PARKER ROAD SUBDIVISIOIN
CLACKAMAS COUNTY, OREGON

ATTACHMENT TO`
JOINT PERMIT APPLICATION
(BLOCKS 4 & 5)

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Purpose and Need

The project purpose for this application is to construct a 6-lot subdivision. The primary objective of this development is to satisfy an existing demand for housing in the area. The lots are designed to accommodate single-family residences. There is a growing demand in the West Linn area for housing. The intent is to leave enough available developable space to accommodate all of the functions necessary to meet the project purpose and need.

To comply with zoning ordinances, a certain density must be maintained with minimum lot sizes. A sizeable portion of the site is un-buildable due to existing wetlands, drainage way, and wetland transition area. An effort was made to avoid the onsite wetland in the southwest corner of the site. To meet zoning requirements a portion of the existing wetland will need to be filled to meet the minimum lot density and provide room for onsite water resources and the wetland transition area.

Project Description

The applicant proposes to subdivide 2.28 acres into six lots, one open space tract, one private street, and a stormwater facility. The proposed lots range in size from 10,001 to 10,330 square feet, with an average lot size of approximately 10,110 square feet. The lots will all be developed with single-family detached homes.

A variety of features will provide access to the proposed subdivision. Primary access will be provided via a private street with 33 feet of right-of-way width which includes 32 feet of travel lane width and curbs with a width of ½ foot along both sides of the street. This private street will provide access to four of the lots (1, 2, 3, and 4) within a private street tract (Tract A) extending north from S. Parker Rd. The private street will provide direct access to lots #1 and 2, while lots #3 and 4 are designed to take access off a 28-foot wide access easement that extends north from the end of the private street. Access to the remaining two lots (5 and 6) is proposed via an 18-foot wide access easement extending south from an access easement in the Rosemont Pointe subdivision. The applicant will improve the site's southern boundary along Parker Rd. with six foot wide sidewalk, five and one-half a foot wide planter strip, and six foot wide bicycle lane.

Pedestrian circulation will be provided onto the site by the six foot wide sidewalk proposed along the site's Parker Rd. frontage. This sidewalk will then extend onto the site in easements along both sides of the private street. In addition, the sidewalk along the west side of the private street will be extended as a six foot wide pedestrian path beyond the end of the private drive, all the way through the site, to the northern project boundary. This pedestrian path will then extend to Private Drive 'L' in the Rosemont Pointe subdivision, providing a connection between both neighborhoods.

The existing 16-inch ductile iron line in Parker Road will provide water service to the site and to each lot. City Staff determined that this line has adequate capacity to service the site during the pre-application conference (see Pre-application Conference Summary in this application packet).

The existing eight-inch sanitary sewer line in Parker Road will provide service to the proposed lots. City Staff determined that this line has adequate capacity to service the site during the pre-application conference.

Storm water will be collected by a system pipes and catch basins. The storm water will be conveyed

to the new stormwater facility located in the southern portion of the site (Tract B), directly adjacent to the private street. The facility has been sized appropriately to handle development on the subject site as demonstrated in the Storm Drainage Report section of this application packet.

The site contains 0.28 acres (12,184 square feet) of PEM/Sloped wetland habitat and a man-made drainageway (see Wetland Delineation Report section of this application packet). The entire drainageway and majority of the wetland and transition areas will be preserved within an open space tract (Tract C). A small portion of the wetland will be impacted for construction of the private street and sidewalk. The applicant proposes to provide all compensatory mitigation on the subject site.

The site contains some deciduous and coniferous trees located mainly in the northwestern and southeastern corners. The trees have all been inventoried and are shown on the existing conditions plan. The City Arborist reviewed the trees on the site and determined that six of the existing trees are significant and ten additional trees are not significant but should still be preserved. These sixteen trees will all be preserved as identified by the City Arborist.

The project impacts will include 0.02 acres (1,020 sf) of wetland impacts including a total of 41.07 CY of fill material and 22.05 CY of removal.

Construction Methods

Approximately 0.02 acres of the onsite wetland will be filled. Grading will be accomplished the most effective way as determined by the contractor. The types of equipment that will be used will range from track hoes, bulldozers, to scrapers. Existing grade will be filled/cut per the Grading Plan specifications for the proposed development.

Construction Access

A temporary staging/stockpile area will be located in the middle of the property. Access to the construction site will be from the middle of the southwestern property boundary where the proposed access road will be built from Parker Road to the northeast.

Hydrological Characteristics

The existing wetlands at the project site are classified according to the hydrogeomorphic settings in the *Key to Level-1 Hydrogeomorphic (HGM) Classification of Willamette Valley Wetland/Riparian Systems*. This key is provided by the Oregon Department of State Lands to categorized wetlands. A wetland delineation conducted in March 2006 identified one wetland was found onsite. The onsite wetland is part of the Tanner Creek/Willamette River watershed. The wetland is classified as Sloped wetland. Below are applicable excerpt from the classification key.

Slope Class

DSL HGM Key Definition (applicable excerpts): Located on or near base of a slope. Inlet channel absent or very short. Outlet channel frequently present. Shallow sheet flow may be visible at land surface, especially during wet months. Fed by runoff and precipitation, but with a proportionally large component of lateral subsurface flow or discharging groundwater.

Water source at project site

There is a 0.28-acre wetland on the subject property. The onsite wetland is a sloped ditched wetland that flows along the northwest side of the property. Water sources for the wetland are limited to onsite runoff and offsite run-on from surrounding upland areas, direct precipitation, and shallow ground water that daylights during storm events. Offsite run-on is the biggest contributor to onsite hydrology in the wetland. A 12-inch corrugated plastic culvert extends onto the subject property conveying storm water flow from a wetland located directly adjacent on the neighboring property to the northeast.

The project is not anticipated to make any change to the hydrologic characteristics in the onsite wetland. Runoff from newly created impervious surfaces will add overall flow volumes to the site and increase peak flows however; the proposed water quality swale and detention facility will handle the additional runoff. The proposed wetland mitigation area will receive hydrology from the onsite ditch located to the northeast.

Description of Proposed Changes

Approximately 0.02 acre of onsite wetland will be impacted to construct a 6-lot subdivision, intended to satisfy the need for quality housing in the West Linn area. For the most part, the project will be constructed in the southeast one half of the property because the existing water resource area essentially extends across the northwest portion of the property.

The applicant proposes to create a 1,532 sf wetland directly adjacent to the onsite drainage way. The construction of the wetland mitigation area is necessary in order to provide space to build the Preferred Site Plan.

The remaining upland area not slated for development or wetland creation on the northwest side of the property will be designated as a "Wetland Transition Zone". Once the soil has been prepared native plantings will be installed to create a mixed forest, shrub, herbaceous, and grass plant community.

Temporary Impacts

There will be no temporary impacts associated with this project.

Permanent Impacts

Changes to the onsite wetland area will include the 743 sf of impact on the southeastern most part of the wetland, and 277 sf of impact to the Parker Road drainage ditch. The combined impacts will involve a total of 22.05 CY of removal and 41.07 CY of fill.

Impacts to the Parker Road ditch are unavoidable because the City of West Linn requires the applicant to do street improvements to Parker Road, including a sidewalk (Impact Area A). The proposed sidewalk will impact 277 sf of the ditch including 21.04 CY of removal and 26.30 CY of fill.

The impact to the southeastern most part of the wetland is a result of the proposed water quality swale, pedestrian/bicycle pathway, and to a much lesser extent the private driveway (Impact area B). This part of the wetland must be impacted to accommodate the building plan,

the existing wetland and wetland transition zone, and the proposed created wetland. The aforementioned development will require 1.01 CY of removal and 14.77 CY of fill from onsite wetlands.

The total permanent wetland impacts for the two action areas total 63.12 CY.

Table 1: Permanent Impacts

PERM IMPACTS TO	AREA SF	REMOVAL CY	FILL CY	TOTAL FILL/CUT
Area "A"	277.00	21.04	26.30	
Area "B"	743.00	1.01	14.77	
TOTALS	**1020.00**	**22.05**	**41.07**	**63.12 CY**

Measures to Avoid & Minimize Effects of the Changes

The impacts are due to providing the necessary space to construct the six-lot subdivision, private street, water detention facility, pedestrian/bicycle pathway, water quality swale, and sidewalks. By not filling any of the wetlands, the remaining buildable area is inadequate to meet the building program due to the size and layout of the existing wetland. Due to the existing wetland there is insufficient room to meet the minimum lot density required by the City of West Linn.

The chosen development plan has been designed in a way to meet the minimum housing and layout requirements while impacting the least amount of wetland as possible. The development is laid out in a way to maximize the upland area in the southeastern one-half of the property while minimizing the impact to the northwest side of the property where much of the water resource is located.

Silt fencing shall be erected to prevent erosion and sedimentation in the existing and created wetland areas. See Erosion Control Plan (Attached). Exposed areas adjacent to the mitigation areas should be covered in straw to prevent erosion and sedimentation.

PROJECT IMPACTS AND ALTERNATIVES (BLOCK 5)

Project Impacts

The proposed wetland impacts are necessary to facilitate development of the six-lot subdivision, private street, water detention facility, pedestrian/bicycle pathway, water quality swale, and sidewalks. The water detention facility, side walk, water quality swale, and pedestrian/bicycle trail impacts will occur within the onsite wetland including 0.02 acres of wetland cut/fill activity. The immediate impacts to the existing wetland include the loss of 0.02 acres of wildlife habitat, primary production, water storage and delay, and water quality functions.

Because of the location of the proposed development crucial hydrologic inputs will not be affected because the site receives most of the hydrology from offsite run-on from the northeast. A culvert located on the neighboring property dumps stormwater flow originating from an up-gradient pond into a wetland, which flows onto the subject property. The offsite run-on is well contained within onsite wetlands and drainage-ways. Conversely, stormwater flow generated within the developed areas will

be captured within the development and routed through a northeast to southwest flowing water quality swale and then directed to the water detention facility.

Existing wildlife habitat and primary production functions will be lost at face value but will be mitigated at a 1.5:1 ratio with the creation of 1,532 sf wetland. Currently the proposed impact area contains low-level vegetation such as non-native grasses and forbs. There are no trees or shrubs in the proposed project area.

Project Alternatives

The applicant investigated alternative site plans and alternative sites, as follows:

Alternative A – Preferred Site Plan

The applicant proposes to subdivide 2.28 acres into six lots for single-family detached homes, one open space tract, one private street, and a stormwater facility. The proposed lots range in size from 10,001 to 10,330 square feet, with an average lot size of approximately 10,110 square feet.

The project site contains 0.28 acres (12,184 square feet) of PEM/Sloped wetland habitat. The majority of the wetland will be preserved in this alternative within an open space tract (Tract C). However, a portion of the wetland will be impacted for construction of the private street, sidewalk, and stormwater facility. Alternative designs were explored (see Alternatives B-D), but each resulted in greater impacts to the wetland habitat. The applicant also explored offsite areas for the development (see Alternative B); however, these properties remain unavailable. The applicant proposes to provide all compensatory mitigation for the impacts on the subject site.

A variety of features will provide access to the proposed subdivision. Primary access will be provided via a private street with 33 feet of right-of-way width. This private street will provide access to four of the lots (1, 2, 3, and 4) within a private street tract (Tract A) extending north from S. Parker Rd. The private street will provide direct access to lots #1 and 2, while lots #3 and 4 are designed to take access off a 28-foot wide access easement that extends north from the end of the private street. Access to the remaining two lots (5 and 6) is proposed via an 18-foot wide access easement extending south from an access easement in the Rosemont Pointe subdivision. The applicant will improve the site's southern boundary along Parker Rd. with sidewalk, planter strip, and bicycle lane.

Pedestrian circulation will be provided onto the site by the six foot wide sidewalk proposed along the site's Parker Rd. frontage. This sidewalk will then extend onto the site in easements along both sides of the private street. In addition, the sidewalk along the west side of the private street will be extended as a pedestrian path beyond the end of the private drive, all the way through the site, into the Rosemont Pointe subdivision to the north.

Storm water will be collected by a system pipes and catch basins. The storm water will be conveyed to the new stormwater facility located in the southern portion of the site (Tract B), directly adjacent to the private street.

Alternative Site – Offsite Project Area

The applicant examined the purchase and development of separate property located further west on Parker Rd. as shown on the attached plan "Alternative A". The two properties examined include the 3.42 acres on tax lot 3500 and 1.98 acres on tax lot 3600, both on tax map 21E25CB. However, the property owners sold these parcels to another buyer. In addition, the Alternative A site is located in

Clackamas County, outside the West Linn city limits. Thus, annexation approval is required for developing these properties at densities allowed by West Linn. The property for the current proposal is already within the City of West Linn with a zoning designation that allows for the proposed number of lots.

Alternative B – Planned Unit Development with Private Street

The applicant explored the possibility of a planned unit development (PUD) on the subject site (see attached "Alternative B") which permits a greater number of lots than the six proposed with the current subdivision design. The larger number of lots would both directly and indirectly impact the wetland habitat more than the current subdivision. Portions of lots 1, 2, 3, and 7 in Alternative B would be within the existing wetland posing direct impacts to these areas of the habitat and the two additional lots would result in more impervious surfaces creating a greater impact on the wetland hydrology.

The design of this alternative also would require a stormwater quality facility located directly over the wetland habitat in the southwest corner of the site. The applicant's current design includes a stormwater quality facility outside the delineated boundary of the wetland in the southwest corner.

Other issues related to the alignment of the private street along the east property line in Alternative B include: (1) Parker Rd. is classified as an arterial with a recommended separation of 500 feet between intersecting streets (see West Linn Development Code Subsection 85.200.B.2). The private street in the Alternative B design is located within 500 feet and closer to Coho Lane (the existing public street to the east) than the private street proposed with the current design; and (2) The location of the private street along the east property line requires the removal of six conifers. The City Arborist recommended the preservation of these conifers which can be accomplished utilizing the current design.

Alternative C – Planned Unit Development with Public Street Hammerhead

The applicant examined another planned unit development (PUD) layout with a public street alignment as shown on the attached "Alternative C." Alternative C shows a public street hammerhead design which stubs to the west property line. The stub street will extend to the west with future development of that property. The stub along the west property line proposed with Alternative C requires a crossing of the wetland and man-made drainage not proposed with the applicant's current design.

The Alternative C design also generates other direct impacts to the wetland habitat that will not occur with the applicant's current design. Lot 1 of the Alternative C design is proposed directly over the wetland in the southwest corner of the subject site requiring a larger amount of wetland fill. In addition, the Alternative C design also includes the construction of the stormwater quality facility along the west property line over the wetland in this location.

The West Linn PUD requirements allow for additional lots beyond the applicant's current design which results in an increase in impervious surfaces, creating a greater impact on the wetland hydrology.

In addition, it is not known when the property to the west will be available for development and in the meantime, the applicant would utilize an interim access easement for six of the lots from Parker Rd. This easement accommodates an access drive with a maximum width of 20 feet to service six lots. However, the West Linn Development Code states that access to five or more lots requires a public

street connection with a minimum width of 40 feet. Thus, the private street design with the applicant's current proposal is more consistent with the Development Code, providing four lots with direct access to an existing street.

Parker Road is classified as an arterial with a recommended minimum separation of 500 feet between intersecting streets (see West Linn Development Code Subsection 85.200.B.2). The interim access easement within the Alternative C PUD design is located within 500 feet and closer to Coho Lane to the east than the private street proposed with the current design. Thus, the applicant's current design is more consistent with the West Linn Development Code.

a. The public street in the Alterative C design is not consistent with the West Linn street width requirement for local streets (see West Linn Development Code Subsection 85.200.A.2). The West Linn code requires at least 40 feet of right-of-way width for local streets. However, the maximum width available for the public street in this alternative is 33 feet since the applicant must maintain a minimum lot size of 10,000 square feet while also minimizing impacts to the wetland. Thus, the proposed private street in the current plan provides a better design.

Alternative D – Standard Subdivision with Public Street from Parker Road

The applicant examined other standard subdivision layouts for the subject site including the use of a public street extending from Parker Rd as shown on the attached "Alternative D". The Alternative D design negatively impacts the wetland habitat which will not occur with the design of the applicant's current proposal. The public street in Alternative D is aligned within a larger portion of the wetland habitat, thus, creating a greater direct impact. In addition, the public street design extends further into the site generating additional impervious impact, not created with the private street design in the applicant's current design. The stormwater quality facility therefore would need to be larger than the facility in the current design to accommodate this larger street surface. The construction of a larger stormwater quality facility generates a greater impact to the existing wetland.

In summary, there are no alternative sites on which the proposed project could be feasibly constructed, nor are there any alternative site plans which could both meet the project goals and avoid the onsite water resources. The site plan as proposed represents a compromise that best meets both the city's code requirements and the owner's project goals.

EXISTING BIOLOGICAL AND PHYSICAL CHARACTERISTICS

The approximate 2.3-acre subject property is located north of Parker Road in West Linn, Clackamas County, Oregon (SE ¼ quarter or the SW ¼ of T2S, R1E, Sec. 25, Tax lot 3900). The rectangular subject property is situated close to a 45-degree angle. Currently, there is one existing single-family residence onsite. The subject property is surrounded by residential development to the northwest, northeast, and southeast. Parker Road borders the property to the east.

The existing house was located in the southeastern corner of the subject property. A circular gravel driveway extends from Parker Road around the backside of the existing house back to Parker Road. The remainder of the property is covered by low level grasses and forbs with the exception of the northwestern property boundary, which contains trees and shrubs. An abandoned building pad is located in the middle of the southeastern property boundary.

The property generally slopes in a southwesterly direction. A ditch runs south along the western property boundary, turning east to run along the southern property boundary adjacent to Parker Road.

The ditch emanates from an outfall on the property to the northeast where it is channelized for a short distance before it fans out into a small wetland (0.32 acres), which extends onto the subject property. The onsite portion of the wetland (0.28 acres) tapers on the southeast boundary until it finally narrows back into a defined ditch again that flows to the road side ditch on the northeast side of the Parker Road.

A swale extended from the onsite ditch to the driveway in the southwest corner of the property. The swale is arch shaped and routes stormwater flow towards the driveway where it infiltrates or sheet flows to the roadside ditch.

The subject property was mainly vegetated by grasses and forbs however, trees, shrubs, and vine species were found along the northwest property boundary.

The majority of the property was vegetated by a variety of forbs, grasses and shrubs such as perennial ryegrass (*Lolium perenne*), common velvet grass (*Holcus lanatus*), tall fescue (*Festuca arundinacea*), Himlayan blackberry (*Rubus discolor*) and English hawthorn (*Crataegus monogyna*). Along the west edge of the property vegetation was dominated by common velvet grass, reed canary grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*) and, in the overstory, cottonwood (*Populous balsamifera*) and red alder (*Alnus rubra*).

The Clackamas County Soil Survey indicated Cornelius silt loam on 8 to 15 percent slopes and Delena silt loam on 3 to 12 percent slopes (Figure 2). Delena is listed as a hydric series

The Cornelius series consists of moderately well drained soils that formed in silty material over old, silty alluvium on rolling uplands. It is classified as an Ultic Haploxeralf, which is a reddish or brownish Alfisol with a xeric moisture regime and a lower saturation in the upper soil. The A horizon is silt loam 9 inches thick, with a matrix color of 10YR 3/2. The subsoil is deep with the upper 7 inches 10YR 4/3 silt loam. Included in this series are areas of Kinton, Delena, Cascade and Laurelwood soils. The capability subclass is IIe, which indicates moderate limitations due to erosion.

The Delena soil series consists of deep poorly drained soils (resulting from a hardpan) formed in mixed silty alluvium on high terraces and rolling uplands. These soils are classified as Humic Fragiaquepts, which are wet Inceptisols with a fragipan, but without an ochric epipedon. The horizons above the pan are grey and saturated for several months in most years. The A horizon in Delena soils is silt loam, 12 inches deep, with a matrix color of 10YR 3/2 and mottles of 10YR 5/6 below 8 inches. The B horizon is silty clay loam, 12 to 25 inches, with a matrix color of 10YR 4/2 with 10YR 5/2 mottles.

The combined wetland area at the site is 0.28 acres, which 12.2% of the site.

PROJECT SITE RESOURCE DESCRIPTION

Navigation, Fishing, and Recreational Use

NA

Known ESA and Archeological Information

There are no known endangered species in the area.
There is no known archeological information for the site.

WETLAND RESOURCE INFORMATION

Wetland Delineation

A wetland delineation was completed for the subject property (Tax Lot 3900) in March 2006. Delineation reports are on file at DSL (DSL WD# 06-0204) and copies of the reports are attached for the Corps.

Concurrence

Neither the Army Corps of Engineers nor the Department of State Lands has issued a wetland concurrence letter.

Functions and Values Assessment

DSL provides the following guidebook to assess functions and values of wetlands: *The Guidebook for Hydrogeomorphic (HGM) – based Assessment of Oregon Wetland and Riparian Sites, I Willamette Valley Ecoregion Riverine Impounding and Slope/Flats Subclasses.* This conclusion is based on the criteria that are presented for the evaluation of other classes of wetlands in the DSL guidebook.

Table 2. Function Capacity of Existing Wetland (Sloped Wetland)*

FUNCTIONS	COMMENTS	
Water Storage & Delay	0.10	The sections of the existing wetland area are relatively narrow and narrow in the roadside ditch. The contributing watershed is covered by grasses and forbs. The runoff that reaches the existing wetlands has been redirected from upslope areas into a pond then hard-piped to the neighboring property to the north where it is released and then flows onto the property. The contributing watershed is somewhat narrow from ridgeline to ridgeline. The contributing watershed consists of the area north and areas upgradient to the existing wetlands onsite to the east. Erosion in downslope channels is somewhat greater than what occurred historically. Other factors suggest that storage or delay of water by this site is not atypically important to biological resources located onsite or downslope. Sites of this subclass and size that store or delay water to this degree are abundant in this watershed both locally and regionally.
Sediment Stabilization & Phosphorus Retention	0.50	Water storage and delay is low. Texture of the predominant substrate in the upper 12 inches of the seasonal zone is mostly a silty clay loam or silt loam. The seasonally saturated zone is vegetated by pasture grasses and forbs. Very shallow pools are sometimes present seasonally. Substrates in the wetland have not been subject to erosion and scour however, the roadside ditch has been exposed to erosion and scour.
Nitrogen Removal	0.30	Water storage and delay is low. The wetlands have little potential for seasonal flooding. There is no dead wood, thick soil organic layer, or large diameter trees in the wetlands. Substrate in the drainage has been subject to some erosion and scour.
Primary Production	0.40	The wetland is covered by pasture grasses and herbaceous vegetation. The wetland remains saturated through the winter months and into the beginning of the growing season. The wetland substrate is not subject to scour. The site's contributing watershed is mostly vegetated.
Invertebrate Habitat Support	0.24	Wetland is rarely inundated. Cover that could support algae and provide shelter from currents and predators is lacking. Plant species richness is very low. Pools are lacking. Water not likely to experience pulses of contamination and pollutants. Erosion is minimal. Surrounding landscape contains no water features. *Invertebrate habitat is limited to those species that do not require standing water to complete their life-cycle. Invertebrates may reside in the onsite wetland but they are limited in diversity and numbers. We recommend lowering the score to 0.10.*
Amphibian & Turtle Habitat	0.29	There is rarely seasonal inundation. There are no bullfrogs located within the subject wetlands. There is no woody debris and no pools. There are no basking sites for turtles or calling sites for frogs. Land cover in adjoining uplands contains grasses and herbs. These areas have not been cleared of vegetation. Parker Road is near the wetland. There are no wetlands in the vicinity of the subject wetland. *The score for this function is too high. There is little to no inundation on the site, and there are no calling sites for turtles or basking sites for frogs. We recommend a much lower score (0.10).*
Breeding Waterbird Support	0.00	There are no vernal pools/shorebird scrapes in the existing wetlands.

FUNCTIONS	COMMENTS	
Wintering & Migratory Waterbird Support	0.28	Wetland has little to no inundation and only present in small localized puddles during the wettest part of the season due to the slope. Substrate has microtopograpic variation. Water quality is moderate. Vegetation consists of two or three grass species and a few non-native forbs. *This score should be much lower (0.10) due to lack of inundation, high presence of non-native species, and surrounding development.*
Songbird Habitat Support	0.14	Wetlands are vegetated mainly by a mix of native and non-native grass species and non-native herbaceous species.
Support of Characteristic Vegetation	0.27	Site is vegetated mainly by a mix of native and non-native grass species and various herbaceous species.

COMPENSATORY MITIGATION

Compensatory Mitigation Plan (non-wetland impacts)

Not applicable.

Rehabilitation Plan (temporary impacts)

Not applicable.

PTP

Not applicable

Mitigation Bank

Not applicable.

Conservation in Lieu

Not applicable.

Compensatory Wetland Mitigation Plan

To mitigate the loss of 0.02 acres of wetlands, the following onsite mitigation plan is proposed:

Wetland Creation (1:1.5 ratio)
A 0.035 acres
0.035 acres /1.5 = 0.02 acres mitigated

0.035 acres total mitigation area (equivalent to 0.02-acre mitigation credit for 0.02-acre impacts).

See Table 3. Wetland impact and mitigation areas.

Proposed mitigation credit ratios for onsite wetland creation are 1.5:1.

Rationale for the Mitigation Area Site Selection

The onsite wetland creation area is located southeast of the onsite drainage way. The wetland creation area currently provides minimal habitat features that include non-native grasses and forbs. The area southeast of the drainage way is comprised of grasses such as tall fescue, velvet grass, and perennial ryegrass. The wetland creation area was selected because it is onsite, an extension of the existing drainage way, and provides adequate space to compensate for the wetland area lost by creating additional wetland at a 1.5:1 ratio.

The increased size and re-grading of the mitigated wetland will increase stormwater retention capacity. Runoff from the existing drainage way and up-slope wetland will disperse into the newly created wetland.

Wildlife habitat will be increased in the mitigated wetland with the installation of the proposed plant species. A multi-layered plant community provides increased foraging, nesting, shelter, and rearing functions over the existing single-layer habitat for local wildlife.

The controller of the compensatory mitigation site will be Schott & Associates, P.O. Box 589, Aurora, OR 97002, (503) 678-6007.

A small tributary to Tanner Creek flows from northeast to southwest on the neighboring property to the southeast.

Justification for Mitigation Consisting of PSS and PFO Wetlands

The impacted wetlands were historically PSS and PFO wetlands. The site has been disturbed over the years preventing the establishment of shrub and tree species. The neighboring property to the northwest is covered by a thick stand of trees and shrubs. The tree/shrub line abruptly ends at the northwestern property line suggesting the subject property was historically forested.

The Clackamas County Soil Survey lists Cornelius silt loam on 8 to 15 percent slopes and Delena silt loam on 3 to 12 percent slopes to be found onsite. The soil survey states that Douglas-fir, bigleaf maple, western red cedar, western hazel, shrubs, and grasses to be found within the Cornelius series, while the Delena series is known to contain Douglas-fir, western red cedar, ash, snowberry, rose, trailing blackberry, sedges, and grasses. This evidence supports the decision to create a PFO-PSS wetland for mitigation purposes.

Hydrology

The hydrology of the wetland and the wetland mitigation areas will be maintained by existing runoff routed through the existing drainage way and into the created wetland. Existing shallow ground water will also provide a small amount of wetland hydrology. Existing stormwater runoff will not be cutoff in any way from the wetland area because none of the proposed development will impact any of the water resource up-gradient of the wetland creation area.

The grading proposed in the created wetland area will enhance water storage and delay functions by creating a larger basin, thus a greater capacity to retain hydrology.

Construction Methods

The wetland grading will be done the most efficient way for the contractor using standard machinery and construction techniques. The equipment they might use, but are not limited to, could range from track hoes to scrapers to bull dozers to rollers. Final grade in the mitigation area will be created using a combination of a track-hoe and bulldozer. Micro-topography will be made using a sheep's foot or intentionally leaving rough areas after grading. The areas not proposed for grading will be fenced with either silt, or construction fencing, to prevent accidental encroachment into these areas. Silt fences will be installed down slope of all construction areas.

The mitigation plan includes creating 0.035 acres of wetland. The created wetland areas will be planted to a deciduous forest, scrub-shrub, and emergent community. See Mitigation Plan and attached **Wetland Mitigation Plan Installment Methods.**

The created wetland will receive hydrology from the existing up-gradient wetland and drainage way. The remaining hydrology will come from shallow ground water and to a lesser extent, precipitation. The wetland creation area will be graded from 0 to 24 inches deep. The topsoil will be stockpiled, and once the grading has been completed, the topsoil will be spread over the mitigation area. Six inches of topsoil will be spread over the subsoil. The area will be seeded and planted.

Planting Schedule and Construction Sequence

The grading of the mitigation areas will start when the initial construction begins. It will be completed when the site grading is completed. Excavating material from the mitigation area will be used as backfill in the created wetland to provide suitable soil. Spreading the topsoil will be one of the final grading activities. The mitigation area will be hydro seeded by the start of the first fall following start of construction. Planting trees, shrubs, and rhizomes will occur during the first winter upon completion of the site grading.

The mitigation area will be graded during late summer of 2007 (August/September). The seeding will occur by the end of September 2007. The shrubs and trees will be planted during the fall of 2007 or winter of 2007/2008.

Mitigation Site Constraints

If during grading, the elevation is reduced through the clay sub-soil and into some underlying gravels, the mitigation area will have the potential to drain too quickly and not have wetland hydrology. If the gravel layer is intercepted, prior to reaching final grade, the elevation will be reduced by an additional foot, and the clay subsoil excavated from the area will be replaced and compacted until it is one foot thick. Topsoil will then be replaced over the compacted subsoil. This should insure that wetland hydrology will be met.

Hydrology in the wetland creation area could be lacking if the flow from the wetland/drainage way does not reach the mitigation area or did not receive adequate amounts. In cases such as this, a contingency plan must be implemented to remedy the situation.

Buffer Zones

The vegetated community found on the neighboring property to the west will be used as a model for the transition area enhancement, sans the Himalayan blackberry and English hawthorn. This vegetated community west of the drainage partially extends onto the subject property. Any native shrub species found onsite will be marked and left untouched during the removal of Himalayan blackberry in the transition area. There are no existing mature trees in the proposed transition areas to be enhanced.

Twenty-five Douglas firs and twenty big-leaf maples are proposed in the transition area east of the water resource, which receives sunlight throughout most of the day. Twenty-five red alders will comprise the remaining trees east and west of the water resource. Red alders can tolerate partial shade as well as areas with direct sunlight.

Currently, the area west of the water resource is lined with trees and shrubs however, many of these are located offsite. Shrub species include hazelnut, snowberry, Himalayan blackberry, and English Hawthorn tightly bunched amongst red alder trees. The area west of the ditch and wetlands contains no shrubs or trees. The majority of the hazelnut shrubs (50) and snowberry shrubs (140) should be planted east of the resource. The snowberry will be planted in clusters of 15 plants at a density of four foot on center. Twenty-four Indian plums will be scattered through out the western transition area. The Indian plum and hazelnut will be planted individually and eight foot on center. Finally, 215 salal will be planted in the partial shade areas west of the resource.

The ground cover in the transitions areas will consist of a native seed mix including; native California brome (55%), blue wildrye (25%), lupine (15%), and western yarrow (5%).

The invasive species should be controlled prior to any plantings. All the plantings should occur during the winter of 2007 – 2008.

The 755 sf of transition area to be enhanced west of the resource area is very narrow but connected to existing scrub-shrub areas offsite. The offsite transition area to the west is a mix of native and non-native species however, it is mature and densely populated providing sufficient protection of the resource's functions and values.

The width of the transition area east of the resource ranges from 10 to 30 feet. Although 10 feet is quite narrow for a water resource buffer the western one-half of the subject property has been set aside for the water resource area and associated transition zones creating a confined and undisturbed native habitat area. We recommend a fence with appropriate signage be installed at the edge of the transition area, west of the development.

Goals

The goal of the mitigation project is to establish 0.035 acres of wetland creation that produces diverse wetland habitat. It is also a goal to replace low to moderate quality wetlands such as the existing onsite wetland, with a wetland that provides high function capacity and values of functions.

Objectives

The objective is to replace a low quality wetland with high value and function wetland. The wetland will be created to provide wildlife habitat and water quality functions. The established mitigation

wetland will be deciduous forest, scrub-shrub and emergent communities surrounded by a mixed forested upland community. The wetlands will experience inundated soils during the winter and spring months, and seasonally saturated conditions.

Success Criteria

The success criteria for ground cover will be based on a graduated scale. A survivorship of 50% will be required for the first year, 70% by the third, and 90% by the fifth and final monitoring year. This is a reasonable method to determine survivorship because the proposed rush and sedge species, which will be planted as a seed mix, will take more than one season to germinate and spread.

A survivorship of 80% is proposed for the tree and shrub plantings after five years, which has been the standard for woody species success criteria.

The created wetland area will meet the hydrology criteria for the wetland as described in the *1987 Corps of Engineers Wetland Delineation Manual* by the end of the five year period. Signs will be posted to inform others to not trespass onto the mitigation site.

Mitigation of Wetland Functions and Values

The proposed project replaces all the wetland functions and values impacted by the project. The onsite wetland is classified as sloped. The compensatory mitigation wetland will be classified as sloped wetland as well. The existing wetland's functions and values are low. The proposed mitigation replaces and improves on wetland area, functions, and values.

The function and value of the existing and proposed mitigation wetlands were assessed using the Guidebook for Hydrogeomorphic (HGM). The Judgmental Method was used.

See Functions and Values Analysis in Tables 4 and 5.

Compensatory Mitigation Form

See attached compensatory mitigation form.

Table 3: Wetland Impacts and Mitigation Areas

	FILLED AND CUT WETLANDS AT PROJECT SITE	MITIGATED WETLANDS
AREA	0.02-acre sloped wetland (PEM)	0.035 Wetland (PFO-PSS/Sloped)
WETLAND TYPE HGM AND COWARDIN CLASS	0.02-acre sloped wetland (PEM)	0.035 acres of created (PFO-PSS), Sloped wetland.
PROPOSED MITIGATION CREDIT RATIO		0.02 mitigation credit is proposed for 0.02 acres of impacts.

