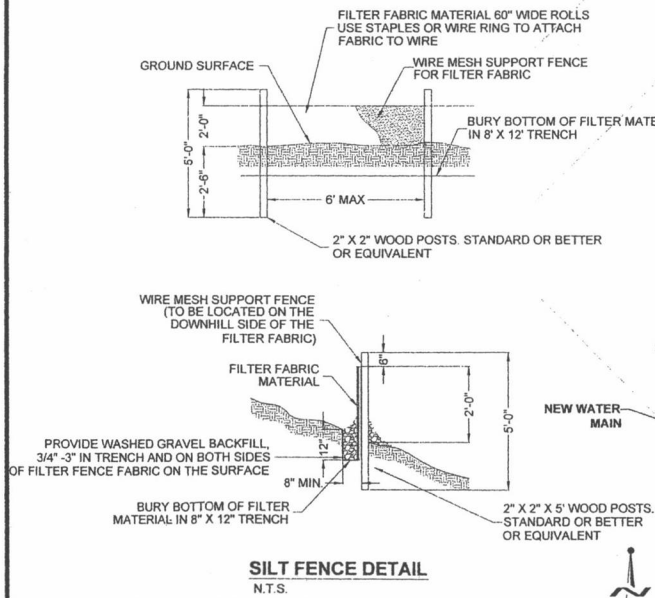


LAKESIDE ASPHALT PLANT

THURSTON COUNTY, WA

- STANDARD EROSION CONTROL NOTES:
1. Filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary, filter the cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and securely fastened at both ends to post.
 2. Posts shall be spaced a maximum of 6 feet apart and driven securely into the ground (minimum of 30 inches).
 3. A trench shall be excavated approximately 8 inches wide and 12 inches deep along the line of posts and upslope from the barrier.
 4. When standard strength 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. Filter fabric shall not be stapled to existing trees.
 5. The standard strength filter fabric shall be stapled or wired to the fence, and 20 inches of the fabric shall be extended 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.
 6. When extra-strength filter fabric and closer post spacing is used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled to wired directly to the posts with all other provisions of above notes applying.
 7. Filter fabric fences shall not be removed before the upslope area has been permanently stabilized.
 8. Filter fabric fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.



AS BUILT DOCUMENT:
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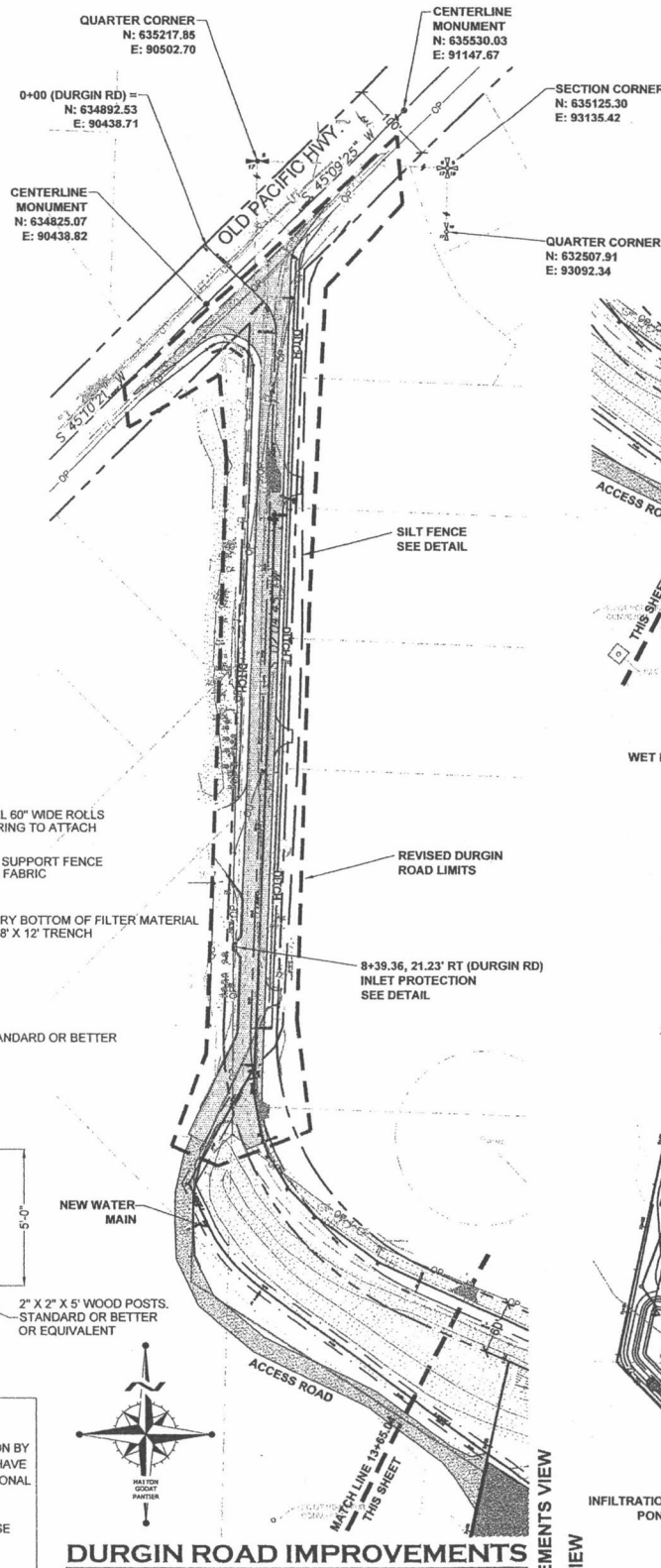
SIGNATURE: *[Signature]* DATE: 1/15/08

TOPOGRAPHIC NOTE:
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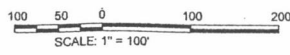
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LEGAL DESCRIPTION
PARCEL "B" OF BOUNDARY LINE ADJUSTMENT NO. BLA980097TC AS RECORDED MAY 5, 1998 UNDER AUDITOR'S FILE NO. S 3151582 AND 3151588.



CURVE TABLE

NO	DELTA	RADIUS	LENGTH
C1	18°30'00"	1175.92	379.69
C2	10°18'20"	1402.39	252.24
C3	0°31'23"	1402.39	12.80



BASIS OF BEARINGS:
HORIZONTAL DATUM.

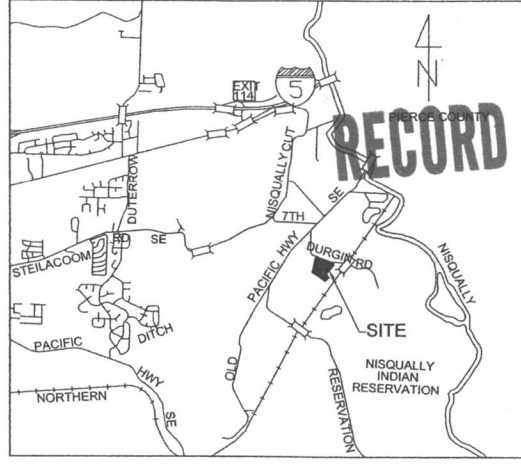
CITY OF LACEY COORDINATE SYSTEM BASED UPON THE NORTHWEST CORNER OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M.

CITY OF LACEY MERIDIAN BASED UPON THE WEST LINE OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M., SURVEY RECORDED UNDER AUDITOR'S FILE NO. 3111152

SUBDIVISION OF SECTION 17, TOWNSHIP 18 N. RANGE 1 E., W.M. BASED UPON THURSTON COUNTY HIGH PRECISION NETWORK.

VERTICAL DATUM
THURSTON COUNTY CONTROL POINT #863
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA. 648+04.80
CENTER ROAD 0.24 MILE SW DURGIN RD & 0.35 MILES NE RESERVATION RD
NGVD 29 ELEV.=23.56

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



VICINITY MAP
N.T.S.

LEGEND

- NEW WATER METER
- NEW P.I.V.
- NEW THURST BLOCKING
- NEW F.D.C.
- NEW FIRE HYDRANT
- NEW GATE VALVE
- NEW SANITARY CLEANOUT
- NEW STORM DRAIN MAIN HOLE
- NEW ASPHALT
- EXISTING FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING CATCH BASIN
- EXISTING POWER POLE
- EXISTING MAILBOX
- EXISTING WATER METER
- EXISTING STORM DRAIN LINE
- EXISTING OVERHEAD POWER
- EXISTING WATER MAIN

SHEET INDEX

- 1 - COVER SHEET / EROSION CONTROL PLAN
- 2 - LAYOUT SHEET
- 3 - GRADING & DRAINAGE PLAN
- 4 - DRAINAGE DETAILS
- 5 - DURGIN ROAD PLAN & PROFILE 0+00 TO 5+50
- 6 - DURGIN ROAD PLAN & PROFILE 5+50 TO 11+00
- 7 - WATER MAIN PLAN & PROFILE SITE
- 8 - WATER MAIN PLAN & PROFILE ACCESS ROAD
- 9 - WATER MAIN PLAN & PROFILE DURGIN "A"
- 10 - WATER MAIN PLAN & PROFILE DURGIN "B"
- 11 - WATER MAIN PLAN & PROFILE DURGIN "C"
- 12 - WATER MAIN PLAN & PROFILE DURGIN "D"
- 13 - WATER DETAILS
- 14 - WATER DETAILS
- 15 - SEPTIC PLAN
- 16 - SEPTIC DETAILS

EARTH QUANTITY
(for permit only)
CUT 10,000_cy
FILL 40,000_cy

ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS. DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE



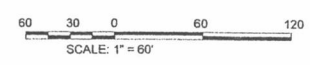
HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS:

DATE	REVISIONS
3-21-06	LACEY
7-28-06	WATER MAIN
12-5-06	POND REVISION
3-1-07	REV. DURGIN
9-8-07	AS-BUILT UTILS

LAKE SIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
COVER SHEET / EROSION CONTROL (AS - BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

AGENCY NO. T.C. #990457
SHEET: 1 OF 16
INDEX: 04-190Cover.dwg
JOB: 04-190



NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

VERTICAL DATUM
THURSTON COUNTY
CONTROL POINT #563
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA. 648+04.80
CENTER ROAD 0.24 MILE SW DUGAN RD &
0.35 MILES NE RESERVATION RD
NGVD 29 ELEV. -23.56

CITY OF LACEY COORDINATE SYSTEM BASED UPON
THE NORTHWEST CORNER OF SECTION 17,
TOWNSHIP 18 N., RANGE 1 E., W.M.

CITY OF LACEY MERIDIAN BASED UPON THE WEST
LINE OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E.,
W.M., SURVEY RECORDED UNDER AUDITOR'S FILE
NO. 3111152

SUBDIVISION OF SECTION 17, TOWNSHIP 18 N.,
RANGE 1 E., W.M. BASED UPON THURSTON
COUNTY HIGH PRECISION NETWORK

(SEE SHEET ONE FOR REFERENCE POINTS)

FINISH GRADE

4" CONCRETE SLAB
4" CAPILLARY VAPOR BARRIER
8" MIN. STRUCTURAL FILL
36" MIN. RECOMPACTED NATIVE MATERIAL

*NOTE:
ALL DEPTHS COMPACTED
TO 95% MIN. DENSITY OR
AS SPECIFIED BY GEOTETCH

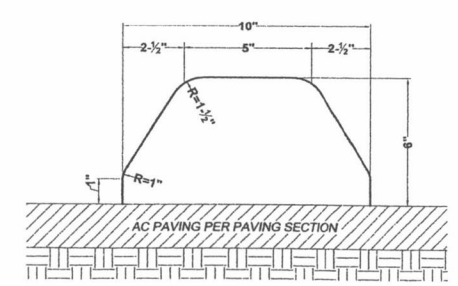
BUILDING PAD DETAIL
N.T.S.

FINISH GRADE

2" CLASS "B" ASPHALT
2" CR SURF. TOP COURSE
8" BALLAST
COMPACTED SUBGRADE

*NOTE:
ALL DEPTHS COMPACTED
TO 95% MIN. DENSITY

ONSITE PAVEMENT SECTION
N.T.S.



