, STATE OF WASHINGTON, 38180, REGISTERED PROFESSIONAL ENGINEER, EXPIRES 10-05-06

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	4 OF 8
	STREET

05028-DWG ST-2

P-1927 Eng Road Drainage



TABLE

1. MANHOLE TYPE III-60 SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STA. 2+15.47, 7.18' LT. GRATE EL.= 2044.91 IE.= 2035.91
2. 30" CPEP STORM DRAIN PIPE L.= 113' S.= 2.4%
3. MANHOLE TYPE III-60 SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STA. 2+54.06, 114.63' LT. GRATE EL.= 2046.02± IE.= 2038.33 (S,N) IE.= 2038.73 (W)
4. 24" CPEP STORM DRAIN PIPE L.= 116' S.= 17.5% IE.= 2059.00
5. 30" CPEP STORM DRAIN PIPE L.= 90' S.= 11.3% IE.= 2048.50
6. CURB NOSE DOWN SEE DETAIL SHEET 7
7. REBUILD SEWER ACCESS EASEMENT ROAD TO MATCH EXISTING CONDITIONS. 6" CRUSHED ROCK TOP COURSE, 3/4" MINUS COMPACTED TO 95% MAX. DENSITY (ASTM D698).
8. STOP AND STREET SIGNS PER M.U.T.C.D. STANDARDS.
9. "NO OUTLET" SIGN PER M.U.T.C.D. STANDARDS.

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS ARE 30' RADIUS AT BACK OF CURB UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. THE UNDERGROUND UTILITY LINES AND OFF-SITE UTILITIES LOCATION HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING OVERHEAD POWER, TELEPHONE AND OTHER UTILITIES WITHIN THE PROPOSED ROADWAY OF BROAD COURT SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED AT 2" LOWER THAN THE FLOW LINE OF THE CURB. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. THE W.S.D.O.T. TYPE 2 INLET SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. INLETS AND CATCH BASINS WITH TYPE 2 METAL FRAMES SHALL HAVE A FULL TYPE B CURB AND GUTTER SECTION 6' ON EACH SIDE OF THE INLET OR CATCH BASIN. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION FROM TYPE R TO TYPE B CURB PRIOR TO 6' ON EACH SIDE OF THE INLET OR CATCH BASIN. SEE DETAIL SHEET FOR TRANSITION.
10. CONTRACTOR SHALL VERIFY SANITARY SEWER SERVICE AND WATER SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO INSTALLATIONS.

CURVE TABLE

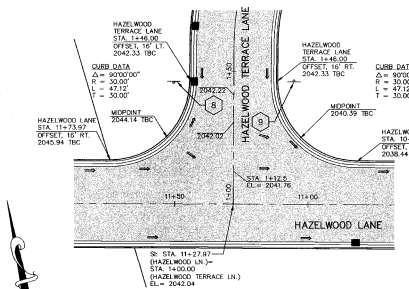
CURVE	LENGTH	RADIUS	DELTA	TAN	CHORD L	BEARING
C1	39.88	145.00	15°45'30"	20.07	39.75	S84°35'54"E
C2	139.16	100.00	79°43'32"	83.51	128.20	N47°39'25"E
C3	146.76	100.00	84°05'08"	90.17	133.94	N34°15'04"W
C4	28.66	100.00	16°25'21"	14.43	28.56	N84°30'18"W
C5	63.53	100.00	36°23'54"	32.88	62.46	S31°54'20"W
C6	226.40	550.00	23°35'05"	114.82	224.80	S61°53'50"W

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P-1927
DATE ACCEPTED: 11/15/06
ACCEPTANCE EXPIRES: 11/15/08
PROJECT LANE MILES PUBLIC: 0.06
PROJECT LANE MILES PRIVATE: 0.44
CONSTRUCTION COMMENCED AT AND FINISHED
RECORD DRAWINGS YES-BLUE*INK ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE. AND SETUP/LOCATION OF THE RECORD AND DRAWINGS TA/ATTIES FOR MAINTENANCE.
PERMIT HELD BY: BROD 477-2000
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS BACK TO CONSTRUCTION



INTERSECTION DETAIL

SCALE 1" = 20'

KPB 10-24-05
DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

BENCHMARK

TBM: "+" ON SOUTH BOLT OF FIRE HYDRANT ON NORTH SIDE OF BROAD COURT PER SPOKANE COUNTY SANITARY SEWER PLANS.
ELEVATION=2029.53 (NAVD88)