See the following mitigation area drawings:

Grading Plan
Mitigation Plan

TABLE 4. FUNCTION CAPACITY OF PROPOSED SLOPED MITIGATION WETLAND

FUNCTIONS	MITIGATION WETLAND
Storage & Delay	The proportion of the site that is inundated only seasonally is small. The vast majority of the contributing watershed will consist of up-gradient channelized flow, shallow groundwater, and direct precipitation. The contributing watershed is narrow from ridgeline to ridgeline.
Sediment Stabilization & Phosphorus Retention	Due to the high coverage of vegetation in the wetland, the type of roots, and depth of root penetration, the soils in the wetland will be very stable. Shallow pools will be limited during the winter and spring. The wetland will receive a minimal amount of suspended solids. Initially, we anticipate minimal microtopography but anticipate hummocky soils when grass and forb communities mature.
Nitrogen Removal	Water storage and delay is low. Seasonal flooding is expected however, we anticipate there to be a high frequency but a short duration time. We anticipate there to be dead wood, organic soil, and some large diameter trees when the wetland matures. Substrate in the channels up gradient and down gradient of the created wetland have been subject to some erosion and scour. We expect small amounts of sedimentation and erosion in the inlet of the wetland.
Thermoregulation	NA
Primary Production	The majority of the mitigation wetland will have vascular plants and/or water with algae. A variety of plant forms will be present. The wetland will have small areas of surface water in the winter months. Substrate will be recontoured upon completion of grading in the wetland creation/enhancement areas.
Resident Fish Habitat Support	None present
Anadromous Fish Habitat Support	None present.
Invertebrate Habitat Support	Surface water duration will limited and in certain areas. Cover will be provided by woody species. Plant species diversity will be high. Water quality will be high. There will be recent recontouring of substrate.
Amphibian & Turtle Habitat	Shallow surface water will contain some partly submerged fine-stemmed herbs. Water will recede quickly. There will be no woody debris in the seasonal zone at first, but will collect over the years. Vegetation and pools are interspersed. Microtopography is minimal but will develop over time. Soils and submerged sediments contain no organic layer.
ding Waterbird Support	Site does not contain appropriate habitat.
Wintering & Migratory Waterbird Support	The site will contain surface water intermittently over the winter months. Water depth during these times will be less than 24 inches. Microtopography will be minimumal at first but will develop over time. Water quality will be good. The wetland and upland buffer areas will be vegetated with native trees, shrubs, forbs, and grasses.
Songbird Habitat Support	Surface water will be present throughout much of the winter months. There will be an adequate amount of scrub-shrub and trees in the mitigated wetland. The area surrounding the site will include native trees, shrubs, forbs, and grasses. Site may be visited by humans and domestic pets.
Support of Characteristic Vegetation	Deciduous trees, shrubs and herbs will all be present, and will be well-interspersed and native. Microtopography will be minimal at first and develop with the maturation of the ground cover. Springtime water levels will drop quickly. The site will likely be visited by humans and domestic animals. Land cover in contributing watershed is a combination of natural and man-made. Surrounding buffer zone will be a mix of scrub-shrub and forested communities.

TABLE 5: SCORES FOR FUNCTION CAPACITY FOR EXISTING WETLAND AND PROPOSED MITIGATION WETLAND

FUNCTIONS	FUNCTION CAPACITY OF EXISTING WETLAND	FUNCTION CAPACITY OF MITIGATED WETLAND	VALUE OF EXISTING WETLAND	PREDICTED VALUE OF MITIGATION WETLAND
Water Storage & Delay	0.10	0.45	0.10	0.40
Sediment Stabilization & Phosphorus Retention	0.50	0.59	0.40	0.60
Nitrogen Removal	0.30	0.33	0.30	0.45
Primary Production	0.40	0.54	0.25	0.60
Resident Fish Habitat Support	0.0	0.0	0.0	0.0
Invertebrate Habitat Support	0.24	0.46	0.10	0.35
Amphibian & Turtle Habitat	0.29	0.38	0.10	0.25
Breeding Waterbird Support	0.0	0.0	0.0	0.0
Wintering & Migratory Waterbird Support	0.28	0.39	0.10	0.39
Songbird Habitat Support	0.14	0.34	0.15	0.50
Support of Characteristic Vegetation	0.27	0.53	0.20	0.65

Reference Wetland

Location

The reference wetland for the mitigation areas is located south of Parker Road, on a 32.55 acre lot approximately 0.10 miles northwest of the project area. It is located within the southwest one-quarter of the southeast one-quarter of Sections 25 and 26, Township 2 South, Range 1 East, Clackamas County, Oregon (Reference Wetland Location).

Description

The reference wetland is classified as a palustrine, forested/scrub-shrub wetland. Dominant tree species include Oregon ash (*Fraxinus latifolia*) and red alder (*Alnus rubra*). Dominant shrub species include willow (*Salix sp.*) and red-osier dogwood (*Cornus stolonifera*). Common herbaceous species in the ground layer consisted of slough sedge (*Carex obnupta*), spreading rush (*Juncus patens*), and cut-rice grass (*Leersia oryzoides*). Upland buffer areas include Oregon white oak (*Quercus garryanna*), English hawthorn (*Crataegus monogyna*), trailing black berry (*Rubus ursinus*), and Indian plum (*Oemleria cerasiformis*).

Comparison With Goals

The reference wetland can be described as a mix of native scrub-shrub and deciduous trees, from which the mitigation plan will incorporate similarities. The created wetland is designed to provide a multi-level habitat structure and a complete areal coverage of vegetation. The created wetland will also increase water storage and delay, provide sediment stabilization, phosphorus retention, and nitrogen removal in the existing drainage. We anticipate the created wetland to function similarly to the reference wetland in terms of structure, wildlife habitat, and sediment stabilization on a smaller scale. Water storage and delay functions in the created wetland will function differently than the reference wetland. The created wetland will be constructed on a northeast to southwest slope while the reference wetland is located on much gentler slopes, which provides greater water storage and delay functions.

We chose the reference wetland because we believe the constructed wetland will similarly match the historical conditions found onsite. Historical vegetation conditions in the West Linn area consisted of forested and scrub-shrub communities. Although an emergent wetland (PEM) would seem to be the appropriate class to mitigate the loss of the existing PEM according to DSL regulations, a forested/scrub-shrub wetland would provide increased species diversity and habitat, and resemble historical conditions found onsite

Table 6 compares function capacity and values of functions of the reference wetland and the mitigation wetland.

TABLE 6: SCORES FOR FUNCTION CAPACITY AND VALUE OF FUNCTIONS FOR REFERENCE WETLAND AND PROPOSED MITIGATION

FUNCTIONS	FUNCTION CAPACITY OF REFERENCE WETLANDS	PREDICTED FUNCTION CAPACITY OF MITIGATION WETLANDS	VALUE OF REFERENCE WETLAND	PREDICTED VALUE OF MITIGATION WETLANDS
Water Storage & Delay	0.50	0.45	0.60	0.40
Sediment Stabilization & Phosphorus Retention	0.67	0.59	0.75	0.60
Nitrogen Removal	0.53	0.33	0.60	0.45
Primary Production	0.72	0.54	0.75	0.60
Invertebrate Habitat Support	0.66	0.46	0.35	0.35
Amphibian & Turtle Habitat	0.67	0.38	0.45	0.25
Breeding Waterbird Support	0.00	0.0	0.0	0.0
Wintering & Migratory Waterbird Support	0.63	0.39	0.45	0.39
Songbird Habitat Support	0.50	0.34	0.75	0.50
Support of Characteristic Vegetation	0.61	0.53	0.70	0.65

Mitigation Monitoring

A five-year monitoring effort of the mitigation area is proposed. The monitoring biologist will complete a field investigation of the site and submit an annual written report to the Department of State Lands and the U.S. Army Corp of Engineers between the beginning of November to the early weeks of December.

The following explains the timing of the monitoring, the photograph documentation, and the vegetation assessment.

Timing

Hydrology of the mitigation areas will be monitored during mid-March to mid-April of the first growing season (2007 or 2008). The monitoring methods will involve a yearly site visit from the monitoring biologist to inspect the sites and do a stem count and species inventory. This should be at the middle of the growing season (near the end of August). If the plants of the mitigation sites appear to be stressed, the monitoring biologist may suggest irrigation during the summer months.

Photographs

Two permanent photo stations will be established at the mitigation sites. Stakes with identifying numbers will be placed at each permanent photo station for annual identification of the photo point. These photo points will be placed in such a way as to give an overview of the general condition of the site. These photo points will be shown on the mitigation plan.

Vegetation Assessment

Percent survivorship of woody species will be estimated by counting the dead of each species, then subtracting that number from the number planted. This number will be divided by the number planted, then multiplied by 100 to obtain the % of survivorship.

Canopy cover or herbaceous species (Quadrate sampling) will be estimated by the monitoring biologist using five 1 sq. micro-plots. This level of sampling is more than adequate, since the entire wetland area will be seeded to the same seed-mix and there will be only two isolated areas that will be planted with other emergent vegetation. These two other areas will be planted to sedge and rush species and seeded with the same wetland seed-mix. Since the proposed mitigation does not consist of diverse emergent communities, the need for more sampling is not appropriate.

Hydrology Assessment

Soil saturation determination (test holes) will be performed by the monitoring biologist to determine if wetland hydrology meets the performance standards. Success criteria will be based on the 1987 Corps of Engineers Wetland Delineation Manual criteria for wetland hydrology. Hydrology monitoring will be completed between mid-March to mid-April

which is the beginning of the growing season.

Table 7: Performance Standards, Monitoring Methods, Contingencies

Performance Standard	Monitoring Methods	Contingency
Wetland Hydrology	Soil inundation/saturation determination (test holes) or monitoring wells	Modify water inlet/outlet controls, supplement surface water inputs, decrease soil permeability
Survival of planted species	Stem Counts Species inventory	Plant additional vegetation, weed control, substrate amendment, modify water inlet/outlet controls, herbivore control
Herbaceous cover	Arial cover (quadrant sampling)	Plant additional vegetation, weed control, substrate amendment, modify water inlet/outlet controls, herbivore
Woody cover	Arial cover (line intercept sampling) Arial cover (belt-transect or large area plot sampling	Plant additional vegetation, weed control substrate amendment, modify water inlet/outlet controls, herbivore control

Contingency Plan

There are numerous problems that can prevent a mitigation area from developing as proposed. Contingency measures will be designed and implemented once the problems have been identified. Possible corrections include animal disturbances, lack of hydrology, or incorrect species for the local conditions. The vegetation will be monitored by the project biologist. If, during the monitoring process problems are identified corrective measures will be determined and implemented. If survival of planted individuals proves to be inadequate then additional vegetation and /or weed control will be needed to insure the survival criteria is met at the end of the five years. Substrate amendment, modified water inlet/outlet controls, and herbivore control may also be needed.

Planted Species

Plant mortality may come from many causes. The main causes are weak nursery stock and water stress. If survivorship of any planted species falls below the target percentage, the cause of the mortality will be assessed. If the mortality is due to inappropriate placement of the plant in relation to the hydrology of the site, adjustments to the replanting site will be recommended by the monitoring biologist. In the event of weak nursery stock, the mortality should be immediately evident (within a few days) and should be detected in the review of the planting.

The contingency measures for herbivory and plant mortality (often linked) are to replant the affected plants and protect them. Plantings can be surrounded by plant cages formed by 3' chicken wire to protect them from damage from beavers and nutria. If the individual plant

cages are not sufficient to deter the beavers, fencing the entire area with 3' chicken wire may be needed to ensure success of the site. If small rodent girdling of the plantings is the problem, the base of the tree may need to be protected with a rodent guard.

Invasive species will be controlled before planting takes place. If cover of invasive species becomes greater than 20%, more dramatic control measures will need to take place. These include cutting the canes of Himalayan blackberry in summer and applying, by painting or daubing (not spraying) new sprouts with an herbicide approved for use near water and in wetlands. This application should be done in 2 months after cutting and again in late summer or early fall (if needed). Reed canary grass will be sprayed with Rodeo prior to any excavation. Areas not graded will also be sprayed. Follow-up treatments will occur on an as-needed basis.

Dense native herbaceous vegetation and the development of a healthy tree and shrub layer will help control establishment of reed canary grass, however, if stands do establish, immediate measures should be taken to ensure control of this species. Close mowing of the grass and direct application of approved herbicide should keep the grass from overtaking the mitigation area.

Hydrology

If up-gradient hydrology were to be cut-off or insufficient to maintain adequate levels a contingency plan would be implemented. If any areas of the mitigation area do not meet the hydrological requirements set forth by the 1987 Corps of Engineers Wetland Delineation Manual, the proposed water quality swale will be partially diverted via hard-pipe. Currently, the water quality swale is designed to collect stormwater runoff from the proposed development including roofs, street, and driveways. The runoff would then be treated as it flowed through the swale before reaching the detention facility. A portion of this runoff could be re-routed to the southwest and into the created wetland to supplement the existing hydrology.

In the event of an extended drought, irrigation may be necessary to ensure establishment of the plantings. If mortality is due to water stress, watering of the site will be done up to 7 times during the period from July 1 to August 31.

Soil

The topsoil from both the creation and enhancement area will be stockpiled, vegetation side down and covered by a tarp. The subsoil will be cut to grade followed by spreading 12 inches of the stockpiled topsoil over the entire mitigation area.

If onsite soils are acidic, lime may be required to be added as substrate amendment in the mitigation area to neutralize the pH of the soil.

Organic matter may also be used as a supplement to soils that have a high mineral content although, we do not anticipate this to be a problem. The onsite soil contains adequate organic content.

The responsible party for the maintenance of this site is:

Schott & Associates
P.O. Box 589
Aurora, OR 97002

503-678-6007 Phone
503-678-6011 Fax

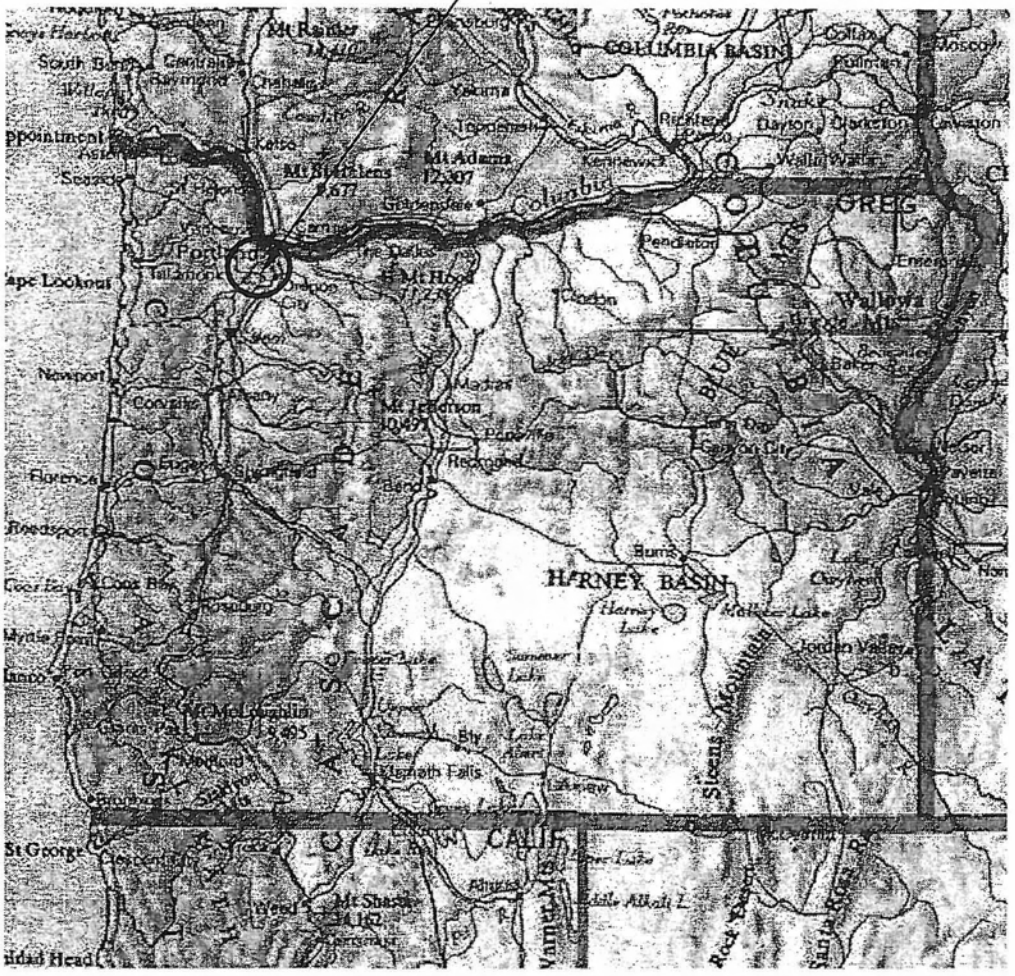
Deed Restriction

See enclosed for draft.

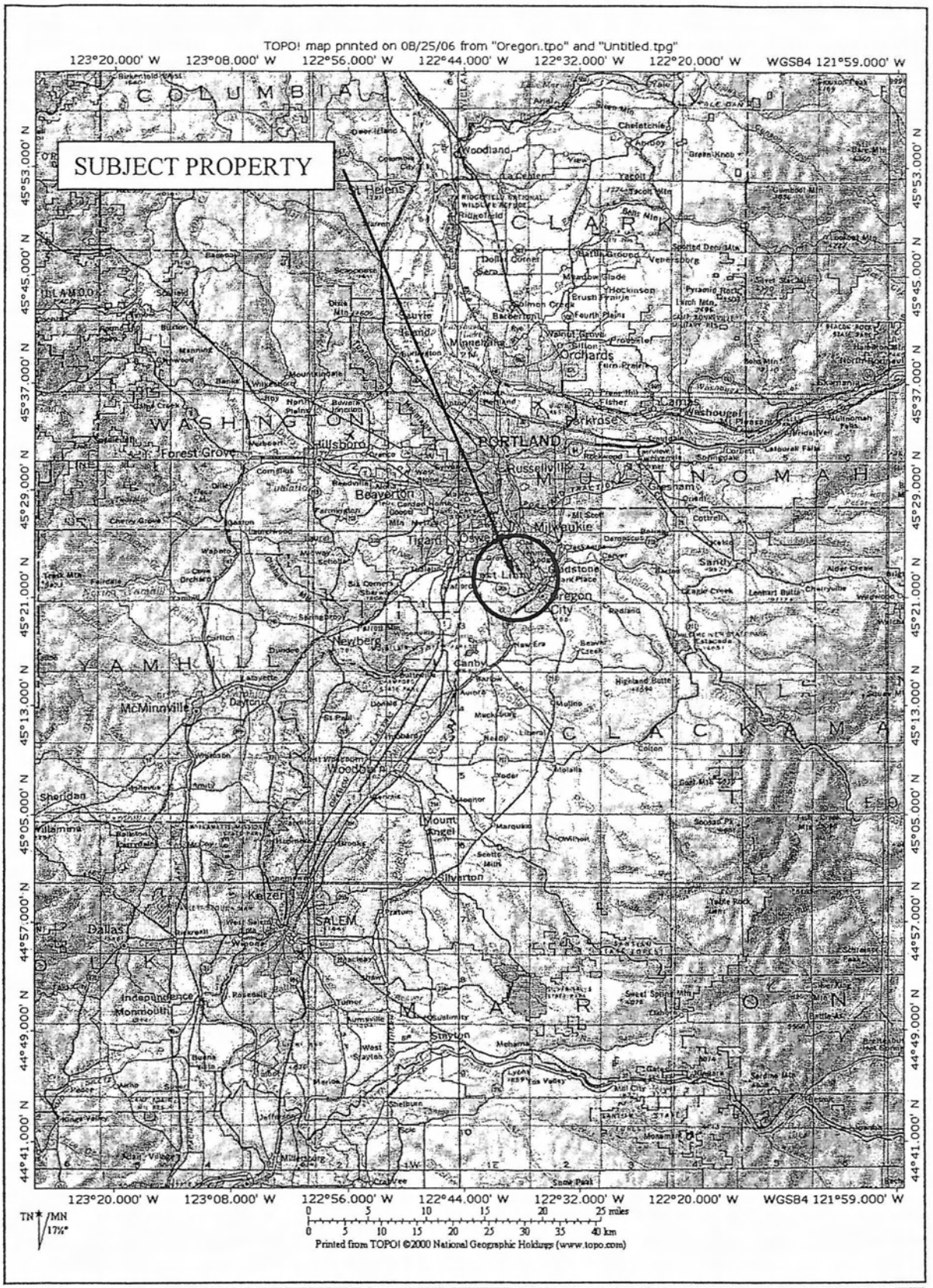
Construction Bond

The estimated cost of implementing the mitigation is approximately $50,000/acre.. The mitigation/enhancement areas and the buffer are approximately 0.035 acres. The estimated construction cost is $1,750. Maintenance is estimated to be 10% of the construction cost, or $175.00. The monitoring for a five-year period would be $8,000. The total estimated cost is $11,925.00. A bond or other form of security for $11,925.00 will be obtained once the permits have been issued. The bond will be phased according to completion. Once the mitigation has been completed, Renaissance Homes (c/o Jeff Shrope) will reclaim the proportion of the bond, based on cost of construction. The maintenance cost will be claimed at the end of the monitoring period. The monitoring proportion of the bond will be reduced by $2,981 after the first year if the mitigation area meets the hydrology success criteria. In addition it will be reduced an additional $2,981.00 if it meets the vegetation success criteria at the end of the third monitoring year.

SUBJECT PROPERTY

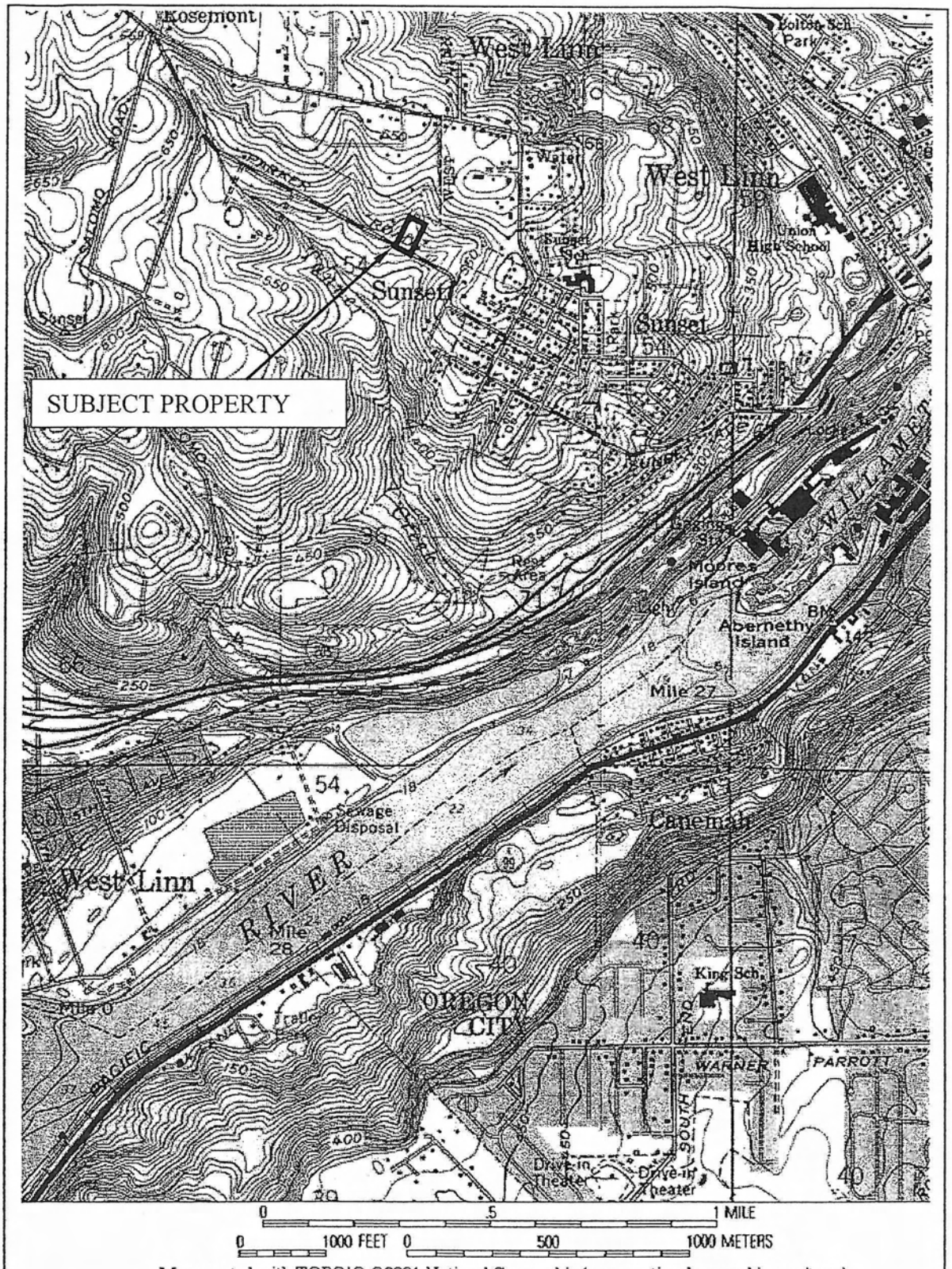


SITE VICINITY MAP 1 – Oregon State PARKER ROAD PROPERTY, WEST LINN, OR	Schott & Associates 11977 S Toliver Rd. Molalla, Oregon 97038 503-829-6318



SITE VICINITY MAP 2 – Portland Area
PARKER ROAD PROPERTY, WEST LINN, OR

Schott & Associates
11977 S Toliver Rd.
Molalla, Oregon 97038
503-829-6318



SITE VICINITY MAP 3 – West Linn PARKER ROAD PROPERTY, WEST LINN, OR	Schott & Associates 11977 S Toliver Rd. Molalla, Oregon 97038 503-829-6318

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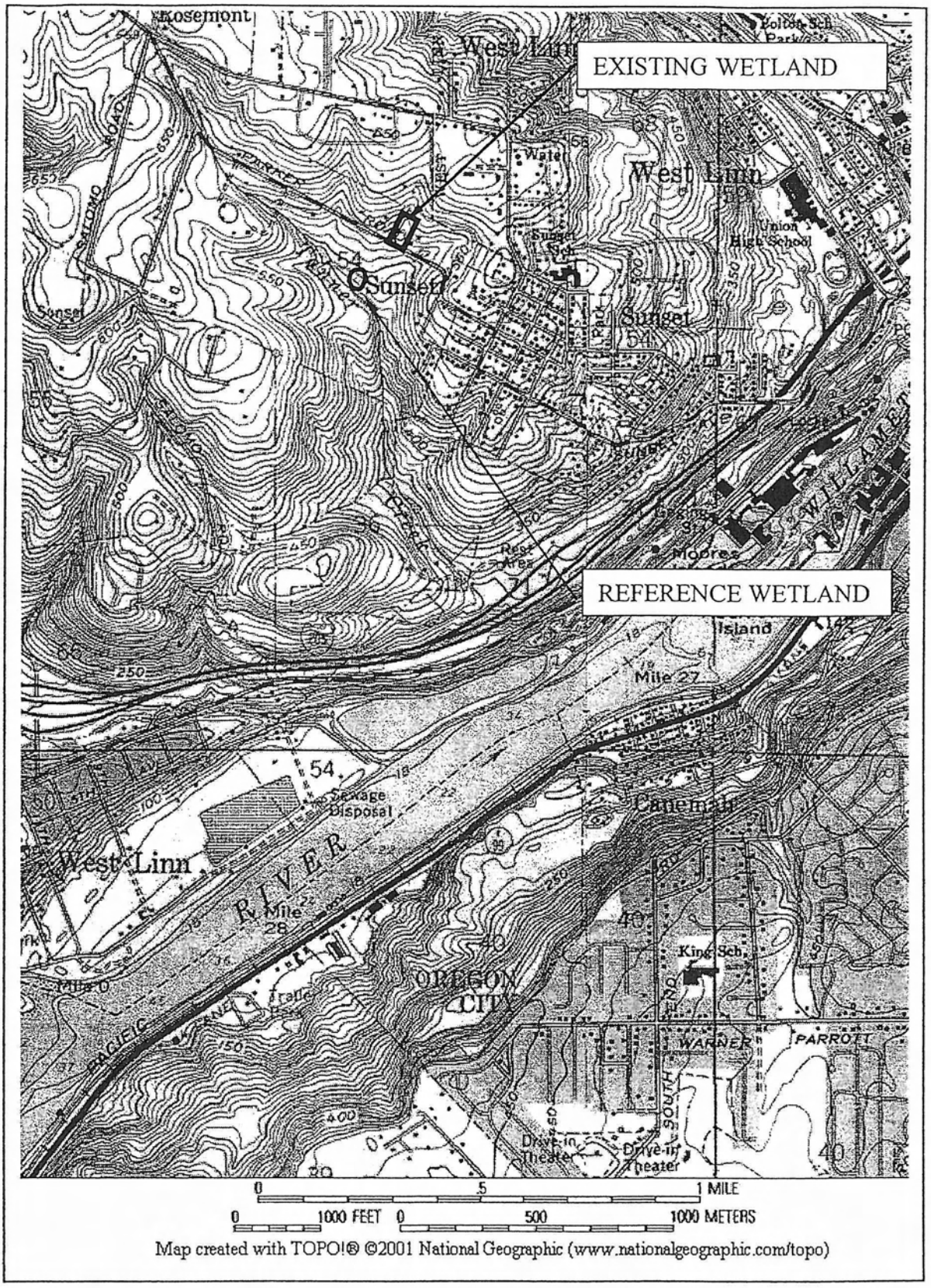

REFERENCE WETLAND LOCATION PARKER ROAD PROPERTY, WEST LINN, OR	Schott & Associates 11977 S Toliver Rd. Molalla, Oregon 97038 503-829-6318

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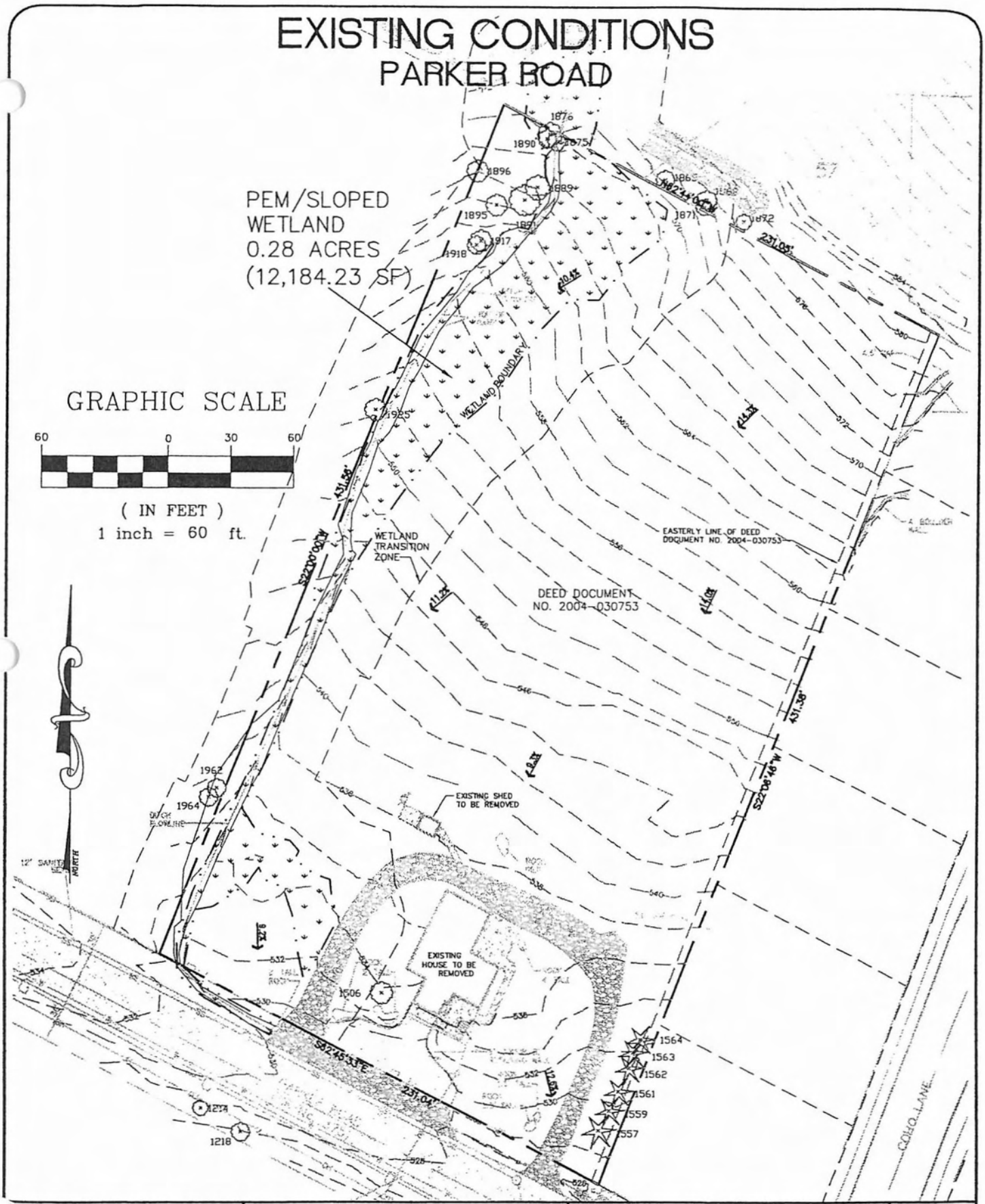
EXISTING CONDITIONS
PARKER ROAD



NO. 106-011	DESIGNED BY PTS	DATE 4/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 1 OF 10
TYPE PLANNING	PROJECT NO. 106-011	REF.		
W-10611EXCOND.DWG	SCALE 1" = 60'	N/A		