ONSITE EXTRUDED CONCRETE CURB DETAIL
NTS

EARTH QUANTITY
(for permit only)

CUT 10,000 cy
FILL 40,000 cy

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SIGNATURE: [Signature] DATE: 1/15/08

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THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY: JLO
DATE: JULY 2005
SCALE: H 1" = 60'
V

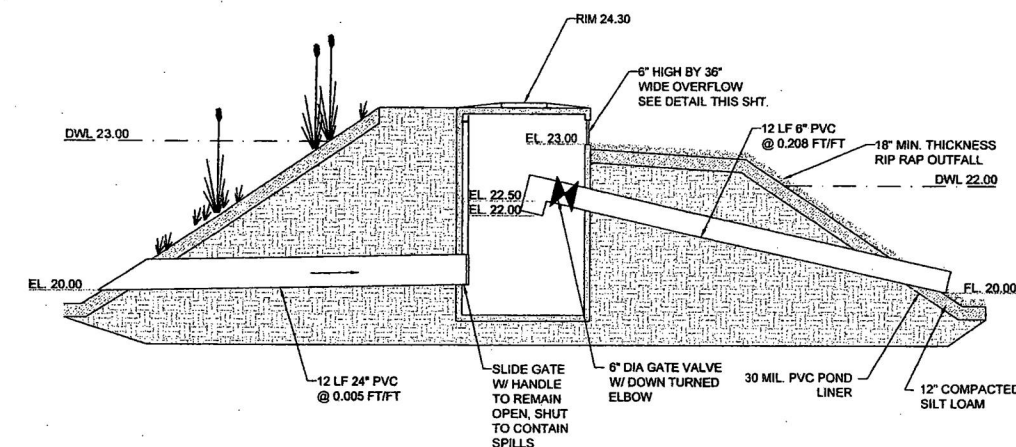
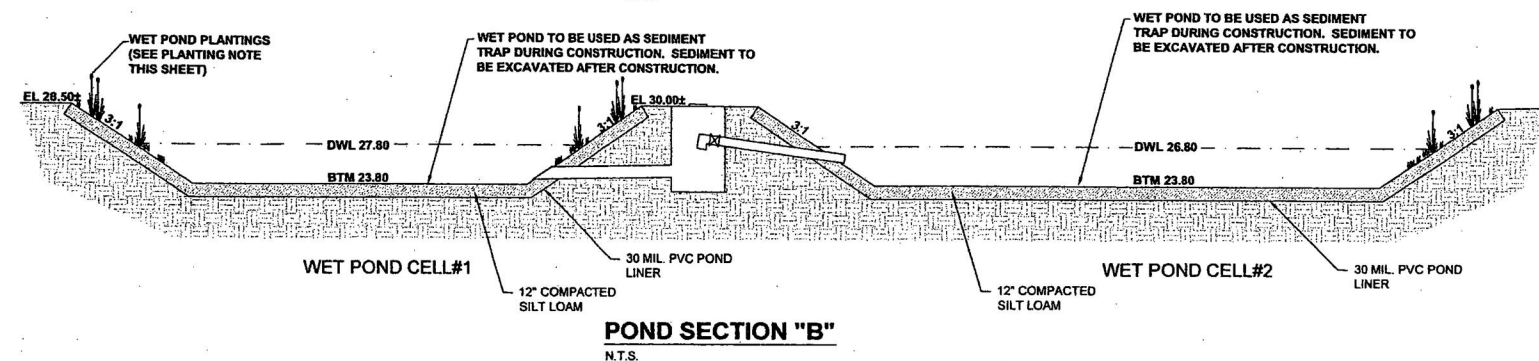
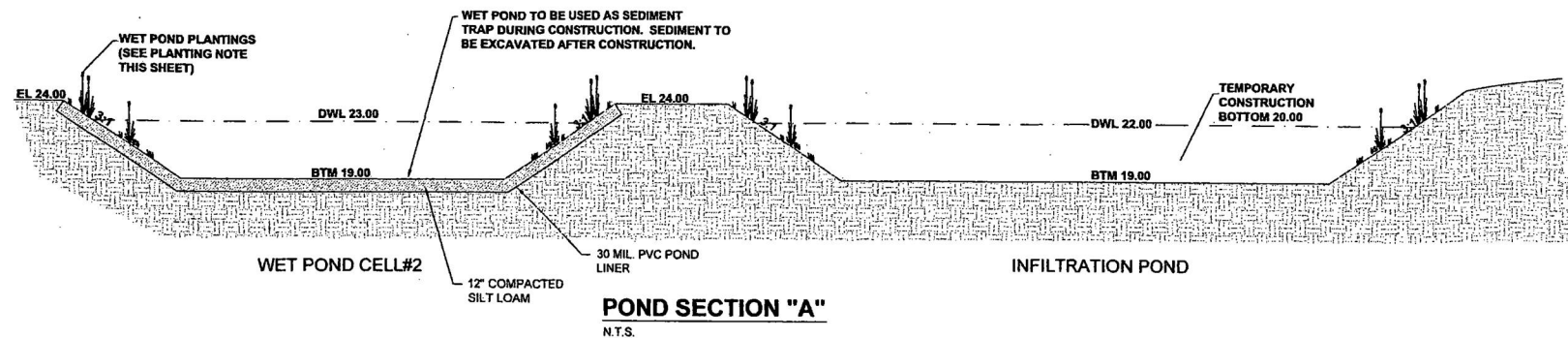


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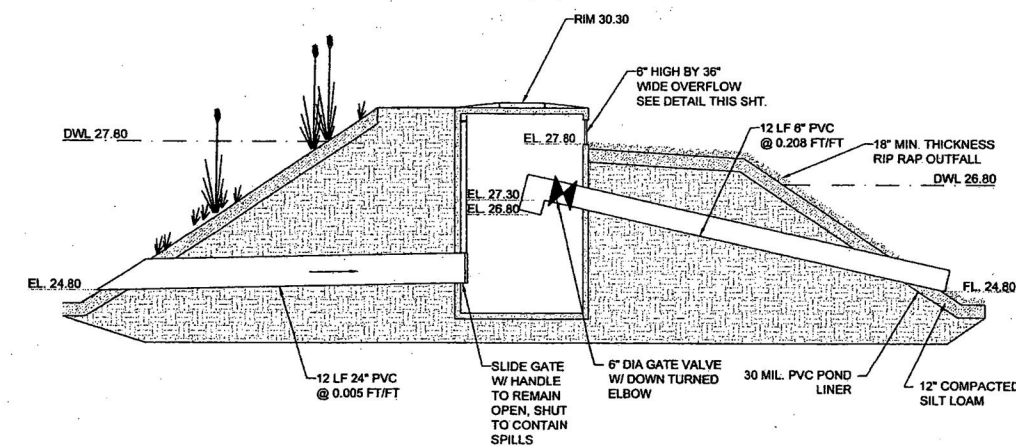
REVISIONS	DATE
LACEY	3-21-06
WATER MAIN	7-28-06
POND REVISION	12-5-06
REV DUGAN	3-1-07
AS-BUILT UTILS	9-4-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
GRADING / DRAINAGE PLAN (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

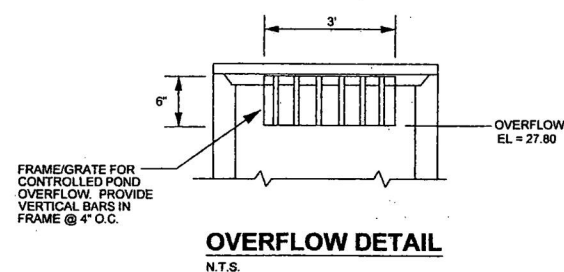
AGENCY NO. I.C. #990457
SHEET: 3 OF 16
INDEX: 04-19Grading.dwg
JOB: 04-190



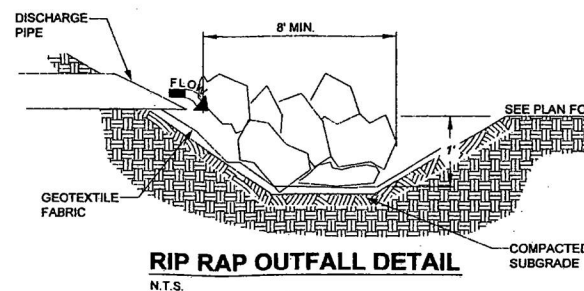
CONTROL STRUCTURE "A" DETAIL
N.T.S.



CONTROL STRUCTURE "B" DETAIL
N.T.S.



OVERFLOW DETAIL
N.T.S.



RIP RAP OUTFALL DETAIL
N.T.S.

RIP RAP NOTE:
Riprap shall conform with Section 9-13.1 of the Standard Specifications
Rip rap shall be a reasonably well graded assortment of rock with the following gradation:
Maximum Stone Size..... 12-inches
Median Stone Size..... 8-inches
Minimum Stone Size..... 2-inches
ARMOR POND A MIN. OF 6\"/>

RIP RAP NOTE:
RIP RAP SHALL CONFORM WITH THE APPLICABLE SECTION OF THE STANDARD SPECIFICATIONS AS NOTED BELOW.
1. SPALLS: 9-13.6
2. LIGHT LOOSE RIPRAP: 9-13.1(2)
3. HEAVY LOOSE RIPRAP: 9-13.1(1)
RIP RAP SHALL BE REASONABLY WELL GRADED ASSORTMENT OF ROCK
ARMOR POND A MIN. OF 6\"/>

STANDARD STORMWATER NOTES:

- All workmanship and materials shall be in accordance with Thurston County standards and the most current copy of the State of Washington Standard Specifications for Road, Bridge and Municipal Construction (WSDOT/APWA).
- Temporary erosion/water pollution measures shall be required in accordance with Section 1-07.15 of the Standard Specifications and the Drainage Design and Erosion Control Manual ("Drainage Manual").
- Proponent shall comply with all other permits and other requirements of the governing authority or agency.
- A preconstruction meeting shall be held with Thurston County prior to the start of construction or staking of the site.
- All storm mains and retention/detention areas shall be staked for grade and alignment by an engineering or survey firm licensed to perform such work.
- Storm drain pipe shall be as specified on the approved plans in the Drainage Manual.
- Special Structures, oil/water separators, and outlet controls shall be installed per plans and manufacturers recommendations.
- Provide traffic control plan(s) as required in accordance with MUTCD.
- Call Underground Locate Line 1-800-424-5555 Minimum 48 hours prior to any excavations.
- All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed by the State of Washington.
- The minimum staking of storm sewer systems shall be as follows:
 - Stake location of all catch basins/manholes and other fixtures for grade and alignment.
 - Stake location, size, and depth of retention/detention facility.
 - Stake finished grade of all stormwater features, including but not limited to, catch basin/manhole rim elevations, overflow structures, weirs, and invert elevations of all pipes in catch basins, manholes, and those pipes that daylight.
- Pipe materials used for stormwater conveyance shall be as approved by the jurisdiction. Pipe size, slope, cover, etc., shall be as specified on the approved plans and in the Drainage Manual.
- All driveway culverts shall be of sufficient length to provide a minimum 3:1 slope with 1-foot outside the edge of the driveway to the bottom of the ditch. Culverts shall have beveled end sections to match the side slope.
- If drainage outlets (stub-outs) are to be provided for each individual lot, the stub-outs shall conform to the following:
 - Each outlet shall be suitably located at the lowest elevation on the lot, so as to service all future roof downspouts and footing drains, driveways, yard drains, and any other surface of subsurface drains necessary to render the lots suitable for their intended use. Each outlet shall have free-flowing, positive drainage to an approved storm water conveyance system or to an approved outfall location.
 - Outlets on each lot shall be located with a five-foot high, 2\"/>

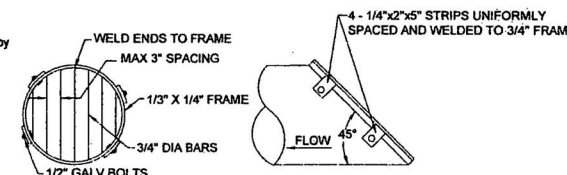
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

- The storm drainage system shall be constructed according to approved plans on file with the jurisdiction. Any material deviation from the approved plans requires written approval from the jurisdiction.
- A copy of the approved storm water plans must be on the job site whenever construction is in progress.
- All disturbed areas shall be seeded and mulched or similarly stabilized to the satisfaction of the jurisdiction. For sites where grass has been planted through hydroseeding, the performance bond shall not be released until the grass has been thoroughly established, unless otherwise approved by the jurisdiction.
- All building downspouts on commercial sites shall be connected to the storm drainage system as shown on the approved plans, or as otherwise approved by the jurisdiction.
- All erosion control and stormwater facilities shall be regularly inspected and maintained by the contractor during the construction phase of the project.
- The contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, flaggers, and any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of the work covered by the contract. Any work within the traveled right-of-way that may interrupt normal traffic flow shall require at least one flagger for each lane of traffic affected. All sections of the current WSDOT Standard Specifications for Traffic Control shall apply.
- It shall be the sole responsibility of the contractor to obtain street use and other related or required permits prior to any construction activity in the jurisdiction's right-of-way. It shall also be the responsibility of the contractor to obtain all required permits prior to any construction.
- No final cut or fill slope shall exceed two (2) horizontal to one (1) vertical without stabilization by rockery or by a structural retaining wall.
- The project engineer shall verify the locations, widths, thicknesses, and elevations of all existing pavements and structures, including utilities and other frontage improvements, that are to interface with new work. The contractor shall provide all trimming, cutting, sawcutting, grading, leveling, sloping, coating, and other work, including materials as necessary to cause the interface with existing works to be proper, without conflict, acceptable to the engineer and the jurisdiction, complete in place, and ready to use.
- Compaction of all fill areas shall be per current APWA specifications. Fill shall be provided in 6\"/>

AS BUILT DOCUMENT:

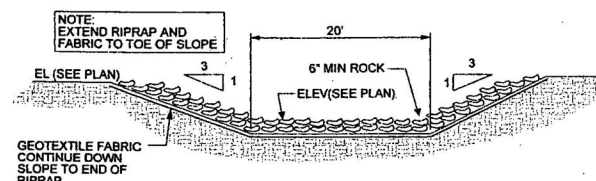
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SIGNATURE: *[Signature]* DATE: 1/15/08



NOTE: ALL PARTS SHALL BE ALUMINUM OR STEEL. ALL STEEL PARTS TO BE HOT DIP GALVANIZED

TRASH RACK DETAIL
N.T.S.