05028-CUWC ST-3

No.	DESC. / DATE	BY
1		
2		
3		
4		

STORHAUG ENGINEERING
CIVIL-ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: HAZELWOOD TERRACE LANE PLAN AND PROFILE

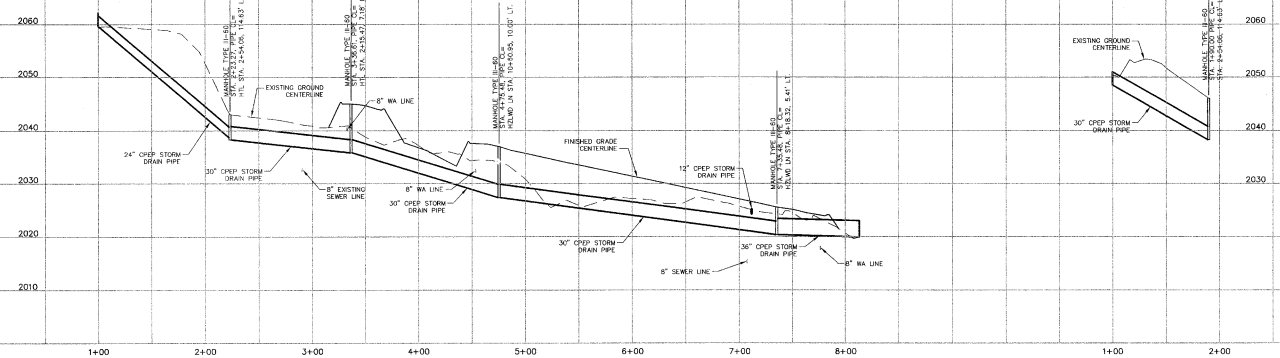
PROJECT TITLE: HAZELWOOD PARK SPOKANE COUNTY, WASHINGTON

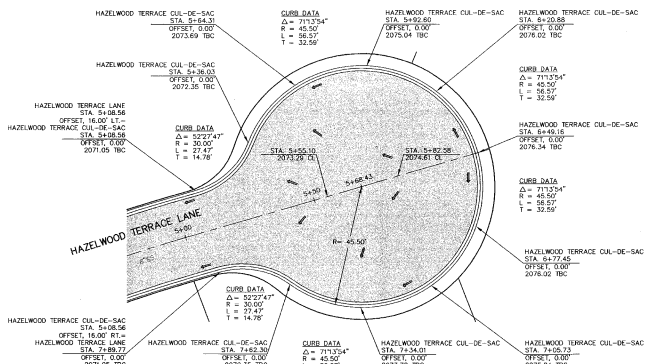
SEAL: CHAD HEMBRINGER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 38150, EXPIRES 10-10-06

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	5 OF 8
	STREET

P-1927 Eng Road Drainage

BYPASS STORM PIPE PROFILES





HAZELWOOD TERRACE LANE
CUL-DE-SAC DETAIL
SCALE 1" = 20'

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT # P-1927
DATE ACCEPTED: 12/8/06
ACCEPTANCE EXPIRES: 12/8/09
PROJECT LANE MILES PUBLIC: 0.07
PROJECT LANE MILES PRIVATE: 0.47
CONTRACTOR COORDINATES WITH COUNTIES
RECORD DRAWINGS: YES-AS-BUILT AND RECORDED PLAN
NO CITY MAY ACCEPT, OWN, AND MAINTAIN ANY OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE.
TRUANT RACE ARENA (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

BENCHMARK
TBM: "+" ON SOUTH BOLT OF FIRE HYDRANT ON NORTH SIDE OF BROAD COURT PER SPOKANE COUNTY SANITARY SEWER PLANS.
ELEVATION=2029.53 (NAVD88)