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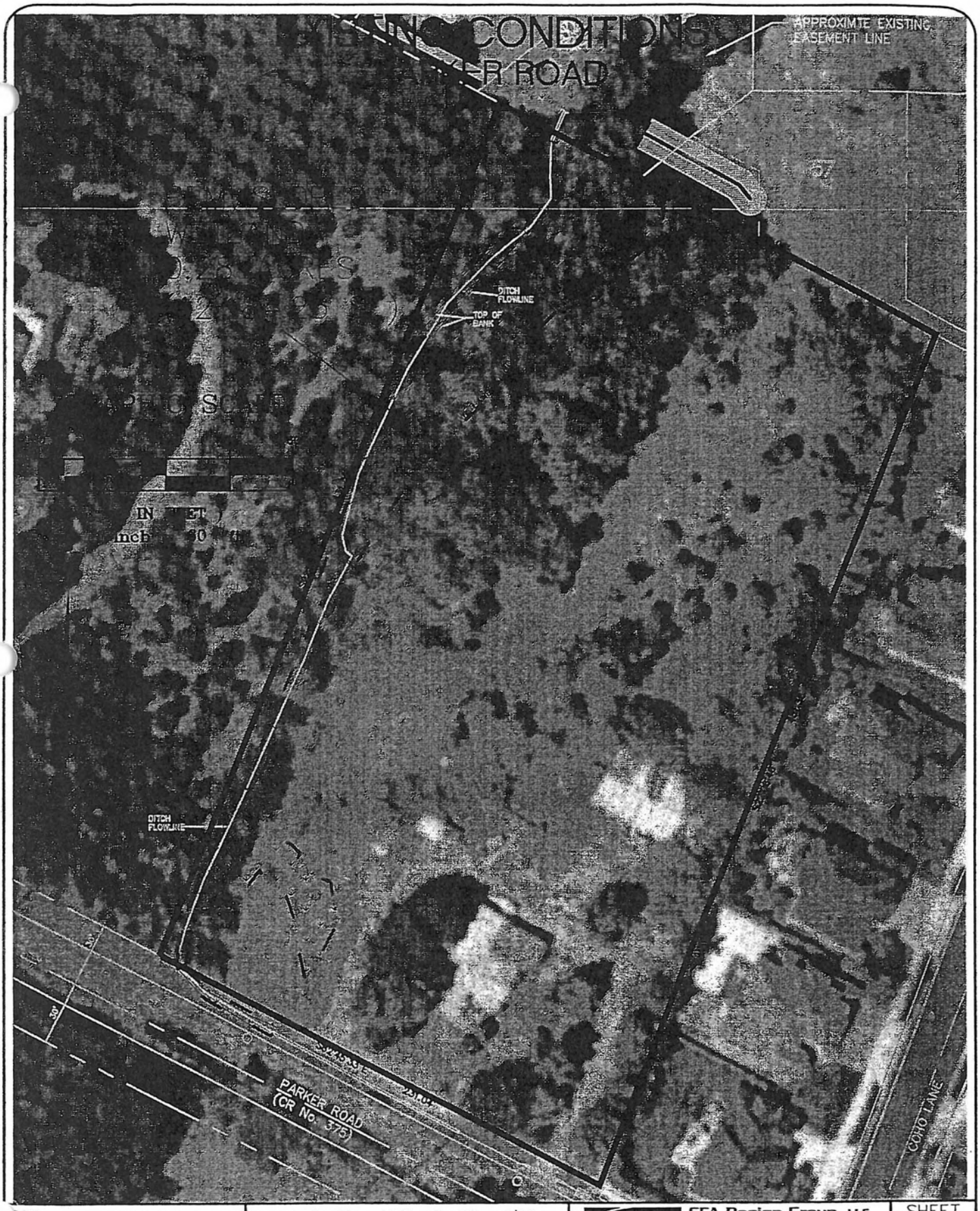

NO. 106-011	DESIGNED BY PTS	DATE 4/06	**SFA Design Group, LLC**	SHEET
TYPE PLANNING	PROJECT NO. 106-011	REF.	STRUCTURAL | CIVIL | LAND USE PLANNING	1
W-10611EXCOND.DWG	SCALE 1" = 60'	N/A	9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	OF 10

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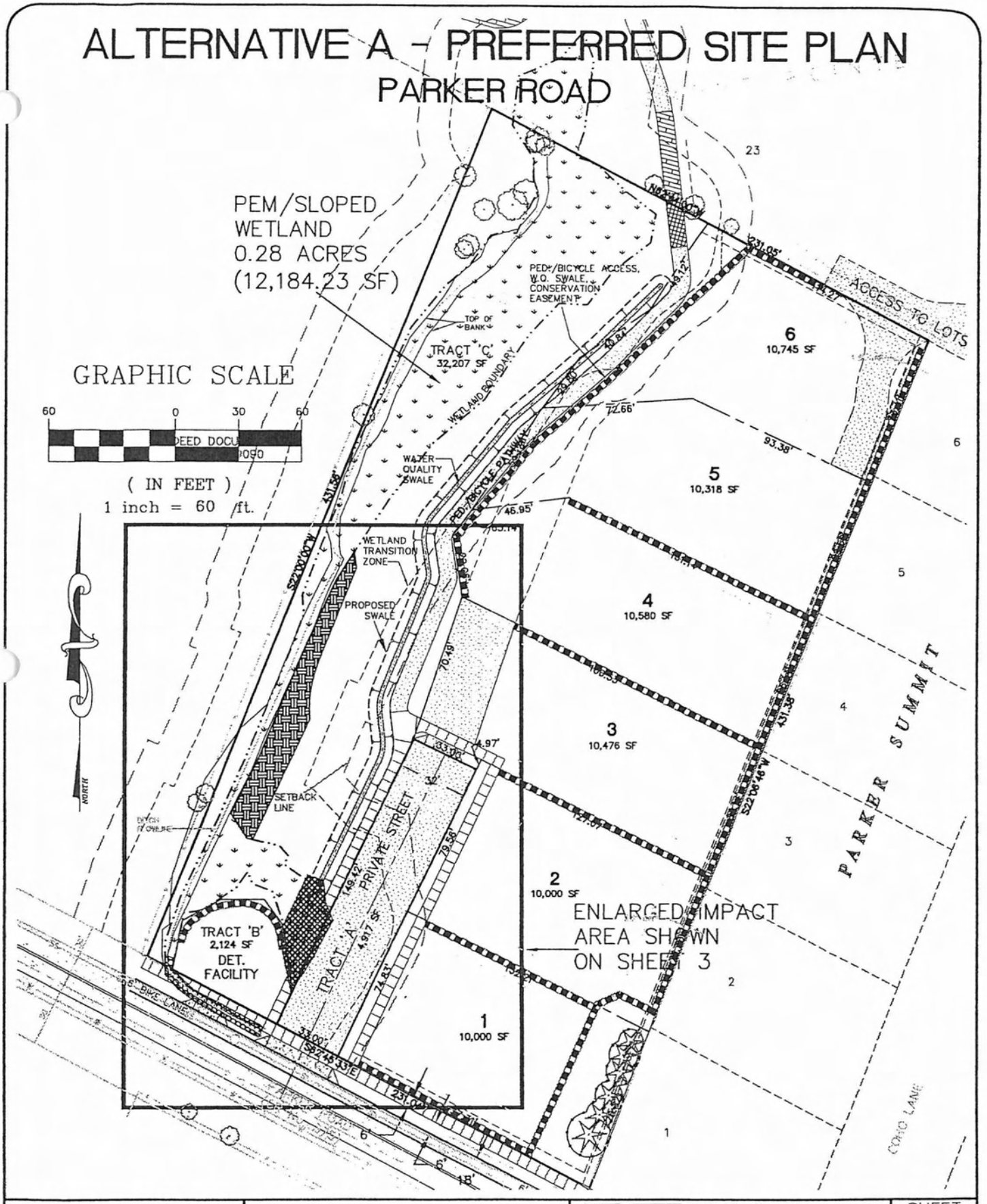
ALTERNATIVE A - PREFERRED SITE PLAN

PARKER ROAD



NO. 106-011	DESIGNED BY PTS	DATE 4/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 2 OF 10
TYPE	PROJECT NO. 106-011	REF.		
W-10611ALTA.DWG	SCALE 1" = 60'	N/A		

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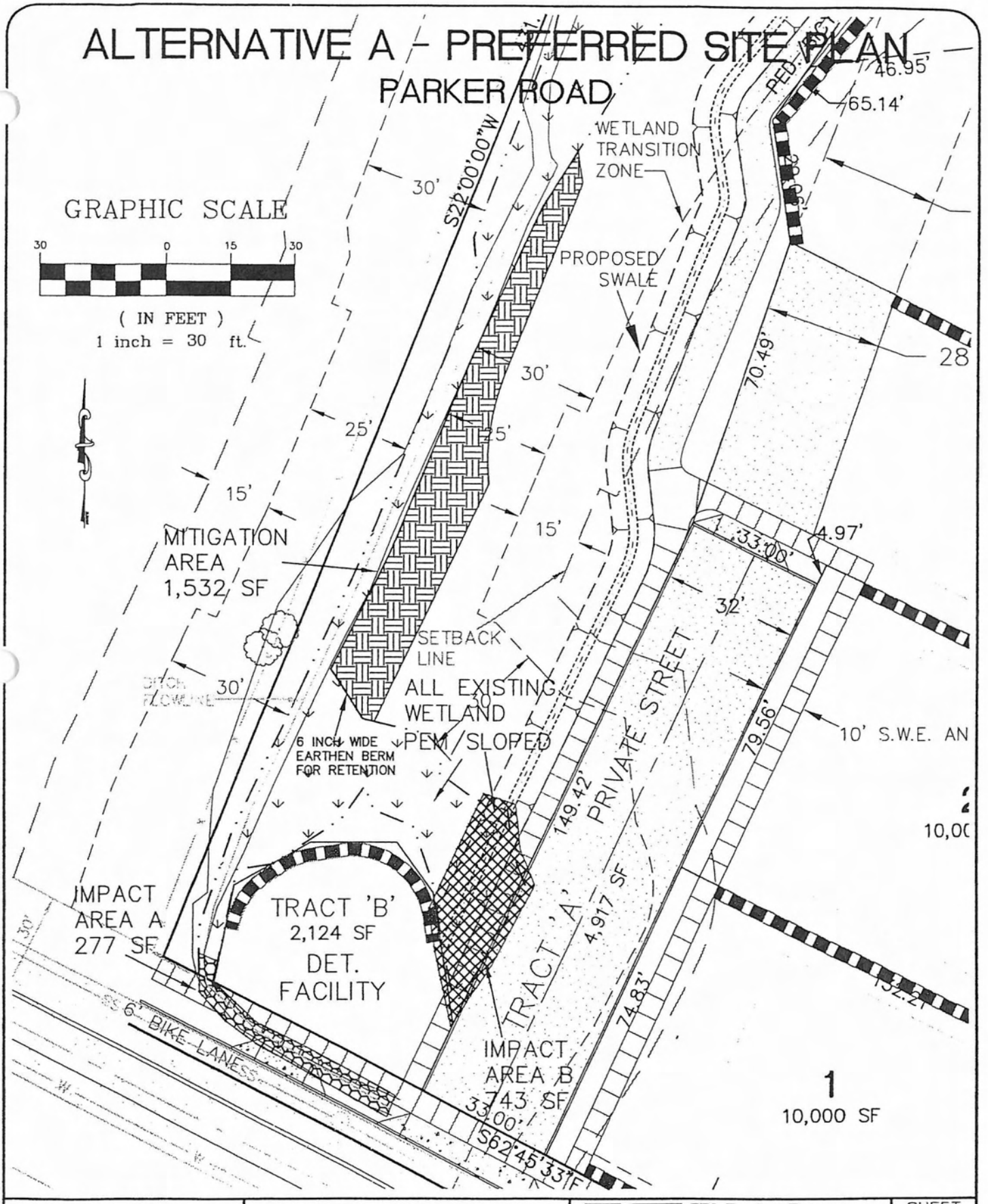
ALTERNATIVE A - PREFERRED SITE PLAN



NO. 106-011	DESIGNED BY PTS	DATE 4/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 3 OF 10
TYPE	PROJECT NO. 106-011	REF.		
W-10611ALTA.DWG	SCALE 1"=30'	N/A		

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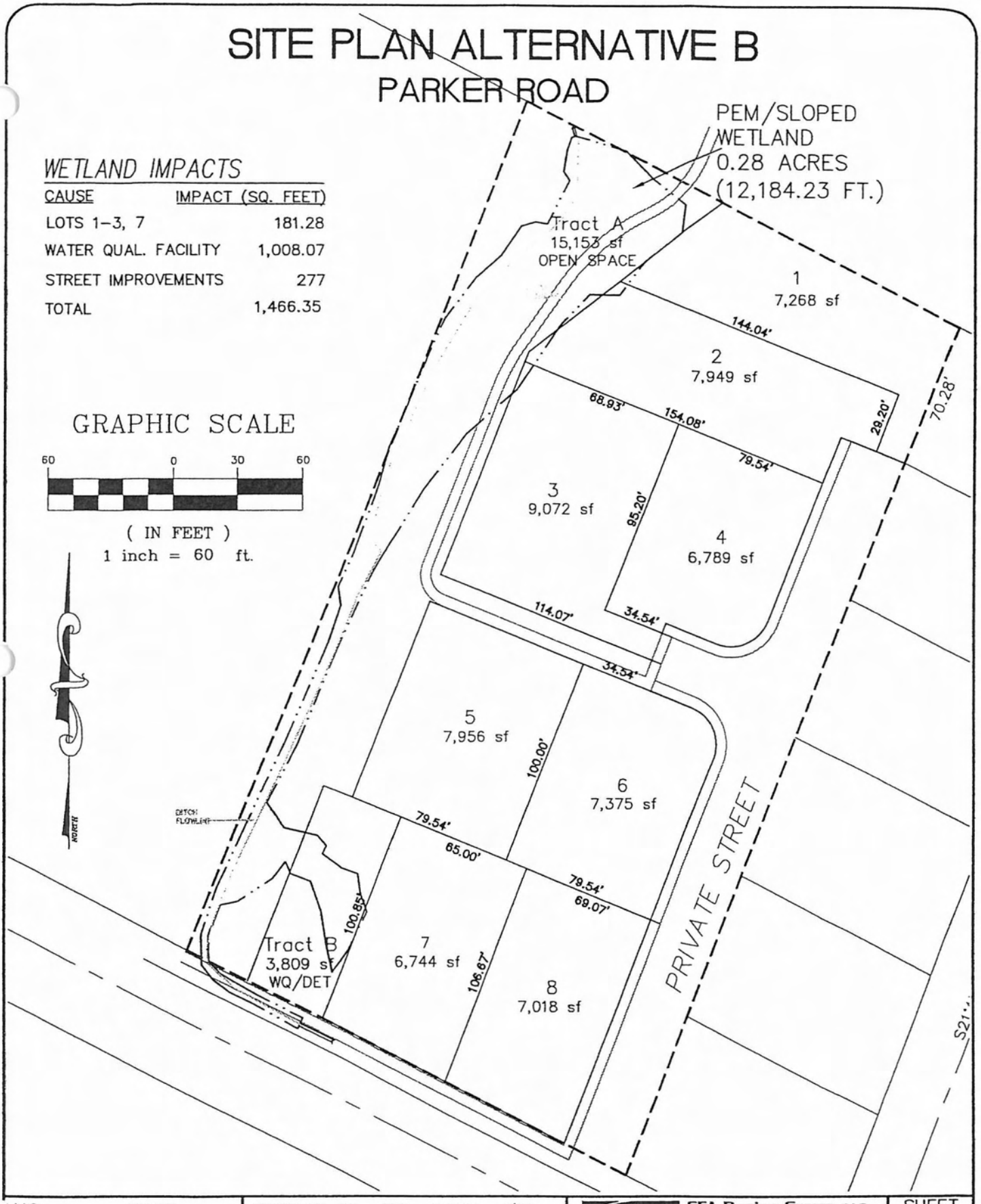
SITE PLAN ALTERNATIVE B

PARKER ROAD



WETLAND IMPACTS

CAUSE	IMPACT (SQ. FEET)
LOTS 1–3, 7	181.28
WATER QUAL. FACILITY	1,008.07
STREET IMPROVEMENTS	277
TOTAL	1,466.35

GRAPHIC SCALE

60 0 30 60

(IN FEET)

1 inch = 60 ft.

NO. 106-011	DESIGNED BY PTS	DATE 4/06	SHEET 4 OF 10
TYPE	PROJECT NO. 106-011	REF.	
W-10611ALTB.DWG	SCALE 1" = 60'	N/A	

SFA Design Group, LLC
9020 SW Washington Square Dr Suite 360
Portland, Oregon 97223

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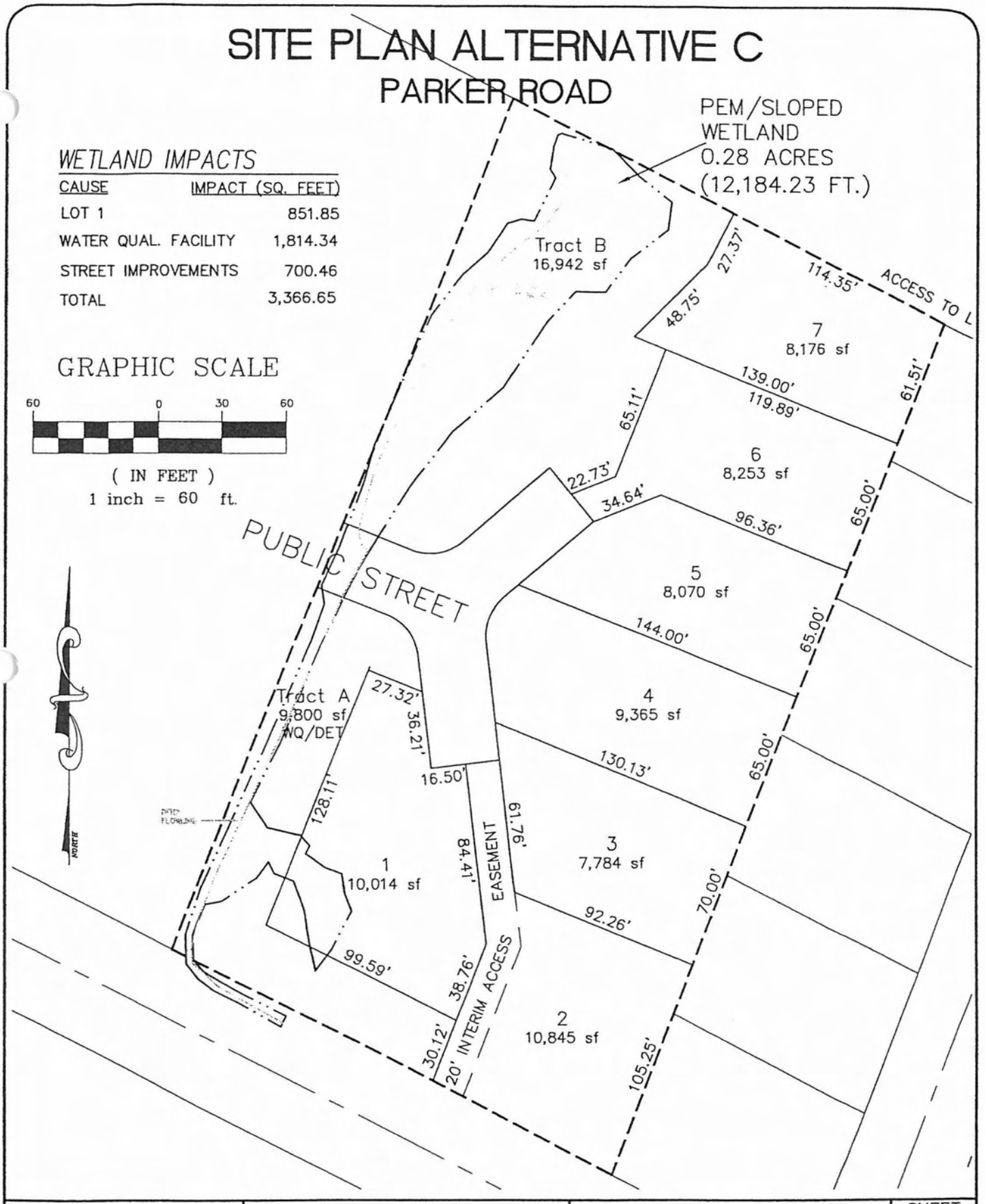
SITE PLAN ALTERNATIVE C

PARKER ROAD



WETLAND IMPACTS

CAUSE	IMPACT (SQ. FEET)
LOT 1	851.85
WATER QUAL. FACILITY	1,814.34
STREET IMPROVEMENTS	700.46
TOTAL	3,366.65

NO. 106-011	DESIGNED BY PTS	DATE 4/06	SHEET 5 OF 10
TYPE	PROJECT NO. 106-011	REF.	
W-10611ALTC.DWG	SCALE 1" = 60'	N/A	

SFA Design Group, LLC
LAND USE PLANNING
3925 SW Washington Square Dr. Suite 350
Portland, Oregon 97223
p (503) 641-8311 f (503) 643-7905
sfadesigngroup.com

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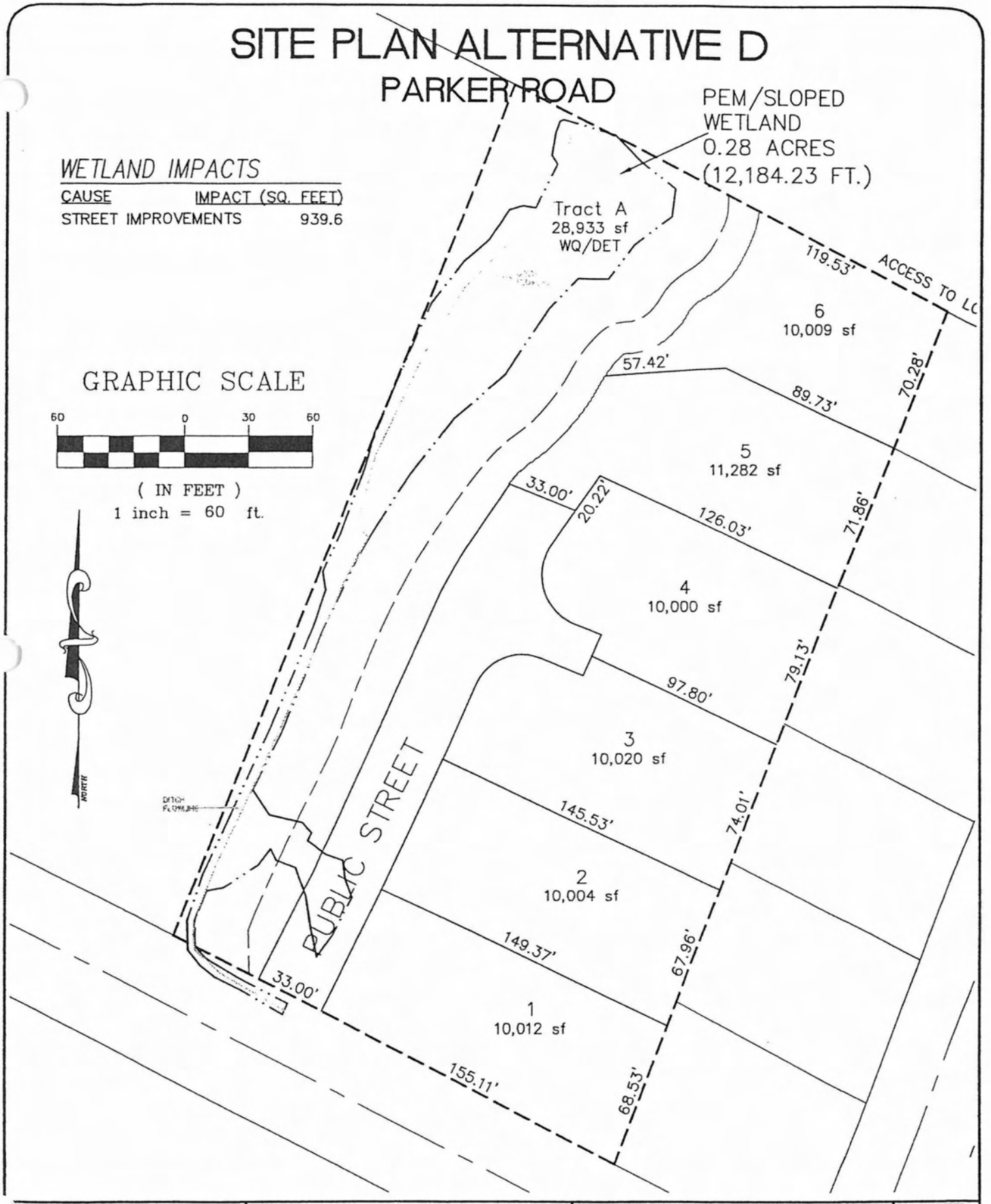
SITE PLAN ALTERNATIVE D

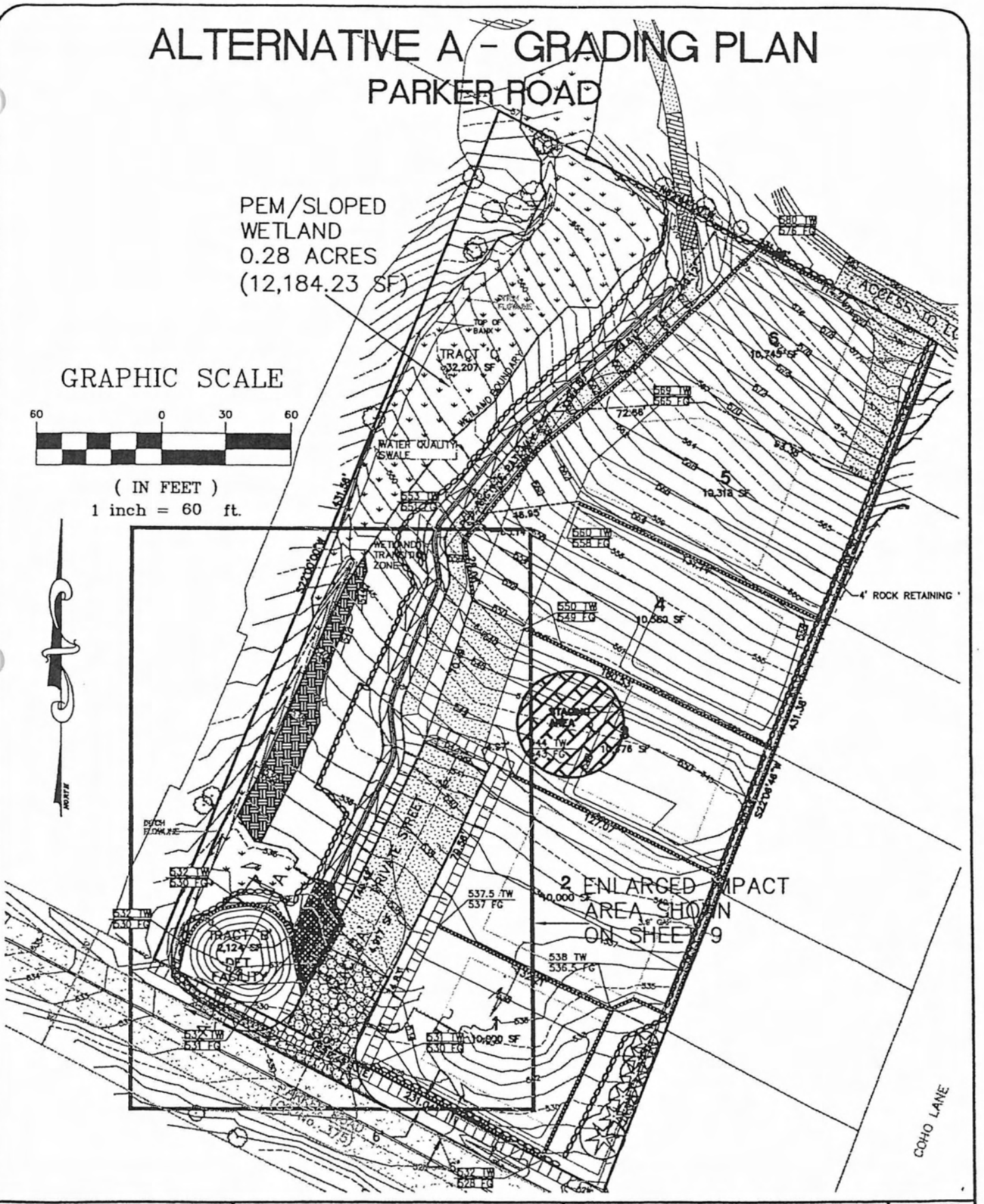


NO. 106-011	DESIGNED BY PTS	DATE 4/06	SFA Design Group, LLC	SHEET
TYPE	PROJECT NO. 106-011	REF.	9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7995 sfadesigngroup.com	6 OF 10
W-10611ALTD.DWG	SCALE 1" = 60'	N/A		

35

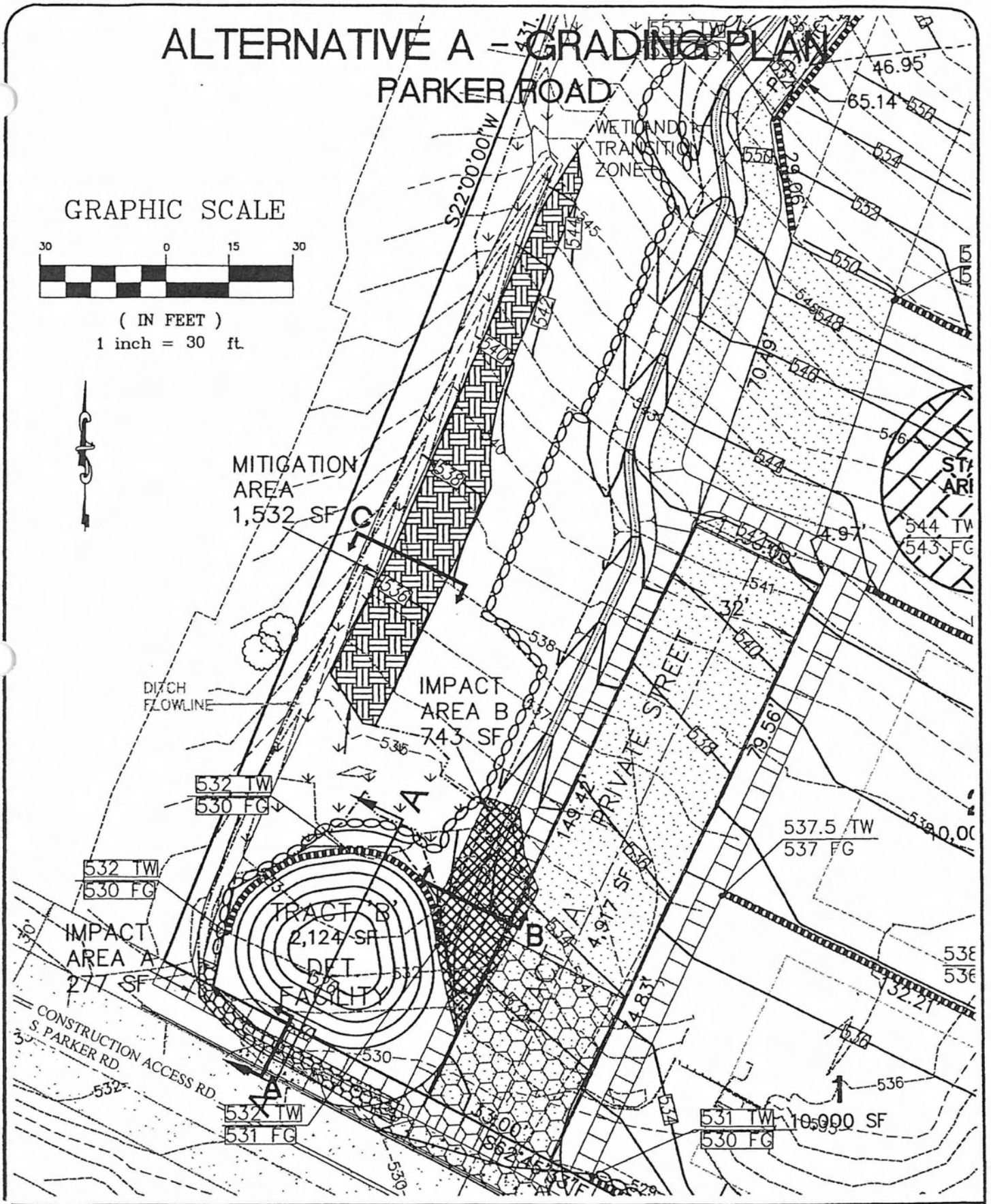
ALTERNATIVE A - GRADING PLAN

PARKER ROAD



NO. 106-011	DESIGNED BY PTS DATE 4/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 8 OF 10
TYPE	PROJECT NO. 106-011 REF.		
W-10611GRAD.DWG	SCALE 1" = 60' N/A		

36



NO. 106-011	DESIGNED BY PTS DATE 4/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 9 OF 10
TYPE	PROJECT NO. 106-011 REF.		
W-10611GRAD.DWG	SCALE 1"=30' N/A		

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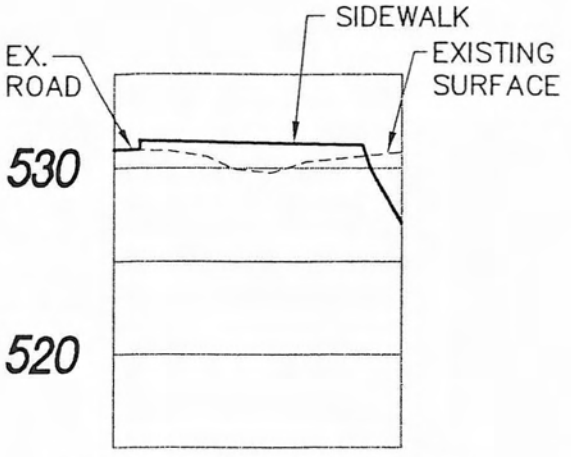
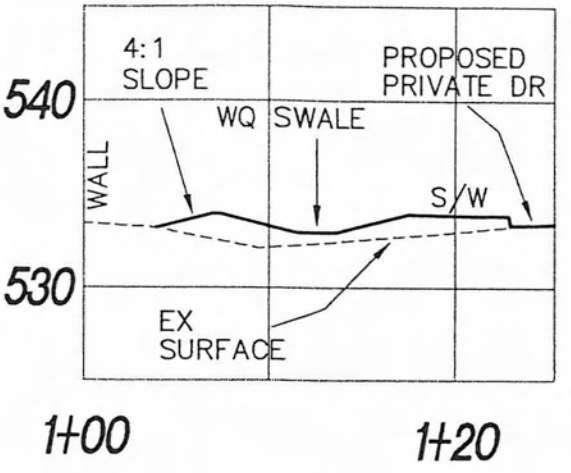
CROSS SECTIONS
PARKER ROAD