POND OVERFLOW SPILLWAY
N.T.S.

ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY: JLO
DATE: JULY 2005
SCALE: H
Y



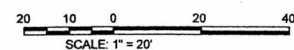
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TEL: 360.943.1599 FAX: 360.357.9299
hattonpantier.com

REVISIONS:	DATE:
LACEY	3-21-06
WATER MAIN	7-28-06
POND REVISION	12-5-06
REV. DURGIN	3-1-07
AS-BUILT UTILS	9-6-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
DRAINAGE DETAILS (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

AGENCY NO. I.C. #990457
SHEET: 4 OF 18
INDEX: 04-19 Drainage Details.dwg
JOB: 04-190

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



VERTICAL DATUM
THURSTON COUNTY
CONTROL POINT #863

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY:
DATE: JULY, 2005
SCALE: H 1" = 20'
V 1" = 5'



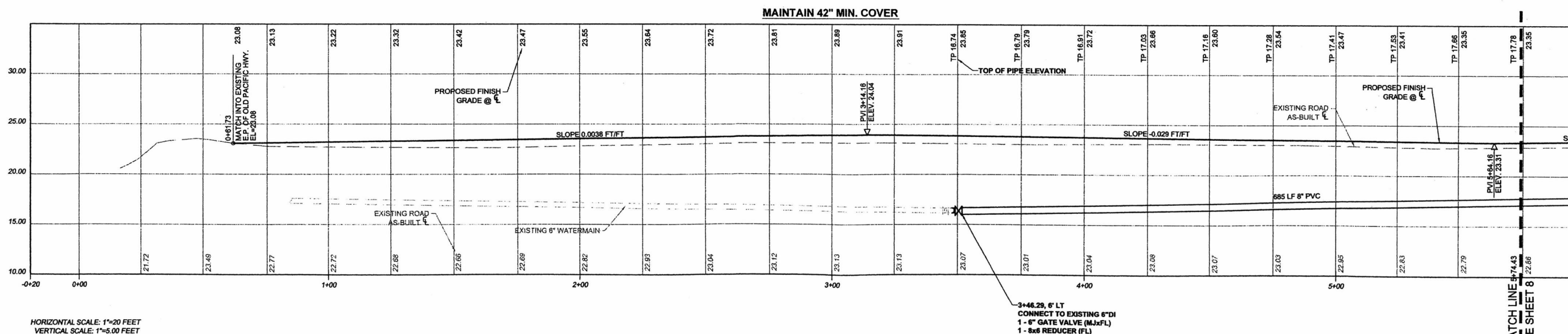
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TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS:	DATE:
LACEY	3-21-06
WATER MAIN	7-28-06
OND REVISION	12-5-06
REV. DURGIN	3-1-07
S-BUILT UTILS	9-6-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
DURGIN ROAD PLAN & PROFILE (AS-BUILT)

LACEY #05-314
AGENCY NO. I.C. #990457
SHEET: 5 OF 16
INDEX: 04-190Durgin-A.dw
■ JOB: 04-190

CURVE DATA	
C1	$\Delta = 33^{\circ}57'08''$
R =	40.00'
L =	23.70'
C2	$\Delta = 129^{\circ}33'03''$
R =	40.00'
L =	90.44'
C3	$\Delta = 46^{\circ}57'27''$
R =	50.00'
L =	40.98'



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SIGNATURE

1/15/00
DATE

APPROVED FOR CONSTRUCTION
FOR THE CITY OF LACEY

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

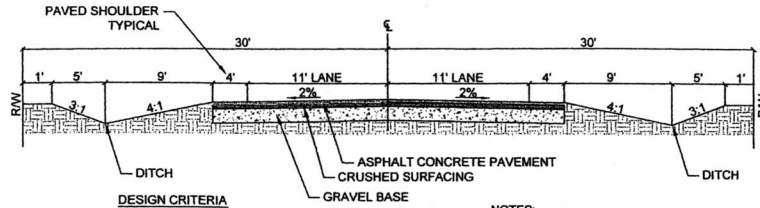
ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

DURGIN ROAD RECONSTRUCTION

RURAL AREA ROADWAY DESIGN STANDARDS

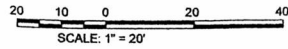
(AMENDED)
ROADWAY CLASSIFICATION: PRIVATE ROAD
20-YR. PROJECTED AVERAGE DAILY TRAFFIC (ADT): LESS THAN 160
(16 DETACHED SINGLE FAMILY HOMES)



DESIGN CRITERIA

DESIGN SPEED	20 M.P.H.
MAXIMUM ROAD GRADE	12%
MINIMUM ROAD GRADE	0.5%
MINIMUM SURFACING WIDTH	16'
MINIMUM ROADWAY WIDTH	20'
MINIMUM DESIGN LOAD	HS 20-44
EASEMENT WIDTH	40' MIN.
ROADWAY GEOMETRICS	PER AASHTO AND SWDOT STD.
MINIMUM REQUIRED:	
ASPHALT CONCRETE PAVEMENT	0.20' COMPACTED DEPTH
CRUSHED SURFACING, TOP COURSE	0.17' COMPACTED DEPTH
GRAVEL BASE	0.75' COMPACTED DEPTH
VERTICAL CLEARANCE	16.5'

NOTES:
CLEAR ZONE DISTANCE SHOWN APPLIES TO ROADS WITH A POSTED SPEED OF 35 MPH OR LESS.
EASEMENT WIDTHS MAY BE REDUCED WHERE THE COUNTY ENGINEER HAS DETERMINED THAT ADEQUATE PROVISIONS HAVE BEEN MADE FOR THE PRIVATE MAINTENANCE OF WALKWAYS, TRAILS, BIKEWAYS AND SWALES.
IN FILL SECTIONS, THE COUNTY ENGINEER MAY REQUIRE A THICKENED EDGE TO CONTROL EROSION.
THE USE OF ROADSIDE SWALES FOR STORMWATER TREATMENT, BIO-FILTRATION, MAY REQUIRE ADDITIONAL EASEMENT WIDTH.



BASIS OF BEARINGS:
HORIZONTAL DATUM:

CITY OF LACEY COORDINATE SYSTEM BASED UPON THE NORTHWEST CORNER OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M.

CITY OF LACEY MERIDIAN BASED UPON THE WEST LINE OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M., SURVEY RECORDED UNDER AUDITOR'S FILE NO. 3111152

SUBDIVISION OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M. BASED UPON THURSTON COUNTY HIGH PRECISION NETWORK.

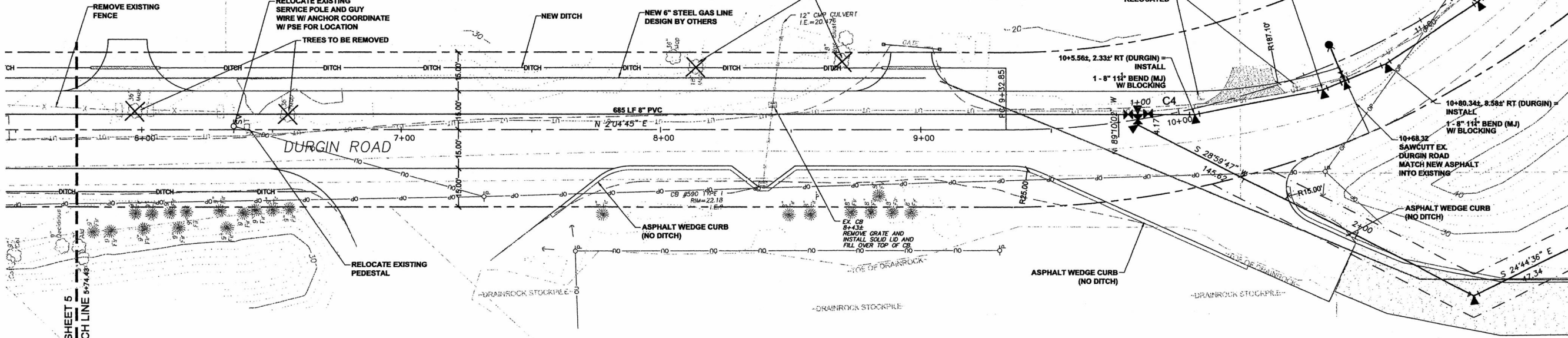
(SEE SHEET ONE FOR REFERENCE POINTS)



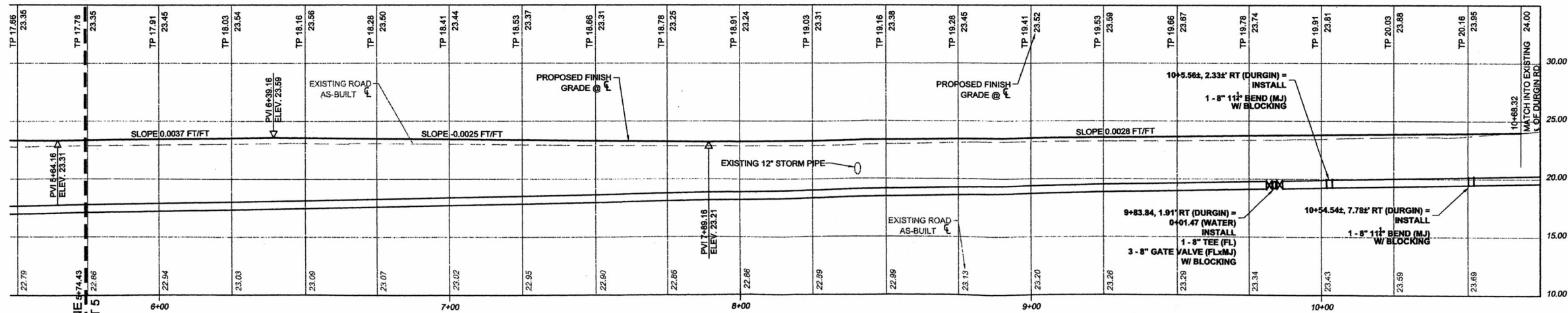
VERTICAL DATUM
THURSTON COUNTY
CONTROL POINT #863
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA. 648+04.80
CENTER ROAD 0.24 MILE SW DURGINS RD &
0.35 MILES NE RESERVATION RD &
NGVD 29 ELEV.=23.56

CURVE DATA

C4 $\Delta = 68^{\circ}05'00''$
R = 318.31'
L = 378.24'



MAINTAIN 42" MIN. COVER



TOPOGRAPHIC NOTE:
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AS BUILT DOCUMENT:

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SIGNATURE: *[Signature]*
DATE: 1/15/08

APPROVED FOR CONSTRUCTION FOR THE CITY OF LACEY

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

ACCEPTED AS NOTED THURSTON COUNTY ROADS & TRANSPORTATION SVS. DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

LAKESIDE ASPHALT PLANT

HOLROYD GRAVEL PIT

THURSTON COUNTY, WA

DURGINS ROAD PLAN & PROFILE (AS-BUILT)

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

REVISIONS:	DATE:
LACEY	3-21-06
WATER MAIN	7-28-06
POND REVISION	12-5-06
REV DURGINS	3-1-07
AS-BUILT UTILS	9-6-07

HATTON GODAT PANTIER

ENGINEERS AND SURVEYORS

1840 BARNES BOULEVARD S.W.

TUMWATER, WA 98572

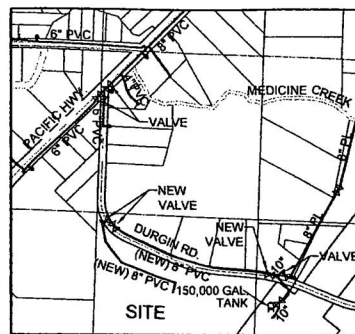
TEL: 360.943.1599 FAX: 360.567.6299



DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY:
DATE: JULY 2005
SCALE: H 1" = 20'
V 1" = 5'

LACEY #05-314
AGENCY NO. I.C. #590457
SHEET: 6 OF 16
INDEX: 04-190Durgin-B.dwg
JOB: 04-190

WATER PIPE NOTE:
ALL PVC PIPE TO BE, C900
CLASS 200, BLUE, BLACK, OR
WHITE IN COLOR



WATER SYSTEM MAP
N.T.S.



BASIS OF BEARINGS:
HORIZONTAL DATUM:

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TOWNSHIP 18 N., RANGE 1 E., W.M.