DEVELOPER KDR 10-24-05 DATE

CALL BEFORE YOU DIG 456-8000

P-1927 Eng Road Drainage

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

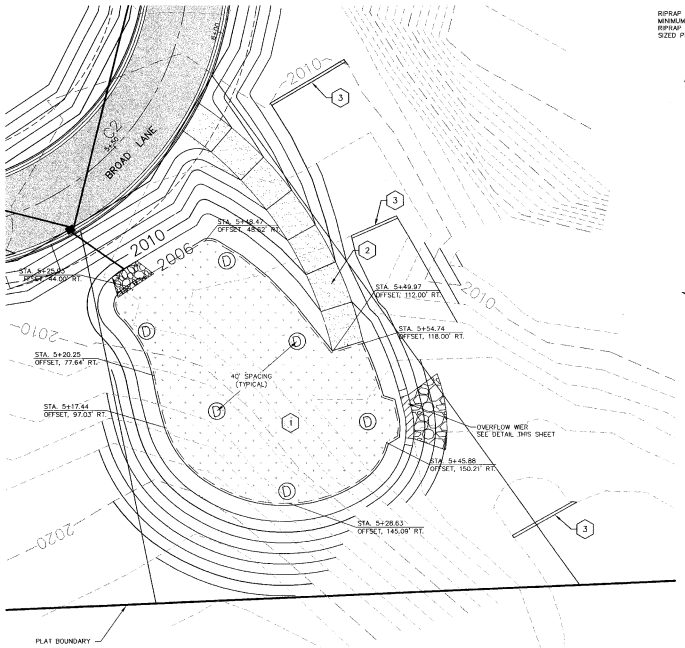
SHEET TITLE: BYPASS PIPE PROFILE AND HTL CUL-DE-SAC DETAIL
PROJECT TITLE: HAZELWOOD PARK SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HEIMBIGNER, STATE OF WASHINGTON, 38150, REGISTERED PROFESSIONAL ENGINEER, EXPIRES 10-10-06

DATE	10/20/05
DRAWN	JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	6 OF 8
	STREET

05028-DWG S1-4

LOCATION	A	B	C	MIN.	AVG.	MAX.	THICKNESS
WEIR	15.0'	11.0'	19.4'	1.5"	6.0"	8.3"	12.0"
BYPASS 36" PIPE	9.0'	45.7'	27.3'	1.5"	6.0"	8.3"	12.0"
POND 24" PIPE	6.0'	27.3'	17.0'	2.3"	9.0"	12.4"	12.0"



DETENTION POND "A"

1" = 20'

NOTES:

1. THE DETENTION POND BERM SHALL BE CONSTRUCTED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER AND MEET THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

2. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER AND GEOTECHNICAL ENGINEER TO VERIFY IN PLACE INFILTRATION OF INITIAL DRYWELL INSTALLED.

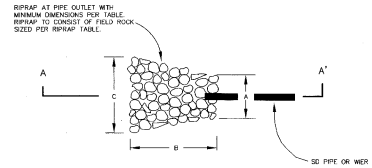
3. THE POND BERM SHALL BE CONSTRUCTED OF NATIVE MATERIAL OR SIMILAR GRANULAR SOIL. THE BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM UNIT WEIGHT AS DETERMINED BY THE MODIFIED PROCTOR METHOD AND INSTALLED AT A MAXIMUM OF 6" LIFTS.

TABLE

1. DETENTION POND "A"
   BOTTOM EL.= 2005.75
   BOTTOM AREA= 6376 SF.
   DEPTH= 2.25'
   (6) TRIPLE DEPTH DRYWELLS
   SEE DETAIL THIS SHEET
   RIM EL.= 2006.25
   MAX. WATER SURFACE EL.= 2007.05 (50-YEAR) FOR SEEDING SPECIFICATIONS SEE DETAIL SHEET 8 OF 8.

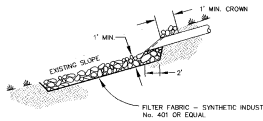
2. 12' WIDE GRAVEL ACCESS ROAD.
   6" CRUSHED ROCK TOP COURSE.
   3/4" MINUS COMPACTED TO 95%
   MAX. DENSITY (ASTM D698).
   MAXIMUM SLOPE SHALL BE 5:1 (20%).

3. 1' HIGH AND WIDE DITCH BERM (TYPICAL 3 LOCATIONS). SEE DETAIL SHEET 8 OF 8.