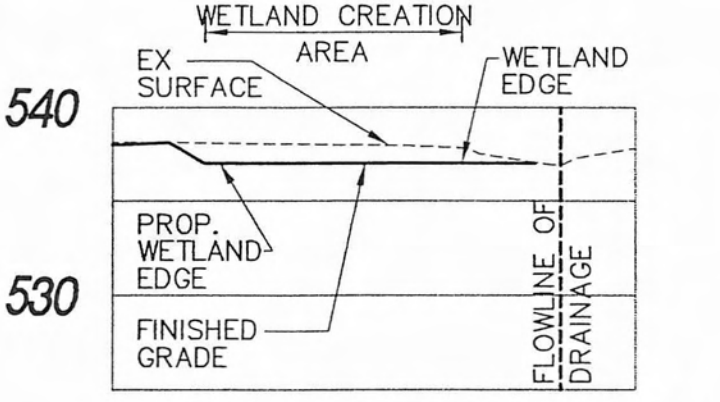
SECTION A

SCALE: 1"=10'



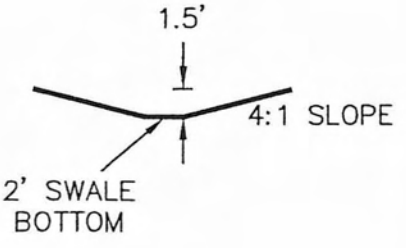
SECTION B

SCALE: 1"=10'



SECTION C

SCALE: 1"=10'



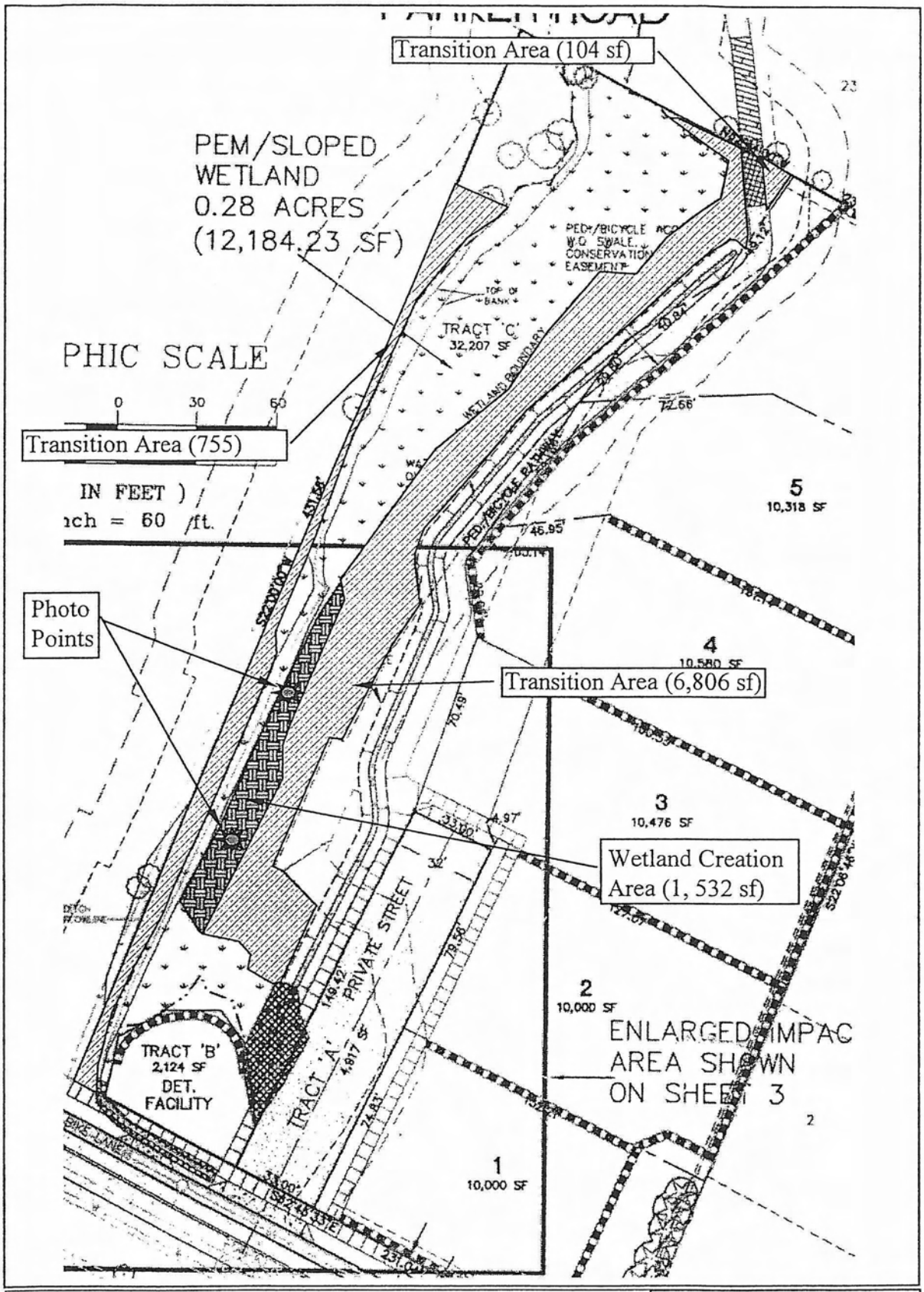
WQ SWALE DETAILS

SCALE: 1"=10'

CUT AND FILL VOLUMES

IMPACT AREA	CUT/FILL	TOTAL
AREA A	21.04 / 26.30 CY	47.34 CY
AREA B	1.01 / 14.77 CY	15.78 CY

NO. 106-011	DESIGNED BY PTS DATE 04/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 10 OF 10
TYPE	PROJECT NO. 106-011 REF.		
W-10611GRAD.DWG	SCALE 1"=10'		



Wetland and Transition Zone Mitigation Plan
Parker Road Development

Schott & Associates
11977 S Toliver Rd.
Molalla, Oregon 97038
503-829-6318

PLANTING LEGEND
FOR PARKER ROAD DEVELOPMENT
WETLAND CREATION AREA
1,532 SF (0.035 ACRES)

Plant Communities	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center/ Seeding rate	Spacing Format	Qty.
TREES								
Oregon ash (fraxinus latifolia)	Tree	Moist	Part	2 gal.	3'	12'	Single	8
Red alder (Alnus rubra)	Tree	Moist	Sun	2 gal.	2'	12'	Single	5
SHRUBS								
Pacific willow (Salix lasiandra)	Shrub	Wet	Sun	1 gal.	3'	10'	Single	3
Clustered rose (Rosa pisocarpa)	Shrub	Wet	Part	1 gal.	1.5'	5'	Cluster	21
Red-osier dogwood (Cornus stoloniferia)	Shrub	Wet	Sun	1 gal.	1.5'	5'	Cluster	21
SEED MIXTURE								
American sloughgrass (Beckmannia syzigachne)	Grass	Wet	Part	Seeds	NA	15-30 lbs/acre	Mass	NA
Beaked sedge (Carex rostrata)	Emergent	Wet	Sun	Seeds	NA	15-30 lbs/acre	Mass	NA
Juncus tenuis (Slender rush)	Emergent	Wet	Part	Seed	NA	15-30 lbs/acre	Mass	NA
Mannagrass (Glyceria occidentalis)	Grass	Wet	Sun-Part	Seed	NA	15-30 lbs/acre	mass	NA

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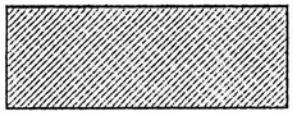
PLANTING LEGEND
FOR PARKER ROAD
TRANSITION AREA
7,665 sf (0.18 acres)



Plant Communities	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center/ Seeding rate	Spacing Format	Qty.
Riparian Forest (RF)								
Douglas fir (Pseudotsuga menziesii)	Tree	Dry	Sun	2 gal.	3'	12'	Single	25
Red alder (Alnus rubra)	Tree	Moist	Sun	2 gal.	2'	12'	Single	25
Big-leaf maple (Acer macrophyllum)	Tree	Dry	Sun	2 gal.	3'	12'	Single	20
Hazelnut (Corylus cornuta)	Shrub	Dry	Part	1 gal.	2"	8'	Cluster	50
Snowberry (Symphoricarpos albus)	Shrub	Dry	Part	1 gal.	1.5'	4'	Clusters of 15	140
Indian plum (Oemleris cerasiformis)	Shrub	Moist	Shade	2 gal.	2'	8'	Single	24
Salal (Gaultheria shallon)	Herb	Moist	Part	1 gal.	4"	Variable	Clusters of 5	215

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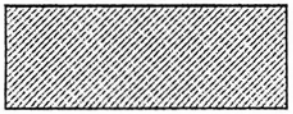
PLANTING LEGEND
FOR PARKER ROAD
TRANSITION AREA
7,665 sf (0.18 acres)



Plant Communities	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	On Center/ Seeding rate	Spacing Format	Qty.
Riparian Forest (RF)								
Native California brome (*Bromus carinatus*)	Grass	Dry	Sun	Seed	NA	15-30 lbs/acre	Mass	NA
Blue wildrye (*Elymus glaucus*)	Grass	Dry	Part	Seed	NA	15-30 lbs/acre	Mass	NA
Lupine (*Lupinus albicaulus*)	Herb	Dry	Sun	Seed	NA	15-30 lbs/acre	Mass	NA
Western yarrow (*Achillea millefolium*)	Herb	Dry to moist	Part	Seed	NA	15-30 lbs/acre	Mass	NA

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Mitigation Data Form

App#	App Name: Renaissance Homes	Resource Coord:	Date:

Authorized Impact, Mitigation Type	Acreage						HGM Class						Cowardin Class					
Auth. Fill	0.02	1		2		3	Sloped	1		2		3	PEM	1		2		3
Auth. Removal	0.02	1		2		3	Sloped	1		2		3	PEM	1		2		3
Mit. Creation	0.035	1		2		3	Sloped	1		2		3	PFO/PSS	1		2		3
Mit. Enhancement		1		2		3		1		2		3		1		2		3
Mit. Restoration		1		2		3		1		2		3		1		2		3
Mit. Bank Credits		PTP credits*					Bank Name											

Note: Be sure that acreage, HGM, and Cowardin class boxes correspond, i.e., if acreage is 0.5[2/], then you are reporting that this relates to RFT [2/] in the HGM class, and PFO [2/] in Cowardin class. If you have more than 3 of any impact or mitigation type, use the back of this sheet and write **OVER** on this side.

Protection Type
- ☐ None
- ☐ Conservation Easement
- ☐ Restrictive Covenant in Deed
- ☒ Deed Restriction

Bonding Type
- ☐ None Required
- ☒ Surety Bond
- ☐ Letter of Credit
- ☐ Assignment of CD
- ☐ Other:

Bond Amount
$ 11,925.00

Ave. Buffer Width
15 ft

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Monitoring

Years (3 or 5): 5

Report Due: Dec. 15

As-Built Due: w/in 30-60 days of fill

Mitigation Site Location (Only if different from impact site. Add pages for additional sites.)

Site Number (if applicable):	
Name (if applicable):	
Waterbody (on or adjacent):	
City (if in city limits):	
County (required):	
Tax Lot (if applicable):	
TRSQQ:	

Mitigation Project Number *(For Data Entry Only)*: _____

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4/2/04

WETLAND MITIGATION PLAN INSTALLATION METHODS

PART 1 GENERAL

1.01 DESCRIPTION: Furnish all materials, equipment, and labor necessary for the completion of planting as indicated on drawings and specified hereinafter. Work includes, but is not limited to site preparation, planting and seeding, fertilizing, mulching, maintenance and guarantee of planted areas.

1.02 QUALITY ASSURANCE/GUARANTEE: All plant material and planting locations are to be approved by a wetland biologist or mitigation specialist from Schott & Associates (hereinafter referred to as Schott) prior to planting. During planting, Schott is to be on-site.

Plant substitution is not permitted. The seed mix specified in the plant schedule is to be adhered to and used for all areas designated.

All plant material is to be guaranteed for a full year from the date of planting. Any planted material (woody, herbaceous, or seeded) which proves to be other then specified or is not in vigorous condition within a period of one year from acceptance of the work will be replaced by the Contractor without cost to the Owner. An 80% minimum survival rate is expected after five years.

Furnish certificate of compliance with indicated seed mixture and any certificates of inspection and compliance as required by Federal and State laws and regulation for plant and soil additives.

1.03 SITE CONDITIONS/DAMAGE/CLEANUP: A filter fabric fence is also to be placed between the existing wetlands and construction areas. The fence will remain in place until planted vegetation is established as determined by Schott and/or the permitting agency. Once the vegetation is established the filter fabric fence shall be removed.

Locate all underground utilities prior to digging or driving stakes.

Any existing buildings, equipment, underground utilities, walks, roads, and/or forms damaged by the Contractor are to be replaced and/or repaired at the Contractor's expense, in a manner satisfactory to the Owner's Representative before final payment is made.

The Contractor is to be responsible for keeping planted areas free of debris, rock, and sand throughout the course of the work. Upon completion of the contract, the Contractor's to remove all surplus material, equipment, and debris from the site. All planted areas are to be rake-clean.

1.04 MAINTENANCE: Maintenance is to include regular visits at least monthly to the project site for the purpose of weeding, supplemental watering, and other items necessary to maintain planted areas in a healthy condition. Weeding is to consist only of cleared and mulched

areas maintained around each woody plant, and removal of exotic species such as blackberries, Scot's Broom, or others as determined from the resorted or created wetland areas. No spraying of herbicides or other chemicals, or application of fertilizer (other than noted on the plan), is to occur within the mitigation wetland areas without specific direction from Schott. No pruning is to occur unless authorized by Schott and/or the permitting agency. The maintenance period shall be for two years following the completion date of planting as determined by Schott and/or the permitting agency.

1.05: Irrigation shall be done on an as needed basis. Any temporary irrigation system will be removed following the second growing season.

1.06 SCHEDULE: Any earthwork must be approved by the project representative prior to commencement of such work. At that time, it will be determined what extra measures, if any, should be taken to prevent damage due to earthwork in saturated soils.

Planting is to occur during the cool season months (November to March) to take advantage of seasonal rains and the greater availability of plant material. Other planting time, if authorized, may require plant substitutions and supplemental irrigation.

1.06 EXISTING VEGETATION: Protect all existing vegetation designated to remain. Any existing vegetation damaged by Contractor will be replaced with plants of equal or better size and condition at contractor's expense.

PART 2 PRODUCTS

2.01 PLANT MATERIALS: Plant materials are to conform to Standards and Regulations as specified. Rooted plants are to be first quality, well-foliated, with well-developed root systems, and normal well-shaped trunks, limbs, stems, and heads. Schott will approve for quality conformance. All rooted plant material is to be labeled by genus, species and variety. Plants deemed unsuitable may be rejected before or after delivery. All plant material is to be free from damage, disease, insects, insect eggs and larvae.

2.02 WILLOW CUTTINGS: Willow cuttings are to be only native species (i.e. Salix fluvictillis or S. lasiandra) and not weeping willow, corkscrew willow or other horticultural species or cultivars.

2.02 SOIL AMENDMENTS: Soil amendment is to consist of screened mill-run fir and/or hemlock sawdust blended with composted manure or air digested sewage sludge. The blended ingredients are to be composted to a minimum of one year. Bassett Western Fertil - Mulch or approved equal.

Mulch is to consist of shredded wood and/or bark.

Fertilizer for tree and shrub plantings is to be in 21 - gram tablet form and contain 20% nitrogen, 10% phosphoric acid and 5% potash.

2.03 SEEDING MATERIALS: If hydroseeding, use seed mix as indicated in specifications, wood cellulose fiber from Douglas Fir or Western hemlock dyed to facilitate placement, and non-toxic, biodegradable J-TAC or approved equal.

If broadcast seeding, use seed mix as directed.

PART 3 EXECUTION

3.01 PREPARATION FOR PLANTING: Remove topsoil to 12-inch depth from upland and wetland areas to be disturbed to wetland mitigation. Stockpile the topsoil, which does not have reed canary grass, and remove the reed canary grass contaminated topsoil from the wetland area.

3.02 EARTHWORK: Perform earthwork as necessary to achieve elevations as described, with sufficient excavation to allow placement of 12 inches of stockpiles topsoil.

Following major earthwork, confirm with Schott the subgrades are approved before redistributing stockpiled soils over the restored wetland area.

Rototill or use other approved means, thoroughly blending topsoil and subsoil to reduce interface, to a minimum depth of six inches into subgrade. Compact soils to 75-85% density. Remove all surface rocks over 6 inches in any dimension. Grades must be even and smooth, and relate to adjacent surfaces as indicated.

3.03 PLANT INSTALLATION: Plant per specified scheduling and after all major construction is complete. Orient plants as directed for best appearance. Plant as shown on detail drawings.

3.04 SCALPING: A 30 inch diameter circle will be scalped for each woody plant. The plant will be installed in the middle of the circle. For non-root sprouting species some form of weed barrier will be installed around each plant. 2-4 inches of mulch will be placed on top of the weed barrier. For the root sprouting species the weed barrier shall not be installed, but the mulch layer is required.

3.05 STAKING: Since the survivorship of each woody species needs to be determined, a color coded stake shall be placed adjacent to each plant, or planting group. The number of plants per grouping shall be noted and provided to Schott. In addition, the color codes shall be provided to Schott to assist with the monitoring efforts. The larger trees will be staked to provide support.

3.06 WILLOW INSTALLATION: Rooted willow cuttings will be used if available. However, if rooted material is not available, unrooted cuttings of willow are to be placed in damp to wet soil in the early spring while the plants are still dormant (leafless). The end of the cutting placed in the soil (the lowest portion of the cutting as it grew on the parent tree or shrub) is to be dipped into a rooting hormone (i.e. "Rootone" TM) prior to placement into the soil. For each designated willow location on the planting plan, three rooted plant or five unrooted cuttings will be planted in a clumped group. The rooted willows will be spaced of three foot centers, and the unrooted

cutting will be spaced at 18 - inch centers.

3.07 SEEDING: For hydroseeding or broadcast seeding of the wetland mitigation and buffer areas, use the rate specified on the mitigation plans of the seed mix per acre.

3.08 IRRIGATION: The woody plants within the mitigation area shall be irrigated for the first growing season following planting. The irrigation can be by hand, drip or sprinklers.

3.09 FINAL ACCEPTANCE AND INSPECTION: Following completion of all the above items and with Schott's approval, a pre-warranty acceptance of the project will be granted. From this date forward, for a period of one year, the landscape planting warranty will be in effect. All maintenance as indicated of seeded and planted areas during the guarantee period will be by the contractor and will include items as indicated to fully establish all seeded and planted areas to a healthy vigorous state.

DRAFT

DECLARATION OF COVENANTS AND RESTRICTIONS
FOR THE
Renaissance Homes, Inc. Parker Rd. Project

THIS DECLARATION made this _____ day of _____, 2006, by Renaissance Homes, Inc. ("Declarant").

RECITALS

1. WHEREAS, Declarant is the owner of the real property described in Exhibit "A" attached hereto and by this reference incorporated herein as the "Property", and desires to {create restore or enhance} thereon wetlands to be maintained in accordance with the Permit Number approved by the Oregon Department of State Lands ("Department");

2. WHEREAS, Declarant desires to provide for the preservation and enhancement of the wetland values of the Property and for the maintenance and management of the Property and improvements thereon, and to this end desires to subject the Property to the covenants, restrictions, easements and other encumbrances hereinafter set forth, each and all of which is and are for the benefit of the Property.

NOW, THEREFORE, the Declarant declares that the Property shall be held, transferred, sold, conveyed and occupied subject to the covenants, restrictions, easements and other encumbrances hereinafter set forth in this Declaration.

ARTICLE 1
DEFINITIONS

1.1 "Declaration" shall mean the covenants, restrictions, and all other provisions set forth in the Declaration of Covenants and Restrictions.

1.2 "Declarant" shall mean and refer to Renaissance Homes, Inc., its successors or assigns.

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1.3 "Removal fill permit" shall mean the final document approved by the Department that formally establishes the wetland mitigation and stipulates the terms and conditions of its construction, operation and long-term management.

1.4 "Property" shall mean and refer to all real property subject to this Declaration, as more particularly set forth in Exhibit "A".(an exhibit of conservation area must be attached}

ARTICLE 2
PROPERTY SUBJECT TO THIS DECLARATION

The real property which is and shall be held, transferred, sold, conveyed and occupied subject to this Declaration is located in Clackamas County, Oregon and is more particularly described in Exhibit "A". (*Exhibit "A" should be a survey and legal description.)

ARTICLE 3
GENERAL PLAN OF DEVELOPMENT

Declarant currently manages the site for the purpose of wetland mitigation. Current management is in accordance with Permit Number _____.

ARTICLE 4
USE RESTRICTIONS AND MANAGEMENT RESPONSIBILITIES

The Property shall be used and managed for wetland mitigation purposes in accordance with Permit Number _____. Declarant and all users of the Property are subject to any and all easements, covenants and restrictions of record affecting the Property.

* *(Insert Covenants here. List, by number, all of the reserved rights and things not allowed in the conservation area. See following examples)*

1. There shall be no removal, destruction, cutting, trimming, mowing, alteration or spraying with biocides of any vegetation in the Property, nor any disturbance or change in the natural habitat of the Property.
2. There shall be no agricultural, commercial, or industrial activity undertaken or allowed in the Property; nor shall any right of passage across or upon the Property be allowed or granted if that right of passage is used in conjunction with agricultural, commercial or industrial activity.
3. No domestic animals shall be allowed on the Property.
4. There shall be no filling, excavating, dredging, mining or drilling; no removal of topsoil, sand, gravel, rock minerals or other materials, nor any dumping of ashes, trash, garbage, or of any other material, and no changing of the topography of the land of the Property in any manner.
5. There shall be no construction or placing of buildings, mobile homes, advertising signs, billboards, or other advertising material, or other structures on the Property.

ARTICLE 5

RESOLUTION OF DOCUMENT CONFLICTS

In the event of any conflict between this Declaration and Permit Number _____, the permit shall control.

IN WITNESS WHEREOF, the undersigned being Declarant herein, has executed this instrument this _____ day of _____, 2006.

Renaissance Homes, Inc.
Clackamas County, Oregon

By: _____

Title: _____

STATE OF OREGON)
) ss:
County of Clackamas)

This instrument was acknowledged before me on _____(*date*) by _____(*name of person*) as _____ _____(*title*) of Your firms name of Clackamas County, Oregon.

_____
Signature of Notarial Officer

My Commission Expires: _____

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Sample

SURETY BOND
OREGON DEPARTMENT OF STATE LANDS

For (Removal-Fill Permit / Enforcement File) No. _____ Bond No. _____
Site Location: Township _____ , Range _____, Section _____ , Tax Lot(s) _____ , County_____

KNOW ALL MEN BY THESE PRESENTS:

That _____(name of permittee), as principal,

and _____, a corporation duly licensed to do business in the State of Oregon, as surety are held and firmly bound unto the State of Oregon, acting by and through the Oregon Department of State Lands (Department) in the sum of _____dollars ($_____) lawful money of the United States for payment of which will and truly to be made we bind ourselves and our legal representatives jointly and severally by these presents.

Dated this _____ day of _____ , 20 _____ .

The condition of the above obligation is such that whereas the above principal is required to perform compensatory mitigation in accordance with (Removal-Fill Permit No._____ / Enforcement File No._____) pursuant to ORS ORS 196.800 through 196.990.

It is understood and agreed that the Department may grant to principal extensions of time to complete his mitigation plan, which are based upon delays occasioned by causes beyond principal's control. Such extensions of time shall not cancel the bond, but continue it in full force and effect for the period of such extension of time.

NOW THEREFORE, if the said principal shall faithfully perform the requirements of the mitigation plan filed with the Department, the terms and conditions of his (Removal-Fill permit / Enforcement Order); and the provisions of ORS 196.800 through 196.990; and the rules of said Department adopted thereunder, then this obligation to be void, otherwise to remain in full force and effect provided that if the surety elects to cancel this bond as to subsequent liability, surety must give written notice to the principal(s) and to the Department at least thirty (30) days prior to the effective date of cancellation.

The Surety hereby agrees that prompt notice will be provided to the principal and the Director of the Department of any action filed alleging the insolvency or bankruptcy of said surety or action filed alleging any violations which would result in suspension or revocation of the surety's license or authorization to conduct business in the State of Oregon.

_____
(Name of Principal – *print or type*)

_____
(Signature of Principal & Date)

_____
(Name of Surety Company – *print or type*)

_____
(Name & Title of Attorney-in-Fact – *print or type*)

_____
(Signature & Date)

_____
(Address)

_____

_____
(Phone)

ORIGINAL TO EACH: PRINCIPAL / DEPARTMENT / SURETY

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SFA Design Group, LLC
STRUCTURAL | CIVIL | LAND USE PLANNING

August 28, 2006

Oregon Department of State Lands
775 Summer St. NE
Salem, OR 97301

To Whom It May Concern:

This letter provides information on the stormwater quality and detention facilities designed for the Parker Road Subdivision. The purpose of this information is to support the application for a joint wetland permit.

The proposed Parker Road subdivision is located on tax lot 3900 of Clackamas County tax map 2S1E25CD and encompasses 2.32 acres. The proposed subdivision includes 6-lots to be developed with single family detached dwellings. The existing site includes one basin which directs surface water toward the southwest into the existing storm system on Parker Road. The subdivision will maintain this one basin by collecting surface water runoff in a water quality swale and through 12" pipes to a detention pond and again routed to the exiting system on Parker Road.

WATER QUALITY
The subdivision will treat its runoff by using a water quality swale which runs north to south for the entire length of the site before discharging into a detention pond. The swale will be constructed to include approximately 379 feet in length, while the length required to treat the new impervious area is only 138.36 feet.

DETENTION
The amount of impervious area increases as land is developed. This in turn creates a larger amount of runoff entering the storm sewer system. We propose a detention pond with a volume of 2,290 cubic feet to handle the increased stormwater created by the subdivision. We analyzed the proposed impervious areas, soil conditions, time of concentration and precipitation from different sized storm events to calculate the required size. It is sized to control the 2, 5, 10 and 25-year developed storm events at pre-developed levels. A summary of the stormwater detention results *with* and *without* the pond is included in Table 1 below.

Table 1. Summary of Stormwater Detention Results

Design Storm	Target Release Rate Pre-developed conditions (cubic feet/second)	Release Rate **Without** the Proposed Stormwater Detention Facilities Post-developed conditions (cubic feet/second)	Release Rate **With** the Proposed Stormwater Detention Facilities Post-developed conditions (cubic feet/second)
2-year	0.26	0.53	0.26
5-year	0.44	0.76	0.44
10-year	0.65	1.01	0.55
25-year	0.87	1.27	0.87

Source: Inteli-solve Hydraflow Hydrographs Program.

The design of the detention and water quality facilities meets all requirements associated with City of West Linn's Design Standards. Please do not hesitate to contact me with any further questions.

Sincerely,

Brent Fitch, PE
Civil Project Manager - Principal

9020 SW Washington Square Drive, Suite 350 • Portland, Oregon 97223 • **503-641-8311** • Fax 503-643-7905 • www.sfadesigngroup.com

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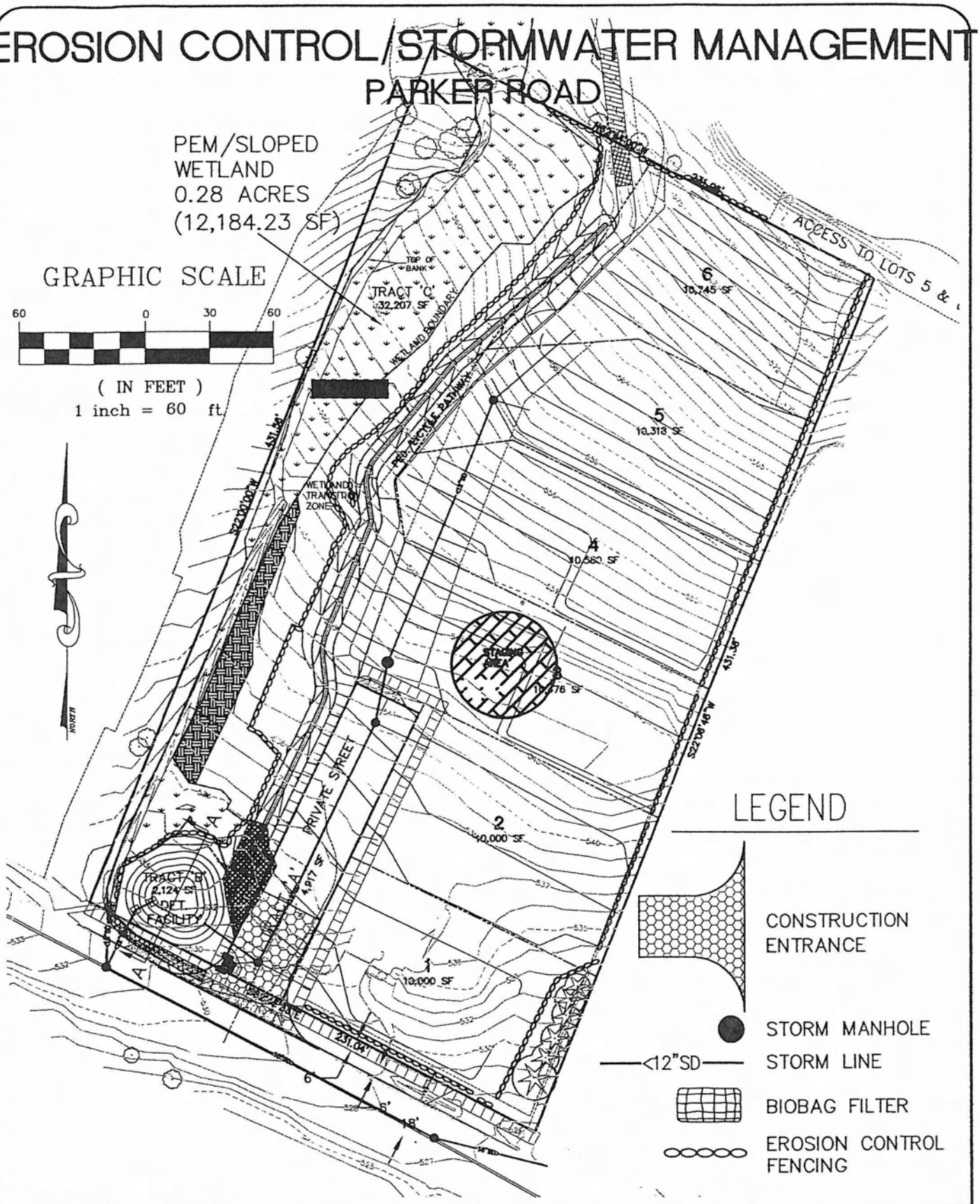
EROSION CONTROL/STORMWATER MANAGEMENT

PARKER ROAD

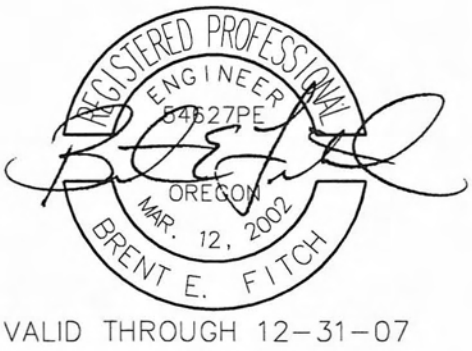


NO. 106-011	DESIGNED BY PTS DATE 4/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET 11 OF 11
TYPE	PROJECT NO. 106-011 REF.		
W-10611ERST.DWG	SCALE 1" = 60' N/A		

FINAL
STORMWATER MANAGEMENT REPORT

Parker Road Subdivision

West Linn, Oregon



VALID THROUGH 12-31-07

DATE: August 15, 2007

By: Brent Fitch, P.E.

Job No. 106-011

Applicant: Renaissance Homes, Inc.
Attn: Jeff Shrope
16771 Boones Ferry Rd.
Suite B
Lake Oswego, OR 97035
Tel. (503) 636-5600
Fax (503) 635-8400

Engineer: SFA Design Group, LLC
Attn: Brent Fitch, P.E.
9020 SW Washington Sq. Dr.
Suite 350
Portland, OR 97223
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TABLE OF CONTENTS

SFA Design Group, LLC
STRUCTURAL | CIVIL | LAND USE PLANNING

INTRODUCTION

This report represents the supportive calculations for the Conveyance, Water Quality, Detention and Downstream Analysis for Parker Road Subdivision. The purpose of this analysis is to comply with the City of West Linn and City of Portland's Design and Construction Standards.

SITE DESCRIPTION AND LOCATION

Parker Road development is located at 2929 S. Parker Rd., West Linn, on tax lot 3900 of Clackamas County Tax Map T2 R1E SEC 25CD. The proposed development is a 6-lot subdivision. The total area of the site is 2.32 acres. However, only 1.73 acres of the project will be developed. All of the proposed lots will be developed with single family detached dwellings. The existing home, driveway and shed will be removed.

HYDROLOGIC SOILS

From the attached Soil Survey Map, the Hydrologic Soil types are Cornelius Hydrologic Group C and Delena Hydrologic Group D.

CURVE NUMBERS (CN)

The composite CN for existing pervious area is calculated to be 76.55, due to meadow with continuous grass. The composite CN for developed pervious area is area is 78.75, due to good conditions of grass cover. The CN number for impervious areas of both existing and developed conditions is 98. Refer to *Runoff Curve Numbers.*

PROJECT BASIN

The site for existing and developed conditions has one basin. The existing basin directs surface water toward the southwest area of the site into the existing storm system on Parker Road *(See Existing Conditions Plan).*

HYDROLOGY/HYDRAULIC METHODOLOGY

WATER QUALITY

The site will be treating its runoff by using a water quality swale. The required water quality swale length to treat the new impervious area is 138.36 feet. The actual swale length is 375 feet. *See Water Quality Swale Calculations.*

DETENTION

As land is developed, the amount of impervious area is increased. This in turn creates a larger amount of runoff entering the storm sewer system. We are proposing to use a detention pond to handle the increased storm water created from the development. The site was analyzed for the 2, 5, 10, 25 and 100-Year Storm Events. We will be releasing the developed runoff at the pre-developed flow rates for the 2, 5, 10 and 25 year storm events, as required by the City of West Linn Design Standards, Section 2.0013-Storm Detention Facility.

The detention pond was analyzed using the Intelisolve Hydraflow Hydrographs. The required detention volume for a 2 foot deep pond detaining the 25 year event is 1,649 cubic feet. As designed, the detention pond will hold approximately 1,764 cubic feet of runoff. With one foot of freeboard, the pond's total storage is 2,955 cubic feet. Runoff will be released for the respective storm events at their pre-developed rates by means of a multi-orifice control structure. Refer to *Detention Pond Section* for calculations.