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NO. 3111152

SUBDIVISION OF SECTION 17, TOWNSHIP 18 N.
RANGE 1 E., W.M. BASED UPON THURSTON
COUNTY HIGH PRECISION NETWORK

(SEE SHEET ONE FOR REFERENCE POINTS)

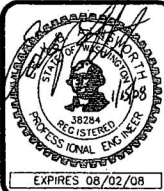


VERTICAL DATUM

THURSTON COUNTY
CONTROL POINT #863
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA. 648+04.80
CENTER ROAD 0.24 MILE SW DURBIN RD &
0.35 MILES NE RESERVATION RD
NGVD 29 ELEV.=23.56

SCALE: 1" = 20'

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY:
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SCALE: H 1" = 20'
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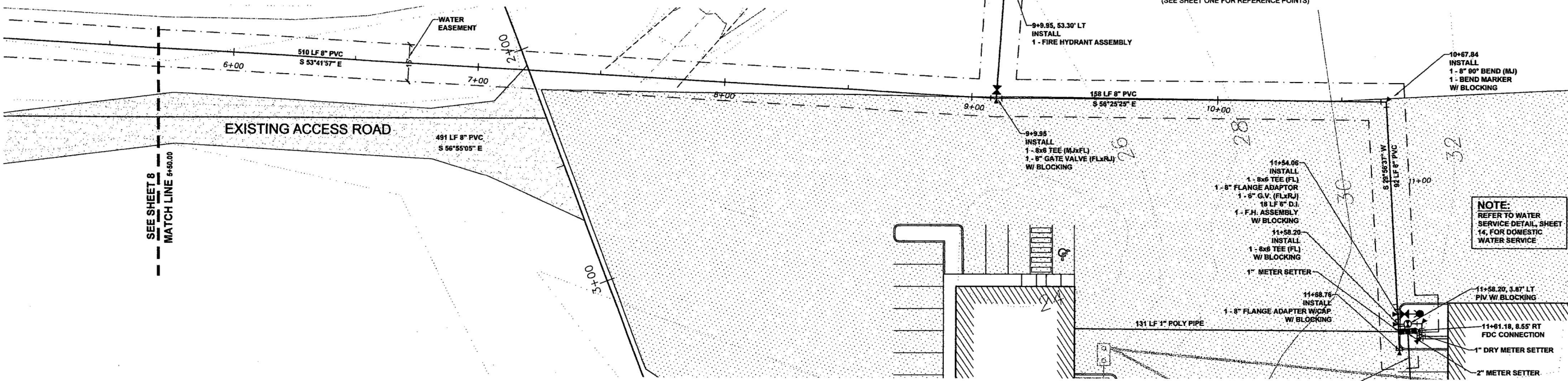


HATTON GODAT PANTIER
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TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.9299
hattonpantier.com

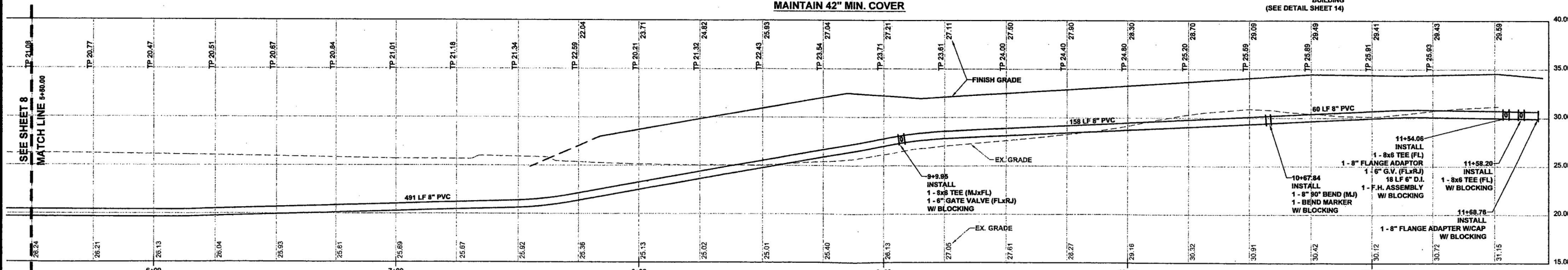
REVISIONS:	DATE:
LACEY	3-21-06
WATER MAIN	7-28-06
POND REVISION	12-5-06
REV. DURBIN	3-1-07
AS-BUILT UTILS	8-6-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
SITE PLAN & PROFILE (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

LACEY #05-314
AGENCY NO. I.C. #930457
SHEET: 7 OF 16
INDEX: 04-190 WaterP&P.dwg
JOB: 04-190



MAINTAIN 42" MIN. COVER



SITE WATER MAIN PROFILE

EXISTING UTILITY NOTE:

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SIGNATURE: *[Signature]* DATE: 1/15/08

**APPROVED FOR CONSTRUCTION
FOR THE CITY OF LACEY**

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07

DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

**ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION**

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



VERTICAL DATUM
THURSTON COUNTY
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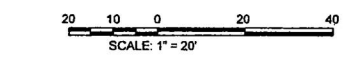
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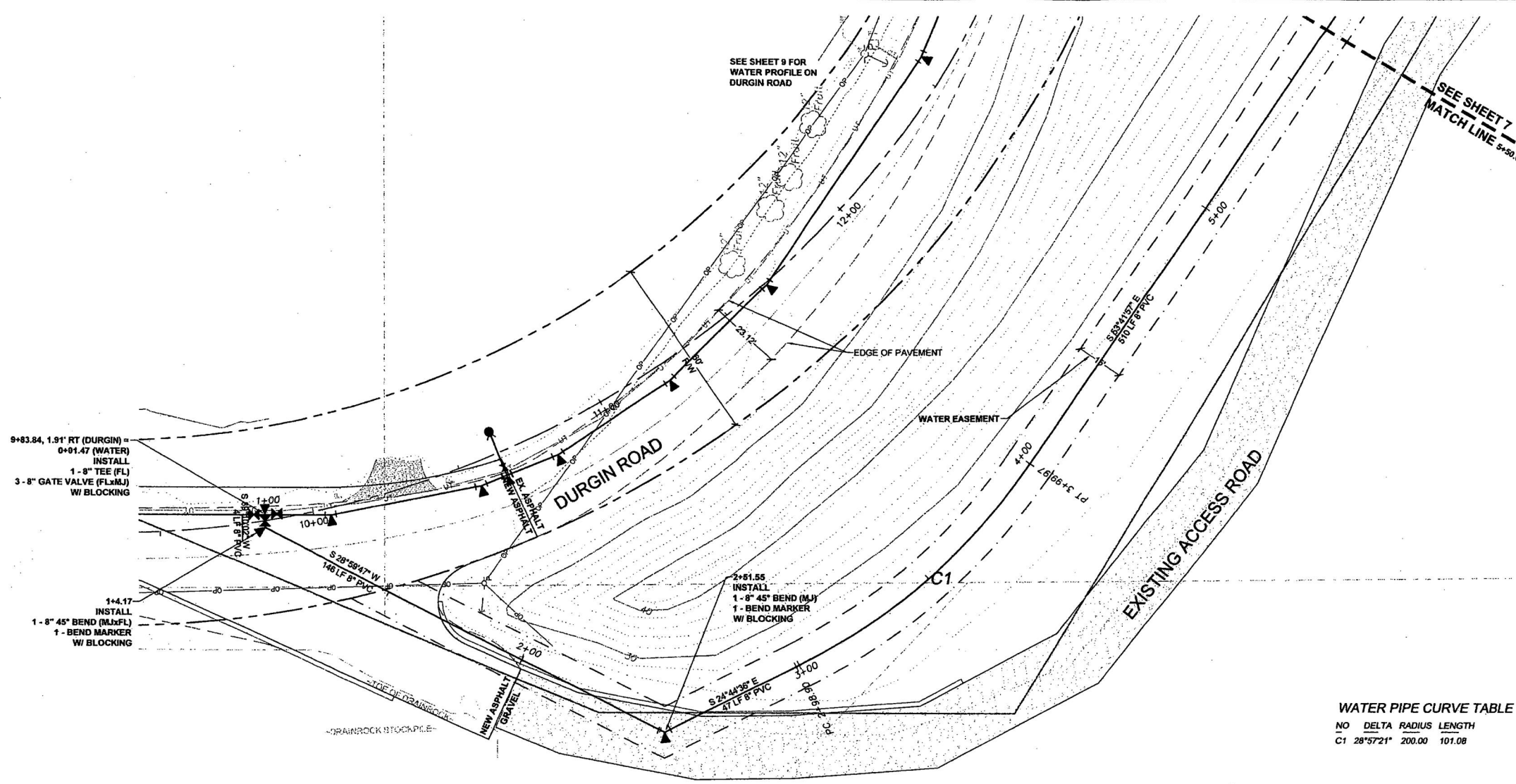
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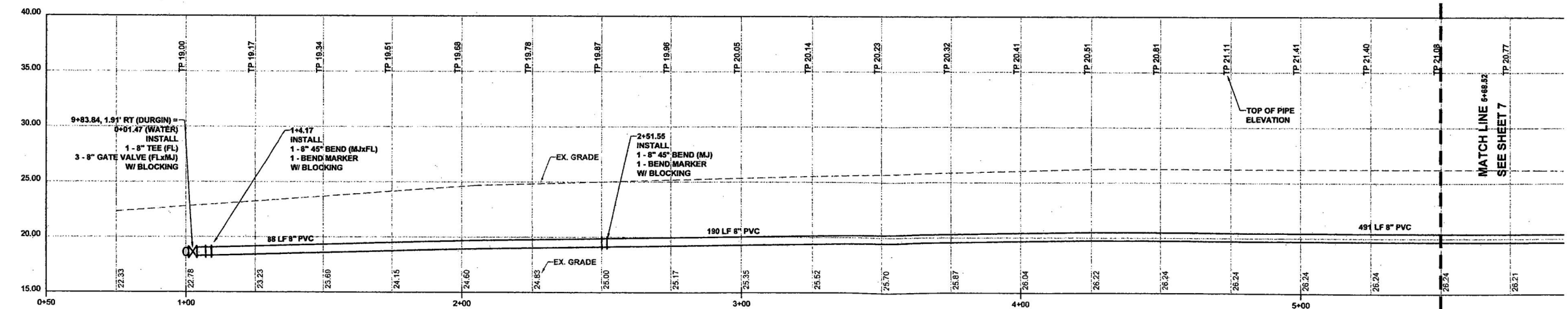
WATER PIPE NOTE:
ALL PVC PIPE TO BE: C900
CLASS 200, BLUE, BLACK, OR
WHITE IN COLOR

WATER PIPE CURVE TABLE

NO	DELTA	RADIUS	LENGTH
C1	28°57'21"	200.00	101.08



MAINTAIN 42" MIN. COVER



ACCESS ROAD WATER MAIN PROFILE

EXISTING UTILITY NOTE:
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[Signature] 1/15/08
SIGNATURE DATE

**APPROVED FOR CONSTRUCTION
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BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

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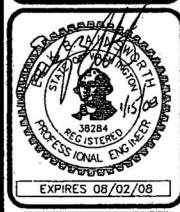
BY: SIGNED BY DALE R. RANCOR
ACCEPTANCE DATE: 1/21/07
EXPIRES 2 YEARS FROM ACCEPTANCE DATE

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
ACCESS ROAD PLAN & PROFILE (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

REVISIONS:

NO.	DATE	DESCRIPTION
1	3-21-06	LACEY
2	7-28-06	WATER MAIN
3	12-5-06	POND REVISION
4	3-1-07	REV. DURGIN
5	8-6-07	AS-BUILT UTILS

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S.W.
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.567.6299
hgp@hgpantier.com



DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY: JLO
DATE: JULY 2005
SCALE: H 1" = 20'
V 1" = 5'

SCALE: 1" = 20'

VERTICAL DATUM
THURSTON COUNTY
CONTROL POINT #863
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA. 648+04.80
CENTER ROAD 0.24 MILE SW DURGIN RD &
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NO. 3111152

SUBDIVISION OF SECTION 17, TOWNSHIP 18 N.,
RANGE 1 E., W.M. BASED UPON THURSTON
COUNTY HIGH PRECISION NETWORK.
(SEE SHEET ONE FOR REFERENCE POINTS)

CURVE DATA
C4
 $\Delta = 68^{\circ}05'00''$
 $R = 318.31'$
 $L = 378.24'$

MAINTAIN 42" MIN. COVER

DURGIN ROAD WATER MAIN PROFILE

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WATER PIPE NOTE:
ALL PVC PIPE TO BE, C900
CLASS 200, BLUE, BLACK, OR
WHITE IN COLOR

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NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

GENERAL WATERMAIN INSTALLATION NOTES:

- All workmanship and material shall be in accordance with City of Lacey standards and the most current copy of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. In cases of conflict, the most stringent standard shall apply.
- The contractor shall be in compliance with all safety standards and requirements as set forth by OSHA, WISHA and Washington State Department of Labor and Industries.
- The contractor shall be responsible for all traffic control in accordance with the WSDOT/APWA Standard Plans for Road, Bridge and Municipal Construction (all applicable "K" plans) and/or the Manual on Uniform Traffic Control Devices (MUTCD). Prior to disruption of any traffic, a traffic control plan shall be prepared and submitted to the City for approval. No work shall commence until all approved traffic control is in place.
- All approvals and permits required by the City of Lacey shall be obtained by the contractor prior to the start of construction.
- If construction is to take place in the County right-of-way, the contractor shall notify the County and obtain all required approvals and permits.
- A pre-construction meeting shall be held with the City of Lacey Construction Inspector prior to the start of construction.
- The contractor shall be fully responsible for the location and protection of all existing utilities. The contractor shall verify all utility locations prior to construction by calling the Underground Locate line at 1-800-424-5555 a minimum of 48 hours prior to any excavation.
- It shall be the responsibility of the contractor to have a copy of an approved set of plans on the construction site at all times.
- All surveying and staking shall be performed per the corresponding chapter of the City of Lacey Development Guidelines and Public Works Standards.
- Temporary erosion control/water pollution measures shall be required in accordance with Section 1-07.15 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction and the Drainage Design and Erosion Control Manual for Lacey. At no time will silt and debris be allowed to drain into an existing or newly installed facility unless special provisions have been designed.
- Watermains up to 10" shall be AWWA C900 Class 200 or ductile iron standard pressure class rating 350. Watermains larger than 10" shall be ductile iron standard pressure rating 350 or as otherwise noted on the plans. See Chapter 6.030B for more detailed pipe specifications.
- Gate valves shall be resilient wedge, NRS (Non Rising Stem) with O-ring seals. Valve ends shall be mechanical joint or ANSI flanges. Valves shall conform to AWWA C-515 latest revision. Valves shall be Mueller, M & H, Kennedy, Clow R/W, Waterloo Series 2500, or American AVK.
- Existing valves shall be operated by City employees only.
- Hydrants shall be City approved as specified on the Hydrant details and shall be bagged until system is approved.
- All lines shall be chlorinated and tested in conformance with the above referenced specification (Note 1) and Chapter 6.190 of the Development Guidelines and Public Works Standards.
- All pipe and services shall be installed with continuous tracer tape installed 12- to 18-inches under the final ground surface. The marker shall be plastic non-biodegradable, metal core or backing marked "Water" which can be detected by a standard metal detector. Tape shall be Terra Tape "DT" or approved equal. In addition to tracer tape, install direct bury, U.S.E. 14-gauge blue coated copper wire, wrapped around the pipe or taped to the pipe, as shown on detail 6-12. Low voltage grease-type splice kits shall be used on tracer wire. Continuity testing of the wire will be done by the City.
- All service line locations shall be marked on the top or face of the curb with an embossed "W" 3 inches high and 1/4 inch into concrete.
- The City will be given 72 hours notice prior to scheduling a shutdown. Where connections require "field verification", connection points shall be exposed by contractor and fittings verified 72 hours prior to distributing shut-down notices.
- Separation between water and sewer shall be maintained per DOE standards. See Development Guideline Chapter 6.130 for more information.
- A concrete pad per detail 6-12 shall be installed around all valve boxes and blow-offs that are not in a pavement area.
- At any connection to an existing line where a new valve is not installed, the existing valve must be pressure tested to City standards prior to connection. If an existing valve fails to pass the test, the contractor shall make necessary provisions to test the new line prior to connection to the existing system or shall install a new valve.
- The minimum burial depth of all water lines shall be 42 inches.
- It shall be the contractor's responsibility to field verify the location and depth of the existing main and the fittings required to make the connection to the existing main. The water main and appurtenances and service connections to the meter shall be tested in sections of convenient lengths under a hydrostatic pressure equal to 150 psi in excess of that under which it will operate. In no case shall the test pressure be less than 225 psi.

Revised 02/2005

ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION

APPROVED FOR CONSTRUCTION
FOR THE CITY OF LACEY

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

LAKESIDE ASPHALT PLANT

HOLROYD GRAVEL PIT
THURSTON COUNTY, WA

WATER MAIN PLAN & PROFILE DURGIN "A" (AS-BUILT)

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

LACEY #05-314
AGENCY NO. T.C. #890457

SHEET: 9 OF 16

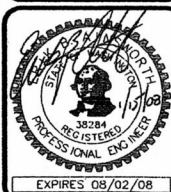
INDEX: 04-190Water&P&P2.dwg

JOB: 04-190

REVISIONS:
LACEY
WATER MAIN
POND REVISION
REV. DURGIN
AS-BUILT UTILS

DATE:
3-21-06
7-28-06
12-5-06
3-1-07
9-9-07

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1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.6299
hatterpanpantier.com



DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY: JLO
DATE: JULY 2005
SCALE: H 1"=20'
V 1"=5'

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



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(SEE SHEET ONE FOR REFERENCE POINTS)

20 10 0 20 40
SCALE: 1" = 20'



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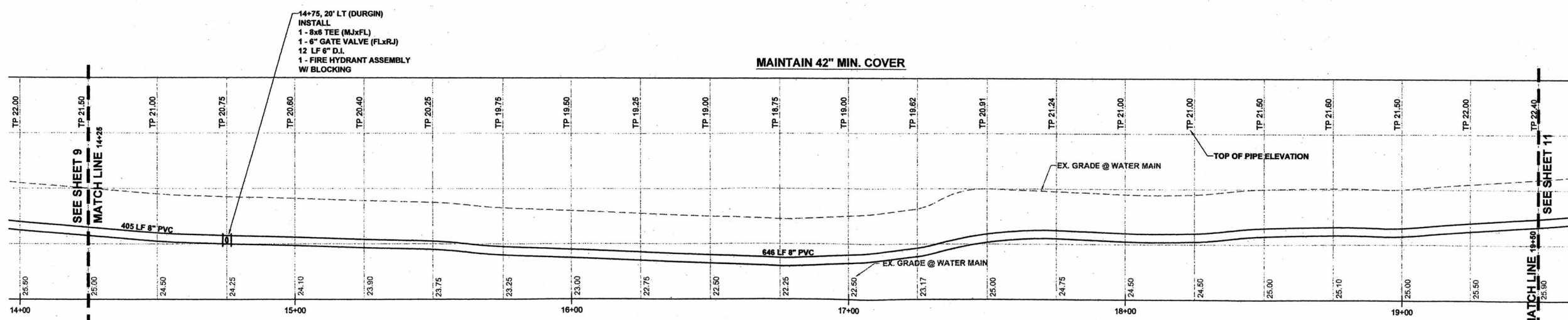
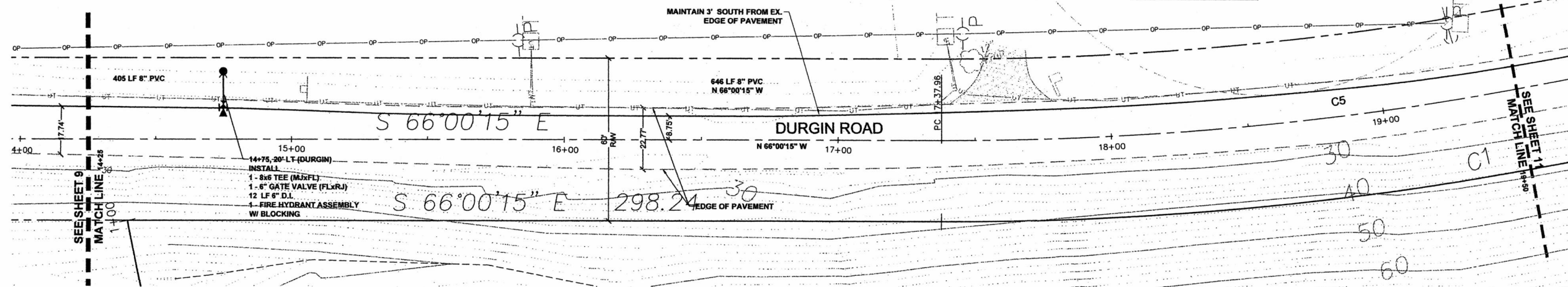


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huttonpantier.com

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REV. DURGIN	3-1-07
AS-BUILT UTILS	9-4-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
WATER MAIN PLAN & PROFILE DURGIN "B" (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

CURVE DATA
C5
Δ = 18°30'01"
R = 1145.92'
L = 370.00'



HORIZONTAL SCALE: 1"=20 FEET
VERTICAL SCALE: 1"=5.00 FEET

DURGIN ROAD WATER MAIN PROFILE

AS BUILT DOCUMENT:

THE SYSTEM INSTALLED PROVIDES THE OPERATIONAL CAPABILITIES AS
DESIGNED BY HATTON GODAT PANTIER AND APPROVED FOR CONSTRUCTION BY
THE REVIEWING AUTHORITY. PORTIONS OF THE CONSTRUCTED PROJECT HAVE
BEEN OBSERVED BY ME OR MY STAFF UNDER MY SUPERVISION AND ADDITIONAL
INFORMATION HAS BEEN PROVIDED BY OTHERS. BASED UPON THAT
INFORMATION AND OBSERVATION, TO THE BEST OF MY KNOWLEDGE, THE
PROJECT WAS CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH THESE
DRAWINGS.

SIGNATURE: *[Signature]* DATE: 1/15/08

**APPROVED FOR CONSTRUCTION
FOR THE CITY OF LACEY**

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

**ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION**

BY: SIGNED BY DALE R. RANCOR
ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

EXISTING UTILITY NOTE:

EXISTING UTILITY LOCATIONS SHOWN ARE FROM VARIOUS
RECORDS. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR
TO CONSTRUCTION. "CALL BEFORE YOU DIG" 1-800-424-5555, 48
HOURS IN ADVANCE.

THIS DRAWING DOES NOT REPRESENT A RECORD DOCUMENT,
UNLESS CERTIFIED BY HATTON GODAT PANTIER.

ANY ALTERATIONS TO THE DESIGN SHOWN HEREON MUST BE
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TOPOGRAPHIC NOTE:

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FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN
INCORPORATED INTO THESE DRAWINGS AS A RESULT.

WATER PIPE NOTE:

ALL PVC PIPE TO BE: C900
CLASS 200, BLUE, BLACK, OR
WHITE IN COLOR

LACEY #05-314
AGENCY NO. I.C. #990457

SHEET: 10 OF 16

INDEX: 04-190Water&P2.dwg

JOB: 04-190

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



BASIS OF BEARINGS:
HORIZONTAL DATUM:

CITY OF LACEY COORDINATE SYSTEM BASED UPON
THE NORTH-WEST CORNER OF SECTION 17,
TOWNSHIP 18 N., RANGE 1 E., W.M.

CITY OF LACEY MERIDIAN BASED UPON THE WEST
LINE OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E.,
W.M., SURVEY RECORDED UNDER AUDITOR'S FILE
NO. 3111152

SUBDIVISION OF SECTION 17, TOWNSHIP 18 N.
RANGE 1 E., W.M. BASED UPON THURSTON
COUNTY HIGH PRECISION NETWORK.

(SEE SHEET ONE FOR REFERENCE POINTS)

20 10 0 20 40
SCALE: 1" = 20'



VERTICAL DATUM

THURSTON COUNTY
CONTROL POINT #663
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA 648+04.80
CENTER ROAD 0.24 MILE SW DURGIN RD &
0.35 MILES NE RESERVATION RD
NGVD 29 ELEV.=23.56

CURVE DATA

C5
Δ = 18°30'01"
R = 1145.92'
L = 370.00'

CURVE DATA

C6
Δ = 18°33'30"
R = 1132.39'
L = 413.96'

21+26, 14' LT
INSTALL
1 - 8x8 TEE (MJxFL)
1 - 6" GATE VALVE (FLxRJ)
9 LF 6" D.I.
1 - FIRE HYDRANT ASSEMBLY
W/ BLOCKING

MAINTAIN 3' south FROM EX.
EDGE OF PAVEMENT

S 84°30'15" E 259.97

MATCH LINE 25+25
SEE SHEET 12

21+26, 14' LT
INSTALL
1 - 8x8 TEE (MJxFL)
1 - 6" GATE VALVE (FLxRJ)
9 LF 6" D.I.
1 - FIRE HYDRANT ASSEMBLY
W/ BLOCKING

MAINTAIN 42" MIN. COVER

EX. GRADE @ WATER MAIN

TOP OF PIPE ELEVATION

DURGIN ROAD WATER MAIN PROFILE

HORIZONTAL SCALE: 1"=20 FEET
VERTICAL SCALE: 1"=5.00 FEET

EXISTING UTILITY NOTE:

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WATER PIPE NOTE:

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CLASS 200, BLUE, BLACK, OR
WHITE IN COLOR

AS BUILT DOCUMENT:

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SIGNATURE DATE

**APPROVED FOR CONSTRUCTION
FOR THE CITY OF LACEY**

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

**ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION**

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

LAKESIDE ASPHALT PLANT

HOLROYD GRAVEL PIT
THURSTON COUNTY, WA

WATER MAIN PLAN & PROFILE DURGIN "C" (AS - BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

REVISIONS:	DATE:
LACEY	3-21-06
WATER MAIN	7-28-06
POND REVISION	12-5-06
REV. DURGIN	3-1-07
AS-BUILT UTILS	9-5-07

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY:
DATE: JULY 2005
SCALE: H 1" = 20'
V 1" = 5'