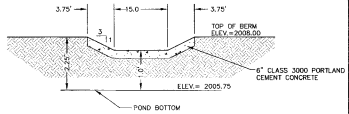


PIPE OUTLET / RIPRAP DETAIL

NTS

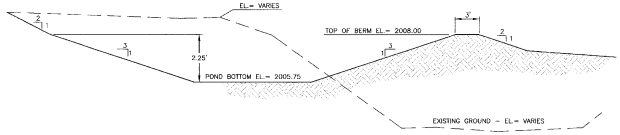


SECTION A–A'



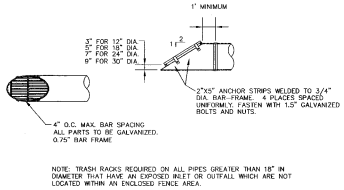
OVERFLOW WEIR SECTION

NTS



TYPICAL POND BERM SECTION

NTS

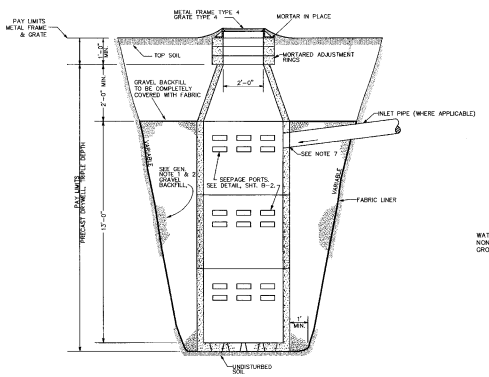


NOTE: TRASH RACKS REQUIRED ON ALL PIPES GREATER THAN 18" IN DIAMETER THAT HAVE AN EXPOSED INLET OR OUTFALL WHICH ARE NOT LOCATED WITHIN AN ENCLOSED FENCE AREA.

TRASH RACK / PIPE GRATE DETAIL

NTS

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT # P1927
DATE ACCEPTED: 12/5/05
ACCEPTANCE EXPIRES: 12/5/07
PROJECT LANE WILL BE PUBLIC: N/A
CONSTRUCTION WORK ZONE: N/A
RECORD DRAWINGS: 48 HOURS AS REQUIRED PRIOR TO COUNTY ACCEPTANCE AND SUBMITTAL OF THE PUBLIC AND DRAINAGE FACILITIES FOR MAINTENANCE.
PERMIT REQUIRED: (509) 477-3672
NOTIFY ENGINEERS 2 BUSINESS DAYS PRIOR TO CONSTRUCTION



TRIPLE DEPTH DRYWELL DETAIL

NTS

GENERAL NOTES

1. GRAVEL BACKFILL QUANTITY FOR DRYWELLS :
   TYPE "A" – 30 CUBIC YARDS MINIMUM / 42 TONS.
   TYPE "B" – 40 CUBIC YARDS MINIMUM / 56 TONS.
   TRIPLE DEPTH – 50 CUBIC YARDS MINIMUM / 70 TONS.
   OR AS SPECIFIED ON ROAD PLANS.

2. SPECIAL BACKFILL MATERIAL FOR DRYWELLS SHALL CONSIST OF WASHED GRAVEL GRADED FROM 1" TO 3" WITH A MAXIMUM OF 5% PASSING THE U.S. No. 200 SCREEN, AS MEASURED BY WEIGHT. A MAXIMUM OF 10% OF THE AGGREGATE, AS MEASURED BY WEIGHT, MAY BE CRUSHED OR FRACTURED ROCK. THE REMAINING 90% SHALL BE NATURALLY OCCURRING UNFRACTURED MATERIAL.

3. FABRIC SHALL BE MODERATE SURVIVABILITY AS OUTLINED IN STANDARD SPECIFICATIONS 9-33

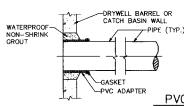
4. SEE STANDARD PLANS SHEETS B-2 AND B-3 FOR PRECAST CONCRETE DETAILS.

5. ADJUSTMENT BLOCKS SHALL BE CEMENT CONCRETE.

6. PRECAST RISER MAY BE USED IN COMBINATION WITH OR IN LIEU OF ADJUSTING BLOCKS.

7. WHEN PVC PIPE IS USED A PVC ADAPTER SHALL BE INSTALLED.

8. PIPES SHALL BE GROUTED INTO DRYWELLS WITH NON-SHRINK GROUT.



PVC ADAPTER (SAND COLLAR)

NOTE:

PVC PIPE ADAPTERS AND GASKET MAY VARY IN SHAPE AND SIZE AS ILLUSTRATED IN DETAIL BY ACCEPTABLE ALTERNATE IN ACCORDANCE WITH A.S.T.M.–C–428.

KPB 10-24-05
DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

P-1927

Eng Road Drainage

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: DETENTION POND AND DETAIL SHEET

PROJECT TITLE: HAZELWOOD PARK
SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HEIMBIGNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	7 OF 8
	DETAIL

05028-CDWG Pond Details

1) All work and materials shall be in conformance with the "SPOKANE COUNTY STANDARDS FOR ROAD AND SEWER CONSTRUCTION" 1999, and as amended.