SUMMARY OF STORMWATER DETENTION RESULTS
BASED ON KING COUNTY HYDROGRAPH PROGRAM

Design Storm	Target Release Rate Pre-developed conditions	Release Rate **Without** the Proposed Stormwater Detention Facilities Post-developed conditions	Release Rate **With** the Proposed Stormwater Detention Facilities Post-developed conditions
2-year	0.21	0.47	0.21
5-year	0.36	0.66	0.36
10-year	0.53	0.86	0.48
25-year	0.71	1.05	0.71

CONVEYANCE

The conveyance system is designed to transport the water flowing from the runoff produced on site.

Surface water runoff is collected and routed on-site through 12" pipes into the detention pond. A pollution control manhole will be installed preceding the inlet to the pond structure, per City of West Linn's Standard Construction Specifications. The drainage at the pond is then conveyed through proposed 18" pipes on Parker Road and connected into the existing 18" storm line to the east. *Refer to Stormwater Conveyance Calculations.*

DOWNSTREAM

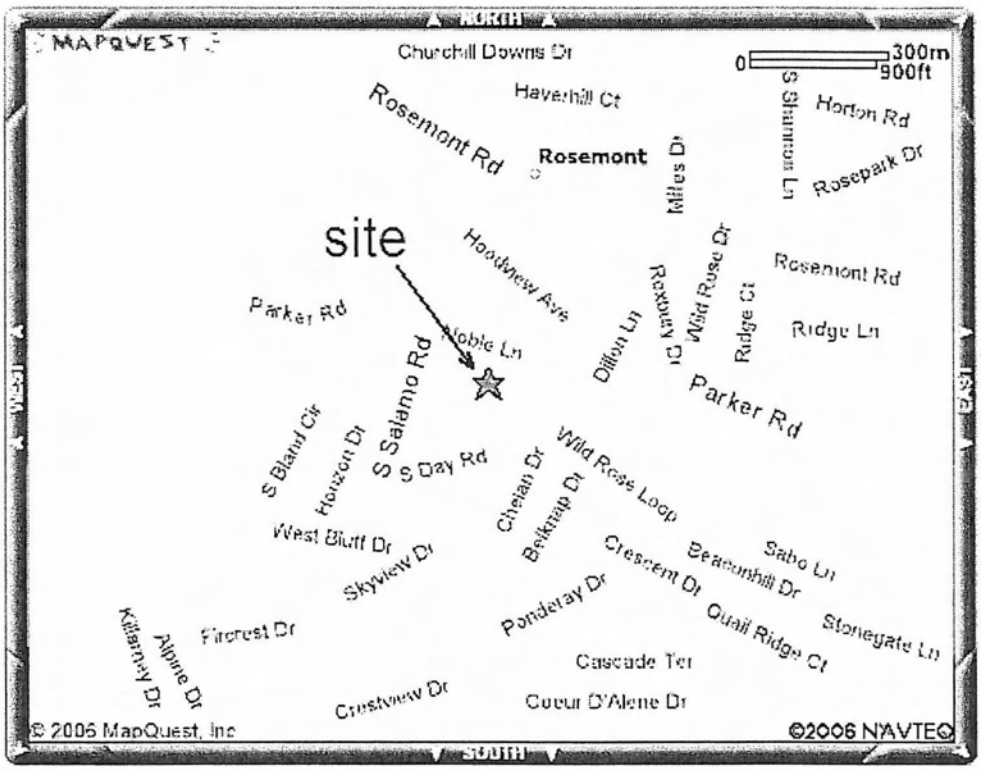
Downstream for Parker Road development was analyzed to ensure that the storm drain system on Parker Road is able to accommodate flows within the drainage basin. *Refer to Downstream analysis Section.*

Parker Road Subdivision locates within Basin A. Entire Basin A drains to a series of proposed 18" storm lines (STM-01) on Parker Road. The minimum slope to convey these proposed 18" lines is 1.17%. The proposed storm system is then connected to an existing 18" line to the east. At this point, the flow of Basin A combined with the flow of Basin B drain through a 24" pipe that runs across Parker Road. Downstream conveyance calculations show that these existing storm lines have adequate capacity to convey flows from upstream basins.

CONCLUSION

The development of Parker Road Subdivision will not adversely affect the drainage system in any off-site properties. We have provided treatment of the storm water for water quality. We also detain runoff with a detention pond by releasing the developed runoff to the restrictive flow requirements. Project site, basins and downstream were carefully evaluated to confirm sufficient flow. We have met all water quality and detention requirements associated with City of West Linn and City of Portland's Design Standards.

PARKER ROAD SUBDIVISION
(106-011)



VICINITY MAP
NTS

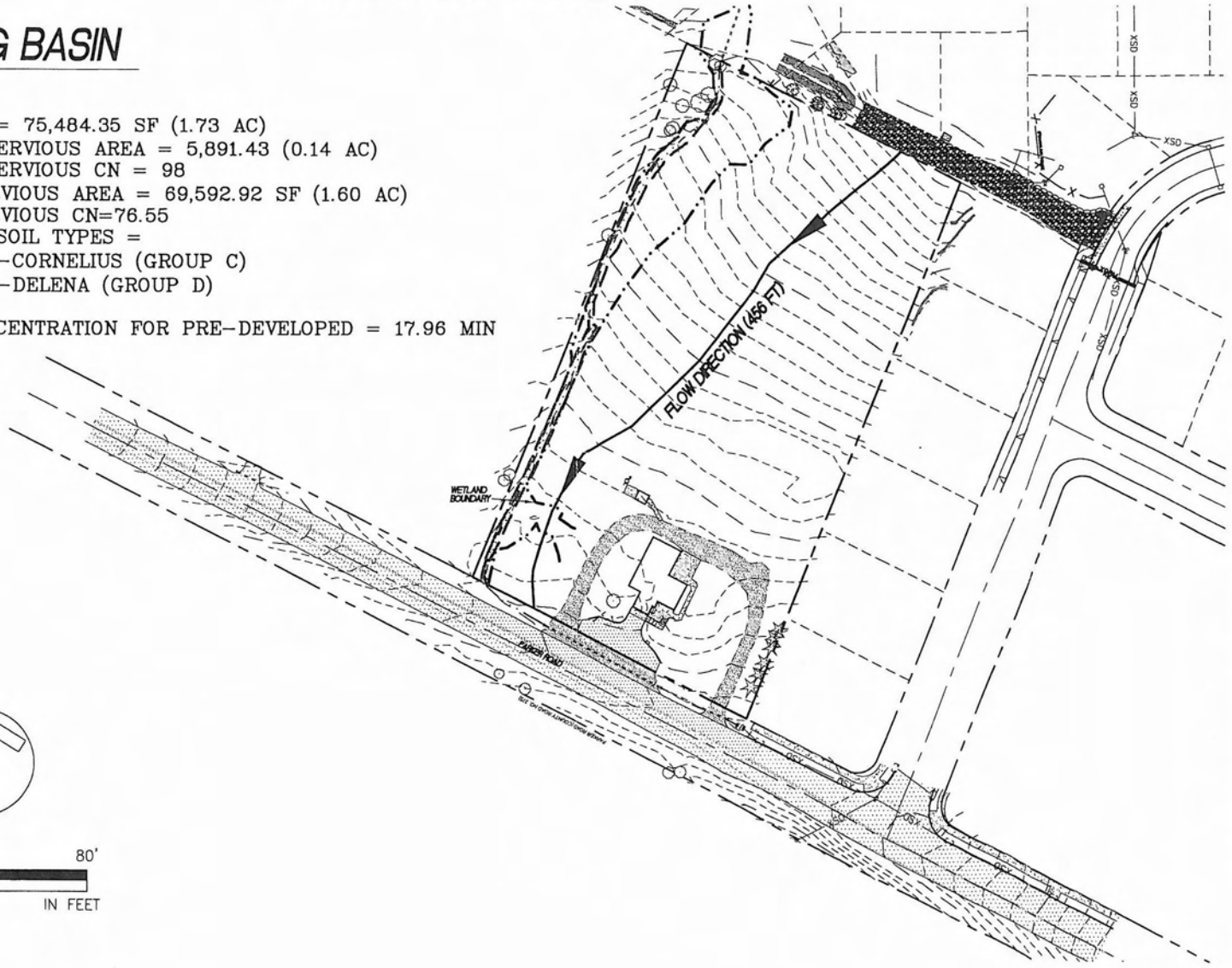
EXISTING CONDITIONS

PARKER ROAD SUBDIVISION

EXISTING BASIN

TOTAL AREA = 75,484.35 SF (1.73 AC)
EXISTING IMPERVIOUS AREA = 5,891.43 (0.14 AC)
EXISTING IMPERVIOUS CN = 98
EXISTING PERVIOUS AREA = 69,592.92 SF (1.60 AC)
EXISTING PERVIOUS CN=76.55
HYDROLOGIC SOIL TYPES =
23C–CORNELIUS (GROUP C)
37D–DELENA (GROUP D)

TIME OF CONCENTRATION FOR PRE–DEVELOPED = 17.96 MIN



0' 40' 80'
SCALE IN FEET

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DRAWN BY TNT DATE 11/06
REVIEWED BY BEF DATE
PROJECT NO. 106-011 REF.
SCALE HORZ. 1"=80'
VERT. N/A
106\STORM-EXHIBIT-ENG.DWG

SHEET 1 OF 2

PROJECT PARKER ROAD
NO. 106-011
TYPE ENGINEERING

DEVELOPED CONDITIONS

PARKER ROAD SUBDIVISION

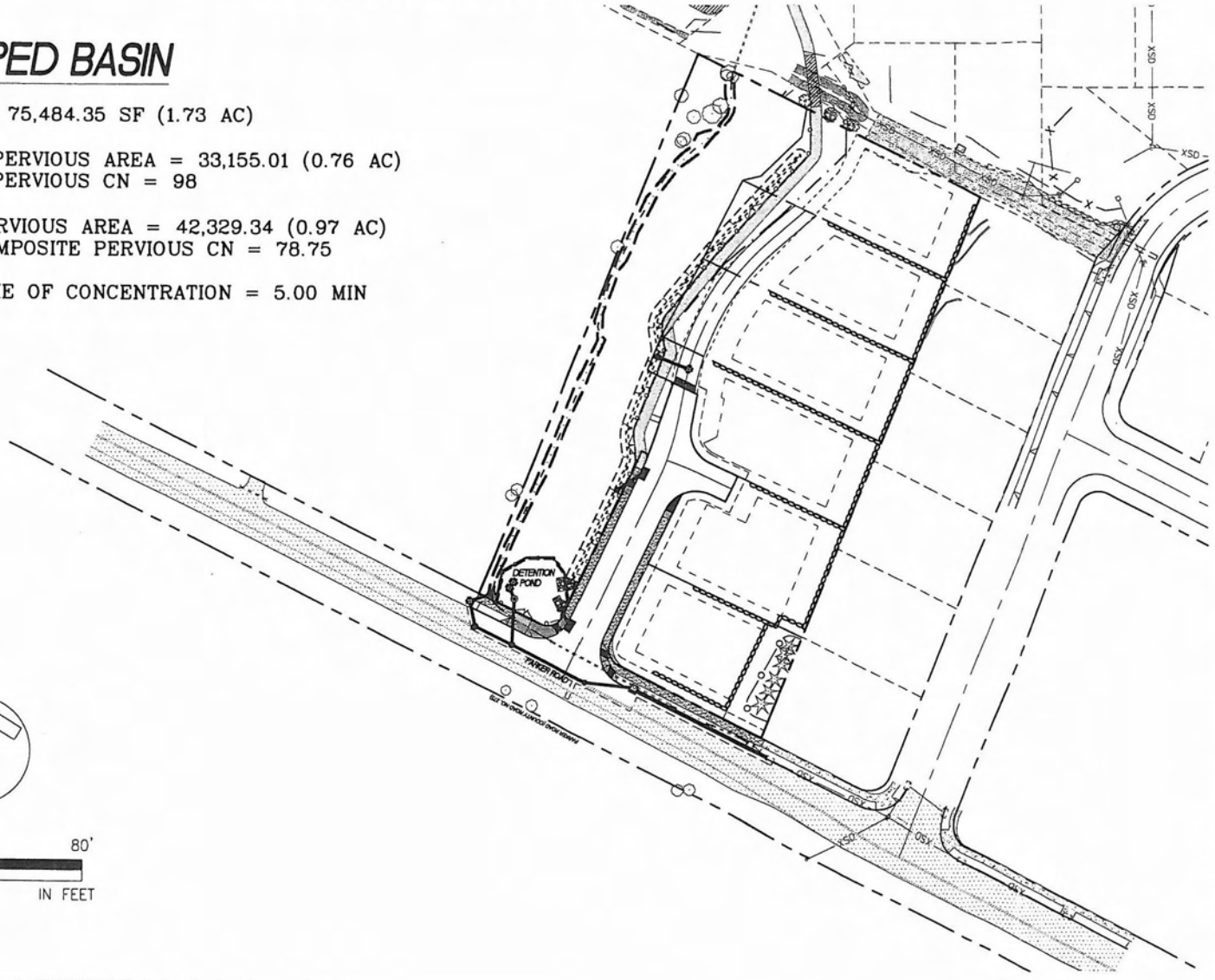
DEVELOPED BASIN

TOTAL AREA = 75,484.35 SF (1.73 AC)

DEVELOPED IMPERVIOUS AREA = 33,155.01 (0.76 AC)
DEVELOPED IMPERVIOUS CN = 98

DEVELOPED PERVIOUS AREA = 42,329.34 (0.97 AC)
DEVELOPED COMPOSITE PERVIOUS CN = 78.75

DEVELOPED TIME OF CONCENTRATION = 5.00 MIN



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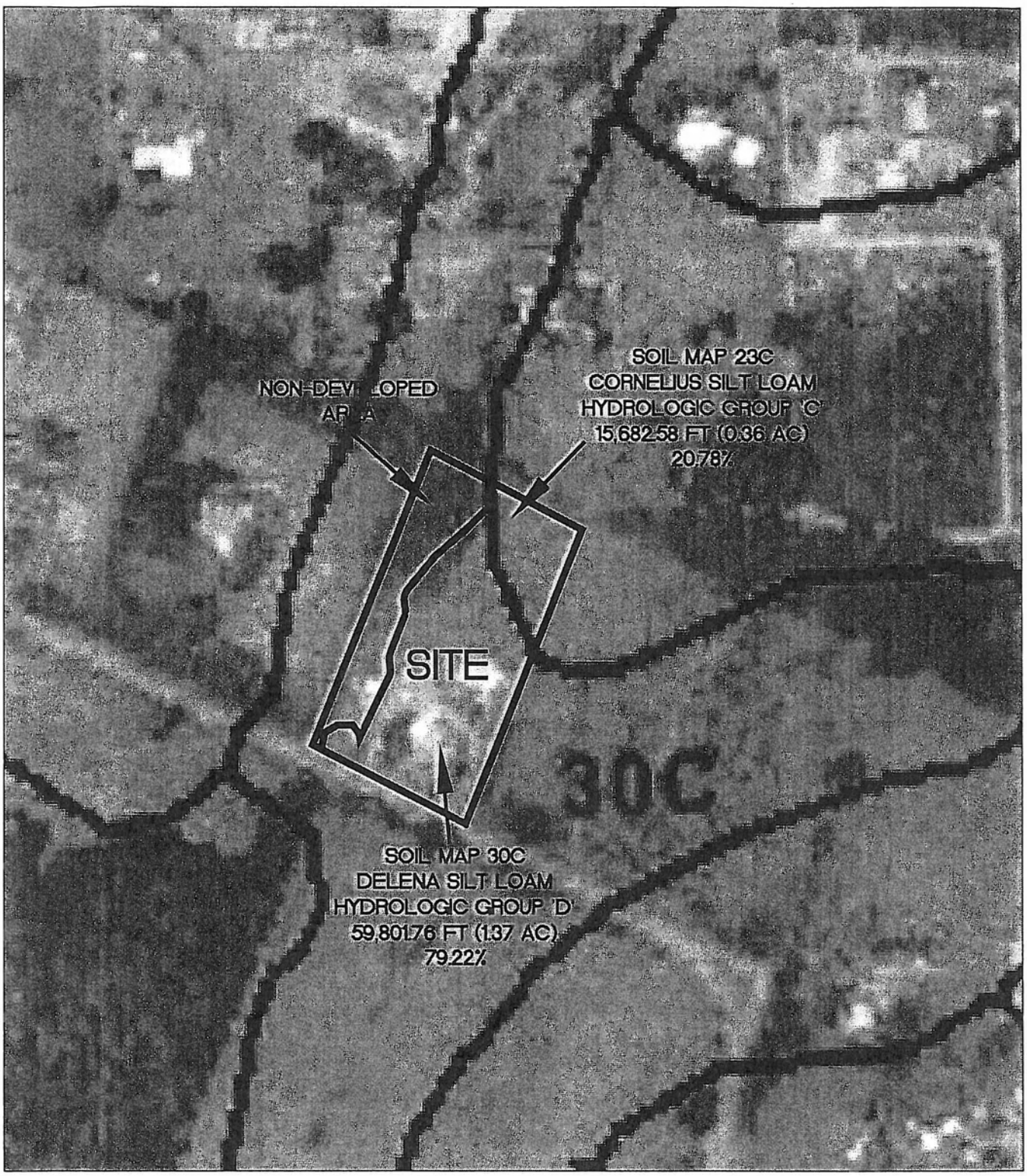
106\STORM-EXHIBIT-ENG.dwg

SHEET 2 OF 2

PROJECT PARKER ROAD
NO. 106-011
TYPE ENGINEERING

SOIL MAP
PARKER ROAD SUBDIVISION



NO. 106-011	DESIGNED BY TNT	DATE 11/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET
TYPE ENGINEERING	PROJECT NO. 106-011	REF.		OF
10611-SOIL-MAP	SCALE 1"-200'	N/A		

Water Features

Clackamas County Area, Oregon

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
23C:										
Cornelius	C	---	January	2.5-4.0	2.5-4.0	---	---	None	---	None
			February	2.5-4.0	2.5-4.0	---	---	None	---	None
			March	2.5-4.0	2.5-4.0	---	---	None	---	None
			April	2.5-4.0	2.5-4.0	---	---	None	---	None
			December	2.5-4.0	2.5-4.0	---	---	None	---	None
30C:										
Delena	D	---	January	0.0-1.5	1.7-2.5	---	---	None	---	None
			February	0.0-1.5	1.7-2.5	---	---	None	---	None
			March	0.0-1.5	1.7-2.5	---	---	None	---	None
			April	0.0-1.5	1.7-2.5	---	---	None	---	None
			December	0.0-1.5	1.7-2.5	---	---	None	---	None

RUNOFF CURVE NUMBERS

PROJECT SITE ANALYSIS

Runoff curve numbers for urban areas*

Cover description		Curve numbers for hydrologic soil				
Cover type and hydrologic condition	Average percent impervious area	A	B	C	D	
Open space (lawns, parks, golf courses, cemeteries, etc.):						
Poor condition (grass cover <50%)		68	79	86	89	
Fair condition (grass cover 50% to 75%)		49	69	79	84	
Good condition (grass cover >75%)		39	61	74	80	DEV
		15,682.58 SF SOIL C- 20.78%				
		59,801.76 SF SOIL D- 79.22%				
		COMBINED CN= 78.75				
Impervious areas:						
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)						
Streets and roads:						
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98	IMP
Paved; open ditches (including right-of-way)		83	89	92	93	
Gravel (including right-of-way)		76	85	89	91	
Dirt (including right-of-way)		72	82	87	89	
Urban districts:						
Commercial and business	85	89	92	94	95	
Industrial	72	81	88	91	93	
Residential districts by average lot size:						
1/8 acre or less (town houses)	65	77	85	90	92	
1/4 acre	38	61	75	83	87	
1/3 acre	30	57	72	81	86	
1/2 acre	25	54	70	80	85	
1 acre	20	51	68	79	84	

Runoff curve numbers for other agricultural lands*

Cover description		Curve numbers for hydrologic soil			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range -- continuous forage for grazing					
<50% ground cover or heavily grazed with no mulch	Poor	68	79	86	89
50% to 75% ground cover and not heavily grazed	Fair	49	69	79	84
>75% ground over and lightly or only occasionally grazed	Good	39	61	74	80
Meadow -- continuous grass, protected from grazing and generally mowed for hay	--	30	58	71	78
		15,682.58 SF SOIL C- 20.78%			
		59,801.76 SF SOIL D- 79.22%			
		COMBINED CN= 76.55			
Brush – weed-grass mixture with brush as the major element					
<50% ground cover	Poor	48	67	77	83
50% to 75% ground cover	Fair	35	56	70	77
>75% ground cover	Good	30	48	65	73
Woods – grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79

PRE

Runoff curve numbers for other agricultural lands*

Cover description		Curve numbers for hydrologic soil			
Cover type	Hydrologic condition	A	B	C	D
Woods					
Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.	Poor	45	66	77	83
Woods are grazed but not burned, and some forest litter covers the soil.	Fair	36	60	73	79
Woods are protected from grazing, and litter and brush adequately cover the soil.	Good	30	55	70	77

Runoff curve numbers for Simplified Approaches**

Cover description		Curve numbers for hydrologic soil			
Simplified Approaches	Hydrologic condition	A	B	C	D
Eco-roof	Good	n/a	61	n/a	n/a
Roof Garden	Good	n/a	48	n/a	n/a
Contained Planter Box	Good	n/a	48	n/a	n/a
Infiltration & Flow-Through Planter Box	Good	n/a	48	n/a	n/a
Pervious Pavement	--	76	85	89	n/a
Trees	--				
New and/or Existing Evergreens	--	36	60	73	79
New and/or Existing Deciduous	--	36	60	73	79

n/a – Does not apply, as design criteria for the relevant mitigation measured do not include the use of this soil type.

* Soil Conservation Service, *Urban Hydrology for Small Watersheds*, Technical Release 55, pp. 2.5-2.9, June 1986.

** CNs of various cover types were assigned to the Proposed Simplified Approaches with similar cover types as follows:

Eco-roof – assumed grass in good condition with soil type B.

Roof Garden – assumed brush-weed-grass mixture with >75% ground cover and soil type B.

Contained Planter Box – assumed brush-weed-grass mixture with >75% ground cover and soil type B.

Infiltration & Flow-Through Planter Box – assumed brush-weed-grass mixture with >75% ground cover and soil type B.

Pervious Pavement – assumed gravel.

Trees – assumed woods with fair hydrologic conditions.

To determine hydrologic soil type, consult local USDA Soil Conservation Service Soil Survey.

NOTE: Data obtained from City of Portland Stormwater Management Manual Adopted July 1, 1999; revised September 1, 2004. Table C-2 Runoff Curve Numbers

MANNING'S "n" VALUES

PROJECT SITE ANALYSIS

SHEET FLOW EQUATION MANNING'S VALUES	n_s
Smooth Surfaces (concrete, asphault, gravel, or bare hand packed soil)	0.011
Fallow Fields or loose soil surface (no residue)	0.05
Cultivated soil with residue cover (≤ 20%)	0.06
Cultivated soil with residue cover (> 20%)	0.17
Short prairie grass and lawns	0.15
Dense grasses	0.24
Bermuda grasses	0.41
Range (natural)	0.13
Woods or forrest with light underbrush	0.40
Woods or forrest with dense underbrush	0.80

SHALLOW CONCENTRATED FLOW (after initial 300 ft of sheet flow, R = 0.1)	k_s
Forrest with heavy ground litter and meadows (n = 0.010)	3
Brushy ground with some trees (n = 0.060)	5
Fallow or minimum tillage cultivation (n = 0.040)	8
High grass (n = 0.035)	9
Short grass, pasture and lawns (n = 0.030)	11
Nearly bare ground (n = 0.25)	13
Paved and gravel areas (n = 0.012)	27

CHANNEL FLOW (Intermittent) (At the beginning of all visible channels, R = 0.2)	k_c
Forested swale with heavy ground cover (n = 0.10)	5
Forested drainage course/ravine with defined channel bed (n = 0.050)	10
Rock-lined waterway (n = 0.035)	15
Grassed waterway (n = 0.030)	17
Earth-lined waterway (n = 0.025)	20
CMP pipe (n = 0.024)	21
Concrete pipe (n = 0.012)	42
Other waterways and pipe 0.508/n	

CHANNEL FLOW (continuous stream, R = 0.4)	k_c
Meandering stream (n = 0.040)	20
Rock-lined stream (n = 0.035)	23
Grass-lined stream (n = 0.030)	27
Other streams, man-made channels and pipe (n = 0.807/n)	

IMPERVIOUS AREA CALCULATIONS

PROJECT SITE ANALYSIS

JOB NUMBER: 106-011
PROJECT: Parker Road
FILE: 10611hydr.xls

EXISTING IMPERVIOUS AREA

BUILDINGS	1603.07 ft^2	
SIDEWALKS	0.00 ft^2	
GRAVEL AT 60% IMPERVIOUS	2264.61 ft^2	
PAVEMENT	2023.75 ft^2	
EXISTING IMPERVIOUS TOTAL AREA	**5891.43 ft^2**	**0.14 ac**

NEW IMPERVIOUS AREA

ON-SITE

6 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	15840.00 ft^2	
PAVEMENT	7863.68 ft^2	
SIDEWALKS OUTSIDE LOT LINES	896.78 ft^2	
PEDESTRIAN PATH	2331.55 ft^2	
	26932.01 ft^2	0.62 ac

OFF-SITE

PAVEMENT	2998.00	
PEDESTRIAN PATH	1801.00	
SIDEWALKS	1424.00	
	6223.00 ft^2	0.14 ac
NEW IMPERVIOUS TOTAL AREA	**33155.01 ft^2**	**0.76 ac**

Shed Area	**101055.3 ft^2**	**2.32 ac**
Non-developed Area	**25570.95 ft^2**	**0.59 ac**
Developed Area	**75484.35 ft^2**	**1.73 ac**

Existing Impervious Area	**5891.43 ft^2**	**0.14 ac**
Existing % Impervious		**7.80 %**

Developed Impervious Area	**26932.01 ft^2**	**0.76 ac**
Developed % Impervious		**43.9 %**

PREDEVELOPED TIME OF CONCENTRATION

PROJECT SITE ANALYSIS

JOB NUMBER:	106-011		
PROJECT:	Parker Road		
FILE:	10611hydr.xls		
			Accum.
LAG ONE: SHEET FLOW (FIRST 300 FEET)			Tc
Tt = Travel time			
Manning's "n " =	0.15		
Flow Length, L =	300 ft	(300 ft. max.)	
P =	1.6 in		
Slope, S_0 =	0.108 ft/ft		
$T_T = \frac{(0.42)(n * L)^{0.8}}{(P)^{0.5}(S_0)^{0.4}}$	17.08 min.		17.08 min.
LAG TWO: SHALLOW CONCENTRATED FLOW (NEXT 156 FEET)			
Tc Velocity factor, k=	11		
Slope, S_0 =	0.073 ft/ft		
$V = k\sqrt{S_0}$	2.97 ft/s		
Flow Length, L =	156 ft		
$T = \frac{L}{(60)(V)}$	0.87 min.		17.96 min.

Total Flow Length= 456 ft.

TOTAL PREDEVELOPED TIME OF CONCENTRATIO 17.96 min.

DEVELOPED TIME OF CONCENTRATION

PROJECT SITE ANALYSIS

JOB NUMBER: 106-011
PROJECT: Parker Road
FILE: 10611hydr.xls

Catchment Time	5	min.
Longest Run of Pipe	352	ft
Velocity of Flow	3	ft/s
Time in Pipe = (352 ft)/(3.00 ft/s) =	117.33	s
TOTAL DEVELOPED Tc =	**6.96**	**min.**

WATER QUALITY SWALE CALCULATIONS

PROJECT SITE ANALYSIS

JOB NUMBER: 106-011
PROJECT: Parker Road
FILE: 10611hydr.xls

REFERENCES:
1. City of Portland's Stormwater Management Manual, Sept. 2004
2. Discussions with City of Portland and City of West Linn

REQUIRED WATER QUALITY TREATMENT: 65% Phosphorus Removal.

PROPOSED TREATMENT METHODS:

1. Sumped Catch Basins		15%
2. Bio-Filtration Swale		50%
	total	65%

DESIGN STORM:

Precipitation:	0.83	inches
Storm Duration:	24	hours
Storm Return Period:	96	hours
Storm Window:	2	weeks

IMPERVIOUS AREA:

Watershed Area:	1.73	acres
Percent imp:	43.92	%
Impervious Area:	0.76	acres

Design Inflow = (0.76 ac)*(43560 ft^2/ac)*(0.83 in / 24.0 hrs) = **0.03 cfs**

BIOFILTRATION SWALE DESIGN CRITERIA:

Max Velocity:	0.9	ft/s
Side Slopes:	4	:1 (treatment area)
Base:	2	feet (2' min)
n Factor:	0.24	(plantings)

SWALE CHARACTERISTICS:

Q=	0.03	Design Storm Discharge (determined above)
N=	0.24	Plantings
B=	2 ft	Base width of channel
Z=	4	:1 Side slopes
SLOPE=	0.0975	ft/ft Slope of channel (0.005 minimum)
ASS. Y=	0.5 ft	Assumed depth to begin analysis (0.5 ft maximum)

ITERATIVE SOLUTION OF MANNING'S EQUATION FOR NORMAL DEPTH:

ITERATION	Y (FT)	P (FT)	A(FT^2)	R	Q (CFS)	% ERROR	V (FPS)
1	0.50	6.12	2.00	0.33	1.84	6029.50	0.92
2	0.03	2.27	0.07	0.03	0.01	-57.07	0.19
3	0.06	2.47	0.13	0.05	0.03	11.84	0.27
4	0.05	2.43	0.12	0.05	0.03	-1.54	0.25
5	0.05	2.44	0.12	0.05	0.03	0.21	0.26
6	0.05	2.44	0.12	0.05	0.03	-0.03	0.26
7	0.05	2.44	0.12	0.05	0.03	0.00	0.26
8	0.05	2.44	0.12	0.05	0.03	0.00	0.26
9	0.05	2.44	0.12	0.05	0.03	0.00	0.26
10	0.05	2.44	0.12	0.05	0.03	0.00	0.26
11	0.05	2.44	0.12	0.05	0.03	0.00	0.26
12	0.05	2.44	0.12	0.05	0.03	0.00	0.26
13	0.05	2.44	0.12	0.05	0.03	0.00	0.26
14	0.05	2.44	0.12	0.05	0.03	0.00	0.26
15	0.05	2.44	0.12	0.05	0.03	0.00	0.26

NORMAL DEPTH =	0.05	ft
FLOW WIDTH =	2.42	ft
VELOCITY =	0.26	ft/s
TREATMENT TIME =	9.00	min
TREATMENT LENGTH =	**138.36**	**ft**

STORMWATER CONVEYANCE CALCULATIONS

PROJECT SITE ANALYSIS

JOB: 106-011
PROJECT: Parker Road
FILE: 10611hydr.xls

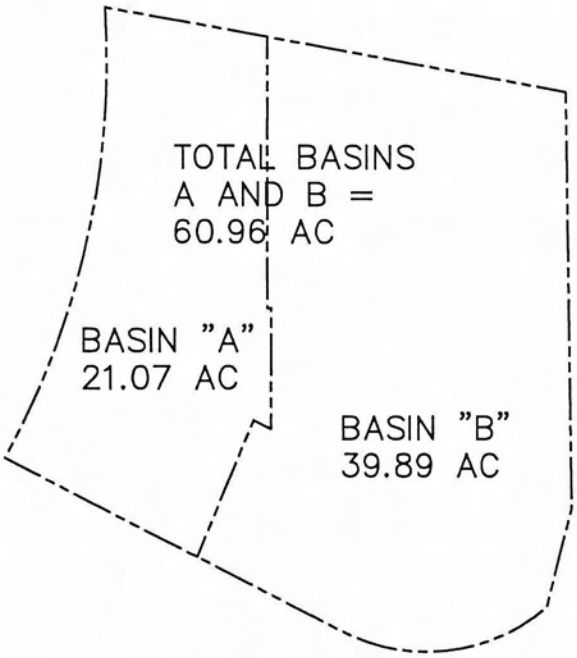
Design Storm: 25 YR
Storm Duration: 24 HRS
Precipitation: 3.9 IN
Manning's "n" 0.013

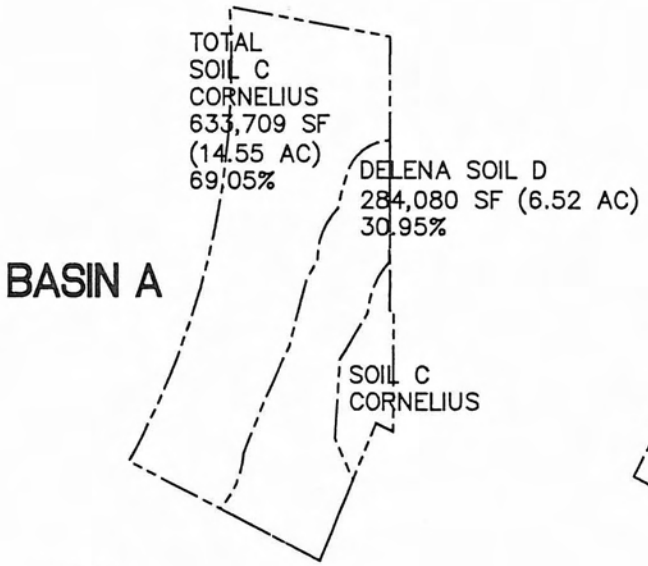
LINE	INC. AREA (AC)	AREA TOTAL (AC)	% IMP.	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)	PIPE SIZE (IN)	SLOPE (FT/FT)	Qf (CFS)	Q/Qf (%)	Vf (FPS)	V/Vf (%)	ACTUAL V (FPS)
ENTIRE SHED	0.00	2.32	32.81	1.56	79.06	0.76	98	11.96	1.33	12	0.0055	2.65	0.50	3.37	0.70	2.37