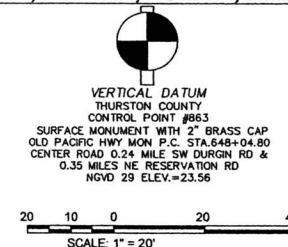
HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.6299
hatterpanter.com

LACEY #05-314
AGENCY NO. I.C. #990457
SHEET: 11 OF 16
INDEX: 04-190WaterP&P2.dwg
JOB: 04-190

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



BASIS OF BEARINGS:
HORIZONTAL DATUM:
CITY OF LACEY COORDINATE SYSTEM BASED UPON
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TOWNSHIP 18 N., RANGE 1 E., W.M.
CITY OF LACEY MERIDIAN BASED UPON THE WEST
LINE OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E.,
W.M., SURVEY RECORDED UNDER AUDITOR'S FILE
NO. 3111152
SUBDIVISION OF SECTION 17, TOWNSHIP 18 N.
RANGE 1 E., W.M. BASED UPON THURSTON
COUNTY HIGH PRECISION NETWORK
(SEE SHEET ONE FOR REFERENCE POINTS)



DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY: JLO
DATE: JULY 2005
SCALE: H 1"=20'
V 1"=5'

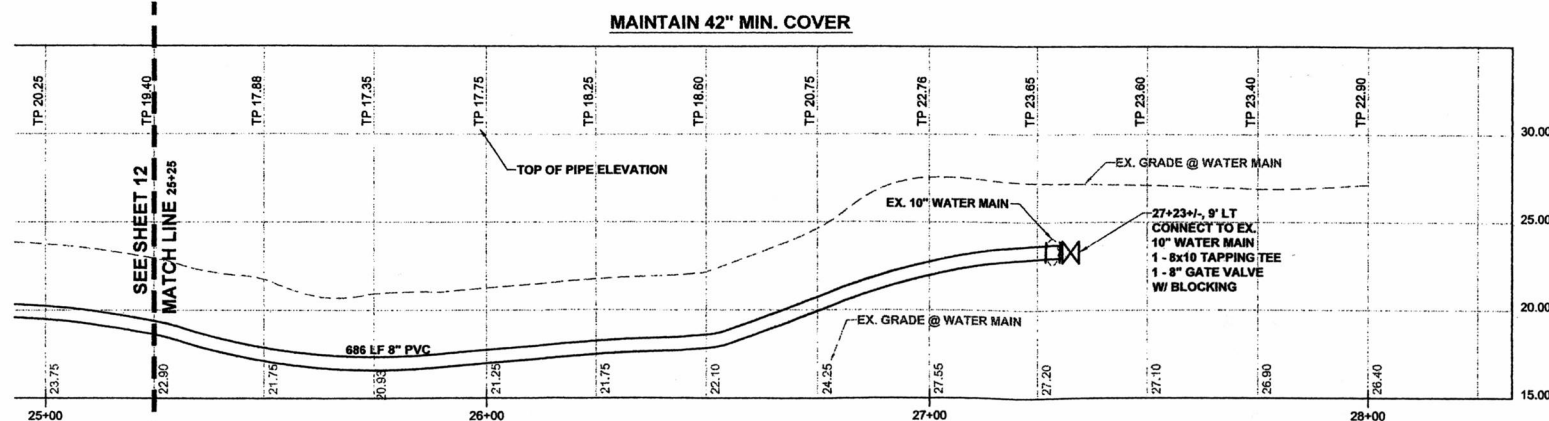
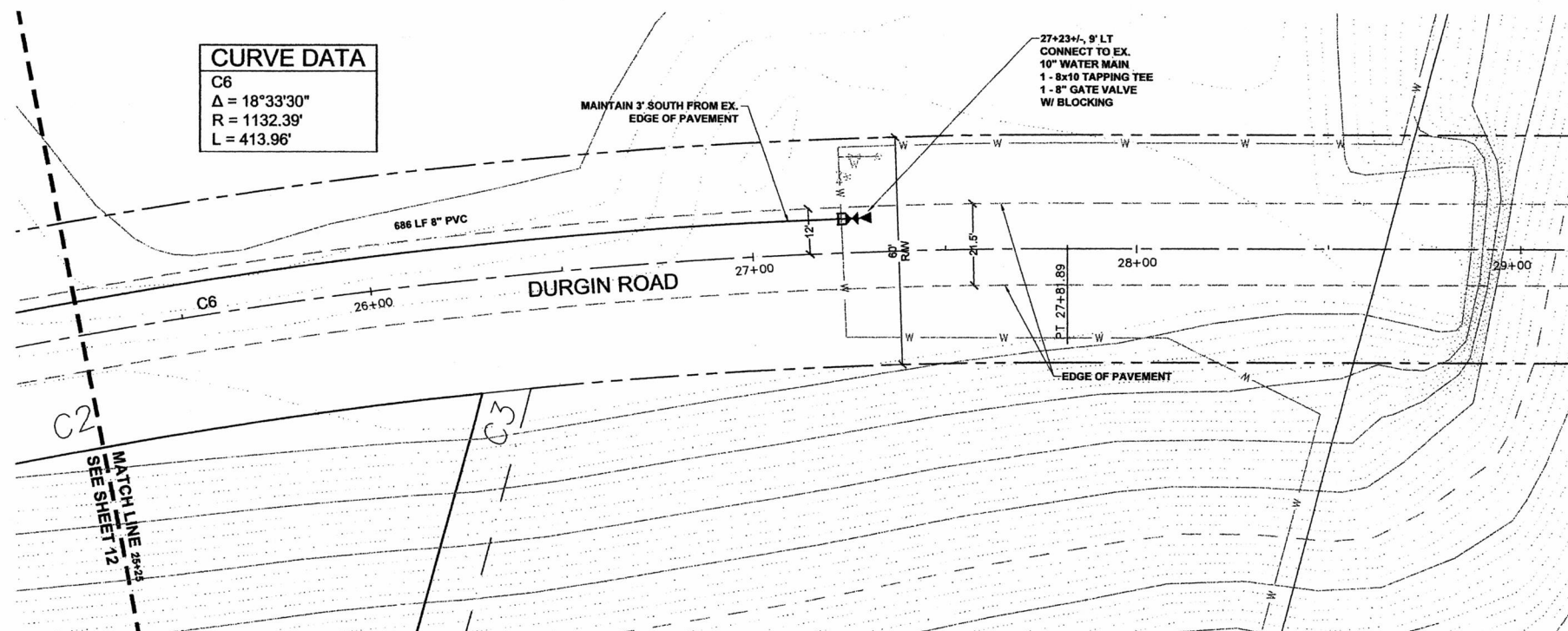


HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.367.6299
hatterpantier.com

REVISIONS:
DATE: 3-21-06
LACEY WATER MAIN
POND REVISION: 7-28-06
REV. DURGIN: 12-5-06
REV. DURGIN: 3-1-07
AS-BUILT UTILS: 9-4-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
WATER MAIN PLAN & PROFILE DURGIN "D" (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

CURVE DATA
C6
 $\Delta = 18^\circ 33' 30''$
 $R = 1132.39'$
 $L = 413.96'$



DURGIN ROAD WATER MAIN PROFILE

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WATER PIPE NOTE:
ALL PVC PIPE TO BE, C900 CLASS 200, BLUE, BLACK, OR WHITE IN COLOR

APPROVED FOR CONSTRUCTION FOR THE CITY OF LACEY

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

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SIGNATURE: [Signature] DATE: 1/25/08

ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

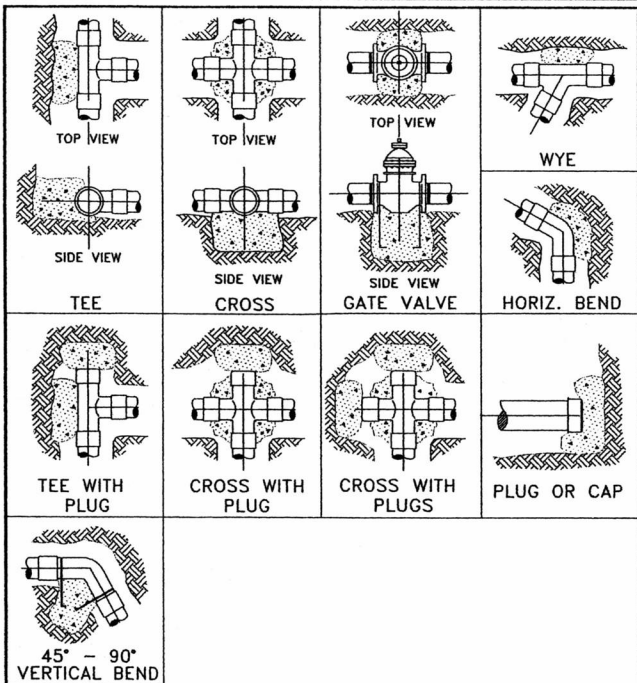
LACEY #05-314

AGENCY NO. I.C. #390457

SHEET: 12 OF 16

INDEX: 04-190WaterP&P.dwg

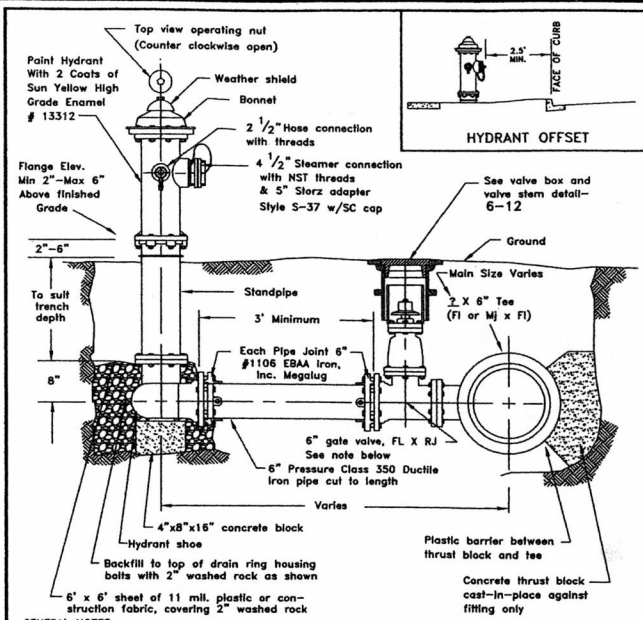
JOB: 04-190



CITY OF LACEY, WASHINGTON
DEPT. OF PUBLIC WORKS

STANDARD
BLOCKING DETAIL

APPROVED _____ DWG. NO. 6-14
CITY ENGINEER _____
DES. LRW DWN. RLM CKD. BFB DATE 7/30/90



CITY OF LACEY, WASHINGTON
DEPT. OF PUBLIC WORKS

FIRE HYDRANT

APPROVED _____ DWG. NO. 6-8
CITY ENGINEER _____
DES. WHO DWN. WHO CKD. GGW DATE 11/15/04

THRUST LOADS

THRUST AT FITTINGS IN POUNDS AT 200 POUNDS PER SQUARE INCH OF WATER PRESSURE

PIPE DIAMETER	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND	DEAD END OR TEE
4"	3,600	2,000	1,000	500	2,600
6"	8,000	4,400	2,300	1,200	5,700
8"	14,300	7,700	4,000	2,000	10,100
10"	22,300	12,100	6,200	3,100	15,800
12"	32,000	17,400	8,900	4,500	22,700
14"	43,600	23,600	12,100	6,100	30,800
16"	57,000	30,800	15,700	7,900	40,300

- NOTES:
- BLOCKING SHALL BE COMMERCIAL CONCRETE POURED IN PLACE AGAINST UNDISTURBED EARTH. FITTING SHALL BE ISOLATED FROM CONCRETE THRUST BLOCK WITH PLASTIC OR SIMILAR MATERIAL.
 - TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (S.F.):
EXAMPLE: 12" - 90° BEND IN SAND AND GRAVEL
32,000 LBS ÷ 3000 LB/S.F. = 10.7 S.F. OF AREA
 - AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.
 - BLOCKING SHALL BE ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

SAFE SOIL BEARING LOADS

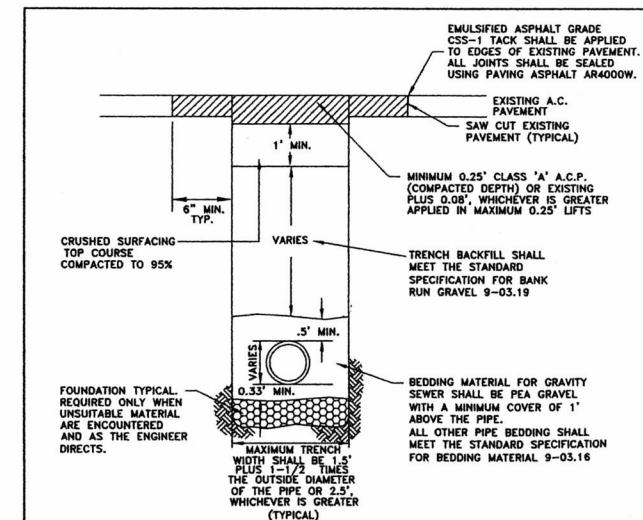
FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET

SOIL	POUNDS PER SQUARE FOOT
MUCK, PEAT	0
SOFT CLAY	1,000
SAND	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

CITY OF LACEY, WASHINGTON
DEPT. OF PUBLIC WORKS

THRUST LOADS

APPROVED _____ DWG. NO. 6-15
CITY ENGINEER _____
DES. LRW DWN. RLM CKD. BFB DATE 5/7/91



CITY OF LACEY, WASHINGTON
DEPT. OF PUBLIC WORKS

RESIDENTIAL TRENCH RESTORATION DETAIL

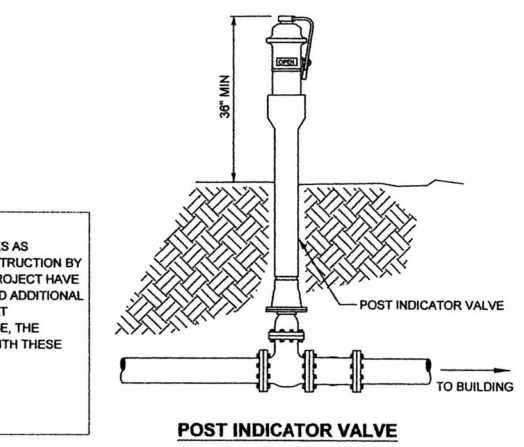
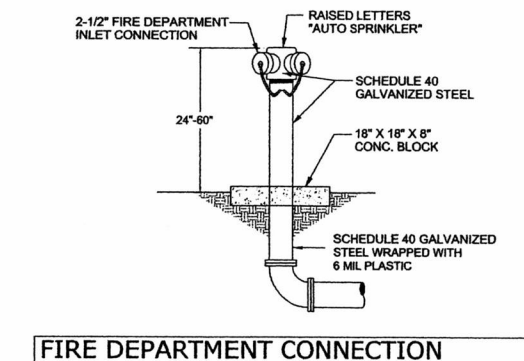
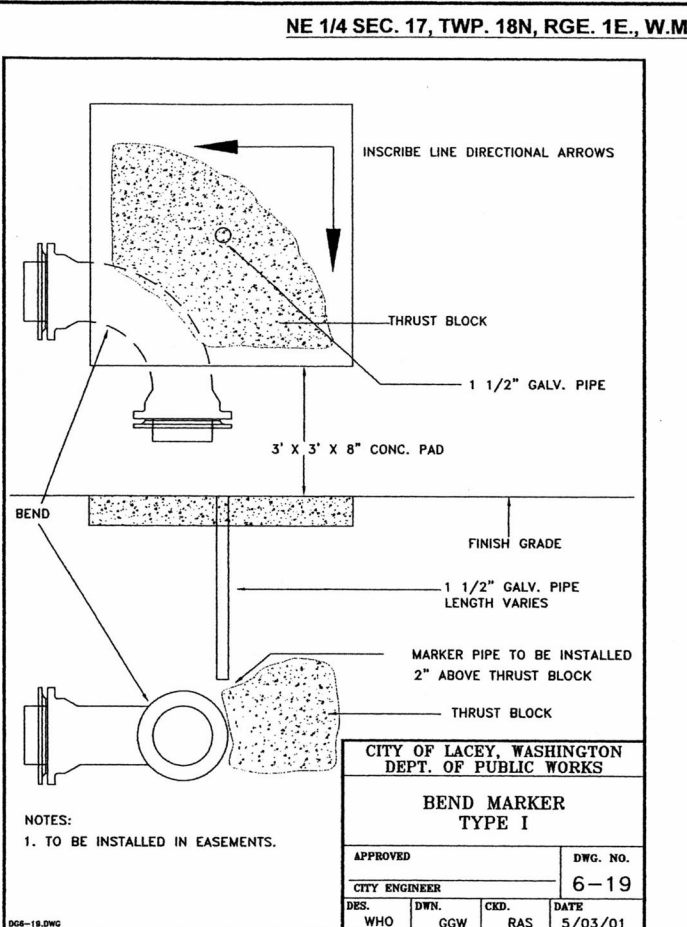
APPROVED _____ DWG. NO. 4-8.2
CITY ENGINEER _____
DES. M.A.H. DWN. W.H.O. CKD. P.D.M. DATE 10/16/01

- NOTES:
- BEDDING SHALL CONFORM TO SECTION 9-03.16 OF STANDARD SPECIFICATIONS.
 - COMPACTION: BEDDING SHALL BE COMPACTED TO 95% MIN. AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE COMPACTED TO 85% MIN. IN UNPAVED AREA, AND 95% MIN. IN PAVED OR SHOULDER AREAS AS DETERMINED BY ASTM D1557.
 - ALL MATERIALS, WORKMANSHIP, AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AS AMENDED BY CITY OF LACEY STANDARDS.
 - KEEP TRENCH BOTTOM COMPACTED WITH UNIFORM GRADE. A BELL JOINT SHALL BE REQUIRED AT EACH JOINT FOR PROPER SUPPORT. NO TEMPORARY SUPPORTS, I.E. BLOCKS, WILL BE ALLOWED TO SUPPORT PIPE. TRENCH BOTTOM SHALL BE TO GRADE PRIOR TO PIPE INSTALLATION.

CITY OF LACEY, WASHINGTON
DEPT. OF PUBLIC WORKS

TRENCH RESTORATION FOR UNPAVED AREAS

APPROVED _____ DWG. NO. 4-8.4
CITY ENGINEER _____
DES. MAH DWN. GGW CKD. PDM DATE 3/29/01



AS BUILT DOCUMENT:

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SIGNATURE _____ DATE 11/15/08

APPROVED FOR CONSTRUCTION FOR THE CITY OF LACEY

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

ACCEPTED AS NOTED THURSTON COUNTY ROADS & TRANSPORTATION SVS. DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR
ACCEPTANCE DATE: 1/21/07
EXPIRES 2 YEARS FROM ACCEPTANCE DATE

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY: _____
DATE: JULY 2005
SCALE: H

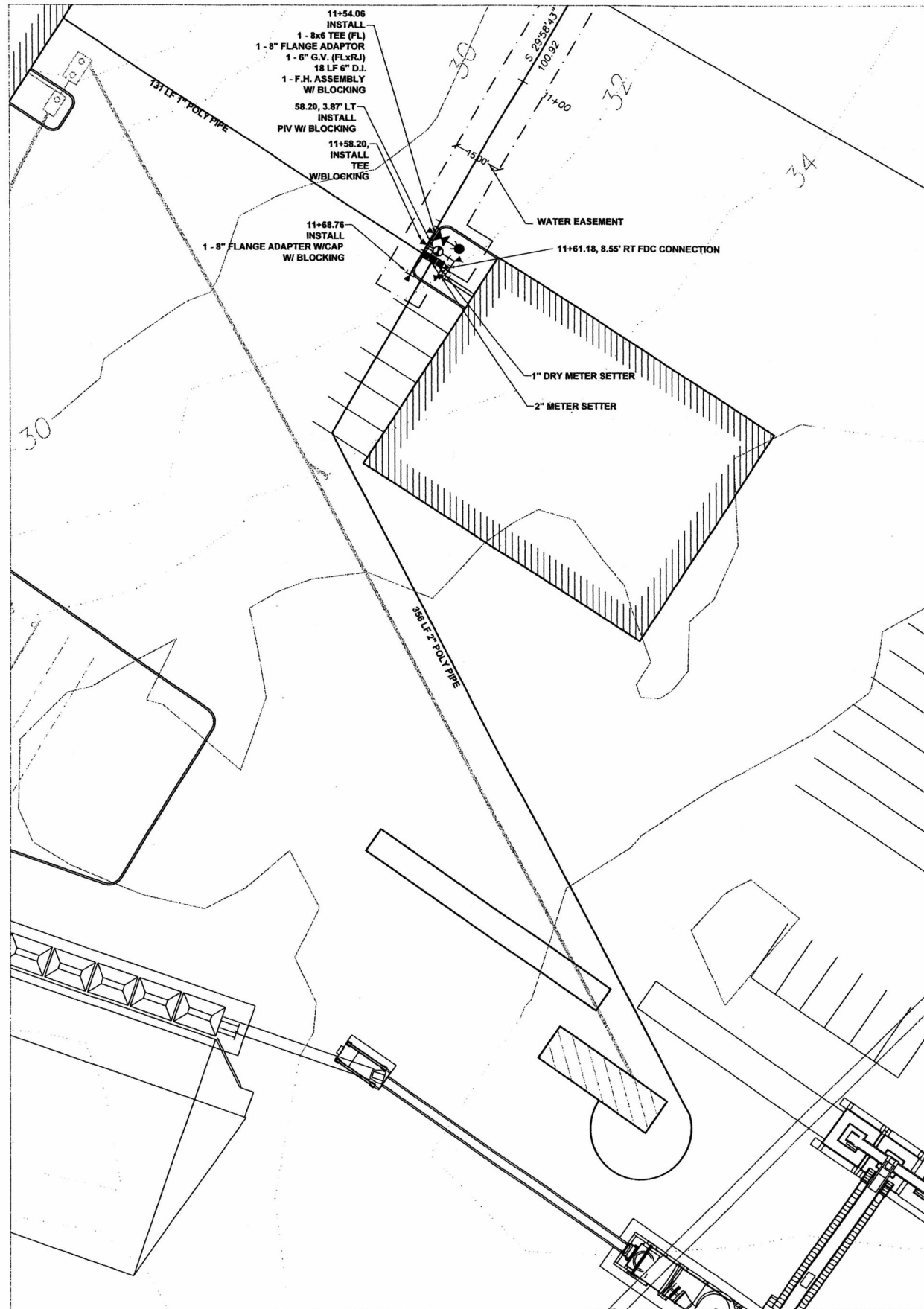
HATTON GODAT PANTIER ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.6299
hatterpanpantier.com

REVISIONS:

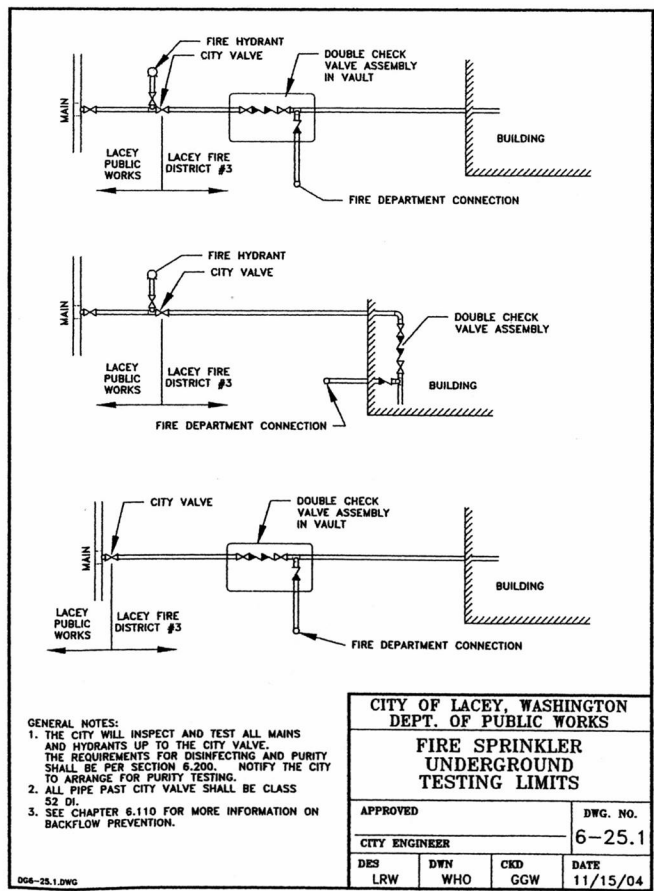
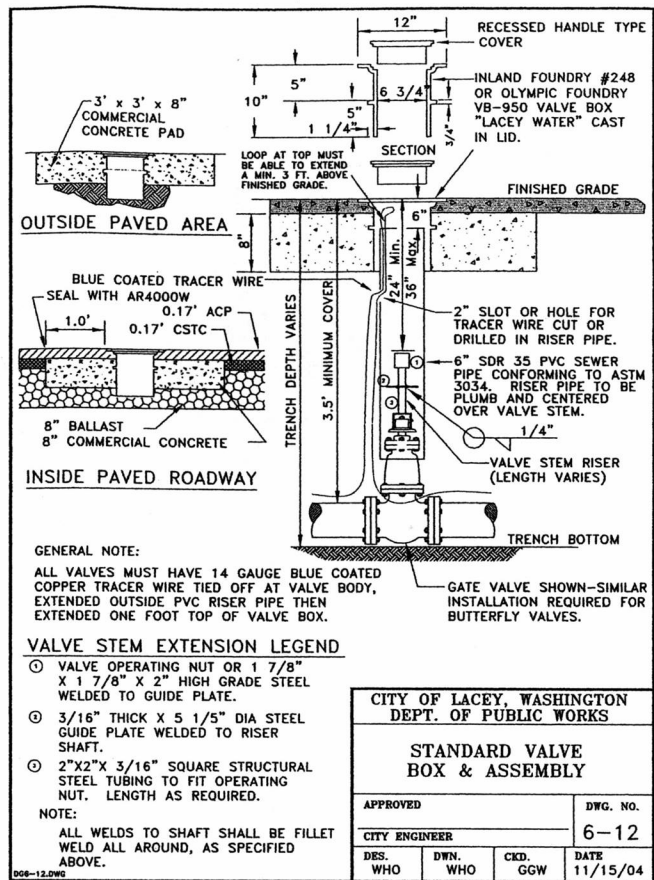
DATE	REVISION
3-21-06	WATER MAIN
7-26-06	POND REVISION
12-6-06	REV. DURGIN
3-1-07	AS-BUILT UTILS
9-6-07	

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
WATER DETAILS (AS-BUILT)
NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

LACEY #05-314
AGENCY NO. I.C. #990457
SHEET: 13 OF 16
INDEX: 04-190WaterDetails.dwg
JOB: 04-190



DOMESTIC WATER SERVICE DETAIL
SCALE = 1:20



NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

20 10 0 20 40
SCALE: 1" = 20'

BASIS OF BEARINGS:
HORIZONTAL DATUM:

CITY OF LACEY COORDINATE SYSTEM BASED UPON THE NORTHWEST CORNER OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M.