2) Locations of existing utilities shown in the plans are approximate. Prior to site construction, the Contractor shall be responsible for locating all underground and overhead utilities. Any conflicting utilities shall be relocated prior to construction of road and drainage facilities. Call the underground utility location service at 456-8000 before you dig.

3) The Contractor is required to have a complete set of the approved road and drainage plans on the job site whenever construction is in progress.

4) If the Contractor discovers any discrepancies between the plans and existing conditions encountered, the Contractor shall immediately notify the Design Engineer.

5) For construction of drywells, install filter fabric (Amoco 4545 or approved equivalent) between the washed drain rock and the native soils.

6) For any curb grades less than 0.8% (0.008 ft/ft), a Washington State licensed Professional Land Surveyor shall verify that the curb forms are at the grades noted on the approved plans, prior to placement of curb material. The Contractor is responsible for arranging and coordinating work with the Professional Land Surveyor.

7) The Contractor shall employ a licensed surveyor to verify that the cross gutter forms are at the correct plane grade prior to concrete placement. The cross gutters shall be constructed prior to paving, and the pavement shall then match the edge of concrete gutter.

8) The contractor shall review all geotechnical recommendations and investigation reports associated with the subject development prior to starting construction. Any discrepancies between design plans and geotechnical report shall be reported to the Design Engineer. Construction shall comply with recommendations of the geotechnical reports.

9) The contractor shall demolish and remove existing structures and associated improvements on the subject site prior to starting construction. Contractor shall coordinate demolition activities with owner for further direction and extent of work.

10) The floor of a Grassed Percolation Area (GPA) swale includes the level portion of the floor of the swale, and the sideslopes of the swale up to the GPA overflow elevation or top of drywell. The soil located in the floor of the GPA swale shall be a medium to well-draining material, with a minimum infiltration rate of 0.5 inches per hour. The Engineer shall provide a written statement which verifies that all GPA swales conform to this requirement. This written statement shall be submitted to the Spokane County Engineer's Office prior to installing finished landscaping/sod and prior to final acceptance. The swale floor material shall be installed to a native soil stratum which also meets or exceeds this minimum percolation rate of 0.5 inches per hour.

11) Irrigation system for storm water management ponds shall be provided by Contractor/Developer. Irrigation system shall be design/build.

ER1) An Erosion /Sedimentation Control (ESC) plan is required for this project. Implementation of the ESC plan, and construction, maintenance, and upgrading of the ESC facilities are the responsibility of the Developer until all construction is completed and accepted by Spokane County, or until vegetation is established throughout the site, and accepted by Spokane County, whichever is later.

ER2) Approval of the ESC plan does not constitute approval of any of the proposed road, storm drainage, grading or utility design elements shown on the ESC plan.

ER3) The Erosion /Sedimentation control measures shown are the minimum requirements for the anticipated site conditions. The Contractor shall inspect and maintain these ESC measures daily, and shall maintain and upgrade these measures as necessary to prevent sediment-laden water from either flowing off the site, or into new or existing storm drainage facilities, such as drywells, culverts, or grassy galleries.

ER4) The Contractor /Developer is responsible for installing Rock Construction Entries at any and all locations used to enter or exit the project site.

ER5) Geotextile fabric is to be placed on the rims of drywells, catch basins and inlets until such time the vegetation on the site is established and the threat of sediment deposition into the drainage system is mitigated.

CONSTRUCTION SPECIFICATIONS

Provide fresh, clean new crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species and percentages as follows:

20 percent Elko Perennial Rye

20 percent Durar Hard Fescue

45 percent Covar Sheep /Fescue

15 percent Reubens Canadian Bluegrass

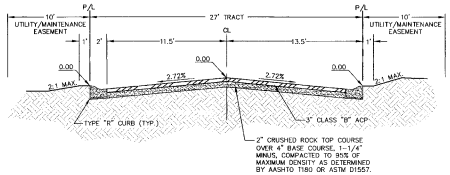
Provide mixture composed of grass seed and fertilizer in percentages as follows:

Grass seed mixture: 90 lbs. per acre
Fertilizer: 16:16:16 timed release composition, 300 lbs. per acre

All seeding of slopes shall be done in accordance with WSDOT Standard Specifications.