DOWNSTREAM ANALYSIS SECTION

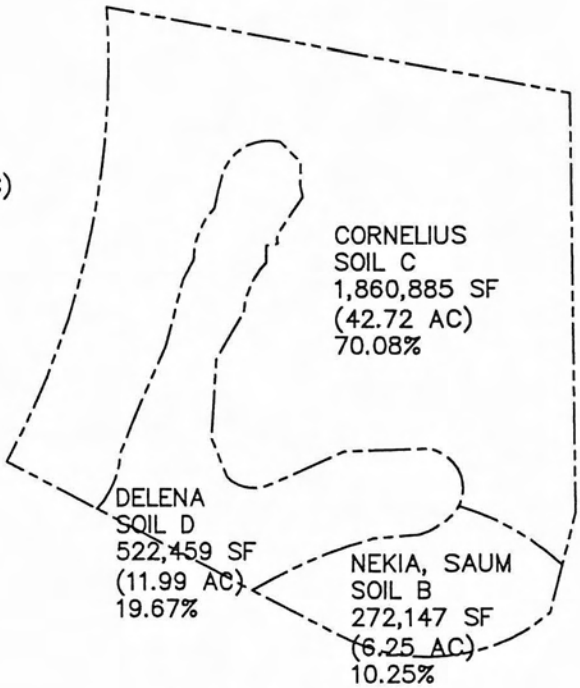
PARKER ROAD SUBDIVISION
Job No. 106-011

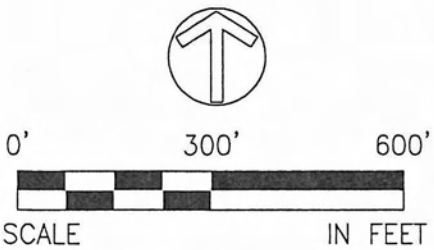
DOWNSTREAM SOIL MAP
PARKER ROAD SUBDIVISION





BASIN A





BASINS A AND B

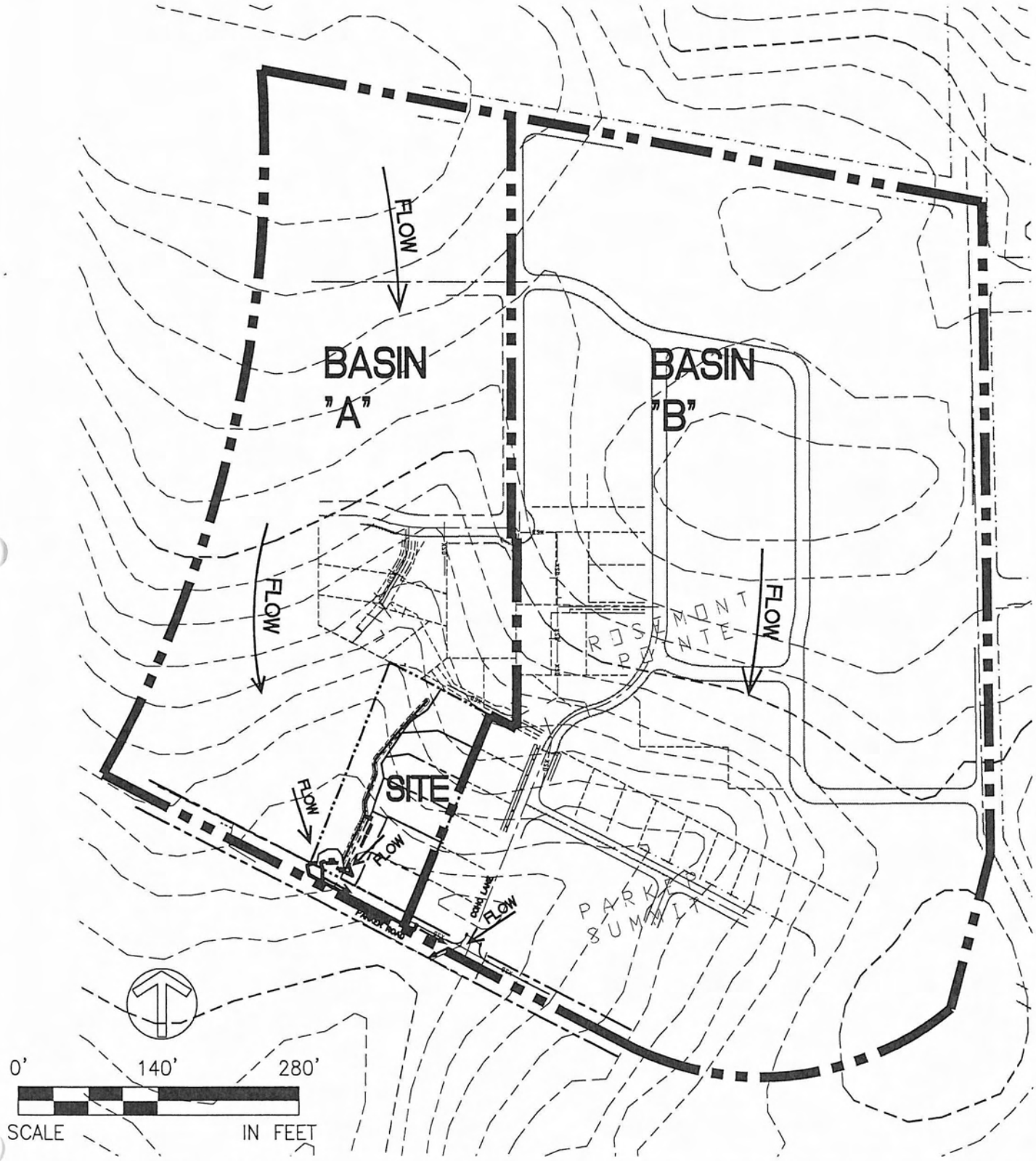
NO. 106-001	DESIGNED BY TNT	DATE 11/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET
TYPE ENGINEERING	PROJECT NO.	REF.		OF
10611-DS-BASIN-ENG	SCALE 1"=600'			

RUNOFF CURVE NUMBERS
DOWNSTREAM ANALYSIS

Runoff curve numbers for urban areas*

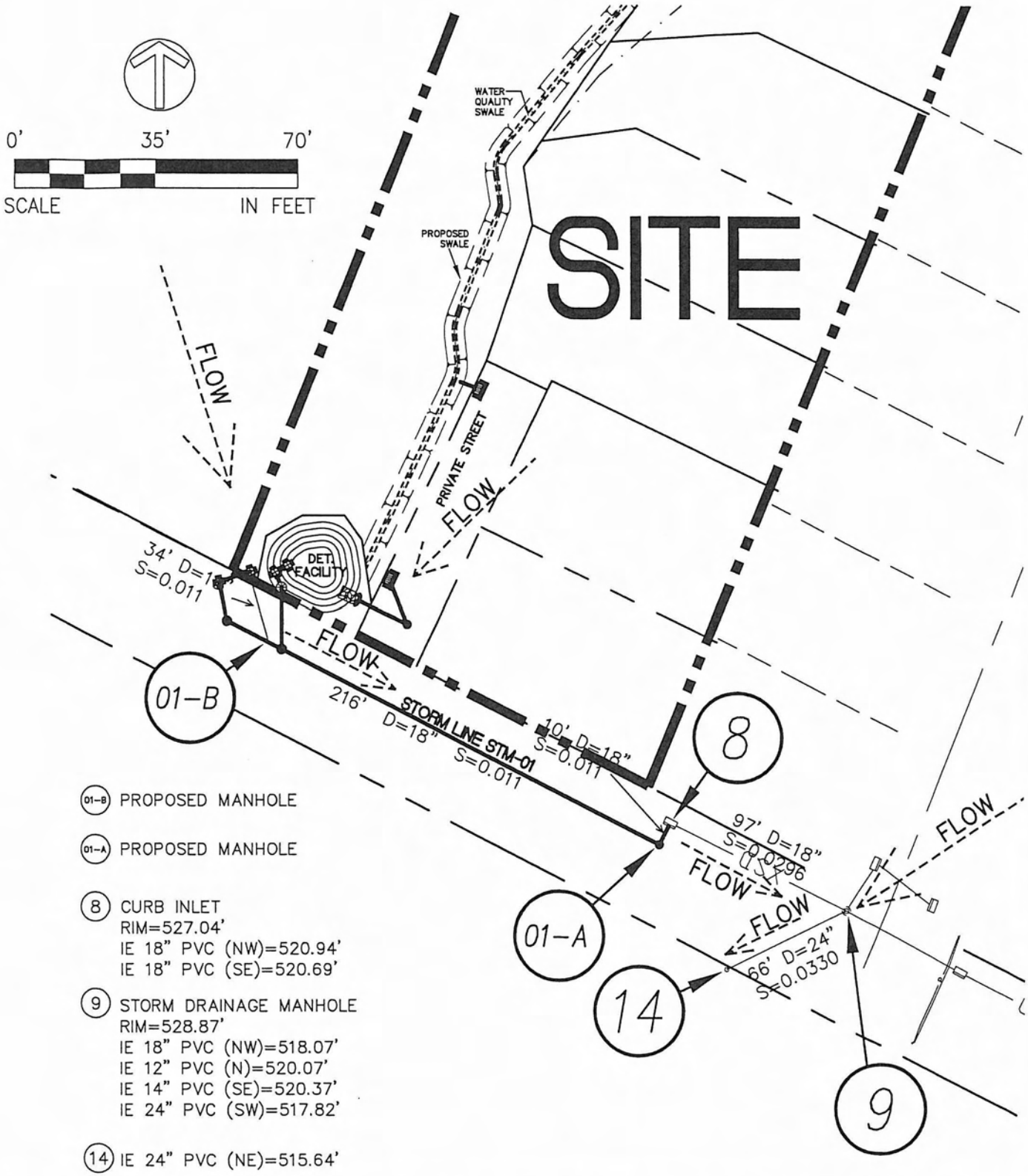
Cover description		Curve numbers for hydrologic soil				
Cover type and hydrologic condition	Average percent impervious area	A	B	C	D	
Open space (lawns, parks, golf courses, cemeteries, etc.):						
Poor condition (grass cover <50%)		68	79	86	89	
Fair condition (grass cover 50% to 75%)		49	69	79	84	
Good condition (grass cover >75%)		39	61	74	80	DEV
		BASIN A				
		633,709 SF SOIL C- 69.05%				
		284,080 SF SOIL D- 30.95%				
		COMPOSITE CN= 75.86				
		BASIN A & B				
		272,147 SF SOIL B- 10.25%				
		1,860,885 SF SOIL C- 70.08%				
		522,459 SF SOIL D- 19.67%				
		COMPOSITE CN= 73.85				
Impervious areas:						
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)						
Streets and roads:						
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98	IMP
Paved; open ditches (including right-of-way)		83	89	92	93	
Gravel (including right-of-way)		76	85	89	91	
Dirt (including right-of-way)		72	82	87	89	
Urban districts:						
Commercial and business	85	89	92	94	95	
Industrial	72	81	88	91	93	
Residential districts by average lot size:						
1/8 acre or less (town houses)	65	77	85	90	92	
1/4 acre	38	61	75	83	87	
1/3 acre	30	57	72	81	86	
1/2 acre	25	54	70	80	85	
1 acre	20	51	68	79	84	

DOWNSTREAM BASINS
PARKER ROAD



NO. 106-001	DESIGNED BY TNT	DATE 11/06	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET
TYPE PLANNING	PROJECT NO.	REF.		OF
10611-DS-BASIN-ENG	SCALE 1"=280'			

DOWNSTREAM CULVERTS
PARKER ROAD



(01-B) PROPOSED MANHOLE

(01-A) PROPOSED MANHOLE

(8) CURB INLET
RIM=527.04'
IE 18" PVC (NW)=520.94'
IE 18" PVC (SE)=520.69'

(9) STORM DRAINAGE MANHOLE
RIM=528.87'
IE 18" PVC (NW)=518.07'
IE 12" PVC (N)=520.07'
IE 14" PVC (SE)=520.37'
IE 24" PVC (SW)=517.82'

(14) IE 24" PVC (NE)=515.64'

NO. 106-001	DESIGNED BY TNT	DATE 11/06	sfa	SFA Design Group, LLC STRUCTURAL | CIVIL | LAND USE PLANNING 9020 SW Washington Square Dr. Suite 350 Portland, Oregon 97223 p: (503) 641-8311 f: (503) 643-7905 sfadesigngroup.com	SHEET
TYPE PLANNING	PROJECT NO.	REF.			OF
10611-DS-BASIN-ENG	SCALE 1"=70'				

IMPERVIOUS AREA CALCULATIONS
DOWNSTREAM ANALYSIS

JOB NUMBER: 106-011
PROJECT: Parker Road
FILE: 10611hydr-downstream.xls

BASIN A	**917789.00 ft²**	**21.07 ac**
Developed Impervious Area	**458894.50 ft²**	**10.53 ac**
Developed % Impervious		**50.0 %**
BASIN B	**1737702.00 ft²**	**39.89 ac**
Developed Impervious Area	**868851.00 ft²**	**19.95 ac**
Developed % Impervious		**50.0 %**
TOTAL BASINS	**2655491.00 ft²**	**60.96 ac**
Developed Impervious Area	**1327745.50 ft²**	**30.48 ac**
Developed % Impervious		**50.0 %**

DEVELOPED TIME OF CONCENTRATION
DOWN STREAM ANALYSIS

JOB NUMBER: 106-011
PROJECT: Parker Road
FILE: 10611hydr-downstream.xls

BASIN A

Catchment Time	10	min.
Longest Run of Pipe	1755	ft
Velocity of Flow	3	ft/s
Time in Pipe = (1755 ft)/(3.00 ft/s) =	585.00	s
TOTAL DEVELOPED Tc =	**19.75**	**min.**

BASINS A AND B

Catchment Time	10	min.
Longest Run of Pipe	2291	ft
Velocity of Flow	3	ft/s
Time in Pipe = (2291 ft)/(3.00 ft/s) =	763.67	s
TOTAL DEVELOPED Tc =	**22.73**	**min.**

SANTA BARBARA URBAN HYDROGRAPHS

DOWN STREAM ANALYSIS

JOB: 106-011
PROJECT: Parker Road
FILE: 10611hydr-downstream.xls

DESCRIPTION	DESIGN STORM (YR)	DURATION (HR)	PRECIP (IN)	AREA TOTAL (AC)	% IMP	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)
BASIN A											
DEVELOPED 25-YEAR PEAK DISCHARGE	25	24	3.9	21.07	50	10.53	75.86	10.53	98	19.75	11.42
BASINS A & B											
DEVELOPED 25-YEAR PEAK DISCHARGE	25	24	3.9	60.96	50	30.48	73.85	30.48	98	22.73	30.38

STORMWATER CONVEYANCE CALCULATIONS

DOWN STREAM ANALYSIS

JOB: 106-011
PROJECT: Parker Road
FILE: 10611hydr-downstream.xls

Design Storm: 25 YR
Storm Duration: 24 HRS
Precipitation: 3.9 IN
Manning's "n" 0.013

LINE	INC. AREA (AC)	AREA TOTAL (AC)	% IMP.	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)	PIPE SIZE (IN)	SLOPE (FT/FT)	Qf (CFS)	Q/Qf (%)	Vf (FPS)	V/Vf (%)	ACTUAL V (FPS)
BASIN A TO PROPOSED STORM LINES (STM-01) ON PARKER ROAD (CONNECTS AT EXISTING MH#8)	0.00	21.07	50.00	10.53	75.86	10.53	98	19.75	11.42	18	**0.0117**	11.39	1.00	6.45	1.20	7.75
EXISTING MH#8 TO EXISTING MH#9	0.00	21.07	50.00	10.53	75.86	10.53	98	19.75	11.42	18	* **0.0296**	18.12	0.63	10.25	0.83	8.51
BASINS A & B TO EXISTING MH#14	0.00	60.96	50.00	30.48	73.85	30.48	98	22.73	30.38	24	* **0.0330**	41.21	0.74	13.12	0.94	12.29

* Denotes Existing Slope

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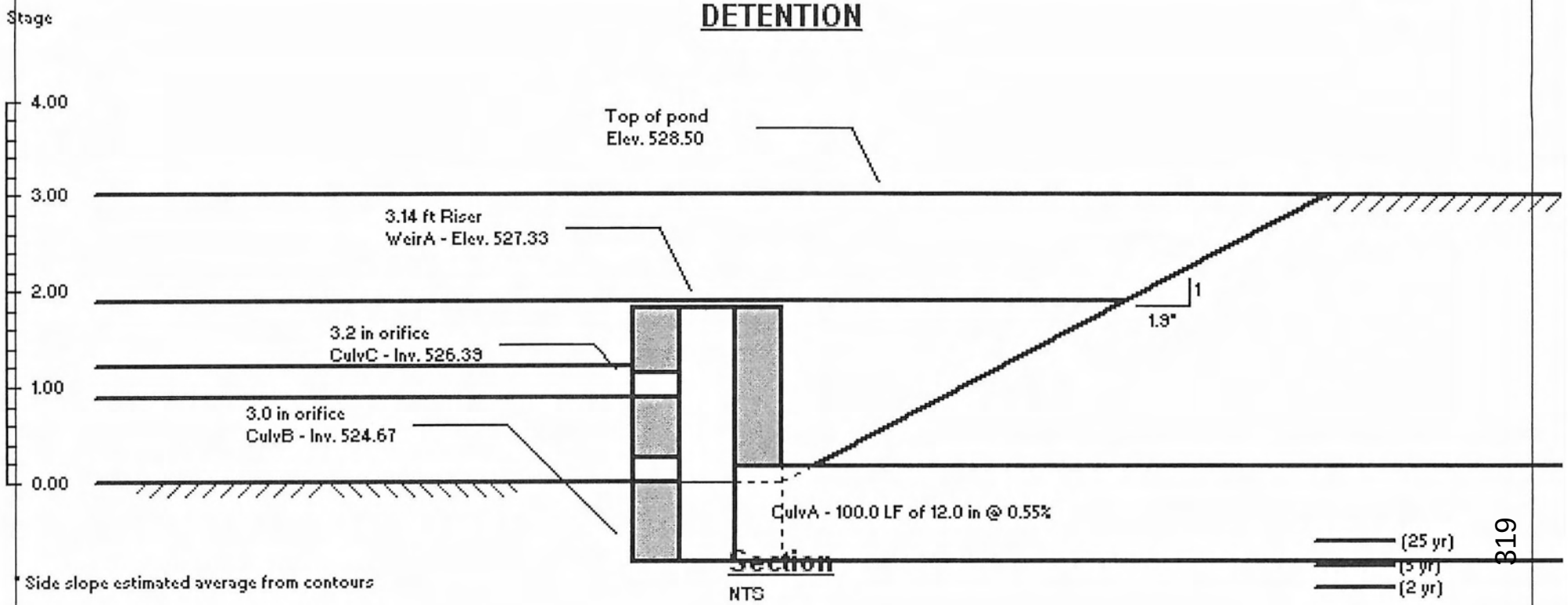
DETENTION ANALYSIS SECTION

PARKER ROAD SUBDIVISION
Job No. 106-011

DETENTION



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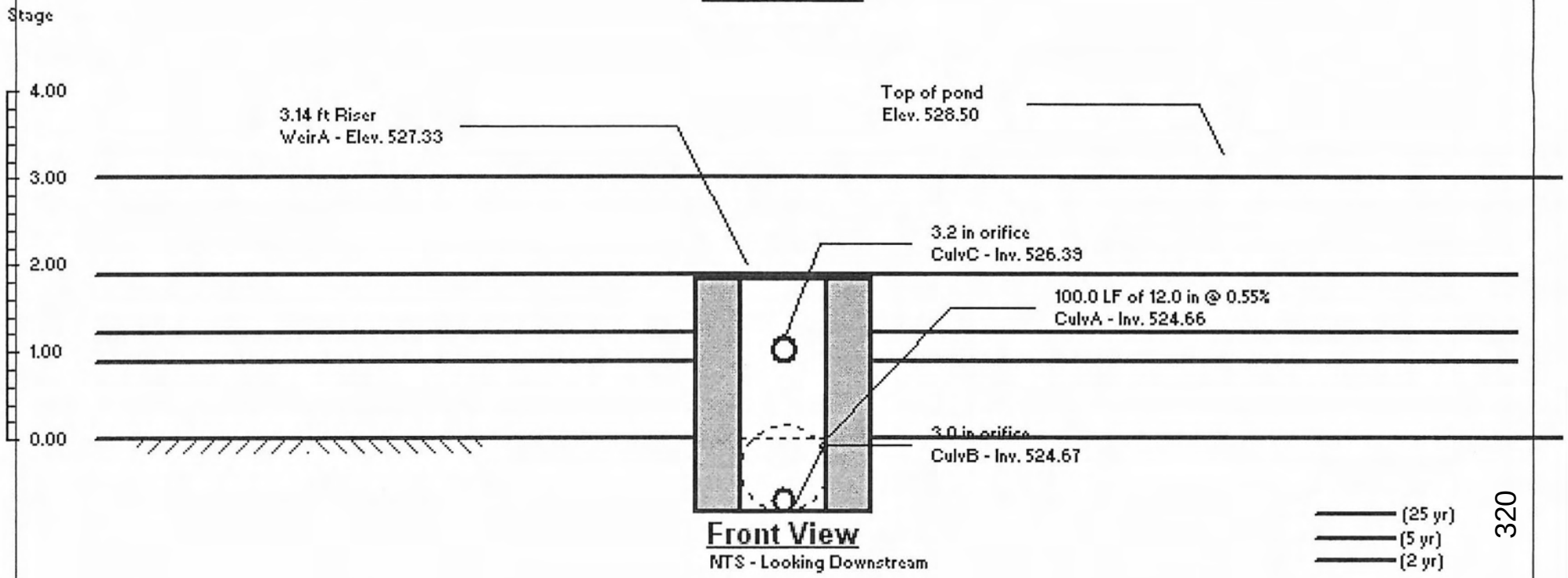
Schematic only. Not for construction.

Hydraflow Hydrographs Pond Draw	Project: 10611_storm report 08-03-07.gpw	Wednesday, Aug 15 2007, 9:23 AM

DETENTION



Front View

NTS - Looking Downstream

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Schematic only. Not for construction.

Table of Contents

Hydrograph Return Period Recap

Hyd.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	-------	0.21	-------	0.36	0.53	0.71	-------	0.89	Predeveloped
2	SCS Runoff	-------	-------	0.47	-------	0.66	0.86	1.05	-------	1.26	Developed
3	Reservoir	2	-------	0.21	-------	0.36	0.00	0.71	-------	0.00	Detention

Hydrograph Summary Report

Hyd.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	0.21	3	486	4,715	----	------	------	Predeveloped
2	SCS Runoff	0.47	3	477	7,229	----	------	------	Developed
3	Reservoir	0.21	3	507	7,229	2	526.38	701	Detention

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

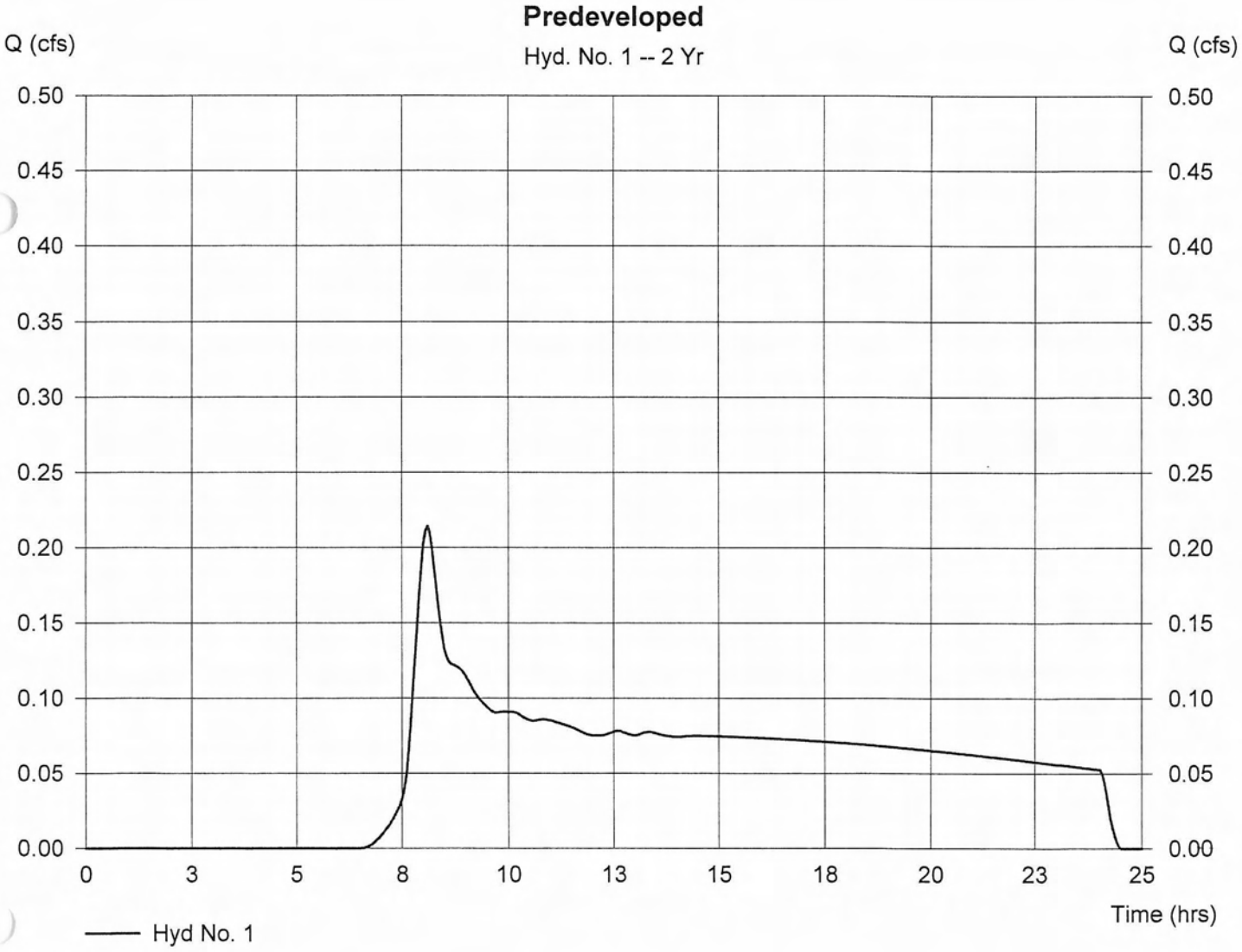
Wednesday, Aug 15 2007, 9:22 AM

Hyd. No. 1

Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 0.21 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Drainage area	= 1.740 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.00 min
Total precip.	= 2.40 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 4,715 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

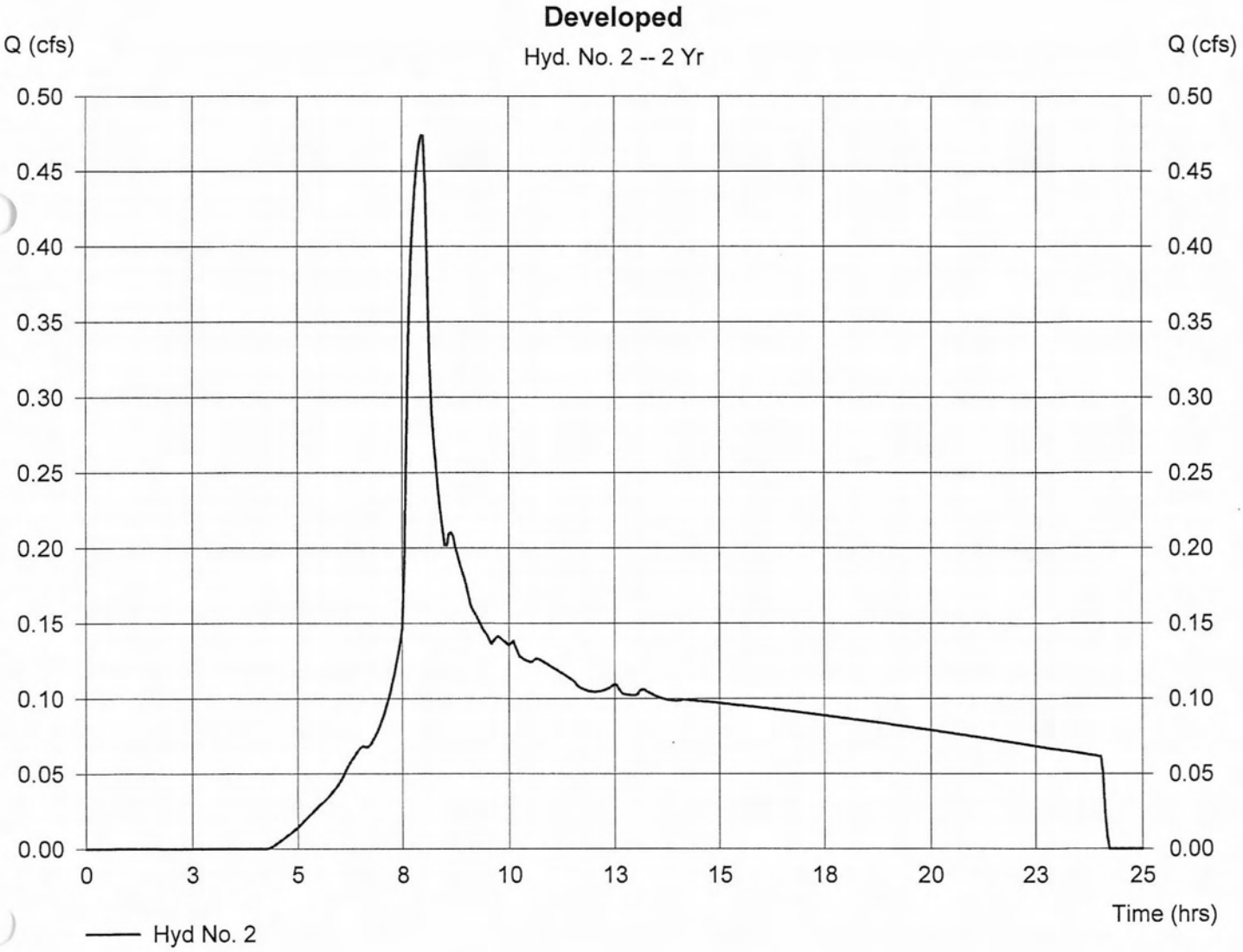
Wednesday, Aug 15 2007, 9:22 AM

Hyd. No. 2

Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 0.47 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Drainage area	= 1.730 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.40 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 7,229 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, Aug 15 2007, 9:22 AM

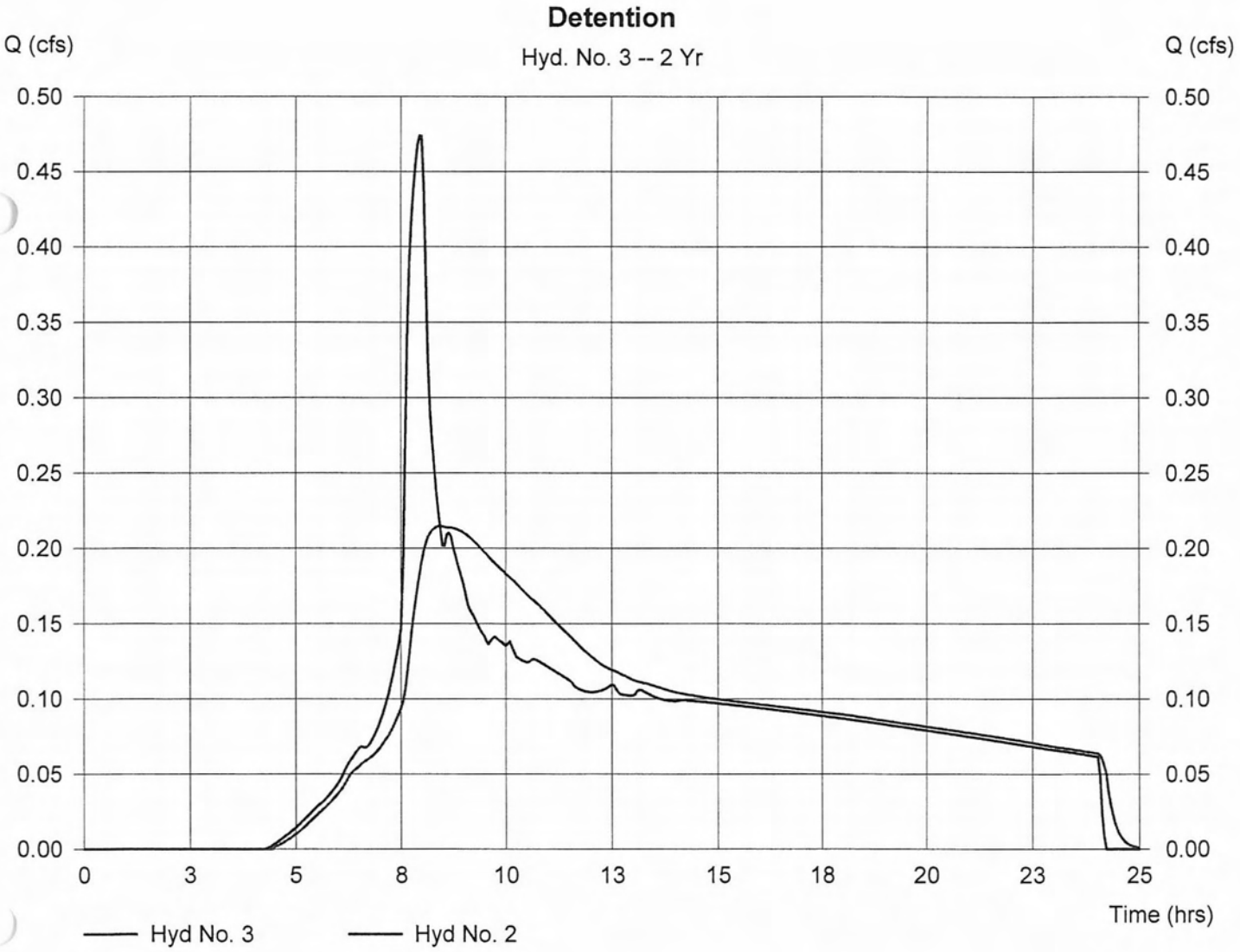
Hyd. No. 3

Detention

Hydrograph type	= Reservoir	Peak discharge	= 0.21 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 526.38 ft
Reservoir name	= DETENTION	Max. Storage	= 701 cuft

Storage Indication method used.