CITY OF LACEY MERIDIAN BASED UPON THE WEST LINE OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M., SURVEY RECORDED UNDER AUDITOR'S FILE NO. 3111152

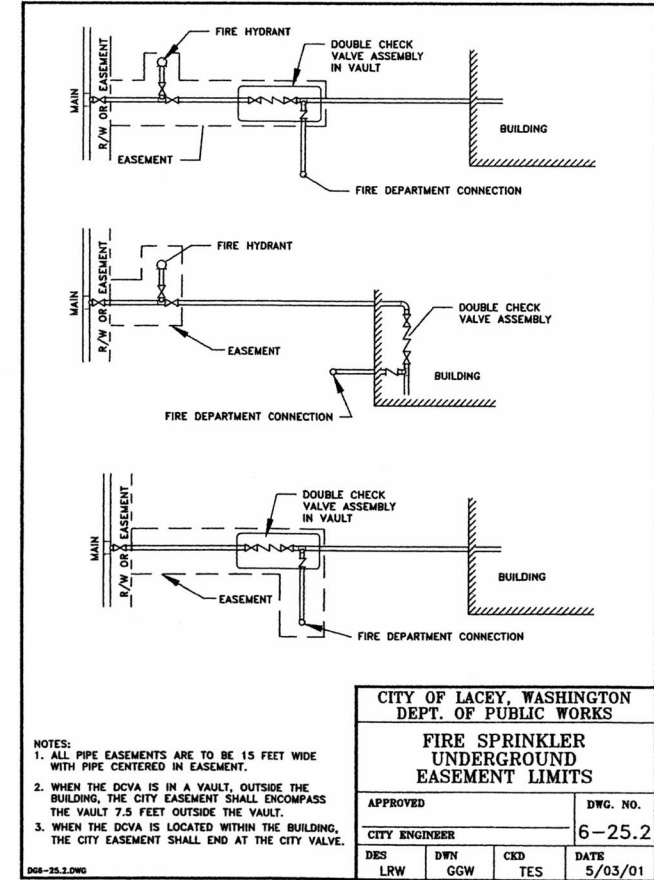
SUBDIVISION OF SECTION 17, TOWNSHIP 18 N., RANGE 1 E., W.M. BASED UPON THURSTON COUNTY HIGH PRECISION NETWORK.

(SEE SHEET ONE FOR REFERENCE POINTS)

VERTICAL DATUM
THURSTON COUNTY CONTROL POINT #663
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON. P.C. STA. 648+04.80
CENTER ROAD 0.24 MILE SW DURGON RD & 0.35 MILES NE RESERVATION RD
NGVD 29 ELEV.=23.56

AS BUILT DOCUMENT:
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[Signature] 11/15/08
SIGNATURE DATE



**APPROVED FOR CONSTRUCTION
FOR THE CITY OF LACEY**

BY: SIGNED BY ROGER A. SCHOESSEL DATE: 1/24/07
DIRECTOR OF PUBLIC WORKS

APPROVAL EXPIRES 2 YEARS FROM ABOVE DATE

**ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION**

BY: SIGNED BY DALE R. RANCOR
ACCEPTANCE DATE: 1/21/07
EXPIRES 2 YEARS FROM ACCEPTANCE DATE

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY:
DATE: JULY 2005
SCALE: H 1" = 20'

HATTON GODART PANTIER
ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1589 FAX: 360.367.6299
hatterpantier.com

REVISIONS:

DATE	BY	REASON
5-21-06	LACEY	WATER MAIN
7-28-06	LACEY	POND REVISION
12-5-06	REV DURGON	3-1-07
3-1-07	AS-BUILT UTILS	9-8-07

LAKESIDE ASPHALT PLANT
HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
WATER DETAILS (AS-BUILT)

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

LACEY #05-314
AGENCY NO. I.C. #990457
SHEET: 14 OF 16
INDEX: 04-190WaterDetails.dwg
JOB: 04-190

60 30 0 60 120
SCALE: 1" = 60'



BASIS OF BEARINGS:
HORIZONTAL DATUM:

CITY OF LACEY COORDINATE SYSTEM BASED UPON
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SUBDIVISION OF SECTION 17, TOWNSHIP 18 N.
RANGE 1 E., W.M. BASED UPON THURSTON
COUNTY HIGH PRECISION NETWORK.

(SEE SHEET ONE FOR REFERENCE POINTS)

SOIL LOGS

▲ COMPACTED SANDY GRAVEL WITH COBBLES	0"-24"
SAND WITH GRAVEL AND SOME COBBLES	24"-120"
▲ COMPACTED SANDY GRAVEL WITH COBBLES	0"-24"
SAND WITH GRAVEL AND SOME COBBLES	24"-144"

TEST RESULTS

(BY CONTRACTOR 7/30/07)

PUMP SET ON A PROGRAMMABLE TIMER WITH COUNTER AND
TIMER SET AT 1 MINUTE 15 SECONDS, OFF FOR 6 HOURS,
COUNTER SET TO 4 TIMES PER DAY.

DRAW DOWN OF 9"
84.5 GALLONS PER DOSE
SQUIRT TEST 61"

CONTRACTOR INFORMATION

JOHNSON & MADDOX CONSTRUCTION
P.O. BOX 14610
TUMWATER, WA 98511

SEPTIC PERMIT NO.: 05-117881
OWNER: LAKESIDE ASPHALT
PARCEL NUMBER: 21817140200

ACCEPTED AS NOTED
THURSTON COUNTY ROADS & TRANSPORTATION SVS.
DEVELOPMENT REVIEW SECTION

BY: SIGNED BY DALE R. RANCOR

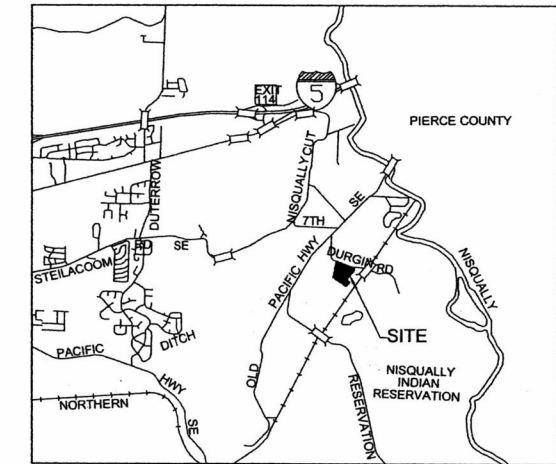
ACCEPTANCE DATE: 1/21/07

EXPIRES 2 YEARS FROM ACCEPTANCE DATE

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.



VERTICAL DATUM
THURSTON COUNTY
CONTROL POINT #853
SURFACE MONUMENT WITH 2" BRASS CAP
OLD PACIFIC HWY MON P.C. STA. 6+48+04.80
CENTER ROAD 0.24 MILE SW DURGIN RD &
0.35 MILES NE RESERVATION RD
NGVD 29 ELEV.=23.56



VICINITY MAP

LEGEND

- NEW WATER METER
- NEW P.I.V.
- NEW THRUST BLOCKING
- NEW F.D.C.
- NEW FIRE HYDRANT
- NEW GATE VALVE
- NEW SANITARY CLEANOUT
- NEW STORM DRAIN MAN HOLE
- NEW ASPHALT
- EXISTING FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING CATCH BASIN
- EXISTING POWER POLE
- EXISTING MAILBOX
- EXISTING WATER METER
- EXISTING STORM DRAIN LINE
- EXISTING OVERHEAD POWER
- NEW WATER MAIN
- NEW SANITARY SEWER PIPE

DRAIN FIELD SPECIFICATIONS

LAND USE	INDUSTRIAL SITE
NUMBER OF EMPLOYEES	15
PRIMARY FLOW RATE	22.5 GAL/ UNIT/ DAY THIS INCLUDES 50% SAFETY FACTOR
RESERVE FLOW RATE	22.5 GAL/ UNIT/ DAY THIS INCLUDES 50% SAFETY FACTOR
SOIL TYPE	2A
APPLICATION RATE	1.00 GAL / SF/ DAY
TRENCH WIDTH	3.00 FEET
ORIFICE SPACING	24 INCHES
ORIFICE SIZE	1/8 INCHES
ORIFICE FLOW RATE	0.41 GPM
NUMBER OF LATERALS	4
NUMBER OF ORIFICE/ LATERAL	15
TOTAL NUMBER OF ORIFICE	60
PIPE LENGTH (TRANSPORT)	188 FT
PIPE LENGTH (MANIFOLD)	9 FT
PIPE LENGTH (LATERAL)	28 FT
TRANSPORT FLOW	24.6 GPM
LATERAL FLOW	6.5 GPM
EFFLUENT VOLUME	338 GPD
DOSE VOLUME	84.5 GAL
NUMBER OF DOSES	4 / DAY
TOTAL PUMP HEAD	24.60 GPM

SEE ATTACHED CALCULATIONS
AND PUMP CURVE
USE: SCH. 40 PVC OR EQUIVALENT

AS BUILT DOCUMENT:

THE SYSTEM INSTALLED PROVIDES THE OPERATIONAL CAPABILITIES AS
DESIGNED BY HATTON GODAT PANTIER AND APPROVED FOR CONSTRUCTION BY
THE REVIEWING AUTHORITY. PORTIONS OF THE CONSTRUCTED PROJECT HAVE
BEEN OBSERVED BY ME OR MY STAFF UNDER MY SUPERVISION AND ADDITIONAL
INFORMATION HAS BEEN PROVIDED BY OTHERS. BASED UPON THAT
INFORMATION AND OBSERVATION, TO THE BEST OF MY KNOWLEDGE, THE
PROJECT WAS CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH THESE
DRAWINGS.

SIGNATURE: [Signature] DATE: 1/15/08

TOPOGRAPHIC NOTE:

THE EXISTING TOPOGRAPHIC DATA SHOWN ON THESE DRAWINGS
HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION
FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO
BE RELIABLE, HGP CANNOT ENSURE ITS ACCURACY AND THIS IS
NOT RESPONSIBLE FOR THE ACCURACY OF THAT INFORMATION OR
FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN
INCORPORATED INTO THESE DRAWINGS AS A RESULT.

EXISTING UTILITY NOTE:

EXISTING UTILITY LOCATIONS SHOWN ARE FROM VARIOUS
RECORDS. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR
TO CONSTRUCTION. "CALL BEFORE YOU DIG" 1-800-424-5555.

THIS DRAWING DOES NOT REPRESENT A RECORD DOCUMENT,
UNLESS CERTIFIED BY HATTON GODAT PANTIER.

ANY ALTERATIONS TO THE DESIGN SHOWN HEREON MUST BE
REVIEWED AND APPROVED BY HATTON GODAT PANTIER.

DESIGNED BY: EBA
DRAWN BY: JLO
CHECKED BY:
DATE: JULY 2005
SCALE: H 1" = 60'
V



HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
1840 BARNES BOULEVARD S W
TUMWATER, WA 98512
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS:	DATE:
LACEY	3-21-06
WATER MAIN	7-28-06
POND REVISION	12-5-06
REV. DURGIN	3-1-07
AS-BUILT UTILS	9-5-07

LAKESIDE ASPHALT PLANT

HOLROYD GRAVEL PIT
THURSTON COUNTY, WA
SEPTIC PLAN (AS-BUILT)

NE 1/4 SEC. 17, TWP. 18N, RGE. 1E., W.M.

AGENCY NO. I.C. #990457

SHEET: 15 OF 16

INDEX: 04-190Sewer.dwg

JOB: 04-190

AGENCY NO. T.C. #990457
SHEET: 16 OF 16
INDEX: 04-190SewerDetails.dwg
■ JOB: 04-190



(SEE SHEET ONE FOR REFERENCE POINTS)