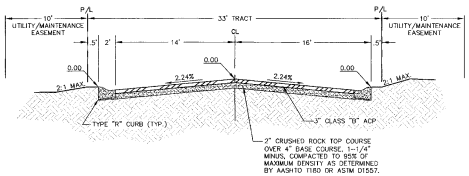
Contractor shall irrigate seeded areas until seed has germinated and has been accepted by Spokane County.

SEEDING SPECIFICATIONS



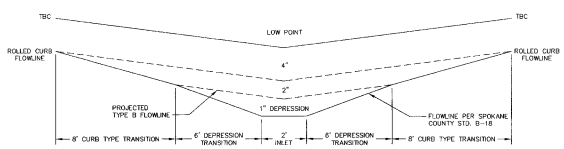
STUB ROAD SOUTH SECTION

NTS



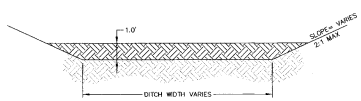
TYPICAL ROAD SECTION

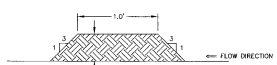
NTS



CURB TRANSITION FOR TYPE 2 INLET FRAMES IN SUMP

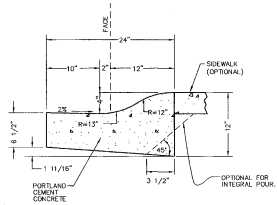
PROFILE VIEW – NTS





1' DITCH BERM

NTS



NOTES

1. PORTLAND CEMENT CONCRETE SHALL BE CLASS 3000 CONFORMING TO THE STANDARD SPECIFICATIONS.

2. WEAKENED PLANE JOINTS FOR PORTLAND CEMENT CONCRETE SHALL BE PLACED AT 15' INTERVALS.

3. 3/8" EXPANSION JOINTS IN PORTLAND CEMENT CONCRETE SHALL BE PLACED AT CURB RETURNS.

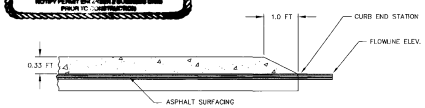
4. EPOXY CEMENT SHALL BE APPLIED AT A 10-15 MIL THICKNESS AND SHALL CONFORM TO THE REQUIREMENTS OF SECTION 9-26 OF THE SPOKANE COUNTY STANDARD SPECIFICATIONS.

5. CURBS SHALL HAVE A LIGHT BROOMED FINISH. GUTTERS SHALL BE FINISHED WITH A STEEL TROWEL.

TYPE "R" – ROLLED CURB DETAIL

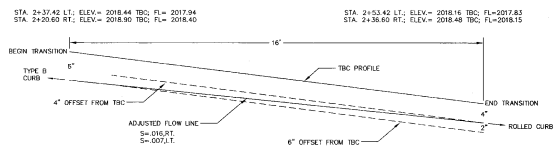
NTS

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT # P1927
DATE ACCEPTED: 10/5/06
ACCEPTANCE EXPIRES: 10/5/08
PROJECT LANE MILES: 2 ROAD: 1.6 S.
PROJECT LANE MILES DRAINS: 0.31
RECORD DRAWINGS: AS BUILT OR NO CHANGES
TO COUNTY ACCEPTANCE AND ENGINEERING OF THE ROADS AND DRAINAGE INCLUDED FOR ENGINEERING PERMIT REQUIRED (509) 477-7280
NOTIFY PERMIT OFFICE (509) 216-3000 BEFORE PRIOR TO CONSTRUCTION



CURB NOSEDOWN

NTS



TYPE "B" TO TYPE "R" CURB TRANSITION

PROFILE VIEW – NTS

DEVELOPER — DATE 10-24-05

CALL BEFORE YOU DIG 456-8000

P-1927

Engineered drawings

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
CIVIL ENGINEERING AND PROJECT MANAGEMENT
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: DETAIL SHEET

PROJECT TITLE: HAZELWOOD PARK
SPOKANE COUNTY, WASHINGTON

SEAL: CHAD HEIMBIGNER, STATE OF WASHINGTON, 38123, REGISTERED PROFESSIONAL ENGINEER — EXPIRES 12-23-06

DATE	10/20/05
DRAWN	KSN/JSC
CHECKED	CM
SCALE	AS SHOWN
PROJECT NUMBER	05028
DRAWING NO.	8 OF 8

DETAIL

05028-EDWD Details-2