Hydrograph Volume = 7,229 cuft



Pond Report

Pond No. 1 - DETENTION

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	525.50	635	0	0
0.50	526.00	807	361	361
1.50	527.00	980	894	1,254
2.00	527.50	1,060	510	1,764
3.00	528.50	1,322	1,191	2,955

Culvert / Orifice Structures

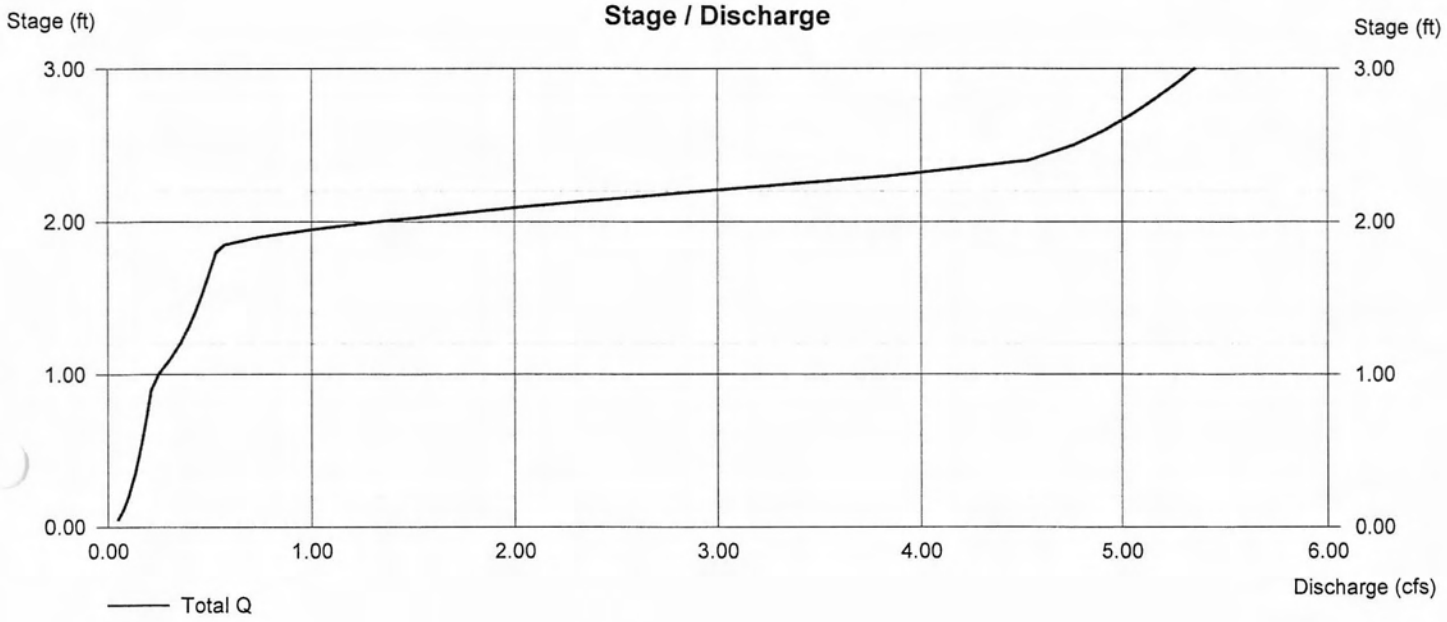
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	2.95	3.15	0.00
Span (in)	= 12.00	2.95	3.15	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 524.66	524.67	526.39	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 0.55	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.14	0.00	0.00	0.00
Crest El. (ft)	= 527.33	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Summary Report

Hyd.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	0.36	3	483	6,893	----	------	------	Predeveloped
2	SCS Runoff	0.66	3	477	9,727	----	------	------	Developed
3	Reservoir	0.36	3	495	9,726	2	526.71	996	Detention

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

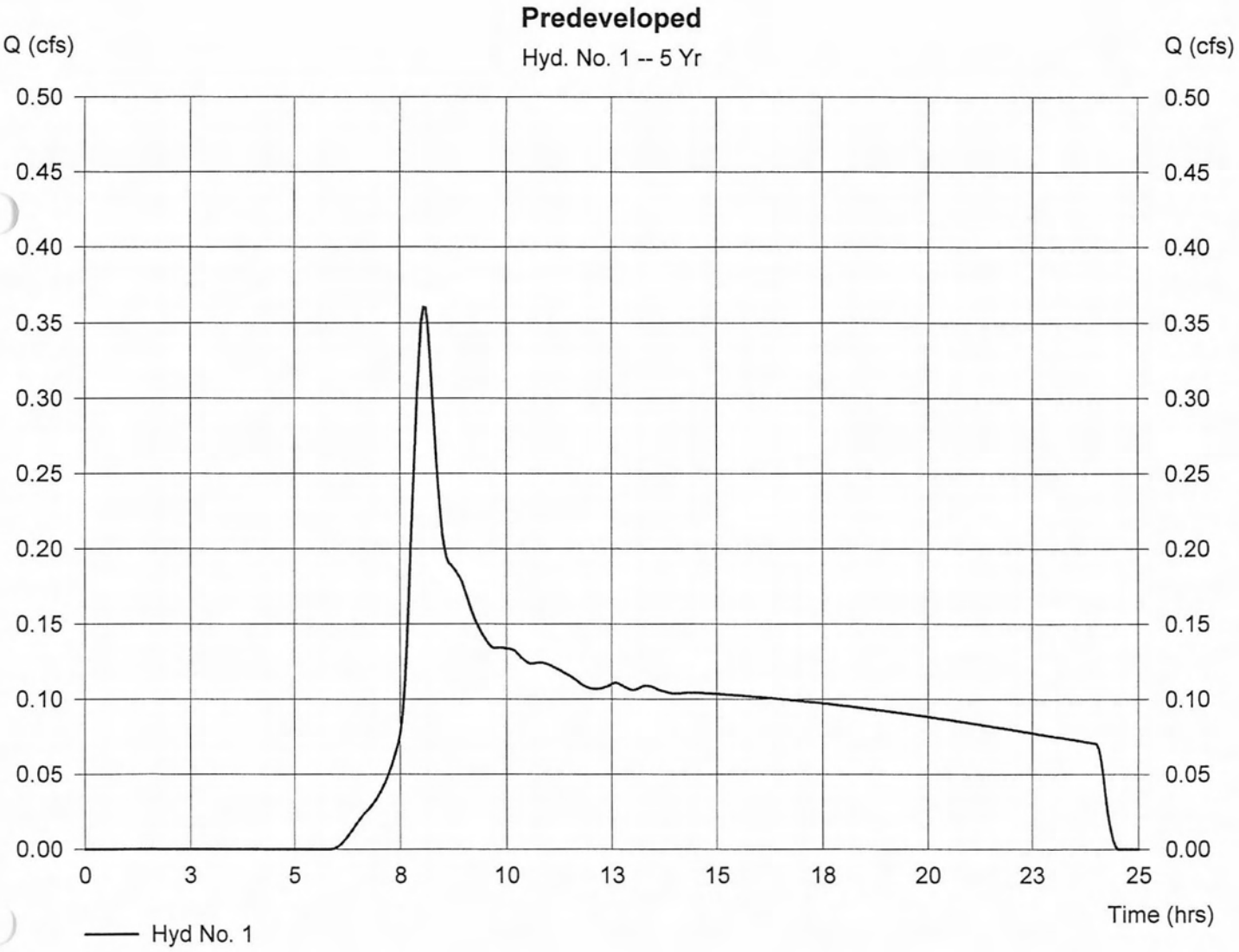
Wednesday, Aug 15 2007, 9:22 AM

Hyd. No. 1

Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 0.36 cfs
Storm frequency	= 5 yrs	Time interval	= 3 min
Drainage area	= 1.740 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.00 min
Total precip.	= 2.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 6,893 cuft



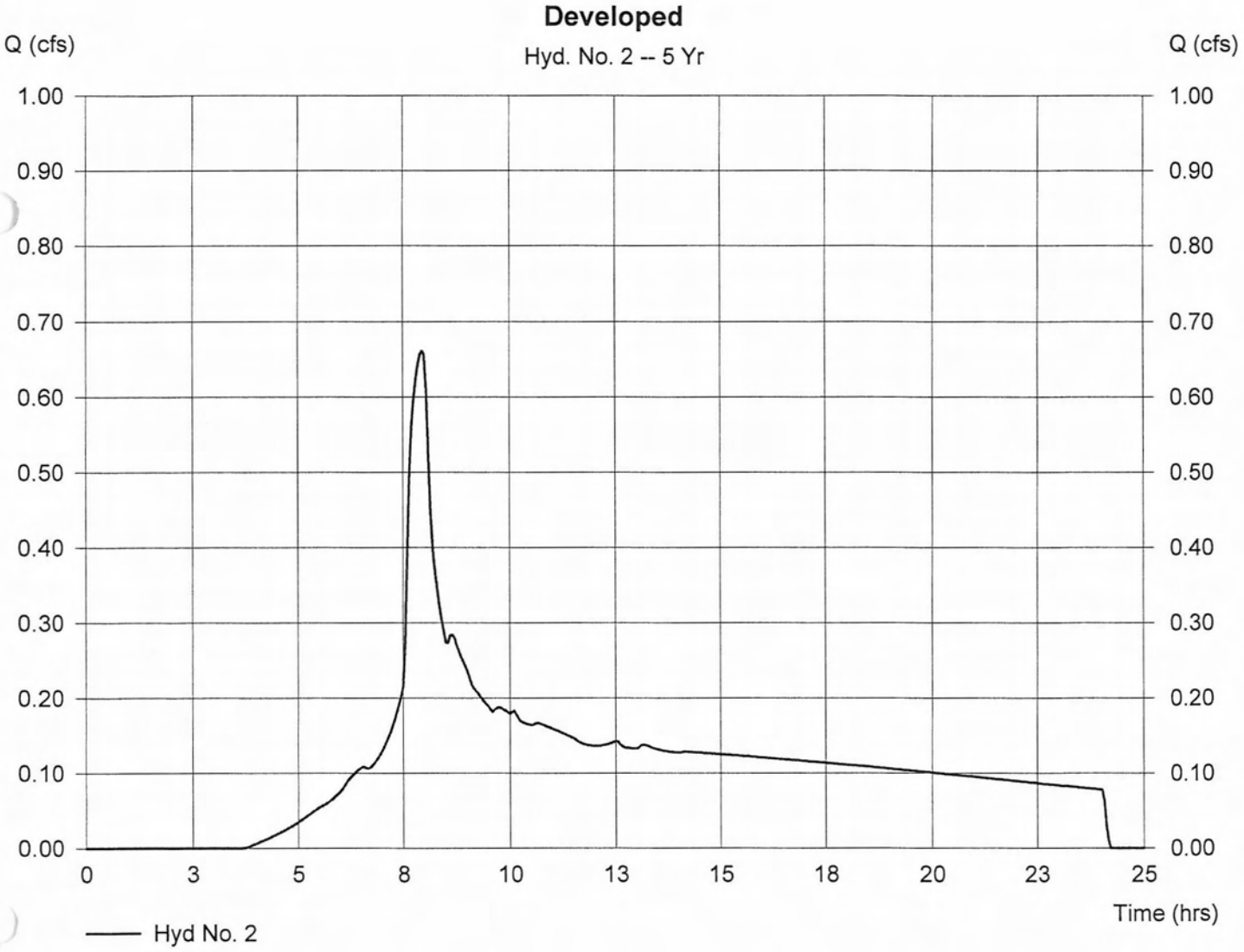
Hydrograph Plot

Hyd. No. 2

Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 0.66 cfs
Storm frequency	= 5 yrs	Time interval	= 3 min
Drainage area	= 1.730 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 9,727 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, Aug 15 2007, 9:22 AM

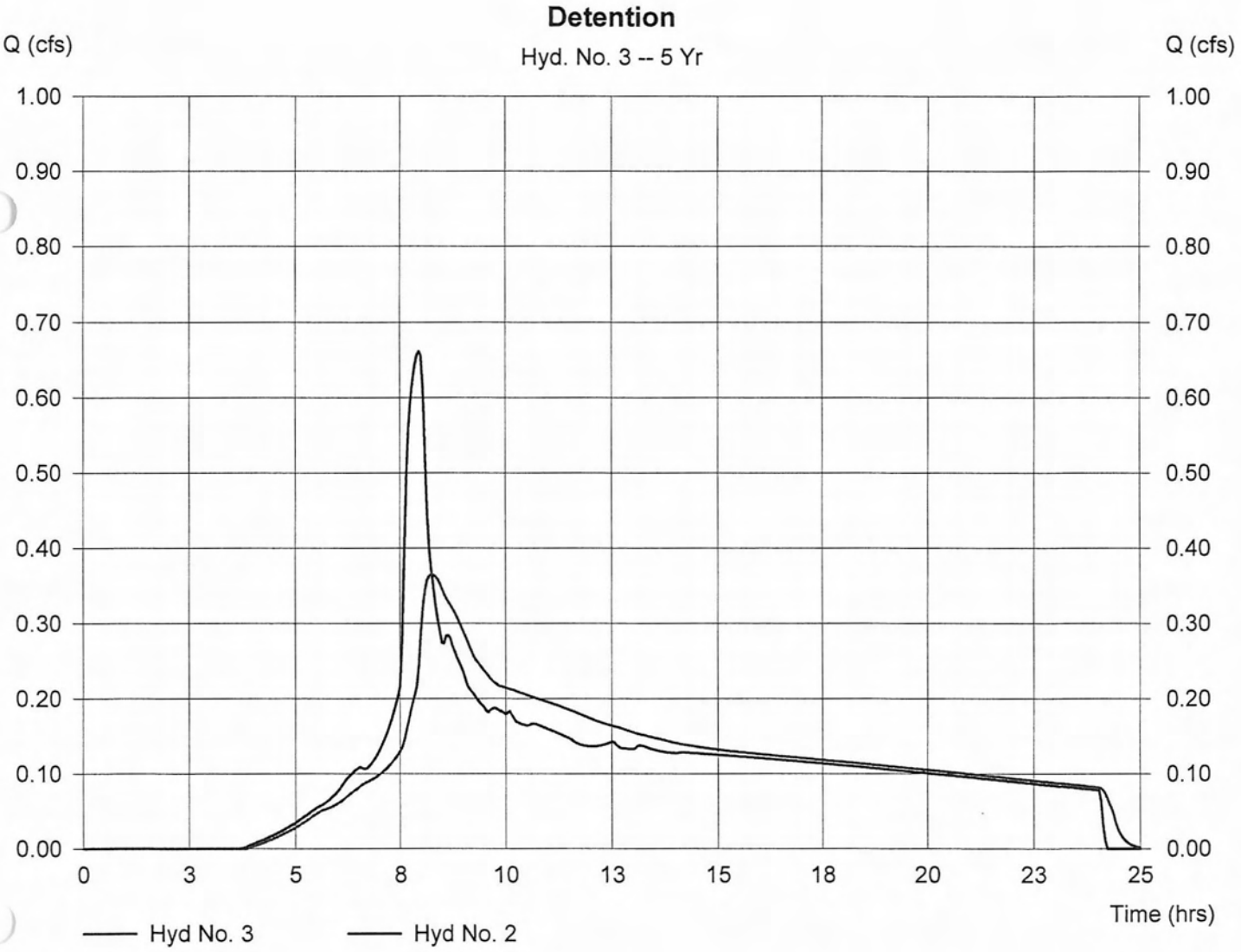
Hyd. No. 3

Detention

Hydrograph type	= Reservoir	Peak discharge	= 0.36 cfs
Storm frequency	= 5 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 526.71 ft
Reservoir name	= DETENTION	Max. Storage	= 996 cuft

Storage Indication method used.

Hydrograph Volume = 9,726 cuft



Pond Report

Hydraflow Hydrographs by Intelisolve — Wednesday, Aug 15 2007, 9:22 AM

Pond No. 1 - DETENTION

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	525.50	635	0	0
0.50	526.00	807	361	361
1.50	527.00	980	894	1,254
2.00	527.50	1,060	510	1,764
3.00	528.50	1,322	1,191	2,955

Culvert / Orifice Structures

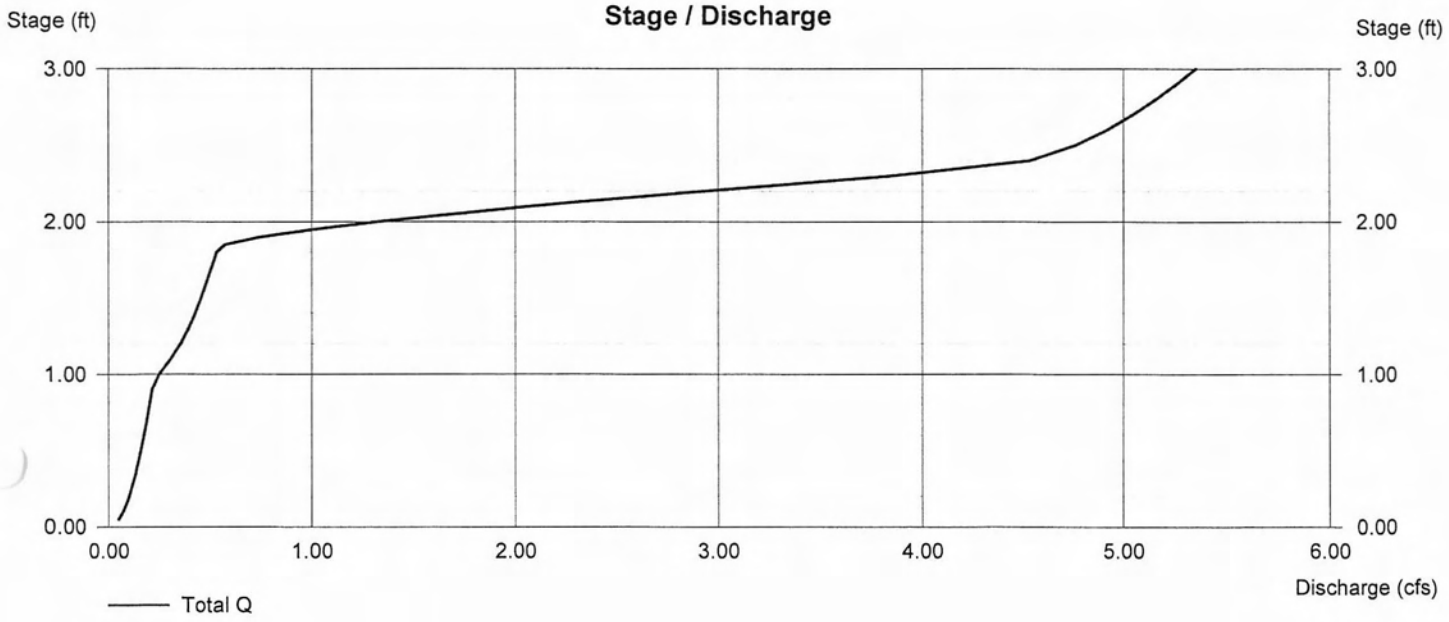
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	2.95	3.15	0.00
Span (in)	= 12.00	2.95	3.15	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 524.66	524.67	526.39	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 0.55	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.14	0.00	0.00	0.00
Crest El. (ft)	= 527.33	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Summary Report

Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1 SCS Runoff	0.71	3	483	11,774	----	------	------	Predeveloped
2 SCS Runoff	1.05	3	477	14,984	----	------	------	Developed
3 Reservoir	0.71	3	489	14,983	2	527.39	1,649	Detention

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

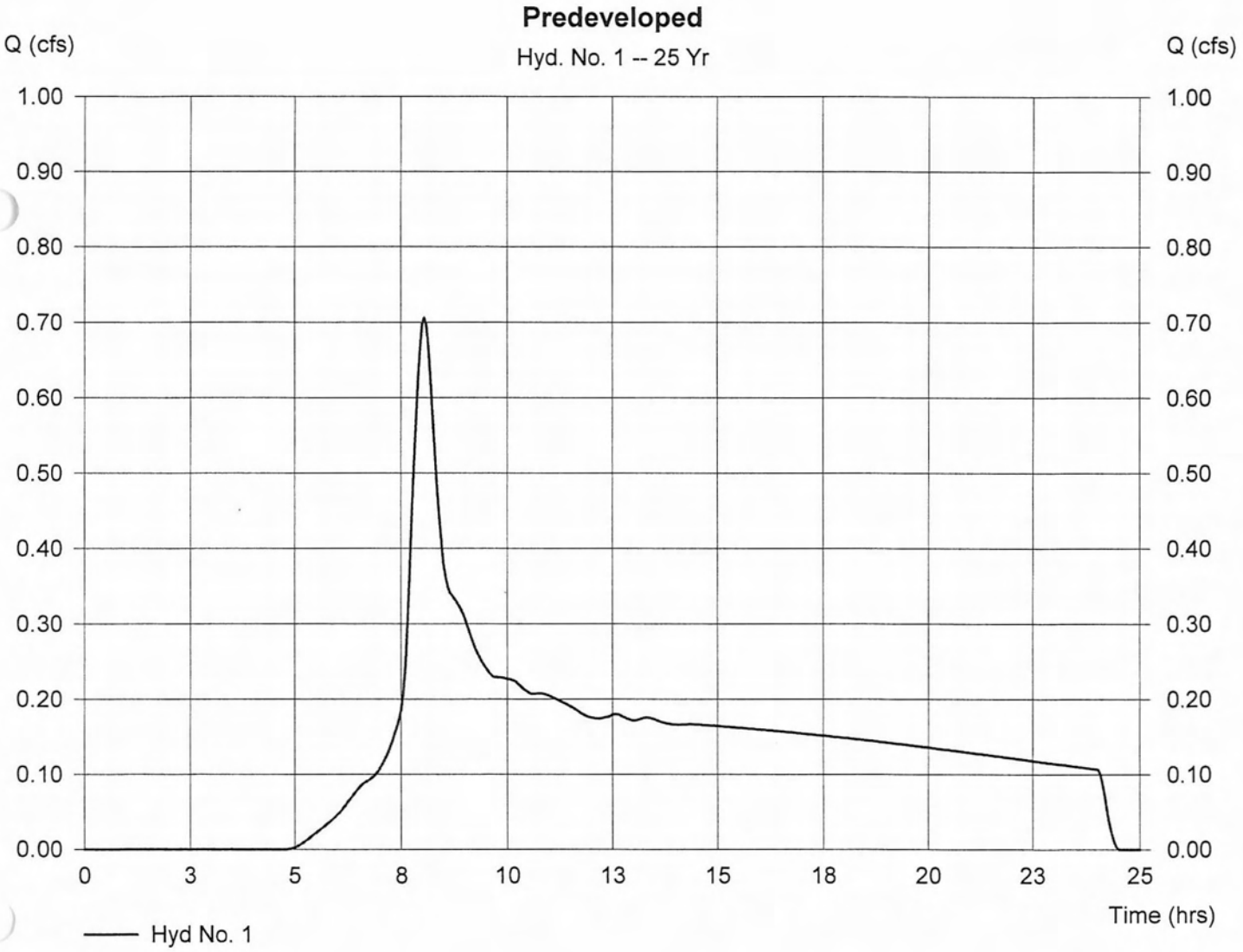
Wednesday, Aug 15 2007, 9:22 AM

Hyd. No. 1

Predeveloped

Hydrograph type	= SCS Runoff	Peak discharge	= 0.71 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Drainage area	= 1.740 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.00 min
Total precip.	= 3.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 11,774 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

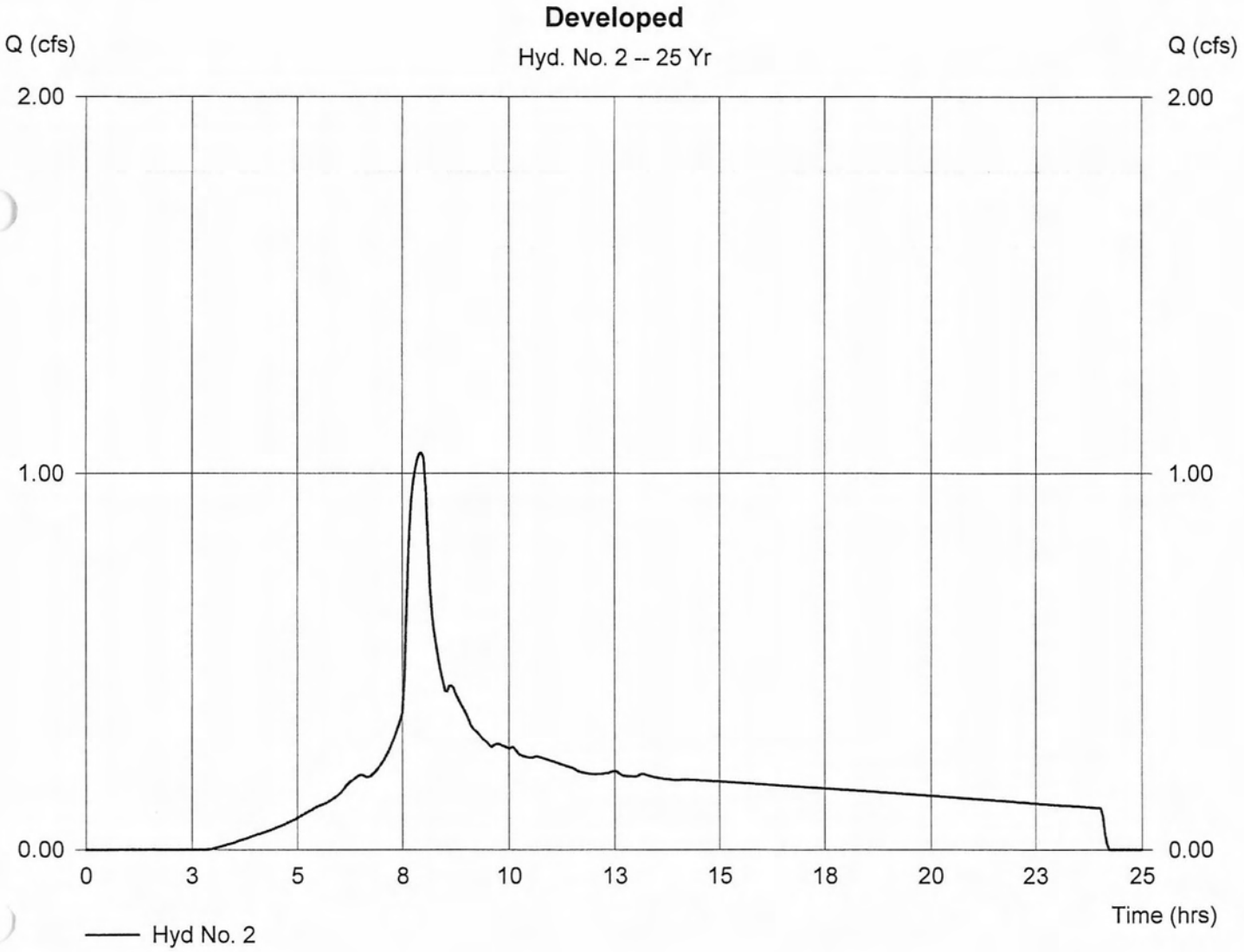
Wednesday, Aug 15 2007, 9:22 AM

Hyd. No. 2

Developed

Hydrograph type	= SCS Runoff	Peak discharge	= 1.05 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Drainage area	= 1.730 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 14,984 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, Aug 15 2007, 9:22 AM

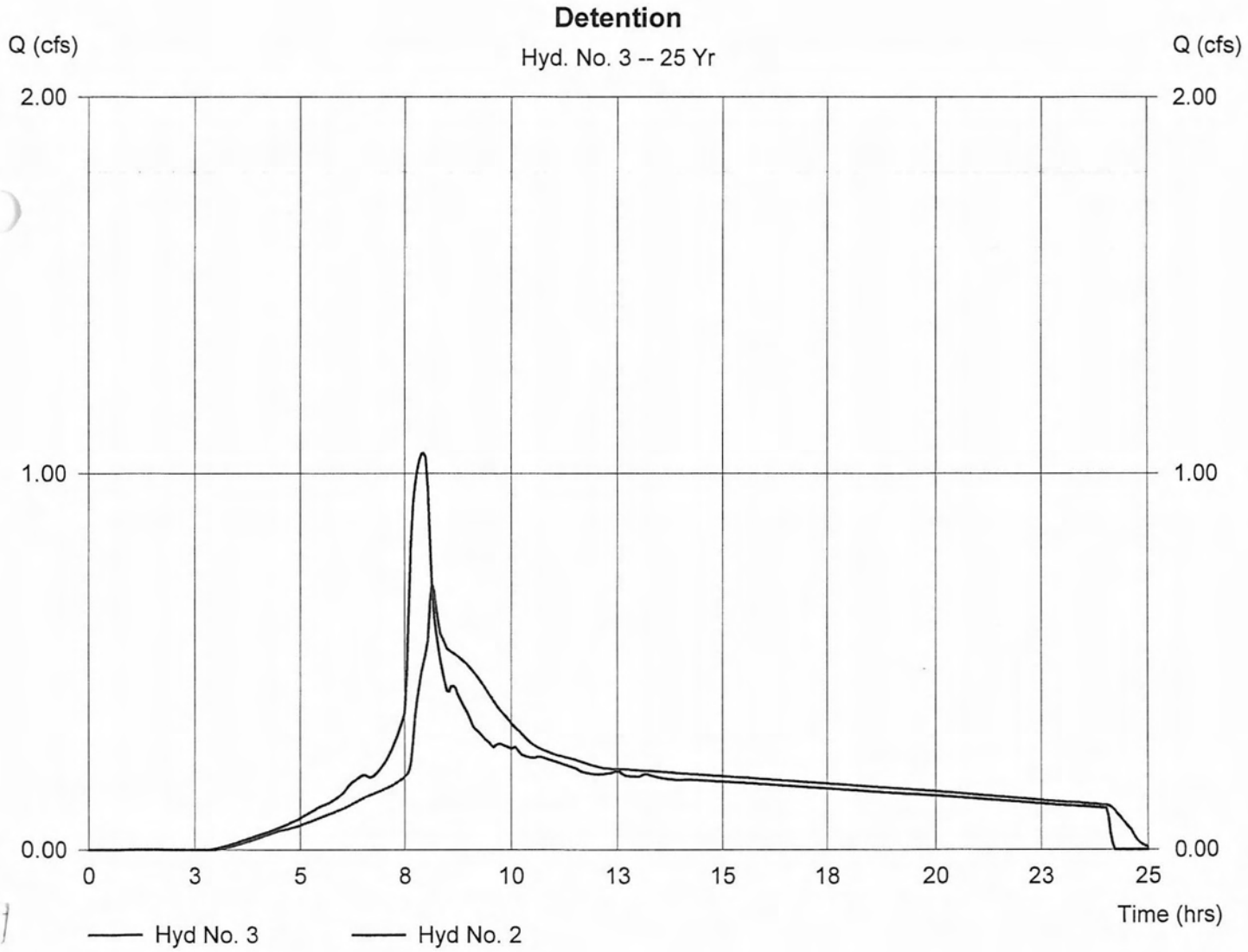
Hyd. No. 3

Detention

Hydrograph type	= Reservoir	Peak discharge	= 0.71 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 527.39 ft
Reservoir name	= DETENTION	Max. Storage	= 1,649 cuft

Storage Indication method used.

Hydrograph Volume = 14,983 cuft



Pond Report

Hydraflow Hydrographs by Intelisolve — Wednesday, Aug 15 2007, 9:22 AM

Pond No. 1 - DETENTION

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	525.50	635	0	0
0.50	526.00	807	361	361
1.50	527.00	980	894	1,254
2.00	527.50	1,060	510	1,764
3.00	528.50	1,322	1,191	2,955

Culvert / Orifice Structures

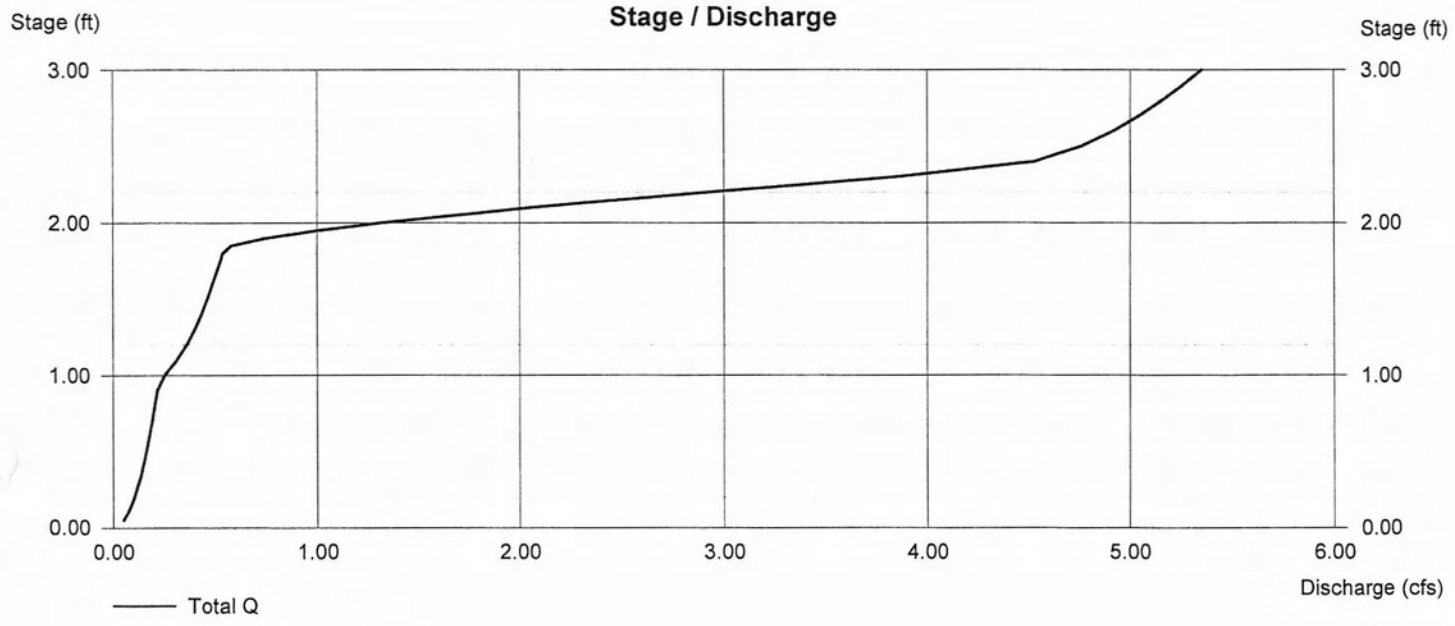
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	2.95	3.15	0.00
Span (in)	= 12.00	2.95	3.15	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 524.66	524.67	526.39	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 0.55	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.14	0.00	0.00	0.00
Crest El. (ft)	= 527.33	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



SFA Design Group, LLC
STRUCTURAL | CIVIL | LAND USE PLANNING | SURVEYING

June 25, 2010

Tom Soppe, Associate Planner
City of West Linn
22500 Salamo Road
West Linn, OR, 97068

RE: Response to Incomplete Application – Parker Road Extension MI-10-12

Dear Tom:

We are re-submitting with the items you listed, which are necessary to complete our application for the Parker Road Extension request. The following items are included:

1. CD, with application documents;
2. Email to Sunset NH, and waiver request to mailed notice;
3. Photo of Posted NH Meeting notice;
4. Replacement Plan Sheets, with corrected Developer Information.
    a. Tentative Plat;
    b. Construction Plans, Cover Sheet
        i. Engineering Department Plat Punch List

If you have any questions, or need additional information, please give me a call, or just respond by email.

Sincerely,
SFA Design Group

Ben Altman
Senior Planner/Project Manager
503-641-8311
baltman@sfadg.com

Parker Rd. Subdivision
Engineer's Punch-list

Inspector: Joe Ficek; SFA Design Group
Date of Inspection: November 8, 2007

The following items were recorded during a walk-through inspection:

1) Install chain-link fence at WQ facility; including access gate.
2) Landscape WQ facility.
3) Install fence between Swale and sidewalk; including 2 access gates.
4) Landscape swale.
5) Clean debris from Flow Control manhole inside WQ facility.
6) Cut concrete form ties from retaining wall inside WQ facility.
7) Clean garbage from WQ facility.
8) Clean rip-rap storm laterals.
9) Install signage and striping.
10) Clean sand from Chinook Ct.
11) Fill/grade depression at top pedestrian pathway; right hand side as you enter first bridge.
12) Place erosion control straw over lot #1; include any other exposed areas onsite.
13) Install sidewalk barricade at west end of sidewalk along Parker Rd.
14) Place bollards at entrance to pedestrian pathway; requested by city.


NEIGHBORHOOD MEETING NOTICE
340

Ben Altman

From: Ben Altman [baltman@sfadg.com]
Sent: Friday, June 25, 2010 9:12 AM
To: 'Soppe, Tom'
Subject: FW: Notice of Neighborhood Meeting - Development Review

Tom:

Here is the email correspondence with the Sunset Neighborhood Association regarding Parker Road.

I am requesting a waiver of the mailed notice, because I was unable to get a mailing address, so I sent this email.

Thanks,
Ben Altman

SFA Design Group, LLC
STRUCTURAL I CIVIL I LAND USE PLANNING I SURVEYING
9020 SW Washington Square Dr., Ste. 350
Portland, OR 97223
P (503) 641-8311
F (503) 643-7905
www.sfadesigngroup.com

From: Troy Bowers [mailto:bowerst@msa-ep.com]
Sent: Friday, May 07, 2010 3:21 PM
To: Ben Altman
Cc: johns@jsremodel.com; 'Douglas Vokes'
Subject: RE: Notice of Neighborhood Meeting - Development Review

Thank you for the notice. After reviewing this with the other NA officers, we do not think we need to participate as this is outside of our NA boundary. We do appreciate the opportunity to be advised though as it is adjacent to our neighborhood. Thank you for working with the City and the other neighborhood as you go through the City process. Best of luck.

Troy

Troy L. Bowers, P.E. ▪ Senior Vice President
Murray, Smith & Associates, Inc. ▪ www.msa-ep.com
121 SW Salmon, Suite 900 ▪ Portland, Oregon 97204-2919
Tel: 503.225.9010 ▪ Cell: 503.703.7303 ▪ Fax: 503.225.9022 ▪ tlb@msa-ep.com

2010 ▪ CELEBRATING 30 YEARS SERVING THE PACIFIC NORTHWEST

From: Ben Altman [mailto:baltman@sfadg.com]
Sent: Monday, May 03, 2010 2:11 PM
To: Troy Bowers
Subject: Notice of Neighborhood Meeting - Development Review

Troy:

I am sending you this information by email, because I did not have your mailing address, and the City did not respond to my request for the information. I have attached a notice of a pending neighborhood meeting for review of an Extension for a prior approved 6-Lot subdivision.

The development site is not within the Sunset Neighborhood, but is within the distance which requires notice to adjacent Associations. You will note that the site improvements have mostly been constructed. However, the prior developer was unable to complete the work, prior to the expiration of the 2006 approval. Your client is now requesting an extension of the prior approval, to allow the construction to be completed and the Plat recorded.

Thanks,
Ben Altman

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Troy L. Bowers, P.E. ▪ Senior Vice President
Murray, Smith & Associates, Inc. ▪ www.msa-ep.com
121 SW Salmon, Suite 900 ▪ Portland, Oregon 97204-2919
Tel: 503.225.9010 ▪ Cell: 503.703.7303 ▪ Fax: 503.225.9022 ▪ tlb@msa-ep.com

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Thanks,
Ben Altman

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Soppe, Tom

From: Ben Altman [baltman@sfadg.com]
Sent: Friday, June 04, 2010 8:11 AM
To: Soppe, Tom
Subject: NH Association Minutes - Parker Road Review
Attachments: Parker Crest Neighborhood Association Meeting Minutes May 2010.doc

Tom:

Bill Relyea just sent me the Association Meeting Minutes for our May 26th NH Meeting for Parker Road, see attached.

Thanks,
Ben Altman

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Portland, OR 97223
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City of West Linn

Parker Crest Neighborhood Association
Monthly Meeting
Wednesday May 26, 2010 at 7:00 PM
Meeting Location: City of West Linn, City Hall

Meeting Minutes

Parties In Attendance

1. William Relyea
2. Alice Richmond
3. Scott Supperstein
4. Ben Altman
5. Dinesh Jaim
6. Mel Lee

7:00 – **Meeting Opens – Call to Order**
PCNA President, William Relyea called the meeting to order and welcomed the parties. A round of introductions was conducted.

7:05 – **General Discussion**
A general discussion ensued about the CDC and the need to have a Neighborhood Meeting when the application has already been approved and an extension is under consideration. The consensus of the group was that if an inspection of the property, adherence to the previous applications and permits and provided that such application does not indicate a change in the zoning, the extension should proceed as a staff based decision. This would require a change in the CDC.

7:15 – 7:35 – **Presentation**
Bill Relyea introduced Ben Altman of **SFA Design Group, LLC** representing the developer of property (Mel Lee). The property is located at 2929 S. Parker Road.

Mr. Altman summarized the pending application. A land use application for an Extension of Prior Approval for development of the2.28 acre property for a 6-Lot Subdivision is underway. The land is zoned R-10 Residential (10,000 square foot lots).

Mr. Altman emphasized that this was an unusual application for Extension of the Preliminary Plat approval, in that the majority of the site development improvements have already been constructed, referring to the plans. He noted that the prior developer had run into financial problems and could not complete the work. Subsequently, Mr. Lee acquired the property from the bank, and is now requesting the extension so that the work can be completed and the Plat recorded. He then asked if there were any questions about the development.

7:35 - 7: 45 General Discussion
Mr. Jaim noted that he was new to the community and was just interested in what was happening.

Mr. Supperstein noted he lived next to the development and was interested in what type of homes were going to be built, and when to expect construction.

Mr. Lee noted he was a local builder, out of Oregon City, and that he had one likely pre-sold, and may build one on speculation, but was not sure yet. He intends to build as soon as possible, pending all the City approvals, completing the final construction punch list and recording the plat. If possible he would like to be under construction this summer to fall. He noted that homes would be good quality, better than those built across the street to the south.

Alice Richmond stated she didn't understand why the applicant was required to conduct a neighborhood meeting for just for an extension. She also noted she was concerned about the spacing on the side rails on the pedestrian bridge, to make sure they were safe. Mr. Altman noted that the bridge was built to the standards approved by the City. He also noted that there was some decking repair needed, as listed on the City's punch list.

Mr. Relyea asked if the development would have access to the Renaissance HOA amenities from the project to the north as originally platted. Mr. Altman said he could check. Mr. Lee concurred that it would be a benefit to the property.

Mr. Altman asked if there were any more questions. No other questions were presented.

8:00 - Resolution

Mr. Relyea moved for a recommendation of approval to the Application for extension. Motion was made and seconded, the motion passed unanimously (4 votes aye and 0 votes nay).

8:05 - Closing Remarks and Adjournment

Soppe, Tom

From: Soppe, Tom
Sent: Friday, June 04, 2010 8:15 AM
To: 'Ben Altman'
Subject: RE: NH Association Minutes - Parker Road Review

Thanks Ben.

Tom Soppe
Associate Planner
City of West Linn
22500 Salamo Road
West Linn, OR 97068
ph. (503) 742-8660
fax (503) 656-4106
tsoppe@westlinnoregon.gov

From: Ben Altman [mailto:baltman@sfadg.com]
Sent: Friday, June 04, 2010 8:11 AM
To: Soppe, Tom
Subject: NH Association Minutes - Parker Road Review

Tom:

Bill Relyea just sent me the Association Meeting Minutes for our May 26th NH Meeting for Parker Road, see attached.

Thanks,
Ben Altman

SFA Design Group, LLC
STRUCTURAL I CIVIL I LAND USE PLANNING I SURVEYING
9020 SW Washington Square Dr., Ste. 350
Portland, OR 97223
P (503) 641-8311
F (503) 643-7905
www.sfadesigngroup.com

Soppe, Tom

From: Ben Altman [baltman@sfadg.com]
Sent: Friday, June 04, 2010 7:59 AM
To: Soppe, Tom
Cc: 'Brent Fitch'
Subject: RE: Parker Road Extension Application

Thanks, Tom. I will wait for your "completeness review"...

Ben Altman
SFA Design Group, LLC
STRUCTURAL I CIVIL I LAND USE PLANNING I SURVEYING
9020 SW Washington Square Dr., Ste. 350
Portland, OR 97223
P (503) 641-8311
F (503) 643-7905
www.sfadesigngroup.com

From: Soppe, Tom [mailto:tsoppe@westlinnoregon.gov]
Sent: Thursday, June 03, 2010 4:27 PM
To: 'Ben Altman'
Subject: RE: Parker Road Extension Application

You have to submit by the end of June but you don't have to be complete by then. You get the 30 day completeness review and the 180 days to get complete like any other application.

Tom Soppe
Associate Planner
City of West Linn
22500 Salamo Road
West Linn, OR 97068
ph. (503) 742-8660
fax (503) 656-4106
tsoppe@westlinnoregon.gov

Tom Soppe
tsoppe@westlinnoregon.gov
Associate Planner
22500 Salamo Rd
West Linn, OR, 97068
P: (503) 742-8660
F: (503) 656-4106
Web: westlinnoregon.gov

From: Ben Altman [mailto:baltman@sfadg.com]
Sent: Thursday, June 03, 2010 4:15 PM
To: Soppe, Tom
Subject: Parker Road Extension Application

Tom:

Soppe, Tom

From: Soppe, Tom
Sent: Friday, June 04, 2010 8:08 AM
To: Kerr, Chris
Subject: RE: Parker Crest NA Meeting May 2010

Yes, thanks

Tom Soppe
Associate Planner
City of West Linn
22500 Salamo Road
West Linn, OR 97068
ph. (503) 742-8660
fax (503) 656-4106
tsoppe@westlinnoregon.gov

From: Kerr, Chris
Sent: Friday, June 04, 2010 7:46 AM
To: Soppe, Tom
Subject: FW: Parker Crest NA Meeting May 2010

Is this yours ?

Chris Kerr, Senior Planner
Planning and Building, #1538

From: William S. Relyea [mailto:wrelyea@comcast.net]
Sent: Thursday, June 03, 2010 8:53 PM
To: Kerr, Chris; Zak, Teresa; Saladino, Bridget; 'Wyatt, Kirsten'
Cc: baltman@sfadg.com
Subject: Parker Crest NA Meeting May 2010

Greetings,

Attached, please find meeting minutes, agenda, sign in sheet and notes from Mr. Altman of the SFA Design Group. This is related to the May 26, 2010 meeting of the PCNA and the applicants extension request of the plat at 2929 Parker Road.

Please let me know if I can provide any additional information.

Best regards,
Bill Relyea, President
Parker Crest Neighborhood Association

June 1, 2010

NEIGHBORHOOD REVIEW MEETING – NOTES for May 26, 2010
PARKER CREST NEIGHBORHOOD ASSOCIATION
REVIEW OF PROPOSED DEVELOPMENT: Extension of Approved 6-Lot Subdivision

Wednesday, May 26, 2010, beginning at 7:00 pm
West Linn City Hall
22500 Salamo Road
West Linn, OR 97068

Bill Relyea, Association President introduced himself, and asked for self introductions. There were 4 citizens, and the Applicant and his representative present.

Bill Relyea introduced Ben Altman of **SFA Design Group, LLC** representing the developer of property (Mel Lee). The property is located at 2929 S. Parker Road.

Mr. Altman summarized the pending application. We are preparing a land use application for an Extension of Prior Approval for development of the2.28 acre property for a 6-Lot Subdivision. The land is zoned R-10 Residential (10,000 square foot lots).

Mr. Altman emphasized that this was an unusual application for Extension of the Preliminary Plat approval, in that the majority of the site development improvements have already been constructed, referring to the plans. He noted that the prior developer had run into financial problems and could not complete the work. Subsequently, Mr. Lee acquired the property from the bank, and is now requesting the extension so that the work can be completed and the Plat recorded. He then asked if there were any questions about the development.

Mr. Jain (sp?) noted that he was new to the community and was just interested in what was happening.

Mr. Supperstein noted he lived next to the development and was interested in what type of homes were going to be built, and when to expect construction.

Mr. Lee noted he was a local builder, out of Oregon City, and that he had one likely pre-sold, and may build one on speculation, but was not sure yet. He intends to build as soon as possible, pending all the City approvals, completing the final construction punch list and recording the plat. If possible he would like to be under construction this summer to fall. He noted that homes would be good quality, better than those built across the street to the south.

Alice Richmond stated she didn't understand why the applicant was required to conduct a neighborhood meeting for just for an extension. She also noted she was concerned about the spacing on the side rails on the pedestrian bridge, to make sure they were safe. Mr. Altman noted that the bridge was built to the standards approved by the City. He also noted that there was some decking repair needed, as listed on the City's punch list.

Mr. Relyea asked if the development would have access to the Renaissance HOA and amenities for the project to the north. Mr. Altman said he did not anticipate Renaissance approving it, but Mr. Lee could certainly check with them.

Mr. Altman asked if there were any more questions. Hearing none, Mr. Relyea moved for a recommendation of approval, which passed 4-0.

Prepared by:

Ben Altman

SFA Design Group
Senior Planner/Project Manager
503-641-8311

City of West Linn

Parker Crest Neighborhood Association
Monthly Meeting
Wednesday May 26, 2010 at 7:00 PM
Meeting Location: City of West Linn, City Hall

Meeting Minutes

Parties In Attendance

1. William Relyea
2. Alice Richmond
3. Scott Supperstein
4. Ben Altman
5. Dinesh Jaim
6. Mel Lee

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PCNA President, William Relyea called the meeting to order and welcomed the parties. A round of introductions was conducted.

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A general discussion ensued about the CDC and the need to have a Neighborhood Meeting when the application has already been approved and an extension is under consideration. The consensus of the group was that if an inspection of the property, adherence to the previous applications and permits and provided that such application does not indicate a change in the zoning, the extension should proceed as a staff based decision. This would require a change in the CDC.

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Mr. Altman asked if there were any more questions. No other questions were presented.

8:00 - Resolution

Mr. Relyea moved for a recommendation of approval to the Application for extension. Motion was made and seconded, the motion passed unanimously (4 votes aye and 0 votes nay).

8:05 - Closing Remarks and Adjournment

City of West Linn

Parker Crest Neighborhood Association
Meeting - Land Use Issue
Wednesday May 26, 2010 at 7:00 PM
Meeting Location: City of West Linn, City Hall

Sign- In-Sheet

Name	Address	Email	Phone No.
Bill Relyea	3016 Lake Lane	wrelyea@comcast.net	5036361292
Scott Seppanen	4740 Cole Lane	Seplaw@earthlink.net	503-227-6464
BEN ALTMAN	9020 SW WASHINGTON SQ #620 97223	baltman@stoel.com	503 641-8341
Dinesh Jain	4752 Cole Lane	pdnjain@gmail.com	503 657 5500
Alice Richmond	3939 Parker R		5037230101
Mel Lee	Developer		

City of West Linn

Parker Crest Neighborhood Association
Meeting - Land Use Issue
Wednesday May 26, 2010 at 7:00 PM
Meeting Location: City of West Linn, City Hall

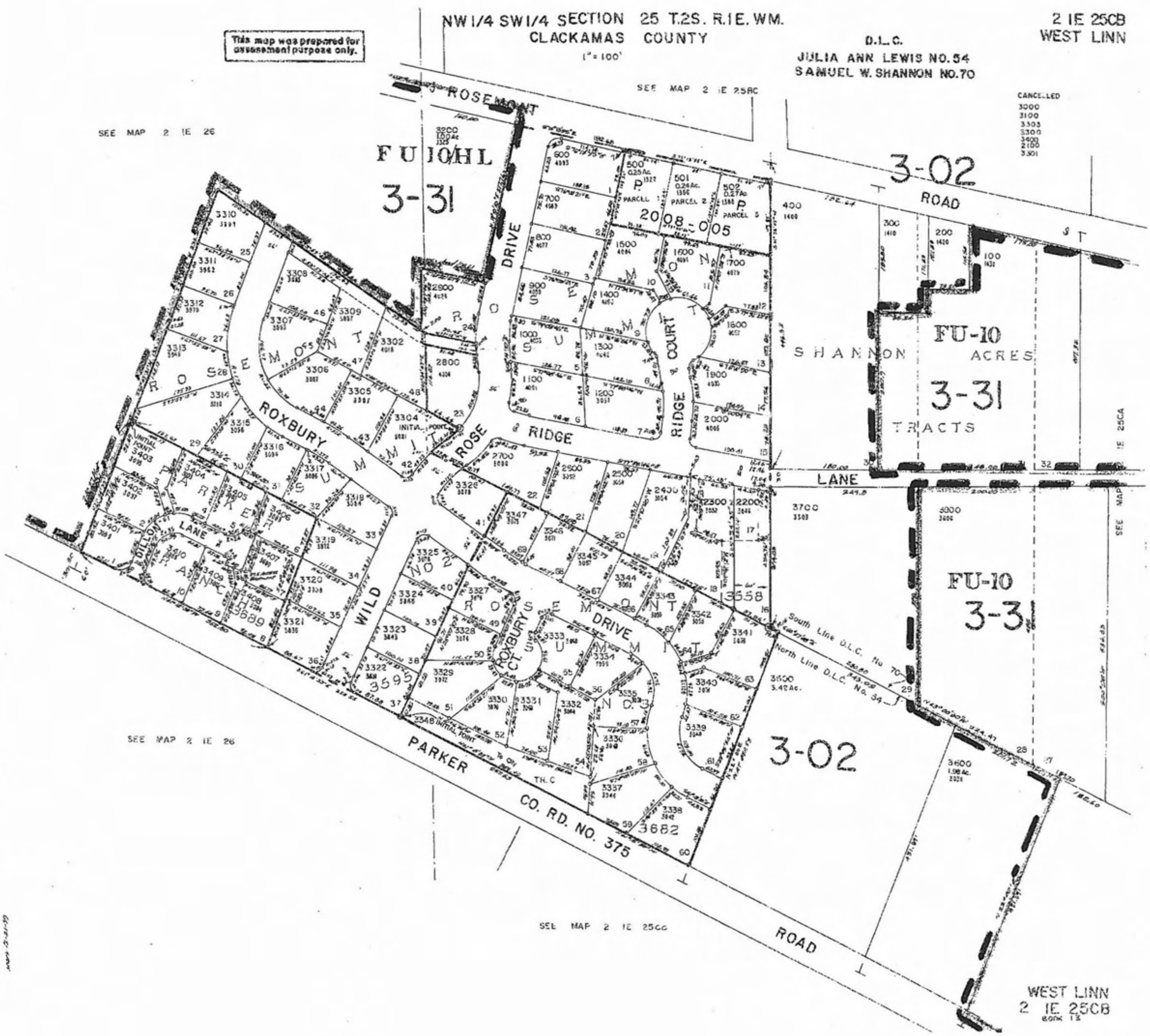
AGENDA

7:00 - Meeting Opens - Call to Order

7:05 - SFA Design Group Presentation

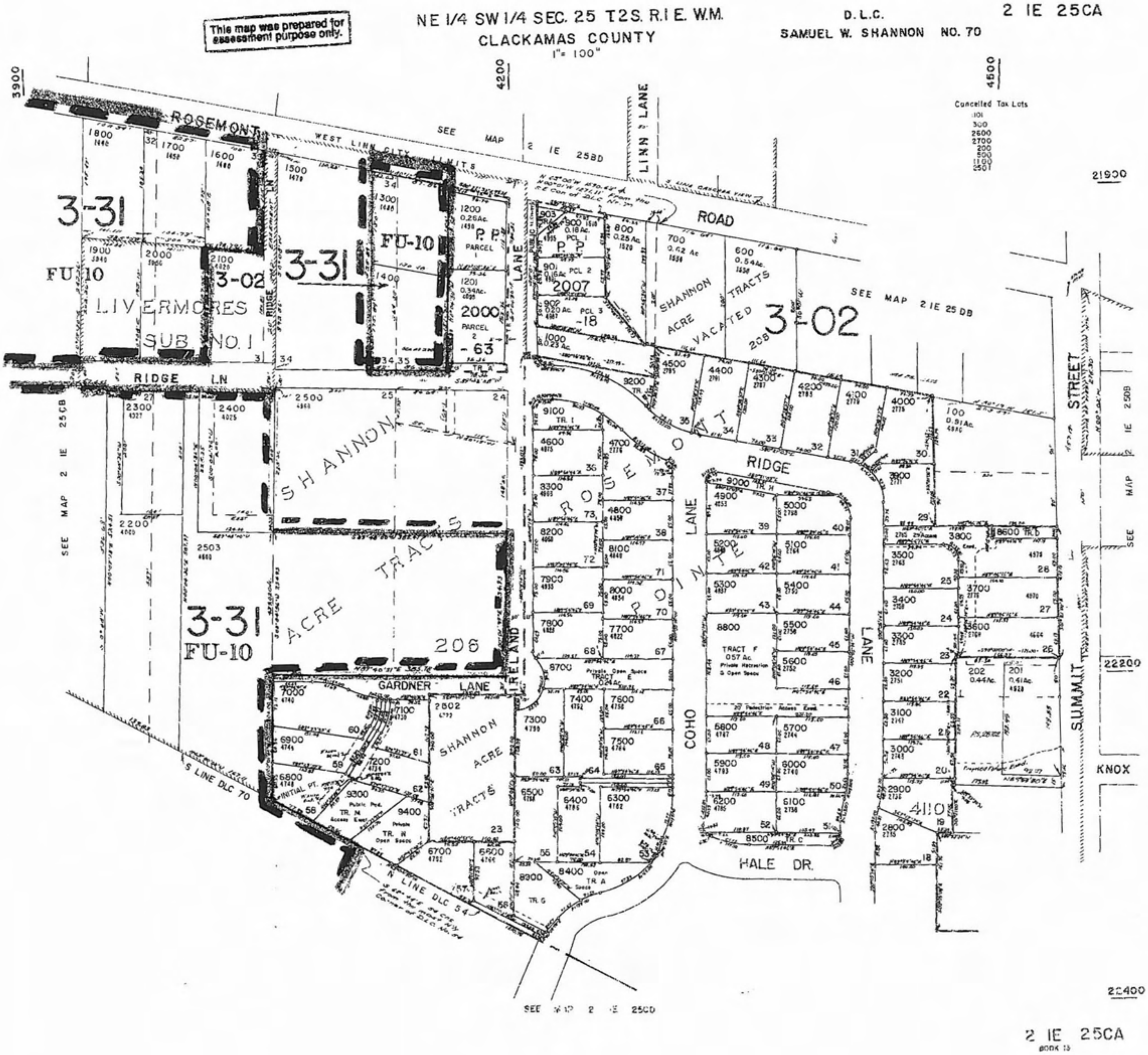
8:00 - Community Comments - Adjourn

Note: Scheduled times and items of discussion may change based upon variables within the presentations and community comments.



This map was prepared for assessment purpose only.
NW 1/4 SW 1/4 SECTION 25 T.2S. R.1E. W.M.
CLACKAMAS COUNTY
1" = 100'
2 1E 25CB
WEST LINN
D.L.C.
JULIA ANN LEWIS NO.54
SAMUEL W. SHANNON NO.70
SEE MAP 2 1E 25BC
SEE MAP 2 1E 26
CANCELLED
3000
3100
3303
3300
3400
2100
3301
ROSEMONT
ROAD
FU10/HL
3-31
3-02
DRIVE
ROSE RIDGE
ROXBURY
SUMMIT
RIDGE COURT
SHANNON ACRES TRACTS
FU-10
LANE
WILD ROSE
DILLON LANE
ROXBURY CT.
DRIVE
2008-005
PARCEL 1
PARCEL 2
PARCEL 3
South Line D.L.C. No. 70
North Line D.L.C. No. 54
PARKER CO. RD. NO. 375 ROAD
SEE MAP 2 1E 25CC
SEE MAP 2 1E 26
WEST LINN
2 1E 25CB


SW1/4 SW1/4 SEC 25 T2S R1E W.M.
CLACKAMAS COUNTY
SCALE 1"=100'
2 1E 25CC
This map was prepared for assessment purpose only.
CANCELLED TAXLOTS
500
3500
4000
22300
22800
SEE MAP 2 1E 25CA
SEE MAP 2 1E 25CB
SEE MAP 2 1E 26
SEE MAP 2 1E 25CD
SEE MAP 2 1E 25
SEE MAP 2 1E 36BB
PARKER
TRACT A
DAMON DR.
WINKEL
CO RD NO 375
SOUTH LINE D.L.C. NO. 70
3-31
FU-10
ROAD
MAXFIELD DR
WAY
LANE
HILL
BEACON
SABO
NOMIE
MAXFIELD
TRACT B
TRACT C
3-02
4114
CRESCENT DR.
TR A
TR C
PUBLIC STORM DRAINAGE TO CITY
CITY OWNED
26
25
35
36


This map was prepared for assessment purpose only.
NE 1/4 SW 1/4 SEC. 25 T2S. R.1 E. W.M.
CLACKAMAS COUNTY
1"= 100'
D.L.C.
SAMUEL W. SHANNON NO. 70
2 IE 25CA
Cancelled Tax Lots
ROSEMONT
ROAD
WEST LINN CITY LIMITS
SEE MAP 2 IE 25BD
LINN LANE
SEE MAP 2 IE 25DB
3-31
FU-10
3-02
LIVERMORES SUB. NO. 1
RIDGE LN
SEE MAP 2 IE 25CB
SHANNON ACRE TRACTS
SHANNON ACRE VACATED TRACTS
ROSEMONT POINTE
RIDGE
COHO LANE
LANE
GARDNER LANE
IRELAND LANE
HALE DR.
SUMMIT STREET
KNOX
SEE MAP 2 IE 25DB
S LINE DLC 70
N LINE DLC 54
SEE MAP 2 IE 25CD
2 IE 25CA

First American Title Insurance Company of Oregon

Clackamas (OR)

Prepared For:

Prepared By:
Customer Service Department
1700 SW Fourth Avenue - Portland, Oregon 97201-5512
Phone: (503) 222-3651 Fax: (503) 790-7872

OWNERSHIP INFORMATION

Owner	: Lee Melvin D	*Ref Parcel Number*	: 21E25CD03900
CoOwner	:	*T*: 02S *R*: 01E *S*: 25 *Q*: 252	
Site Address	: 2929 Parker Rd West Linn 97068	*Parcel Number*	: 00385336
Mail Address	: 15746 S Hattan Rd Oregon City Or 97045		
Telephone	: *Owner*: *Tenant*:	*County*	: **Clackamas (OR)**

SALES AND LOAN INFORMATION

Transferred	: 03/31/2010	*Loan Amount*	: $350,000
Document #	: 10 019451	*Lender*	: National Ln Acquisitions
Sale Price	: $250,000 Full	*Loan Type*	: Construction
Deed Type	: Bargain & Sale	*Interest Rate*	:Fixed
% Owned	: 100	*Vesting Type*	:

PROPERTY DESCRIPTION

ap Page & Grid	: 686 H6
Census	: *Tract*: 206.00 *Block*: 3
Improvement Type	: 142 Sgl Family,R1-4,1-Story (Basement)
Subdivision/Plat	:
Neighborhood Cd	:
Land Use	: 100 Vacant,Residential Land
Legal	: SECTION 25 TOWNSHIP 2S RANGE 1E
	: QUARTER CD TAX LOT 03900
	:

ASSESSMENT AND TAX INFORMATION

MktLand	: $1,017,923
MktStructure	:
MktTotal	: $1,017,923
M50 Assd Total	: $639,461
% Improved	:
09-10 Taxes	: $11,844.10
Exempt Amount	:
Exempt Type	:
Levy Code	: 003002
Millage Rate	: 18.5220

PROPERTY CHARACTERISTICS

Bedrooms	: 3	*Building SF*	:	*Stories*	: 1 Story-Bsmt
Bathrooms	: 2.00	*1st Floor SF*	: 1,506	*Garage SF*	:
Fireplace	: Single Fireplce	*Above Ground SF*	: 1,506	*Lot Acres*	: 2.30
Heat Type	: Elec Baseboard	*Upper Finished SF*	:	*Lot SF*	: 100,188
Interior Material	: Plaster	*Unfin Upper Story*	:	*Year Built*	: 1960
Exterior Finish	: Bevel Siding	*Upper Total SF*	:	*Year Appraised*	:
Floor Cover	: Carpet	*Finished SF*	: 2,462	*Appraisal Area*	:
Roof Type	: Composition	*Basement Fin SF*	: 956	*School District*	: 003
Roof Shape	: Hip	*Basement Unfin SF*	:	*Utility District*	:
Foundation	: Concrete	*Basement Total SF*	: 956		

First American Title Insurance Company of Oregon
An assumed business name of TITLE INSURANCE COMPANY OF OREGON
222 SW Columbia St, Suite 400 * Portland, OR 97201-5515
Phone: (503) 219-8746 * Fax: (503) 790-7872

BEN ALTMAN
SFA DESIGN GROUP LLC
9020 SW WASHINGTON SQUARE DR STE 350
PORTLAND, OR 97223

NOTE

We appreciate this opportunity to be of service to you. If you have any questions regarding this report, please call:
Anthony Falkner

Phone No:503-219-8746
Fax No: 503-790-7872

First American
Title Insurance Company
of Oregon

Date of Production: Friday, April 23, 2010

The ownership information enclosed is time sensitive and should be utilized as soon as possible.

This mailing list was produced with the use of tax assessor maps available online from OR Maps (www.ormap.org/maps/index.cfm) as well as data purchased from the Portland Metro regional government and Real Estate Solutions Inc.

We assume no liability in connection with this service.

Thank you for your business and for using First American Title.

DEVELOPMENT REVIEW APPLICATION

MI-10-12

TYPE OF REVIEW (Please check all boxes that apply):

[ ]	Annexation	[ ]	Non-Conforming Lots, Uses & Structures
[ ]	Appeal and Review *	[ ]	One-Year Extension *
[ ]	Conditional Use	[ ]	Planned Unit Development
[ ]	Design Review	[ ]	Pre-Application Meeting *
[ ]	Easement Vacation	[ ]	Quasi-Judicial Plan or Zone Change
[ ]	Extraterritorial Ext. of Utilities	[ ]	Street Vacation
[ ]	Final Plat or Plan	[X]	Subdivision
[ ]	Flood Plain Construction	[ ]	Temporary Uses *
[ ]	Hillside Protection and Erosion Control	[ ]	Tualatin River Greenway
[ ]	Historic District Review	[ ]	Variance
[ ]	Legislative Plan or Change	[X]	Water Resource Area Protection/Wetland
[ ]	Lot Line Adjustment * /**	[ ]	Willamette River Greenway
[ ]	Minor Partition (Preliminary Plat or Plan)	[X]	Other/Misc EXTENSION of APPROVAL

Home Occupation, Pre-Application, Sidewalk Use Application *, Permanent Sign Review *, Temporary Sign Application require different application forms available in the forms and application section of the City Website or at City Hall.

TOTAL FEES/DEPOSIT $3,625.00

MEL LEE	15746 S. HATTEN Road	OREGON CITY	OR 97045	503-631-2459
OWNER (PRINT)	**ADDRESS**	**CITY**	**ZIP**	**PHONE & /OR E-MAIL**

SAME AS OWNER				
APPLICANT(PRINT)	**ADDRESS**	**CITY**	**ZIP**	**PHONE &/OR E-MAIL**

BEN ALTMAN SFA DESIGN GROUP	9020 SW WASHINGTON SQ. OR #350	PORTLAND, OR	97223	503-641-8311
CONSULTANT(PRINT)	**ADDRESS**	**CITY**	**ZIP**	**PHONE &/OR E-MAIL**

SITE LOCATION/ADDRESS 2979 S. PARKER Road

Assessor's Map No.: 2S1E 25CD **Tax Lot(s):** 3900 **Total Land Area:** 2.28 ACRES

1. **All application fees are non-refundable (excluding deposit).**
2. **The owner/applicant or their representative should be present at all public hearings.**
3. **A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.**
4. **Four (4) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format.**
   *** No CD required / ** Only one copy needed**

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application.

SIGNATURE OF PROPERTY OWNER(S)
X Mel Lee Date 5/2/12

SIGNATURE OF APPLICANT(S)
X _____ Date _____

ACCEPTANCE OF THIS APPLICATION DOES NOT INFER A COMPLETE SUBMITTAL. THE APPLICANT WAIVES THE RIGHT TO THE PROVISIONS OF ORS 94.020. ALL AMENDMENTS TO THE COMMUNITY DEVELOPMENT CODE AND TO OTHER REGULATIONS ADOPTED AFTER THE APPLICATION IS APPROVED SHALL BE ENFORCED WHERE APPLICABLE. APPROVED APPLICATIONS AND SUBSEQUENT DEVELOPMENT IS NOT VESTED UNDER THE PROVISIONS IN PLACE AT THE TIME OF INTIAL APPLICATION.
CONTACT: PLANNING AND BUILDING; 22500 SALAMO RD #1000; WEST LINN, OR 97068; PHONE: 656-4211 FAX: 656-4106
PLANNING@WESTLINNOREGON.GOV